SEWERAGE AND WATER BOARD
OF NEW ORLEANS

CONTRACT NO. 2154
SOLICITATION NO. 2024-SWB-100

24" Waterline Replacement Decatur St. (Dumaine St. – Governor Nicholls St.)
St. Peter St. (Chartres St. – Royal St.)

PROPOSALS DUE ON

December 4, 2024 AT 11:00 A.M., CENTRAL TIME

TABLE OF CONTENTS

PROCUREMENT REQUIREMENTS

00 11 10 Table of Contents ..... 1 - 2
00 11 13 Advertisement for Bids ..... 1 - 1
00 21 13 Instructions to Bidders ..... 1 - 11
00 21 13.01 Conflict of Interest Disclosure Affidavit ..... 1 - 1
00 21 13.02 Convicted Felon Affidavit ..... 1 - 1
00 21 13.03 Non-Solicitation Affidavit ..... 1 - 1
00 40 00 Procurement Forms and Supplements ..... 1 - 1
00 41 13 Louisiana Uniform Public Work Bid Form ..... 1 - 1
00 41 13 Louisiana Uniform Public Work Bid Form – Unit Price Form ..... 1 - 14
00 42 13 Voluntary Extensions of the Award of Contract ..... 1 - 1
00 43 13 Bid Bond ..... 1 - 2
00 45 54 Affidavit of Noncollusion ..... 1 - 1
00 47 17 Disadvantaged Business Enterprise Program ..... 1 - 10
00 47 17.10 Economically Disadvantaged Business Participation Summary Sheet 1 - 1

CONTRACTING REQUIREMENTS

CONTRACTING FORMS

00 50 00 Contracting Forms and Supplements ..... 1 - 1
00 52 13 Agreement ..... 1 - 8

PROJECT FORMS

00 61 13.13 Payment and Performance Bond Form ..... 1 - 3

CONDITIONS OF THE CONTRACT

00 72 00 General Conditions ..... i-iii; 1- 40
00 73 00 Supplementary Conditions ..... 1 - 20

ATTACHMENTS TO SUPPLEMENTARY CONDITIONS

No. 1 – S&WB Drug-Free Work Place Policy – Contractor Requirements
No. 2 – S&WB Safety Orientation Notice
No. 3 – S&WB Electrical Safety Clearance Procedure
No. 4 – S&WB Storm Water Pollution Prevention Plan
No. 5 – Equal Employment Opportunity Requirements
No. 6 – Lobbying Restrictions
No. 7 – Letter of No Adverse Effect to Historic Properties with Conditions from FEMA

TABLE OF CONTENTS

00 731.A FEMA Clauses ..... 1 - 12
00 731.B WIFA Required Clauses for Contract Documents..... 1 - 20

ATTACHMENTS TO SUPPLEMENTARY CONDITIONS FOR WIFIA
No. 1 - Categorical Exclusion and Extraordinary Circumstances Review Form
No. 2 - Federal Cross-Cutting Authorities Review Memorandum

00 750 Section 3 Plan ..... 1 - 6
00 760 General Wage Rates ..... 1 - 6

SPECIAL PROVISIONS

01200 Part I – Special Provisions..... 1 - 31
01200 Part II – Supplemental technical Specifications ..... 32 - 87
01200 Part III – Special Items ..... 88 - 133
01 40 00 SWB SWPP & BMP Requirements ..... 1 - 10

APPENDIXES

APPENDIX A – Letter of No Objection USACE. Letter of No Objection LADNR Office of Coastal Management

APPENDIX B – South Louisiana Flood Protection Authority East Permit

APPENDIX C – Standard Drawings Sewerage and Water Board of New Orleans

APPENDIX D – Standard Drawings City of New Orleans of New Orleans Dept. of Public Works

APPENDIX E – Water Service House Connections

APPENDIX F – Proposed Entergy Gas Mains

APPENDIX G – General Specifications for Street Paving, 2015 Edition, Department of Public Works, City of New Orleans, Louisiana

SEWERAGE & WATER BOARD OF NEW ORLEANS
24" Waterline Replacement Decatur St. (Dumaine St. – Governor Nicholls St.) St. Peter St. (Chartres St. – Royal St.)
CONTRACT NO. 2154
SOLICITATION NO. 2024-SWB-100

The Sewerage and Water Board of New Orleans is requesting bids for the West Power Complex Water and Drainage line Tie-ins including the water supply tie-in at the water main near Claiborne Avenue and associated piping to tie-in the water supply at the two tie-in locations installed under Contract 1415 – one tie-in in the southeast corner of the C8 basin, and one on the west side of the C7 basin in the levee (Monticello Avenue). Contract 1443 also includes stormwater drainage installation from the tie-in location as installed by Contract 1415, connecting to a box culvert in Claiborne Avenue.

Bid Documents and proposal forms are available for download on **October 30, 2024**, at the following websites:
SWBNO: https://www2.swbno.org/business_bidspecifications.asp
LAPAC: https://wwwcfprd.doa.louisiana.gov/OSP/LaPAC/dspBid.cfm?search=department&term=181

A **NON-MANDATORY** pre-bid conference will be held on **November 13, 2024, at 2:00 p.m.** Central Time at the Sewerage and Water Board of New Orleans, Carrollton Water Plant Auditorium Room E202, located at 8800 S Claiborne Ave., New Orleans, Louisiana, 70118 or if you are unable to attend this in-person meeting, you can also join via teleconference call:

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 216 565 092 609
Passcode: rmm29c

Dial in by phone
+1 504-224-8698,,247433948# United States, New Orleans
Find a local number
Phone conference ID: 247 433 948#

All inquiries shall be directed to Connor Metcalf, Procurement Analyst, at cmetcalf@swbno.org. The deadline for inquiries is on **November 20, 2024, at 5:00 p.m.** Central Time**.**

Bids are due on **December 4, 2024, at 11:00 a.m.** Any Bids received after the specified time will be rejected.

Bids will then be publicly opened and read on **December 4, 2024, at 11:30 a.m.** at Sewerage and Water Board of New Orleans, 625 St. Joseph Street, Purchasing Conference Room 131, New Orleans, Louisiana.

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 250 068 803 494
Passcode: XbBKtZ

Dial in by phone
+1 504-224-8698,,452497866# United States, New Orleans
Find a local number
Phone conference ID: 452 497 866#
For organizers: Meeting options | Reset dial-in PIN

LATE BIDS WILL NOT BE ACCEPTED.

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

1.1. Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

1.1.1. *Issuing Office*—The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered: Sewerage and Water Board of New Orleans, 625 St. Joseph Street, Procurement Department Room 133, New Orleans, Louisiana 70165.

2. COPIES OF BIDDING DOCUMENTS

2.1. Complete sets of the Bidding Documents are available in electronic form on the Sewerage & Water Board of New Orleans website: https://www2.swbno.org/business_bidspecifications.asp (Click on Doing Business, then Advertisements & Specifications) Reproduction costs for any of the downloaded electronic Bidding Documents shall be borne by the Contractor.

2.2. Complete sets of Bidding Documents shall be used in preparing Bids. Neither Owner nor Engineer assumes responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.

2.3. Drawings included in the Bidding Documents are electronic .pdf files generated from electronic drawing files. Any reduction from actual size is indicated by a note or scale bar on Drawing.

2.4. Owner and Engineer, in making Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

3.1. In order to perform public work, Bidder and its Subcontractors, prior to award of Contract or as otherwise required by the jurisdiction, shall hold or obtain such licenses as required by State Statutes, and federal and local Laws and Regulations.

3.2. Bidder is advised to carefully review those portions of the Bid Form requiring representations and certifications.

4. EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.1. Subsurface and Physical Conditions:

4.1.1. The Supplementary Conditions identify:

4.1.1.1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.

4.1.1.2. Those drawings known to Owner of physical conditions relating to existing surface and subsurface structures at the Site.

4.1.2. Copies of reports and drawings referenced will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings. Costs associated with making available copies of reports and drawings shall be borne by Bidder.

4.2. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner or others.

4.3. Hazardous Environmental Condition:

4.3.1. The Supplementary Conditions identify reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.

4.3.2. Copies of reports and drawings referenced will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings. Costs associated with making available copies of reports and drawings shall be borne by Bidder.

4.4. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02 through 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental

Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

4.5. On request, Owner will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Owner deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.6. Related Work at Site: Reference is made to the General Requirements for identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request Owner will provide to each Bidder for examination, access to Contract Documents (other than portions thereof related to price) for such other work.

4.7. Safety: Paragraph 6.13.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.8. It is responsibility of each Bidder before submitting a Bid to:

4.8.1. Examine and carefully study the Bidding Documents, other related data identified in the Bidding Documents, and any Addenda.

4.8.2. Visit the Site to become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

4.8.3. Become familiar with to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

4.8.4. Carefully study all information provided and referenced in plans and specifications.

4.8.5. Consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents.

4.8.6. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

4.8.7. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

4.8.8. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in Bidding Documents and confirm that written resolution thereof by Engineer is acceptable to Bidder.

4.8.9. Determine Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work.

4.9. Submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this article; that without exception the Bid is premised upon performing and furnishing the Work required by Bidding Documents and applying specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by Bidding Documents; that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder; and that Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for performing and furnishing the Work.

5. SPECIAL PRODUCT REQUIREMENTS

5.1. Bidder's attention is directed to the Supplementary Conditions, Paragraph 6.03.

6. PREBID CONFERENCE

A **NON-MANDATORY** pre-bid conference will be held on **November 13, 2024, at 2:00 p.m.** Central Time at the Sewerage and Water Board of New Orleans, Carrollton Water Plant Auditorium Room E202, located at 8800 S Claiborne Ave., New Orleans, Louisiana, 70118 or if you are unable to attend this in-person meeting, you can also join via teleconference call:

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 216 565 092 609
Passcode: rmm29c

Dial in by phone

+1 504-224-8698,,247433948# United States, New Orleans
Find a local number
Phone conference ID: 247 433 948#

6.1. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are required to attend and participate in the conference. An award will be issued to Bidders that have a representative at the pre-bid conference. Procurement will transmit to prospective

Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

7. SITE AND OTHER AREAS

7.1. The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner, unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

8. INTERPRETATIONS AND ADDENDA

8.1. All questions about the meaning or intent of the Bidding Documents are to be submitted to the Sewerage & Water Board Purchasing Department. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda sent to all parties recorded by the office issuing documents as having received the Bidding Documents. Questions received after March 16, 2023 at 5:00 p.m. may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

8.2. Addenda may also be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

8.3. Addenda issued in response to questions will be issued no later than 72 hours prior to bid opening.

9. BID SECURITY

9.1. Bid shall be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the attached form), issued by a surety meeting the requirements of Paragraph 5.01 and Paragraph 5.02 of the General Conditions.

9.2. Upon Notice of Award of the Contract, the Bid security of all bidders, other than the lowest two (2) formal bidders will be returned upon request. The return of the Bid security to whom the Contract is awarded is conditioned upon the successful bidder furnishing the insurance required in the specifications and appearance before the Notary for the Sewerage and Water Board of New Orleans within ten (10) consecutive calendar days after notice by the Executive Director or designee of the award of the contract and executing the contract and furnishing bond for the faithful fulfillment thereof according to the attached specifications. The Bid security of the next lowest bidder will be returned as soon as the successful bidder has executed the Contract and furnished bond upon request. If all bid proposals are rejected, all Bid security will be returned immediately upon request.

9.3. Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after Bid opening upon request.

10. CONTRACT TIMES

10.1. The number of days within which, or the dates by which, Milestones are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

11. LIQUIDATED DAMAGES

11.1. Provisions for liquidated damages, if any, are set forth in the Agreement.

12. SUBSTITUTE AND "OR-EQUAL" ITEMS

12.1. The Contract, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

13. WAGE RATES

13.1. The Work under these Bidding Documents is to be paid for by public funds; therefore, minimum prevailing wage rates published by the Secretary of the U.S. Department of Labor (see appended rate tables). Refer to Attachment #5 of the Supplementary Conditions for more information.

13.2. The successful bidder is to make available to the Board, complete records in connection with payment of employees during the term of the job in order to permit the Internal Audit Division to check as to adherence to the wage scale presently in effect in accordance with U.S. Government standards.

14. PREPARATION OF BID

14.1. With each electronic copy of the Bidding Documents, Bidder will be furnished one separate Bid Form, and, if applicable, the Bid Bond Form. Contractor is to print and complete all pertinent documents included as the Original Form of Proposal.

14.2. All blanks on the Bid Form shall be completed by typing or printing with ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item, unit price item, and alternate listed therein.

14.3. A Bid by a corporation shall be executed in the corporate name by the president or a vice president or other corporate officer accompanied by evidence of authority to sign. The

corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

14.4. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

14.5. A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

14.6. A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

14.7. All names shall be typed or printed in ink below the signatures.

14.8. The Bid shall contain an acknowledgement of receipt of all Addenda; the numbers of which shall be filled in on the Bid Form.

14.9. Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

14.10. The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number and class, if applicable, shall also be shown on the Bid Form.

15. BASIS OF BID; COMPARISON OF BIDS

15.1. Lump Sum:

15.1.1. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

15.1.2. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate. In the comparison of Bids, alternates will be applied in the same order as listed in the Bid Form.

15.2. Unit Price:

15.2.1. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Unit Price Bid Table.

15.2.2. The total of all prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.

15.2.3. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

15.3. Alternates:

15.3.1. Alternates requiring pricing in the Bid Form are described in Section 01 11 01, Summary of Work, and in the Bid Form, if applicable.

15.3.2. Indicate in Bid Form the amount to be added or subtracted from the base Bid for alternates described.

15.3.3. Include cost of all related work, including modifying surrounding work to integrate the Work of each alternate.

15.3.4. Alternates listed on Bid Form will be reviewed and accepted or rejected at Owner's option. Accepted alternates will be identified in the Agreement if applicable.

16. SUBMISSION OF BID

16.1. The Bid Form, Section 00 41 13 Louisiana Uniform Public Work Bid Form is to be completed and submitted with the Bid Security. The two (2) lowest bidders will have three (3) days following the bid opening to submit the following:

16.1.1. Additional Requirements, Bidder Declaration, Guarantees, and Emergency Procedures.

16.1.2. Affidavit

16.1.3. Voluntary Extensions of the Award of Contract

16.1.4. Affidavit of Noncollusion

16.1.5. Conflict of Interest Disclosure Affidavit

16.1.6. Convicted Felon Affidavit

16.1.7. Non-Solicitation Affidavit

16.1.8. Economically Disadvantaged Business Participation Summary Sheet

16.2. A Bid shall be submitted no later than the date and time prescribed, and at the place indicated in the Invitation to Bid. Enclose Bid in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), name and address of Bidder, and accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED.

16.3. In accordance with LRS 37:2163, Bidders are required to certify they hold an active Contractor's license and indicate license number on Bid envelope. Bid envelopes received with no Contractor license number will not be opened and will automatically be rejected and considered nonresponsive.

17. OPENING OF BIDS

Bids will be opened on December 4, 2024 at 11:30 a.m. at Sewerage and Water Board of New Orleans, 625 St. Joseph Street, Purchasing Conference Room 131, New Orleans, Louisiana and unless obviously nonresponsive, read aloud publicly. The amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids. The bid opening will also be available via teleconference:

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 250 068 803 494
Passcode: XbBKtZ

Dial in by phone
+1 504-224-8698,,452497866# United States, New Orleans
Find a local number
Phone conference ID: 452 497 866#
For organizers: Meeting options | Reset dial-in PIN

18. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.1. All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

19. EVALUATION OF BIDS AND AWARD OF CONTRACT

19.1. Pursuant to Louisiana Statute 38:2225, a resident Bidder shall be allowed a preference over a nonresident Bidder from a state which gives or requires a preference to Bidders from that state. The preference shall be equal to the preference given or required by the state of the nonresident Bidder.

19.2. Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.3. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

20. NOTARIAL FEE.

20.1. The Contract and Bond shall be signed in the City of New Orleans, before the Notary for the Sewerage and Water Board of New Orleans, by the Contractor in person or by a duly authorized representative. The notarial fee for the execution of the contract shall be paid by the Contractor in accordance with the Notarial Fee Schedule below. The Fee Schedule is subject to change, and Contractor is responsible for any deviations from this Fee Schedule. Contractor shall also be responsible for payment of all recordation costs and photocopying at the rate of $0.50 per page. All affidavits of acceptance or substantial completion are $70.00 plus actual recordation costs.

NOTARIAL FEE SCHEDULE

Notarial work for all Sewerage and Water Board of New Orleans construction contracts, requiring to be notarized:

Contract Value	**Fee**
Under $1,000.00	$227.00
$1,000.00 to $49,999.99	$423.00
$50,000.00 to $499,999.99	$1,073.00
$500,000.00 to $999,999.99	$2,304.00
$1,000,000.00 or over	$4,608.00

21. CONTRACT SECURITY AND INSURANCE

21.1. Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to bonds and insurance. When Successful Bidder delivers executed Agreement to Owner, it shall be accompanied by such bonds.

22. SIGNING OF AGREEMENT

23.1 The proposal submitted by the staff-recommended bidder will be tentatively selected by the appropriate Sewerage and Water Board Committee meeting The final award of the contract will be made at the subsequent Board meeting. All prices bid must be held firm for 120 days or until final award of contract by the Board.

23.2 After submittal of required Insurance and Bonds, in form acceptable to the Sewerage and Water Board of New Orleans, the selected Bidder will be authorized by the Executive Director of the Board to appear before the Notary to sign the contract within ten (10) consecutive calendar days from the date of the notice.

23. SALES AND USE TAXES

24.1 Applicable state and local sales and use taxes for purchase of materials and supplies furnished under this contract shall be paid by the Contractor. Such taxes shall be included in the lump sum bid for the work of this contract. The board shall be relieved of any obligation to pay these taxes.

24. RETAINAGE

24.1. Provisions concerning retainage and Contractor's rights to deposit securities in lieu of retainage, if applicable, are set forth in the Agreement.

25. BID PROTESTS

25.1. Any formal protest which is to be made by an aggrieved Proposer must be submitted in writing to the Procurement Director, Cashanna K. Moses at cmoses@swbno.org according to Sewerage and Water Board of New Orleans Policy 83(R): Procedural Rules for Bid Appeals.

END OF SECTION

CONVICTED FELON AFFIDAVIT

STATE OF _____

PARISH/COUNTY OF _____

Before me, the undersigned authority, came and appeared_____,

who, being first duly sworn, deposed and said that:

1. He/She is the_____and authorized representative of

_____, hereafter called "Contractor."

2. The Contractor complies with City Code Section 2-8 (c) for the City of New Orleans.

3. No Contractor principal, member, or officer has, within the preceding five years, been convicted of, or pled guilty to, a felony under state or federal statutes for embezzlement, theft of public funds, bribery, or falsification or destruction of public records.

_____

Proposer Representative (Signature)

_____

(Print or type

name) (Address)

Sworn to and subscribed before me, in (CITY/STATE) _____

This ____day of (MONTH) _____, 20 ___.

_____

Notary
Public

_____

Notary Identification No./Bar Roll
No.

NON-SOLICITATION AFFIDAVIT

STATE OF _____

PARISH/COUNTY OF _____

Before me, the undersigned authority, came and appeared_____,

who, being first duly sworn, deposed and said that:

1. He/She is the _____ and authorized representative of _____hereafter called "Contractor."
2. The Contractor has not employed or retained any company or person, other than a bona fide employee working solely for Contractor, to solicit or secure the subject contract. The Contractor has not paid or agreed to pay any person, other than a bona fide employee working for Contractor, any fee, commission, percentage, gift, or any other consideration contingent upon or resulting from the subject contract.

_____
Contractor Representative (Signature)

_____
(Print or type name) (Address)

_____

Sworn to and subscribed before me, in _____, Louisiana,

this ___day of _____, 20 _____.

_____
Notary Public

_____
Notary Identification No./Bar Roll No.

NON-COLLUSION AFFIDAVIT

STATE OF _____

PARISH/COUNTY OF _____

_____, being first duly sworn, deposes and says that:

(1) S/He is (Owner) (Partner) (Office) (Representative) or (Agent), of:

_____

the Proposer that has submitted the attached Proposal:

(2) Such Proposal is genuine and is not a collusive or sham Proposal:

(3) Neither the said Proposer nor any of its officers, partners, owners, agents, representatives, employees or parties of interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly, or indirectly with any other Proposer, firm or person to submit a collusive or sham proposal in connection with the Contract for which the attached Proposal has been submitted or to refrain from proposing in connection with such contract, or has in any manner, directly or indirectly sought by agreement or collusion or communication or conference with any other Proposer, or to fix any overhead, profit or cost element of the proposal price or the proposal price of any other proposer, or to secure through any advantage against the Sewerage and Water Board of New Orleans of any person interested in the proposed contract; and

(4) The price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Proposer or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

_____ _____

Proposer Representative (Signature) Title

_____

(Print or type name)

SWORN TO AND SUBSCRIBED BEFORE ME

THIS _____ DAY OF _____ 20_____. Notary ID#/Bar Roll #_____

_____ _____

NOTARY PUBLIC (Signature) NOTARY PUBLIC (Print Name)

CONFLICT OF INTEREST DISCLOSURE AFFIDAVIT

STATE OF _____

PARISH/COUNTY OF _____

Before me, the undersigned authority, came and appeared _____ who, being first duly sworn, deposed and said that:

He/She is _____ and authorized representative of _____, Hereafter called "Bidder."

The Respondent hereby confirms that a conflict(s) of interest **exists /does not exist/may exist (circle one)** in connection with this solicitation which might impair Respondent's ability to perform if awarded the contract, including any familial or business relationships that the Respondent, the proposed subcontractors, and their principals have with the Board officials or employees.

(If a conflict(s) of interest exists and/or may exist, describe in a letter the nature of the conflict, the parties involved and why there is a conflict. Attach said letter to this form).

_____
Respondent Representative (Signature)

_____
(Print or type name)

_____
(Address)

SWORN TO AND SUBSCRIBED BEFORE ME
THIS _____DAY OF _____ 20_____.

_____ _____
NOTARY PUBLIC (Signature) NOTARY PUBLIC (Print Name)

Notary ID#/Bar Roll# _____

PART 1 - GENERAL

1.1 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the Contract Documents.

B. Bid Forms:
   1. Section 00 41 13 Louisiana Uniform Public Work Bid Form
   2. Section 00 41 13 Louisiana Uniform Public Work Bid Form – Unit Price Form
   3. Section 00 41 13 Sections 1-2 through 1-7 – Additional Requirements

C. Procurement Form Supplements:
   1. Section 00 42 13: Voluntary Extensions of the Award.
   2. Section 00 43 13: Bid Bond Form.

D. Representations and Certifications:
   1. Section 00 47 17: Disadvantaged Business Enterprise Program.
   2. Section 00 47 17.10: Economically Disadvantaged Business Participation Summary Sheet.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 00 40 00

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph St
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: N-Y Associates, Inc. and dated: _____, 2024

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

_____ .

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____Dollars ($_____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

NOTE TO BIDDERS: (Insert Applicable Notes if Alternates are required)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REMOVAL AND DISPOSAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT (COMPOSITE)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(52)(C)	5427.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REMOVAL AND DISPOSAL OF EXISTING SIDEWALK, DRIVEWAY, FOOT LAP (CONCRETE, BRICK, ASPHALT, ETC.)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(52)(D)	760.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REMOVAL AND DISPOSAL OF EXISTING CURB AND GUTTER BOTTOM	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(52)(F)	2525.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		SAW CUT CONCRETE CURB, PAVEMENT, SIDEWALK, ETC.	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(55)	70.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		ROADWAY EXCAVATION	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C203(51)	1222.0	CY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		UNSUITABLE SUBGRADE EXCAVATION AND SAND FILLING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C203(58)	150.0	CY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		GEOTEXTILE FABRIC FOR STABILIZATION	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C203(59)	5885.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		GEOGRID	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C203(60)	5570.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		BASE COURSE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C302(51)	1268.0	CY		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TRAFFIC MAINTENANCE AGGREGATE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C402(51)	170.0	CY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		APHALTIC CONCRETE (2" THICK)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C501(53)	6117.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REINFORCED CONCRETE PAVEMENT (7" THICK)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C601(54)	6117.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REINFORCED CONCRETE PIPE (15") (CLASS IV)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(53)(F)	1500	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REINFORCED CONCRETE PIPE (18") (CLASS IV)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(53)(G)	100	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REINFORCED CONCRETE PIPE (12") CLASS IV	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(53)E	20	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REINFORCED CONCRETE WYE (15") CLASS IV	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(59)	8	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		COLLECTOR LINE TO CATCH BASINS FOR DRAIN HOUSE CONNECTIONS (8")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(72)	40	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NO. 1 STANDARD DRAIN MANHOLE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(52)(J)	64	FTHT		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NO. 1 STANDARD CATCH BASIN	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(53)(M)	6	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		ADJUST MANHOLE OR DROP INLET UP TO 6"WITH BRICK AND MORTAR	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(54)(A)(1)	36	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		MANHOLE REPAIR OR VERTICAL ADJUSTMENT UP TO GRADE 6" REUSING EXISTING METAL CASTING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(54)(A)(3)	32	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REHABILITATION EXISTING MANHOLE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(54)(I)	144	FTHT		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		BRICK SIDEWALK	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(57)	80	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		RELAYING BRICK SIDEWALK	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(58)	280	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		STONE SIDEWAL ζ	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(59)	20	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		RELAYING STONE SIDEWALK	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(60)	703	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		LETTER OR NUMBER FOR TILE STREET NAME	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(61)	28	EA		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		RESETTING TILE STREET NAME	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(62)	6	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		6" CONCRETE BARRIER CURB WITH DOWELS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C707(56)	1233.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		STONE CURB INCLUDING BASE (STRAIGHT, CIRCULAR OR DEPRESSED)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C707(62)	150.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		RESET EXISTING CURB (PRECAST, CONCRETE, STONE, ETC.) INCLUDING BASE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C707(63)	2041.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY SIGNS, BARRICADES AND PAVEMENT MARKINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C713(51)	1	LS		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		MOBILIZATION	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C727(51)	1	LS		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TRAFFIC SIGN	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C729(51)	32	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		PLASTIC PVMT STRIPING (SOLID)(4IN W)(THERMO 90 MIL)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C732(52)(A)	1750.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		PLASTIC PVMT STRIPING (SOLID)(6IN W)(THERMO 90 MIL)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C732(52)(B)	225.0	LF		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		PLASTIC PVMT STRIPING (24IN W)(THERMO 125 MIL)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C732(52)(E)	1360.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		PLASTIC PVMT LEGENDS & SYMBOLS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C732(54)	4	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		CONSTRUCTION LAYOUT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C740(51)	1	LS		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		6" PVC NEW WATER MAIN WITH MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(51)(B)	30.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		8" PVC NEW WATER MAIN WITH MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(51)(C)(1)	144.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		12" PVC NEW WATER MAIN WITH MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(51)(E)	170.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		24" DUCTILE IRON (RESTRAINED JOINT) NEW WATER MAIN WITH MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(51)(I)(2)	1582.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW 2" VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(52)	2	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW 6" VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(52)(B)	2	EA		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW 8" VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(52)(C)	14	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW 12" VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(52)(E)	5	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW 24" VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(52)(I)	5	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW FIRE HYDRANT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(54)	5	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REPLACE 5/8" TO 1" WATER HOUSE CONNECTION WITH 1" WATER HOUSE CONNECTION (FROM MAIN TO METER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(A)	68	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REPLACE 1-1/2" WATER HOUSE CONNECTION (FROM MAIN TO METER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(B)	6	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REPLACE 2" WATER HOUSE CONNECTION (FROM MAIN TO METER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(C)	13	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REPLACE 4" WATER HOUSE CONNECTION (FROM MAIN TO METER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(D)	10	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REPLACE 6" WATER HOUSE CONNECTION (FROM MAIN TO METER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(E)	1	EA		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REPLACE 8" WATER HOUSE CONNECTION (FROM MAIN TO METER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(F)	2	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		8" WATER LINE OFFSET UP TO 24"	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(71)(C-01)	4	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW WATER VALVE MANHOLE (4" THROUGH 12" VALVES)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(74)(A)	4	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REMOVE MUD AND DEBRIS FROM INSIDE OF WATER METER BOX	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(75)	47	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		ADJUST COMPLETE WATER METER BOX TO GRADE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(76)	47	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REPLACE BROKEN WATER METER BOX (5/8") T0 (1")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(77)	10	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		SEWER POINT REPAIR UP TO TEN FEET (8" AT 6.1' - 8.0')	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(57)	6	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		SEWER POINT REPAIR BEYOND TEN FEET (8" AT 6.1' - 8.0')	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(58)	20.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		NEW SEWER HOUSE CONNECTIONS FROM MAIN TO BACK OF CURB	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(59)	50.0	EA		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		PIPE LINING (8" & CIPP LINING)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(65)(C)	1565	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		CUT LINER TO RESTORE EXISTING SEWER HOUSE CONNECTION (6", CIPP)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(66)(B)	48	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REMOVAL OF HANDICAP RAMPS, CURB AND GUTIER, AND CONCRETE SIDEWALKS AT INTERSECTIONS INCLUDING SAW	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-05	40.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		HANDICAP RAMPS, CURB AND GUTTER SIDEWALKS AT INTERSECTIONS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-06	100.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		SURFACE APPLIED TACTILE / DETECTABLE WARNING SURFACE TILES	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-14	12.0	SF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		SINGLE VERTICAL CATCH BASIN REPAIR OR VERTICAL ADJUSTMENT REUSING EXISTING METAL CASTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-315	9	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		MANHOLE COVEI	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-371	4	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		MANHOLE FRAMI	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-372	4	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		MANHOLE REPAIR OR VERTICAL ADJUSTMENT UP TO 6" REUSING EXISTING METAL CASTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-375	20	EA		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		MANHOLE REHABILITATION CEMENTITOUS LINER FULL DEPTH (SEWER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSS742(X9)	96	FTHT		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY 2" WATERLINE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 01	392	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY 6" WATERLINE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 02	427	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY 8" WATERLINE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 03	2322.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY 12"WATERLINE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 04	80.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY TIE T0 EXISTING WATERLINE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 05	4	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		BACKFILL TRENCH AND TEMPORARY ASPHALT CONCRETE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 06	1236.0	SQ YD		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY 2" GATE VALVE AND VALVE BOX	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 07	2	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY 6" GATE VALVE AND VALVE BOX	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 08	2	EA		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY 8" GATE VALVE AND VALVE BOX	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 09	8	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY HOUSE CONNECTION TO EXISTING WATER METER	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 10	80	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		24" LINE STOP	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 11	1.0	LS		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REMOVE EXISTING 24" WATERLINE (STORE / DISPOSAL)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 12	1582	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		ADJUST SEWER CLEAN OUT TO GRADE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 13	8	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TIE TO EXSITING DRAINAGE STRUCTURE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 14	8	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		REMOVE AND STORE EXISTING GRANITE CURBS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 15	761.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		ADJUST MISCELLANEOUS UTILITY BOX TO GRADE IN SIDEWALK (ELECT., GAS , TELEP., ETC.)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 16	15	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		INSTALL NEW WATER METER AND METER BOX	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 17	8	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		HDPE COMPRESSION	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 18	400.0	LF		

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: Contract No. 2154
24" WATERLINE REPLACEMENT
DECATUR ST. (DUMAINE ST. – GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. – ROYAL ST.)

NAME OF BIDDER: _____

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		DE - MOBILIZATION	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 19	3.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		RE - MOBILIZATION	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 20	3.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt.# ____		TEMPORARY SIDEWALK	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 21	400.0	SY		

Wording for "DESCRIPTION" is provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

1-2 ADDITIONAL REQUIREMENTS

All blank spaces in this Proposal section shall be filled. A bid price shall be indicated for each bid item. Bids received without all such items completed will be considered non-responsive. The bid shall contain an acknowledgement of receipt of all Addenda in space provided. The Louisiana Uniform Public Work Bid Form & Unit Price Form (if applicable) and the amount of Deposit or Bid Bond five percent (5%) of the total amount of the proposal is REQUIRED to be submitted in a sealed envelope on bid opening date. The two (2) lowest numerical bidders have three (3) days after the bid opening (exclusive of Saturdays, Sundays and Holidays) to submit any additional information such as (Voluntary Extension Sheet, Affidavit, Economically Disadvantage Business Summary Sheet if applicable) as well as requirements of Sections 1-3 through 1-6 below. Failure to do so will render the bid non-responsive.

1-3 BIDDER DECLARATION

____ do hereby declare that_____the only person_____interested in this proposal and that no other person than the one ____herein named have any interest herein or in the contract proposed to be taken; that it is madewithout any connection with any other person or persons making proposal for the same work and that it is in all respects fair and without collusion or fraud; also that no member of the Sewerage and Water Board or of the City Council of the City of New Orleans or any officer or employee of the City of New Orleans or of the several boards thereof, who are by law excluded from participation herein, and directly or indirectly interested herein or in furnishing bond or in any portion of the profits hereof.

_____ do hereby also declare that_____have LOUISIANA CONTRACTOR'S LICENSE in the field of _____ with NUMBER_____.

And_____do further declare that_____have carefully examined the annexed specifications and the drawings furnished, and personally inspected the ground and that_____will contract to provide the necessary tools, machinery and apparatus and other means of construction, and to furnish all labor and material specified in this contract or called for by the plans, necessary to complete the work in the manner specified and within the time mentioned in the specifications and according to the requirements of the Engineer, as herein set forth.

1-4 In accordance with Louisiana Revised Statute 38:2227 the following affidavit shown on the next page must be submitted with the bid, or no later than 3 days after the bid opening (excluding Saturdays, Sundays, and Holidays). Failure to do so will render the bid non-responsive. **Please note, THE AFFIDAVIT MUST BE NOTARIZED.**

1-5 GUARANTEES

_____ guarantee that the whole of the work under this contract will be substantially completedwithin **365** calendar days after the date of the "Commencement of Contract Times."

In case of delay in the completion of the contract beyond the contract time of completion as determined by the Board hereby agree to pay, as liquidated damages, the sum of **Two Thousand Dollars ($2,000.00)** for each calendar day of such delay, which liquidated damages shall become due by the mere elapsing of the delay without the necessity of putting_____in default.

1-6 EMERGENCY PROCEDURES

Contractor must furnish telephone numbers for routine or emergency telephone calls.

NAME TITLE

_____

TELEPHONE NO.:
NORMAL CALLS _____

EMERGENCY _____

STATE OF LOUISIANA
PARISH OF ORLEANS

AFFIDAVIT

BEFORE ME, the undersigned authority, duly commissioned and qualified and sworn in and for the State and Parish aforesaid, personally came and appeared_____ who after being duly sworn, did depose and say as follows:

1) He/she is the_____ (title) of_____(company);

2) He/she has not been convicted of, or has entered a plea of guilty or nolo contendere to any of the crimes, or equivalent federal crimes, listed in Louisiana Revised Statute 38:2227, specifically: public bribery, corrupt influencing, extortion, money laundering, theft, identity theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors misapplication of payments, malfeasance in office.

3) The contracting entity, person or corporation whose principal(s), member(s), and /or Officer(s) have, within the preceding 5 years, not been convicted or plead guilty to, a felony under state or federal statutes, for embezzlement, theft of public funds, bribery, falsification or destruction of public records; (City Code Section 2-8)

4) The following is a list of individual partners, incorporators, directors, managers, officers, organizers, or members who have a minimum ten percent interest ownership interest in the bidding entity:

_____(name) _____(name)

_____(name) _____(name)

_____(name) _____(name)

5) No other persons hold an ownership interest in the bidding entity via a counter letter.

6) None of the above named individual partners, incorporators, directors, managers, officers, organizers, or members, who has a minimum ten percent interest ownership in the bidding entity, been convicted of, or has entered a plea of guilty or nolo contendere to any of the crimes, or equivalent federal crimes, listed in Louisiana Revised Statute 38:2227, specifically: public bribery, corrupt influencing, extortion, money laundering, theft, identity theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors misapplication of payments, malfeasance in office.

7) He/she is not delinquent on any taxes owed the City of New Orleans or fees/charges to the Sewerage and Water Board. (City Code Section 2-8)

The following sections apply only to Public Works Contracts:

8) In accord with LA Revised Statute 38:2212.10 the entity represented herein is registered and participates in the "Status verification system" of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324(a), known as the "E-Verify" program to verify that all employees in the State of Louisiana are legal citizens of the United States or are legal aliens.

9) The entity represented herein shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

10) The entity represented herein shall require all subcontractors to submit to the contractor a sworn affidavit verifying compliance with the Status verification system.

WITNESSES:

_____ _____
AFFIANT

_____

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS

_____ DAY OF_____, 20_____.

_____ _____
NOTARY PUBLIC **Notary Id. No. or Bar Roll No.**

_____
PLEASE PRINT NAME OF NOTAR

VOLUNTARY EXTENSIONS OF THE AWARD

If this bid is determined to be the lowest responsive and responsible bid, Bidder agrees to bid extension of the award date by up to two (2) thirty (30) day periods in accordance with the provisions of Louisiana Revised Statue. Title 38, Section 2215 (A).

AGREED:

NAME OF BIDDER (TYPE OR PRINT)

SIGNATURE OF BIDDER

COMPANY NAME

*** * * END OF SECTION * * ***

BID BOND

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

BID

Bid Due Date:
Project (Brief Description Including Location):

BOND

Bond Number:
Date (Not later than Bid due date):

Penal sum _____ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER	SURETY
_____(Seal)	_____(Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature and Title	Signature and Title (Attach Power of Attorney)
Attest: _____	Attest: _____
Signature and Title	Signature and Title

Note: Above addresses are to be used for giving required notice.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2. All Bids are rejected by Owner, or

3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

12. It is a requirement of the CWSRF Loan Program that surety companies providing bonding to contractors be included in the most current version of the U.S. Treasury Department's listing of approved sureties, Circular 570. The latest version of this circular can be found on the Internet at **https://www.fiscal.treasury.gov/fsreports/ref/suretyBnd/c570_a-z.htm**.

END OF SECTION

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

In accordance with the adoption of Resolution R231-97, the Sewerage and Water Board of New Orleans has established a race and gender-neutral Disadvantaged Business Enterprise (DBE) Plan. The prime contractor shall be required to make a demonstrated good faith effort to award 36% of the amount of the contract to certified disadvantaged business enterprises as **subcontractors or suppliers performing commercial useful functions which are consistent with the work required on this contract**. The percent participation having been determined for this specific contract by recommendation of the **Construction Review Committee (CRC)**, which is a joint effort of representatives from the City of New Orleans, Sewerage and Water Board, and representatives of local contractor organizations. This percentage requirement shall be considered an informality which is subject to modifications and may be waived or adjusted by the Sewerage and Water Board of New Orleans if the prime contractor, after having demonstrated a good faith effort, is unable to comply with the requirement.

DEMONSTRATED GOOD FAITH EFFORTS

Before receiving an award of the contract, the contractor must meet the DBE goals or prove that he/she has made a demonstrated good faith efforts. To determine whether a particular contract bidder has made demonstrated good faith efforts to reach the DBE participation goal, the Board and its staff will consider the following:

a. whether the contractor attended all pre-bid meetings that may have been scheduled by the Board to inform DBE firms of subcontracting opportunities and/or requested the Board Directory of Certified DBE firms;

b. whether the contractor advertised in general circulation and trade association publications, concerning the DBE subcontracting opportunities, and allowed the subcontractors reasonable time to respond;

c. whether the contractor provided written notice to a reasonable number of individually named DBE firms and allowed sufficient time for the DBE firms to participate effectively;

d. whether the contractor followed up initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested in bidding;

e. whether the contractor selected specific portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals (including breaking down contracts into smaller units to facilitate DBE participation);

f. whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;

g. whether the contractor negotiated in "good faith" with interested DBEs and did not reject DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;

h. if the contractor did reject a DBE as unqualified, the contractor must state his or her reason for doing so in writing;

i. whether the contractor has used the services of available community organizations and small and/or disadvantaged business groups; local, state and federal small or disadvantage business assistance offices; and other organizations that provide assistance in the recruitment and placement of DBE firms;

j. whether the contractor has made sufficient efforts to negotiate with DBEs for specific sub-bids, including at a minimum:

(1) names, addresses, telephone numbers of DBEs that the contractor contacted,

(2) a description of information provided to those DBE firms, and

(3) a statement of why additional agreements with DBEs were not reached to include but not limited to proof the DBEs' price exceeded that of non-DBEs.

1. Policy:

It is the policy of the Board that DBE firms, as defined in the Board's Disadvantaged Business Enterprise Plan, shall have the maximum allowable opportunity to compete for the award of the participation in the performance of the Board's publicly bid contracts. Consequently, the CRC and the Board have set the DBE participation goal applicable to this construction contract.

2. DBE Obligation:

The Board and its contractors agree to ensure that DBE's, as defined in the Board's Disadvantaged Business Enterprises Plan, shall have the maximum allowable opportunity to compete for the award of the participation in the performance of contracts and subcontracts provided under this agreement. In this regard, contractors shall take all necessary and reasonable steps in accordance with this DBE Plan to ensure that DBE's have the maximum allowable opportunity to compete for such contracts. The Board and its contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of the Board's publicly bid contracts.

3. Utilization of DBE Vendor Listings:

All bidders are required to utilize the most recent Sewerage and Water Board State-Local Disadvantaged Business Enterprise Program Approved Vendor Listings for **Construction, Goods & Services/Professional Services**, in their selection of DBE entities to meet DBE participation goals. **Bidders are required to utilize DBE's as subcontractors or suppliers only in the areas for which they are certified. A description of the areas of work that DBE's can provide is contained in these vendor listings.** In addition, an alphabetical list of vendors/contractors is provided indicating the name of the company, address, name of owner, telephone number, fax number, the date the company became certified, and a description of the work that these entities are certified to perform. **Companies that are already certified as a DBE cannot fulfill the DBE requirements by listing themselves as the subcontractor to meet the DBE goal. The prime contractor shall select another DBE from the Sewerage and Water Board's Approved Vendor Listing.**

4. Contacting DBE's and Obtaining a Firm Price

All prime contractors are required to contact DBE's and obtain a firm price before listing the DBE's on the Participation Summary Sheet. As confirmation of established contact, bidder will include with their Participation

Summary Sheet submission a signed correspondence from the SLDBE subcontractor on their own letterhead that reaffirms negotiated terms such as scope of work and monetary compensation.

5. Failure to Comply with DBE Bid Specifications:

All bidders for this Board contract are hereby notified that failure to comply with the above DBE specifications may constitute the bid as being non-responsive, and sufficient cause for rejection.

6. Failure to Carry Out DBE Policy:

All bidders, potential contractors, or subcontractors for this Board contract are hereby notified that failure to comply with the DBE policy and DBE obligations, set forth above, shall constitute a breach of contract which may result in termination of the contract or such other remedy as deemed appropriate by the Board, to include excluding bidder from bidding on future Board contracts.

7. Setting Minimum Participation Goals:

The stated minimum percentage DBE participation goal recommended by CRC and approved by the Board applies to the work of this contract. The two lowest numerical bidders must complete and submit a DBE Participation Summary Sheet no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays). The DBE Participation Summary Sheet should be completed properly, showing that at least the percentage goal of the total contract bid price will be subcontracted or otherwise awarded through procurement action to DBE's. Should the bidder fail to comply with this request, the bid shall be considered unresponsive, unless:

a. An affidavit is furnished by the bidder with its bid showing that the DBE goals cannot be met for the following reasons:

(1) No DBE firms made offers. Here, it must be shown, documented and demonstrated that good faith efforts (as defined in Part III, D, 2. of the Board's DBE plan) were made by the bidder to obtain the participation of DBE firms and that they did not respond, or

(2) The DBE offers made and accepted for subcontract

and/or material supplies do not total the stated goal for participation, but total a lesser percentage, and

(3) The bidder was unable to obtain DBE further participation, despite his or her demonstrated good faith efforts (as defined in Part III, D, 2 of the Board's DBE Plan) to obtain additional participation by DBE firms.

b. Each of the assertions made by the bidder must be supported by documentary evidence.

8. Other Clauses Unaffected:

Nothing contained herein shall invalidate, change, annul, release, restrict, or affect the liability on the bonds or insurance given by the contractor, or the time required for completion of the contract.

9. Determination of Efforts to Meet Goals:

Initial determination of bidder efforts to meet the DBE participation goal shall be based on the DBE participation representations submitted by the two lowest numerical bidders no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays). Bidders shall submit all the forms required herein no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays), and the DBE Office will examine the contents thereof. The Board's DBE Officer may, if deemed advisable, request further information, explanation or justification from any bidder.

10. Contract Monitoring:

a. The Board's DBE Office will monitor contractor during the operation of the contract to insure that the contractor meets all of its DBE obligations as specified in the contract bid. The Board's DBE office shall establish rules and regulations, to be approved by the Board, for the ongoing monitoring of contractor compliance.

b. Disadvantaged Business Enterprise Program Office personnel or their designated representative shall be allowed to conduct periodic monitoring of contractors' compliance with the agreed to Disadvantaged Business Enterprise Program participation

requirements. Contractors shall be required to complete and return to the Disadvantaged Business Enterprise Program Office in the time required all requests for information and data relative to the contractors' activities in meeting the required Disadvantaged Business Enterprise participation goal. Additionally, Disadvantaged Business Enterprise Office personnel or their designated representative shall have access to contractor and subcontractor(s) records pertaining to, but not specifically limited to labor, costs and materials supplied and used on the Board contract, as well as inspection and photocopying of any and all contracts, agreements and correspondence relative to the Disadvantaged Business Enterprise contract participation requirements. Such inspection will be performed during normal business hours, and will be conducted in such a fashion so as to minimize interference with production of the contract. Visits may be made to job sites, as well as to administrative offices of the contractor and subcontractor(s) participants. Such inspection and on-site visits may be scheduled with or without prior notice to the contractor or Disadvantaged Business Enterprise subcontractor participant. Contractors' failure to comply with these monitoring requirements may result in termination of the contract or such other remedy as deemed appropriate by Board.

11. Maintaining Records:

Subsequent to the completion of a contract, contractors are required to maintain for three (3) years such records as are necessary to determine compliance with their DBE obligations. During construction, or performance of the DBE obligations, contractors shall submit reports as requested to enable the DBE Office to monitor this compliance.

12. Umbrella Bonding:

On contracts where subcontracting exists and where practicable (i.e., when a substantial risk or financial hardship would not be incurred by the prime contractor), the contractor may use an umbrella bond to encompass the DBE firm.

13. Board Action to Seek Compliance:

The contractor consents to such appropriate actions taken to ensure that prime contractors and subcontractors comply with the DBE provisions, to include but not limited to:

a. desk audits to review all material, and information concerning the contractor's compliance;

b. on-site reviews that may include interviews, visits to project locations, and inspection of documents and/or information not available at the desk audit that pertains to the contractor's compliance;

c. any additional investigation that may be called for by a lack of proper record keeping, failure of the prime contractor to cooperate; failure of DBEs to cooperate; visible evidence unsatisfactory performance; other evidence as may warrant further investigation.

14. Non-Compliance Finding:

The Board staff will make compliance determinations regarding its prime contractors. Documentation of noncompliance will include the specific areas in which the contractors failed to comply. In these instances, appropriate legal action consistent with the DBE and other contract provisions will be taken.

15. Contractor's Duties

a. Record Keeping

Successful bidders shall establish and maintain records and submit regular reports to the DBE office as required, which will identify and assess progress in achieving DBE subcontract goals and other DBE participation efforts.

b. Failure To Comply With EDBP Participation Requirements

Failure to comply with any of the EDBP requirements of this contract shall constitute a violation of the terms and conditions of this contract and a cause for the termination of the contract at the option of the Board.

Such violations shall include, but not limited to:

Failing to meet the percentage participation requirements as set out in the contract documents.

Failing to use certified EDBP contractors/vendors in performing the scope of work as identified in the contract documents (EDBP participation summary sheet).

Failing to comply with the "monitoring of EDBP requirements" included herein as part of the contract, such as contractors:

Failure to submit quarterly report and any other necessary reports timely and adequately as required by the EDBP Office.

Failure to grant access to contractor/subcontractor records by EDBP Office personnel, and

Failure to allow on-site investigations and visits, etc.

Failing to report the removal or termination of a certified EDBP vendor /subcontractor.

Failing to secure authorization for replacement of certified EDBP subcontractors from the Director of the Economically Disadvantaged Business Program.

In Lieu of termination the Board, through the EDBP Office, may impose the following penalties:

Withhold from the contractor in violation up to 10% of all future payments due to the contractor, until such time as the violations have been corrected.

Withhold from the contractor in violation, all future payments until such time as the violations have been corrected.

c. Subcontract Clause

All bidders and potential contractors must assure the Board that they will include the above clauses in all agreements, which offer further subcontracting opportunities.

d. Contract Award

Bidders are hereby advised that meeting DBE subcontract goals or making a demonstrated good faith efforts to meet such goals are conditions of being awarded and maintaining construction, procurement, or professional services contracts by the Board.

e. Restrictions on DBE Subcontracting

No **DBE** subcontractor or vendor selected to perform work as a **DBE** on a Sewerage and Water Board contract will be allowed to subcontract any portion of its work to a Non-Board certified **DBE**, unless the work to be performed is necessary for the execution of the contract and there are no Board certified **DBE's** available to perform such work.

This process will require that each **DBE** participant performing work on a Sewerage and Water Board funded contract submit a request to subcontract out any portion of work deemed necessary for execution of the contract to the Board's **EDBP** office. On a form provided by the **EDBP** office, the **DBE** contractor or vendor will indicate the dollar amount of work to be subcontracted, the specific scope or nature of the work, the percentage of the total amount of work to be performed by the **DBE** subcontractor and vendor, and the entity to whom the work will be subcontracted.

Both prime and **DBE** subcontractors are advised that the failure to comply with these requirements may result in the loss of **DBE** certification and non-compliance by the prime contractor in meeting **DBE** contractual obligations.

f. Changes In DBE Participation

The Prime Contractor will not be allowed to make changes in DBE participation without submittal of a written request explaining reason, a revised Participation Summary Sheet and approval by the Director of the Economically Disadvantaged Business Program. Failure to comply with these requirements may result in non-compliance by the Prime Contractor in meeting DBE contractual obligations.

16. POLICY TO ENHANCE THE USE OF DBE VENDORS

All vendors/contractors are encouraged to identify and use S&WB certified **DBE** vendors to the fullest extent possible in major as well as minor purchases of heavy equipment, hardware supplies, etc.

The Sewerage and Water Board has a long-standing commitment to fairness and equal opportunity in hiring and contracting. As such, the workforce of contractors/vendors is encouraged to be representative of a diverse population. Achievement of the full benefits of diversity will only come when an attitude of inclusion is adopted.

The Sewerage and Water Board believes that developing such a policy would be a positive step to increase the dollar value of contracts awarded to **DBE** vendors and subcontractors.

17. ACCESS TO APPROVED VENDOR LISTS

The current listings of Vendors approved by the Sewerage and Water Board are available for use by the bidders on the Sewerage and Water Board external Website, WWW.SWBNO.ORG.

Contracting Requirements

SECTION 005000 – CONTRACTING FORMS AND SUPPLEMENTS

PART 1 - GENERAL

1.1 AGREEMENT AND CONDITIONS OF THE CONTRACT

A. See Section 005213 for the Agreement form to be executed.

B. See Section 007200 for the General Conditions.

C. See Section 007300 for the Supplementary Conditions.

1.2 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the Contract Documents.

B. Bond Forms:
   1. Section 006113.13: Performance Bond Form.

C. Payment Forms:
   1. AIA G702: Application for Payment
   2. AIA G703: Continuation Sheet

D. Project Forms:
   1. Contractor shall use AIA Contract Documents or an equal template for all other contract forms not included or specified herein.
      a. AIA G701: Change Order Form.
      b. AIA G704: Certificate of Substantial Completion Form.
      c. AIA G706A: Affidavit of Release of Liens Form.
      d. AIA G714: Construction Change Directive Form.
      e. AIA G716: Request for Information (RFI) Form.
      f. AIA G810: Submittal Transmittal Form.
      g. Work Change Directive Form.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 005000

THIS PAGE IS LEFT INTENTIONALLY BLANK

CONTRACT

THIS CONTRACT is by and between the Sewerage and Water Board of New Orleans ("Owner") and _____, ("Contractor") in consideration of the mutual covenants set forth herein, agree as follows:

1. WORK

1.1. Contractor shall complete the Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

1.1.1. Installation of a new 24" waterline on Decatur St. and St. Peter St. from Dumaine St. to Governor Nicholls St. on Decatur St. and from Charters St. to Royal St. on St. Peter St. with new tie-ins, valves, and service connections. Also included is a full street reconstruction within the described limits including new concrete roadway pavement and a new sub-surface drainage system.

2. THE PROJECT.

2.1. The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

2.1.1. Contract 2154 - 24" Waterline Replacement
Decatur St. (Dumaine St. – Governor Nicholls St.)
St. Peter St. (Chartres St. – Royal St.)

3. ENGINEER.

3.1. The Project has been designed by **N-Y Associates, Inc.** (Designer) who is to act as the Engineer-of-Record under the oversight and administration of the Owner's Representative.

4. CONTRACT TIMES.

4.1. Time of the Essence: Time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.2. Days to Achieve Substantial Completion and Final Payment:

4.2.1. The Work shall be substantially completed within 360 calendar days from the "Commencement of Contract Times" until "Substantial Completion" and within 390 calendar days from the "Commencement of Contract Times" until completed and ready for "Final Completion." Contract is subject to interim "Milestones" in accordance with Section 013513 "Special Project Procedures for Consent Decree."

4.2.2. The 360 calendar days given in 4.2.1 includes 60 calendar days for which only offsite work is allowed. See Special Provisions Section 1.27.

4.3. Liquidated Damages: $2,000.

4.3.1. Should the Contractor fail to commence or start the work within the time allotted or fail to complete individual phases of the work within the times allotted for said individual phases, the Contractor shall pay to the Board the sum of $2,000 liquidated damages for each calendar day beyond the times specified. If unforeseen circumstances are encountered at the work site, the Contractor may request in writing an extension in days for the completion of work. If granted, the extension of time must be approved in writing by the Engineer and submitted with the invoice.

4.4. Night, Weekend, or Holiday Work:

4.4.1. Night, weekend or holiday work which requires the presence of an engineer or inspector will not be permitted except in cases of emergency or by permission of the Engineer. Except in cases of emergency, all requests for night, weekend or holiday work shall be submitted in writing at least seven calendar days prior to the work being performed. Any approved night, weekend or holiday work requires prior written authorization from the Engineer.

5. CONTRACT PRICE.

5.1. Owner shall pay Contractor _____ and No/100 ($) Dollars for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to the prices stated in Contractor's Bid attached hereto as an exhibit.

6. PAYMENT PROCEDURES.

6.1. Submittal and Processing of Payments: Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.2. Progress Payments and Retainage: Owner will make progress payments on account of the Contract Price on the basis of Contractor's Application for Payment on the date of each month as established in the preconstruction conference during performance of the Work as provided herein. All such payments will be measured by the Schedule of Values established as provided in Paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided in the General Requirements.

6.2.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions:

6.2.1.1. Ninety-five percent of Work completed for contracts in the amount of $500,000.00 or greater (with the balance being retainage). Ninety percent of Work completed for contracts in an amount less than $500,000.00 (with the balance being retainage).

6.2.2 In accordance with Louisiana Revised Statute 38:2249, Contractor may withdraw up to the entire retained amount if they deposit an equal amount in a Certificate of Deposit issued by a commercial bank or savings and loan located in Louisiana.

6.2.3. In accordance with Louisiana Revised Statute 38:2248(A), retainage will be released within 45 days of Final Acceptance by the Sewerage and Water Board of New Orleans' Board of Directors.

6.2.4. Upon Substantial Completion, Owner will pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer will determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.3. Final Payment:

6.3.1. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner will pay the remainder of the Contract Price as recommended by Engineer as provided in Paragraph 14.07.

7. CONTRACTOR'S REPRESENTATIONS.

7.1. Contractor makes the following representations:

7.1.1. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

7.1.2. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

7.1.3. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

7.1.4. Contractor has carefully studied: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) if any, which have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data", and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site which have been identified in Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data."

7.1.5. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.

7.1.6. Based on the information and observations referred to above, Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

7.1.7. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

7.1.8. Contractor has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

7.1.9. The Contract Documents are generally sufficient to indicate and convey understanding of terms and conditions for performance and furnishing of the Work.

8. CONTRACT DOCUMENTS.

8.1. Contents:

8.1.1. The Contract Documents that are attached to this Contract (except as expressly noted otherwise) consist of the following:

8.1.1.1. This Contract

8.1.1.2. Payment and Performance Bond:

8.1.1.3. General Conditions:

8.1.1.4. Supplementary Conditions:

8.1.1.5. Specifications as listed in the table of contents:

8.1.1.6. Drawings consisting of **30** sheets with each sheet bearing the

following general title: **"Contract 2154 - 24" Waterline Replacement Decatur St. (Dumaine St. – Governor Nicholls St.) St. Peter St. (Chartres St. – Royal St.)"**

8.1.1.7. Addenda: ____

8.1.2. Exhibits to this Contract (enumerated as follows):____

8.1.2.1. Contractor's Bid

8.1.2.2 Contractor's Insurance Certificates

8.1.2.3 Contractor's Corporate Resolution

8.1.3. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:

8.1.3.1. Notice to Proceed

8.1.3.2. Work Change Directives

8.1.3.3. Change Order(s)

8.2. There are no Contract Documents other than those listed above in this Article.

8.3. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

9. MISCELLANEOUS.

9.1. Terms used in this Contract will have the meanings stated in the General Conditions and the Supplementary Conditions.

9.2. Successors and Assigns: Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.3. Severability: Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.4. Assignment of Contract:

9.4.1. No assignment by a party hereto of any rights under or interests in the Contract shall be binding on another party hereto without the written consent of the

party sought to be bound; and, specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment shall release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.5. Contractor's Certifications:

9.5.1. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this paragraph:

9.5.1.1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in Contract execution;

9.5.1.2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract Price at artificial noncompetitive levels, or (c) to deprive Owner of the benefits of free and open competition;

9.5.1.3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and

9.5.1.4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10. Force Majeure:

Neither party shall be liable for any failure to make or accept one or more deliveries arising out of any embargo, war, fire, flood, earthquake, epidemic or other calamity, act of God or of the public enemy, governmental act (including, but not restricted to, any government priority, preference, requisition, allocation, interference, restraint or seizure, or the necessity ofcomplying with any governmental order, directive, ruling or request) or by any strike or labor dispute involving the owner, or any manufacturer, supplier or carrier of the machinery, materials or supplies required hereunder, or any other similar circumstance beyond the control of the party.

11. Jurisdiction & Venue:

Moreover, Contractor, by act of signing this Contract, consents and yields to the jurisdiction of the Civil District Court of the Parish of Orleans of the State of Louisiana and does formally waive any plea of lack of jurisdiction, on account of their residence elsewhere in the event of suit under this Contract. This Contract shall be governed by and shall be interpreted in accordance with the laws of the State of Louisiana. Contractor agrees that any suit arising out of this Contract shall be brought in the Civil District Court for the Parish of Orleans and Contractor hereby waives any objection to improper venue and agrees to submit to the jurisdiction of said

court.

IN WITNESS WHEREOF, Owner and Contractor have signed this Contract in triplicate. One counterpart each has been delivered to Owner, Contractor, and Engineer. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Contract will be effective on_____, 2024 (which is the Effective Date of the Contract).

SEWERAGE AND WATER BOARD OF NEW ORLEANS

BY:_____
GHASSAN KORBAN, EXECUTIVE DIRECTOR

WITNESSES:

_____
Print: _____

_____
Print:_____

_____
NOTARY PUBLIC

The foregoing contract is approved as to form.
New Orleans, Louisiana

_____ day of_____, 2024.

_____
YOLANDA GRINSTEAD, SPECIAL COUNSEL
SEWERAGE AND WATER BOARD OF NEW ORLEANS

IN WITNESS WHEREOF, Owner and Contractor have signed this Contract in triplicate. One counterpart each has been delivered to Owner, Contractor, and Engineer. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Contract will be effective on_____, 2024 (which is the Effective Date of the Contract).

(COMPANY'S NAME)
LOUISIANA LICENSE NO. _____

BY:_____
TITLE:_____

WITNESSES:

_____
Print: _____

_____
Print: _____

RECORDED IN THE PARISH OF ORLEANS
STATE OF LOUISIANA
ON_____
N.A. #_____
INSTR.#_____

[END OF SECTION]

PAYMENT AND PERFORMANCE BOND

Bond No.:

KNOW ALL PERSONS BY THESE PRESENTS, That we,_____, as principal, (hereinafter called the "Principal"), and_____, as surety, (hereinafter called the "Surety"), are held and firmly bound unto_____, as Obligee, in the sum of_____Dollars ($) for the payment whereof said Principal and Surety bind themselves, jointly and severally, as provided herein.

WHEREAS, the Principal has entered into a Contract with Obligee dated_____, to perform construction work for_____("Contract").

NOW, THEREFORE, the condition of this obligation is such that if Principal shall promptly and faithfully perform the Construction Work to be performed under the Contract, and shall promptly make payment to Claimants, as hereinafter defined, for all labor and material actually used, consumed or incorporated in the performance of the Construction Work under the Contract, then this obligation shall be null and void; otherwise to remain in full force and effect.

Surety's obligations hereunder to Obligee shall not arise unless Principal is in default under the Contract for failing to perform the Construction Work and has been declared by Obligee to be in default under the Contract for failing to perform the Construction Work; and Obligee has performed its obligations under the Contract. In such event, Surety shall have a reasonable period of time to:

1. Upon entering into an acceptable written takeover agreement with Obligee, undertake to perform and complete the Construction Work to be done under the Contract; or

2. Obtain bids or negotiated proposals from qualified contractors for a contract for completion of the Construction Work to be done under the Contract, arrange for a contract to be prepared for execution by Obligee and contractor, to be secured with performance and payment bonds executed by a qualified surety; or

3. Waive its right to perform or complete the Construction Work pursuant to paragraphs 1 and 2 above, and with reasonable promptness under the circumstances: (a) After investigation, determine the amount for which it may be liable to the Obligee and, as soon as practicable after the amount is determined, tender payment therefor to the Obligee; or (b) Deny liability in whole or in part and notify the Obligee citing reasons therefor.

4. The Contract balance, as defined below, shall be credited against the reasonable construction cost of completing the Construction Work to be performed under the Contract. If completed by Obligee pursuant to paragraphs 2 or 3 above, and the reasonable construction cost of completing the Construction Work exceeds the Contract balance, Surety shall pay to Obligee such excess, but in no event shall the aggregate liability of Surety exceed the amount of this bond. If Surety completes the work pursuant to paragraph 1 above, that portion of the Contract balance as may be required to complete the Construction Work to be done under the Contract and to reimburse Surety for its outlays shall be paid to Surety at the times and in the manner as said sums would have been payable to Principal had there been no default under the Contract. To the extent that Surety's outlays exceed the Contract

balance paid to Surety by Obligee, Surety shall be entitled to a dollar for dollar reduction of its liability under this bond, and Surety's aggregate liability shall not exceed the penal sum of this bond. The term "Contract balance" as used herein shall mean the total amount payable by Obligee under the Contract and any amendments thereto, less the amounts properly paid by Obligee to Principal under the Contract. The term "Construction Work" as used herein shall mean the providing of all labor and/or material necessary to complete Principal's scope of work under the Contract. Notwithstanding any language in the Contract to the contrary, the Contract balance shall not be reduced or set off on account of any obligation, contractual or otherwise, except the reasonable construction cost incurred in completing the Construction Work.

5. Any suit by Obligee under this bond must be instituted before the earlier of: (a) the expiration of one year from the date of substantial completion of the Construction Work, or (b) one year after Principal ceased performing the Construction Work, excluding warranty work. If the public works bond statutes in the location where the Construction Work is being performed contains a statute of limitations for suits on the performance bond, then the limitation period set forth herein shall be read out of this bond and the statute of limitation set forth in the public works bond statutes shall be read into this bond. If the limitation set forth in this bond is void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable, and said period of limitation shall be deemed to have accrued and shall commence to run no later than (y) the date of substantial completion of the Construction Work, or (z) the date Principal ceased performing Construction Work, excluding warranty work, whichever occurs first.

6. A Claimant is defined as one other than Obligee having a contract with Principal or with a direct subcontractor of Principal to supply labor and/or materials and said labor and/or material is actually used, consumed or incorporated in the performance of the Construction Work under the Contract.

7. Principal and Surety hereby jointly and severally agree with Obligee that every Claimant as herein defined who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labor was done or performed or materials were furnished by such Claimant, may bring suit on this bond, prosecute the suit to final judgment for the amount due under Claimant's contract for the labor and/or material supplied by Claimant which was actually used, consumed or incorporated in the performance of the Construction Work, and have execution thereon; provided, however, that a Claimant having a direct contractual relationship with a subcontractor of Principal shall have a right of action on this bond only if said Claimant notifies Surety in writing of its claim within ninety (90) days from the date on which said Claimant did or supplied the last labor and/or materials for which the claim is made. Obligee shall not be liable for the payment of any costs or expenses of any such suit.

8. No suit or action shall be commenced hereunder by any Claimant after the expiration of the earlier of: (a) one year after the day on which Claimant last supplied the labor and/or materials for which the claim is made; or (b) the limitation period set forth in the public works bond statutes, if any, in the location where the construction work is being performed. Any limitation contained in this bond which is prohibited by any law controlling in the state where the suit is filed shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by the law of that state, and said period of limitation shall be deemed to have accrued and shall commence to run on the day Claimant last supplied the labor and/or materials for which the claim is made.

9. No suit or action shall be commenced hereunder by Obligee or any Claimant other than in a state court of competent jurisdiction in the county or other political subdivision of the state in which the project,

or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

10. The amount of this bond shall be reduced by and to the extent of any payment or payments made by Surety in good faith hereunder whether made directly to Obligee or Claimant(s) or otherwise in discharge of Principal's obligations. Surety's liability hereunder to Obligee and all Claimants is limited, singly, or in the aggregate, to the penal sum of the bond set forth herein. Surety may, at its option, discharge all obligations under this bond by interpleading into the registry of any court of competent jurisdiction of the full unused penal sum of this bond, or such portion thereof that will satisfy the obligations owed to Obligee and/or Claimant(s). No right of action shall accrue on this bond to any person or entity other than Obligee and/or Claimant(s). The bond shall not afford coverage for any liability of Principal for tortious acts, whether or not said liability is direct or is imposed by the Contract and shall not serve as or be a substitute for or supplemental to any liability or other insurance required by the Contract.

11. This bond is provided to comply with all statutory (including but not limited to La. R.S. 38:2216 and La. R.S. 38:2219) or other legal requirement for performing construction contracts for public owners in the location where the construction work is being performed. Except as provided in paragraphs 5 and 8 above, all provisions in the bond which are in addition to or differ from those statutory or legal requirements shall be read out of this bond, and all pertinent statutes and other legal requirements shall be read into the bond. This bond is a statutory bond, not a common law bond.

Signed this_____day of_____, 20___.

(Principal)

By: _____

(Surety)

By: _____
, Attorney-in-Fact

GENERAL CONDITIONS

TABLE OF CONTENTS

Page

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY 1
1.01 Defined Terms *1*
1.02 Terminology *3*

ARTICLE 2 – PRELIMINARY MATTERS 4
2.01 Delivery of Bonds and Evidence of Insurance *4*
2.02 Copies of Documents *4*
2.03 Commencement of Contract Times; Notice to Proceed *4*
2.04 Starting the Work *4*
2.05 Before Starting Construction *4*
2.06 Preconstruction Conference; Designation of Authorized Representatives *5*
2.07 Initial Acceptance of Schedules *5*

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE 5
3.01 Intent *5*
3.02 Reference Standards *5*
3.03 Reporting and Resolving Discrepancies *6*
3.04 Amending and Supplementing Contract Documents *6*
3.05 Reuse of Documents *6*
3.06 Electronic Data *7*

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS 7
4.01 Availability of Lands. *7*
4.02 Subsurface and Physical Conditions *7*
4.03 Differing Subsurface or Physical Conditions *7*
4.04 Underground Facilities *8*
4.05 Reference Points *9*
4.06 Hazardous Environmental Condition at Site *9*

ARTICLE 5 – BONDS AND INSURANCE 10
5.01 Performance, Payment, and Other Bonds *10*
5.02 Licensed Sureties and Insurers *11*
5.03 Certificates of Insurance *11*
5.04 Contractor's Insurance *11*
5.05 Owner's Liability Insurance *12*
5.06 Property Insurance *12*
5.07 Waiver of Rights *13*
5.08 Receipt and Application of Insurance Proceeds *13*
5.09 Acceptance of Bonds and Insurance; Option to Replace *14*
5.10 *Partial Utilization, Acknowledgment of Property Insurer* *14*

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES 14
6.01 Supervision and Superintendence *14*
6.02 Labor; Working Hours *14*
6.03 Services, Materials, and Equipment *14*
6.04 Progress Schedule *15*
6.05 Substitutes and "Or-Equals" *15*

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

6.06 Concerning Subcontractors, Suppliers, and Others *17*
6.07 Patent Fees and Royalties *17*
6.08 Permits *18*
6.09 Laws and Regulations *18*
6.10 *Taxes* *18*
6.11 *Use of Site and Other Areas* *18*
6.12 *Record Documents* *19*
6.13 *Safety and Protection* *19*
6.14 *Safety Representative.* *20*
6.15 *Hazard Communication Programs* *20*
6.16 *Emergencies* *20*
6.17 *Shop Drawings and Samples* *20*
6.18 *Continuing the Work* *21*
6.19 *Contractor's General Warranty and Guarantee* *21*
6.20 *Indemnification* *22*
6.21 *Delegation of Professional Design Services* *22*

ARTICLE 7 – OTHER WORK AT THE SITE 23
7.01 Related Work at Site *23*
7.02 Coordination *23*
7.03 Legal Relationships *23*

ARTICLE 8 – OWNER'S RESPONSIBILITIES 23
8.01 Communications to Contractor *23*
8.02 Replacement of Engineer *23*
8.03 Furnish Data *24*
8.04 Pay When Due *24*
8.05 Lands and Easements; Reports and Tests *24*
8.06 Insurance *24*
8.07 Change Orders *24*
8.08 Inspections, Tests, and Approvals *24*
8.09 Limitations on Owner's Responsibilities *24*
8.10 *Undisclosed Hazardous Environmental Condition* *24*
8.11 *Evidence of Financial Arrangements* *24*
8.12 *Compliance with Safety Program* *24*

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION 24
9.01 Owner's Representative *24*
9.02 Visits to Site *24*
9.03 Project Representative *25*
9.04 Authorized Variations in Work *25*
9.05 Rejecting Defective Work *25*
9.06 Shop Drawings, Change Orders and Payments *25*
9.07 Determinations for Unit Price Work *25*
9.08 Decisions on Requirements of Contract Documents and Acceptability of Work *25*
9.09 Limitations on Engineer's Authority and Responsibilities *26*
9.10 *Compliance with Safety Program* *26*

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS 26
10.01 Authorized Changes in the Work *26*
10.02 Unauthorized Changes in the Work *26*
10.03 Execution of Change Orders *26*
10.04 Notification to Surety *27*
10.05 Claims *27*

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK 27
11.01 Cost of the Work *27*
11.02 Allowances *29*
11.03 Unit Price Work *29*

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES 30
12.01 Change of Contract Price *30*
12.02 Change of Contract Times *31*
12.03 Delays *31*

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK. 31
13.01 *Notice of Defects* *31*
13.02 Access to Work *31*
13.03 Tests and Inspections *31*
13.04 Uncovering Work *32*
13.05 Owner May Stop the Work *32*
13.06 Correction or Removal of Defective Work. *32*
13.07 Correction Period *33*
13.08 Acceptance of Defective Work *33*
13.09 Owner May Correct Defective Work *33*

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION 34
14.01 Schedule of Values *34*
14.02 Progress Payments *34*
14.03 Contractor's Warranty of Title *36*
14.04 Substantial Completion *36*
14.05 Partial Utilization *36*
14.06 Final Inspection *37*
14.07 Final Payment *37*
14.08 Final Completion Delayed *37*
14.09 Waiver of Claims *38*

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION 38
15.01 Owner May Suspend Work *38*
15.02 Owner May Terminate for Cause *38*
15.03 Owner May Terminate For Convenience *39*
15.04 Contractor May Stop Work or Terminate *39*

ARTICLE 16 – DISPUTE RESOLUTION 39
16.01 *Methods and Procedures* *39*

ARTICLE 17 – MISCELLANEOUS 40
17.01 Giving Notice *40*
17.02 Computation of Times *40*
17.03 Cumulative Remedies *40*
17.04 Survival of Obligations *40*
17.05 Controlling Law. *40*
17.06 Headings *40*

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

GENERAL CONDITIONS

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*—See Paragraph 11.01 for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

49. *Unit Price Work*—Work to be paid for on the basis of unit prices.

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. Intent of Certain Terms or Adjectives:

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. Day:

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

D. Defective:

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. Furnish, Install, Perform, Provide:

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 Preconstruction Conference; Designation of Authorized Representatives

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 Initial Acceptance of Schedules

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees,

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies:

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation , (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. Resolving Discrepancies:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 Reuse of Documents

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

3.06 Electronic Data

A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 Subsurface and Physical Conditions

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 Differing Subsurface or Physical Conditions

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

5. then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments:

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 Underground Facilities

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data;

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

b. locating all Underground Facilities shown or indicated in the Contract Documents;

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated:

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 Reference Points

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 Certificates of Insurance

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 Contractor's Insurance

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

6. include completed operations coverage:

a. Such insurance shall remain in effect for two years after final payment.

b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 Owner's Liability Insurance

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 Property Insurance

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 Waiver of Rights

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 Receipt and Application of Insurance Proceeds

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 Acceptance of Bonds and Insurance; Option to Replace

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 Partial Utilization, Acknowledgment of Property Insurer

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 Supervision and Superintendence

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 Labor; Working Hours

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water,

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and

3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items*:

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services; and

4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

6.06 Concerning Subcontractors, Suppliers, and Others

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 Patent Fees and Royalties

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 Laws and Regulations

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members,

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 Hazard Communication Programs

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 Shop Drawings and Samples

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings:

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. Samples:

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures*:

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 Delegation of Professional Design Services

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 Legal Relationships

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 Communications to Contractor

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 Replacement of Engineer

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

8.03 Furnish Data

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 Pay When Due

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 Lands and Easements; Reports and Tests

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 Insurance

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 Change Orders

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 Inspections, Tests, and Approvals

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 Limitations on Owner's Responsibilities

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 Evidence of Financial Arrangements

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 Compliance with Safety Program

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 Owner's Representative

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 Visits to Site

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 Authorized Variations in Work

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 Rejecting Defective Work

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 Shop Drawings, Change Orders and Payments

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 Determinations for Unit Price Work

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 Limitations on Engineer's Authority and Responsibilities

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 Compliance with Safety Program

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 Execution of Change Orders

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 Notification to Surety

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 Claims

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include,

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances:

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance:

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 Change of Contract Times

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 Delays

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 Uncovering Work

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 Owner May Stop the Work

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

impair Owner's special warranty and guarantee, if any, on said Work.

13.07 Correction Period

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 Owner May Correct Defective Work

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

c. there are other items entitling Owner to a set-off against the amount recommended; or

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 Partial Utilization

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 Final Inspection

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 Final Completion Delayed

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 Owner May Suspend Work

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 Owner May Terminate for Cause

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 Owner May Terminate For Convenience

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 Contractor May Stop Work or Terminate

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 Methods and Procedures

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 Controlling Law

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 Headings

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof. The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.19:

> The General Superintendent for the Sewerage and Water Board of New Orleans or delegate and has the authority provided in this Contract to approve or disapprove all changes to the Contract documents.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.44:

> Substantial Completion is defined as the completion of all Work with the exception of final clean-up.

SC-1.01. Add the following new paragraph immediately after Paragraph 1.01.A.51:

> 1.01.A.52. *Specialist*—The term Specialist refers to a person, partnership, firm, or corporation of established reputation (or if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the Contract Documents, or otherwise performing Work required by the Contract Documents. Where the Specifications require the installation by a Specialist, that term shall also be deemed to mean either the manufacturer of the item, a person, partnership, firm, or corporation licensed by the manufacturer, or a person, partnership, firm, or corporation who will perform the Work under the manufacturer's direct supervision.
>
> 1.01.A.53. *Construction Coordinator*—The term Construction Coordinator, where and when used, refers to an authorized representative of Owner or Engineer who may be assigned to the Site or any part thereof to monitor and oversee construction activities by Contractor. Synonymous with Resident Project Representative (RPR) and Owner's Representative.
>
> 1.01.A.54 *Owner's Representative*—The term Owner's Representative, where and when used, refers to an authorized representative of Owner who may be assigned to the Site or any part thereof to monitor and oversee construction activities by Contractor. Synonymous with Resident Project Representative (RPR) and Construction Coordinator.

SC-2.01. Delete the wording “and Owner” and “each” in line 2, change “other” to “owner” in line 3, delete “and owner respectively” and change “are” to “is” in line 7 in Paragraph 2.01.B

SC-2.02. Amend first sentence in Paragraph 2.02.A to read as follows:

2.02.A. Upon award of Contract, Owner will furnish Contractor with complete conformed project documents in electronic format.

SC-2.03. Delete the third sentence of Paragraph 2.03.A in its entirety.

SC-3.01. Add the following new paragraph immediately after Paragraph 3.01.C:

3.01.D. Sections of Division 01, General Requirements, govern the execution of the Work of all sections of the Specifications.

SC-4.02. Add the following new paragraph(s) immediately after Paragraph 4.02.B:

4.02.C. The following reports of explorations and tests of subsurface conditions at or contiguous to the Site are known to Owner:

SC-4.06. Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following in their place:

4.06.A. No reports or drawings related to Hazardous Environmental Conditions are known to Owner.

SC-5.01. Delete in Paragraph 5.01.A first sentence the wording “and payment”

SC-5.02. Add the following new paragraph immediately after Paragraph 5.02.A:

SC-5.02.B. As an alternative to the requirements in paragraph A above, bonds may also be provided by a Louisiana Domiciled Insurance company with at least an A.M. Best’s Financial Strength Rating of A minus (A-) rating, or the bond shall be written by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds. In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana. Surety and insurance companies from which the bonds and insurance for this Project are purchased under the provisions of paragraph 5.02.A shall have an A.M. Best’s Financial Strength Rating of A minus (A-) or better with a Financial Size Category of no less than VII, in addition to other requirements specified herein.

SC-5.04. Add the following language after Paragraph 5.04.B.1:

Policies will endorse the following parties or entities as additional insured:

5.04.B.1.a. Sewerage and Water Board of New Orleans, 625 St. Joseph Street, New Orleans, Louisiana 70165

5.04.B.1.b. The City of New Orleans, 1300 Perdido Street, New Orleans, Louisiana 70112

SC-5.04. Add the following new paragraph immediately following Paragraph 5.04.B:

5.04.C. Insurance: General Requirements

The Contractor will maintain, at his own cost and expense, and in good standing, such insurance as will protect the Sewerage and Water Board of New Orleans (the Owner), the City of New Orleans (the City,) their officers, officials, employees, boards, commissions and volunteers, as well as the Contractor himself and any subcontractors from and against any and all claims for damages to public and private property and personal injury, including death, to employees or to the public, which may arise from any operations under this Contract or any of its subcontracts. The coverage will contain no special limitations on the scope of protection afforded to the Owner and the City. Both the Owner and the City will appear as "Additional Insured" on all Commercial General Liability and Business Automobile Liability. Any failure to comply with the reporting provisions of a policy will not affect coverage provided to the Owner and the City, their officers, officials, employees, boards and commissions and volunteers. The Contractor's insurance will apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

In general, insurance is to be placed with insurers with an A.M. Best's rating of A-:V, although this requirement may be reviewed and modified by the Risk Manager of the Sewerage and Water Board of New Orleans in the best interest of the Board. The Risk Manager may also consider performing such review upon written request from the Contractor. The Contractor shall furnish the Sewerage and Water of New Orleans with certificates of insurance affecting coverage required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates of insurance are to be received and approved by the Risk Manager of the Sewerage and Water Board of New Orleans, 625 St. Joseph St., Rm. 119, New Orleans, LA 70165, before work commences. The Sewerage and Water Board of New Orleans reserves the right to require complete, certified copies of all insurance policies at any time, as proof that the insurance placed meets the requirements of this Contract.

If the insurance is written subject to a deductible clause, Contractor assumes responsibility for the amount of the deductible. In addition, the Contractor shall be required to furnish to the Risk Manager of the Sewerage and Water Board of New Orleans all copies of investigative reports with regard to any and all claims with the Contractor and his insurance carriers, relative to the contract, with the exception of claims filed with his Workers' Compensation Insurance. Such reports shall include dates, location and description of loss as well as amounts of settlements or judgments in order that annual aggregate limits maybe monitored by the Sewerage and Water Board of New Orleans for the Contactor's compliance with these Specifications.

The furnishing of insurance as provided above shall not relieve the Contractor of his responsibility for losses not covered by insurance. All policies shall be with insurance companies authorized to do business in Louisiana and shall remain in full force and effect until the final completion of the work and acceptance thereof by the authority of the Owner.

Subrogation

The Contractor, Subcontractor(s), and their insurers shall agree to waive all the rights of subrogation against the Owner, the City, and their officers, officials, employees, boards and commissions, and volunteers for losses arising from work performed by the Contractor for the Owner and the City.

5.04.C.2. Insurance Cancellations and Stop-Work

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the Risk Manager, 625 St. Joseph St., Rm. 119, New Orleans, LA 70165, of the Sewerage & Water Board of New Orleans, via certified mail.

The Contractor and/or his insurer shall notify the Risk Manager of the Sewerage and Water Board of New Orleans at least thirty (30) days in advance of any insurance coverage to be canceled or of any insurance coverage that will expire. The Contractor shall simultaneously furnish the Owner evidence of new coverage to be effective the same day and hour of the expired or canceled coverage.

In the event the Contractor and/or his insurer fails to submit this evidence of new coverage five (5) days prior to the cancellation date or expiration date of any policy or policies, the Sewerage and Water Board will have the right to obtain the required coverage to become effective on the date of cancellation or expiration of said policies. The cost of such new policies shall be at the expense of the Contractor and any expenditure incurred by the Owner for this coverage will be deducted from any balance due to the Contractor.

Should the Owner be unable to secure new coverage to take the place of the expired or cancelled policy or policies, a “stop work” order will issued and all work on the contract shall cease on the same date and hour as the coverage ceases. Should the Contractor fail or refuse to secure coverage within five (5) days after the date of the “stop work” order, the Contractor shall be declared to be in default, and the contract between the parties shall be considered cancelled and of no force or effect between the parties reserving all the rights of the Owner against the Contractor and his surety.

5.04.C.3. Insurance Policies, Endorsements, and Limits Required

The following are the types of insurance policies and the minimum limits of insurance coverage which shall be maintained by the Contractor during the entire term of the Contract:

5.04.C.3.a. WORKERS' COMPENSATION AND EMPLOYERS LIABILITY INSURANCE

WORKERS' COMPENSATION AND EMPLOYERS LIABILITY INSURANCE, as will protect Contractor from claims under Louisiana Workers' Compensation Laws. The Workers' Compensation section of the policy shall afford Statutory Limits and be in accordance with all Louisiana Workers' Compensation Statutes. The Employers Liability limit shall not be less than $1,000,000 each accident for bodily injury by accident and $1,000,000 each employee/policy limit for bodily injury by disease. Whenever any Federal Longshoreman's and Harbor Workers' Act, and shall also include protection for injuries and/or death to Master and Members of the crews of vessels with statutory limits in accordance with the Jones Act.

5.04.C.3.b. COMMERCIAL GENERAL LIABILITY INSURANCE

COMMERCIAL GENERAL LIABILITY INSURANCE, with a limit of not less than $1,000,000 each occurrence and not less than $2,000,000 general annual aggregate, including Explosion, Collapse, and Underground Property Damage Hazards. The Products-Completed Operations aggregate limit shall not be less than $1,000,000 each occurrence. The general aggregate limit shall apply separately to this project.

5.04.C.3.c. BUSINESS AUTOMOBILE LIABILITY INSURANCE

BUSINESS AUTOMOBILE LIABILITY INSURANCE, which shall cover liability arising out of accidents involving any auto (including Owned, Hired, and Non-Owned autos). The limit of liability shall not be less than $1,000,000 each accident for all injuries, property damage, and/or death resulting from any one occurrence.

5.04.C.3.d. OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE

OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE, as will protect the Contractor, the Sewerage and Water Board of New Orleans, and the City of New Orleans from and against any and all claims and lawsuits involving vicarious liability. The limits

of liability shall be the same as specified in Paragraph (b) above, and shall include Explosion, Collapse and Underground Hazards.

5.04.C.3.e. PROFESSIONAL LIABILITY INSURANCE

PROFESSIONAL LIABILITY INSURANCE, as may be applicable to the particular profession or service to be provided, with a limit of not less than $1,000,000 each Claim, with at least a $2,000,000 annual aggregate, **without any restrictive "negligent act, negligent error, or negligent omission"** clause, and sufficient to protect the Contractor, the Owner, and the City, for a five (5) year period from completion of this contract, against any and all claims which may arise from the Contractor's negligent performance of work described herein.

5.04.C.3.f. PROPERTY INSURANCE

PROPERTY INSURANCE, required on all work except sewer and water drainage pipelines, reinforced concrete canals, work completely underground, and similar work (however Contractor is not relieved of responsibility therefore) as follows:

5.04.C.3.f(1).

ALL RISKS BUILDERS RISK INSURANCE (covering Fire, Extended Coverage, Vandalism and Malicious Mischief) will be carried on a completed value or reporting form, for not less than 100 percent of the value of the work, including foundations.

Coverage will include all machinery and equipment to be installed, whether furnished by the Sewerage & Water Board or by Contractor, for not less than 100 percent of the installed value of the machinery and equipment. This insurance shall be written in the same Insurance Company carrying the Builder's Risk Insurance, shall include testing and startup, shall for partial utilization of the Work by Owner, and shall terminate only when installation has been accepted by the Sewerage and Water Board.

The All Risks Builder's Risk Policy shall include the names of the Sewerage & Water Board of New Orleans, and City of New Orleans, and will cover the interests of all sub-contractors without specifically naming them.

5.04.C.3.g. WORKERS' COMPENSATION AND UNEMPLOYMENT COVERAGE, ADDITIONAL CONDITIONS

5.04.C.3.g(1)

WORKERS' COMPENSATION: The Contractor expressly agrees and acknowledges that it is an "independent contractor" as defined in LSA-R.S.23:1021(6), and that its employees shall not be considered employees of the Sewerage and Water Board for workers' compensation benefits or coverage.

5.04.C.3.g(2)

EXCLUSIVE OF UNEMPLOYMENT COMPENSATION COVERAGE: Contractor herein expressly agrees and acknowledges that it is an "independent contractor" as defined in LSA-R.S.23:1472(E0, that neither the contractor nor any one employed by the Contractor shall be considered an employee of the Sewerage and Water Board for the purpose of employment of compensation coverage.

SC-5.06. Delete Paragraph 5.06.A in its entirety.

SC-5.06. Delete Paragraph 5.06.B in its entirety.

SC-5.06. Delete Paragraph 5.06 E in its entirety.

SC-5.07. Delete third sentence of Paragraph 5.07.A in its entirety and insert the following in its place:

Contractor and Contractor's insurers waive all rights against Owner and their respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused.

SC-5.07. Delete the last sentence of Paragraph 5.07.A in its entirety and insert the following in its place:

None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Contractor as trustee or otherwise payable under any policy so issued.

SC-5.07. Delete Paragraph 5.07.B in its entirety.

SC-5.07. Delete Paragraph 5.07.C in its entirety.

SC-5.08. Delete Paragraph 5.08.A in its entirety.

SC-5.08. Delete Paragraph 5.08.B in its entirety.

SC-6.02. Add the following new paragraph immediately after Paragraph 6.02.B:

6.02.C. Contractor shall reimburse Owner for Engineer's additional extraordinary costs for onsite personnel overtime work resulting from Contractor's overtime operations. Reimbursement shall be on the cost basis defined in Paragraph 14.02.D.4 of these Supplementary Conditions.

6.03. Add the following new paragraph immediately after Paragraph 6.03.C:

6.03.D. Domestic Manufacture:

All equipment to be furnished and components of all items specified herein, except bearings, shall be of domestic produce, manufacture and assembly, i.e., manufactured and assembled within the limits of the United States. Parts must be available from suppliers that manufacture components in the USA. The Owner reserves the right to waive this requirement if, in the opinion of the Engineer, it appears to be in the best interests of the Owner.

Owner's staff will determine the ability of the lowest bidder to design and build the equipment and machinery specified hereon. Along with other factors to be considered by Owner's staff will be the manufacturer's facilities, listings of similar equipment and installations, equipment reliability and longevity. Should the lowest bidder be found "non-responsive", then an informal hearing will be held to provide the lowest bidder the opportunity to refute the reasons for disqualification.

SC-6.05. Add the following language at the end of Paragraph 6.05.E:

Reimbursement rates for Engineer or their officers, directors, members, partners, employees, agents, and other consultants and subcontractors for evaluation of proposed substitutes shall be on the basis established in Paragraph 14.02.D.4 of these Supplementary Conditions.

SC-6.06. Add the following new paragraph immediately after Paragraph 6.06.G:

6.06.H. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier**.**

SC-6.08. Add the following paragraphs after 6.08A:

B. Before commencing work, the Contractor shall obtain, at his own expense, any required permits from the City of New Orleans. The Contractor shall also secure, at his own expense, any necessary inspection certificates required after the work is completed.

C. Evidence of compliance shall be furnished to the Owner prior to starting work, in the case of permits, or within 10 calendar days after completion of that work requiring inspection certificates.

SC-6.11. Add the following language to the end of Paragraph 6.11.A.1:

Contractor shall not enter upon nor use property not under Owner control until appropriate easements have been executed and a copy is on file at the Site**.**

SC-6.11. Add the following language to the end of Paragraph 6.11.D:

6.11.D. Water and Other Utilities. It is the responsibility of the Contractor to make all necessary arrangements for the provision of water, electricity, drainage, sanitary sewage disposal, gas, compressed air, and any other utility service required to prosecute the work of this contract. Water used by the Contractor at the job site will be furnished by the Board at no cost to the Contract, if conditions permit. Costs of all other services shall be borne by the Contractor.

6.11.E. Hydrant Connections. Connections to fire hydrants shall only be made with meters obtained from the Sewerage and Water Board Customer Service Department, 504-585-2097, which shall record water usage for record purposes and which shall be returned to the Board as a condition of acceptance of the Contract. Application for the meter requires a $1,500.00 deposit that is refundable upon return of the meter in undamaged and operable condition. The hydrant meter application and instructions are available on the Sewerage and Water Board website: https://www.swbno.org/custserv_information_docs.asp.

SC-6.13. Add the following new paragraphs immediately after 6.13.C:

6.13.C.1. The Owner's Safety Orientation Notice is applicable to the Work and is appended to these Supplementary Conditions.

6.13.C.2. The Owner's Drug-Free Workplace Policy is applicable to the Work and is appended to these Supplementary Conditions.

6.13.C.3. Owner's Electrical Safety Clearance Procedure is applicable to the work and is appended to these supplementary conditions.

SC-6.17. Add the following new paragraphs immediately after Paragraph 6.17.E.1:

6.17.E.2. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than the number of submittals specified in Paragraph 14.02.D.4 of these Supplementary Conditions. Engineer will record time for reviewing subsequent submittals of Shop Drawings, Samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time in accordance with Paragraph 14.02.D.4 of these Supplementary Conditions.

6.17.E.3. In the event Contractor requests a substitution for a previously approved item, Contractor shall reimburse Owner for Engineer's charges for such time, unless the need for such substitution is beyond the control of Contractor.

SC-7.02. Delete Paragraphs 7.02.A and 7.02.B in their entirety and insert the following in their place:

7.02.A. Owner intends to contract with others for the performance of other work on the Project at the Site. The authority and responsibility of the Construction Coordinator for the various prime contractors, utility owners, and Owner (if present at the Site) shall be as follows:

7.02.A.1 Owner's Representative: Shall have authority and responsibility for coordination of the various contractors at the Site. Owner's Representative shall be named by the Owner if necessary.

7.02.A.2. Specific matters to be covered by such authority and responsibility: Prioritization of work activity should conflicts occur in work areas between contractors or between contractor and Owner's operations; approval of requests to curtail, interrupt, or otherwise disrupt Owner operation to allow Contractor work to be scheduled and/or occur; cancellation of scheduled Contractor activity in the event Owner requirements supersede prior plans; other issues that require approval or prioritization relative to interference with Owner operations or conflicts with other.

7.02.A.3. Extent of such authority and responsibility: Owner's Representative decision and direction to Contractor shall be final. Planning and discussions to coordinate options relative to operational disruptions requested by Contractor will be scheduled by Owner's Representative. Owner's Representative will review and respond to requests by the Contractor for outage, interconnection, operational disruption, contract activity prioritization, or the like, within 10 business days.

7.02.A.4. Limitations of such authority and responsibility: Owner's Representative may not modify the Contract or its terms and conditions.

7.02.B. Unless expressly assigned to the Construction Coordinator, all other authority and responsibility will remain vested with each prime contractor, utility owner, or Owner (if present at the Site).

SC-7.04. Add the following new paragraph immediately after Paragraph 7.03:

SC-7.04. *Claims Between Contractors*

7.04.A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor's performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or the Construction Coordinator, if applicable, Contractor shall (without involving Owner, Engineer, or Construction Coordinator) either i) remedy the damage; ii) agree to compensate the other contractor for remedy of the damages; or iii) remedy the damages and attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law.

7.04.B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, the Construction Coordinator (if applicable) and the officers, directors, members, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all Claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Engineer, their officers, directors, members, partners, employees, agents, and other consultants and subcontractors, or the Construction Coordinator (if applicable) to the extent said Claim is based on or arises out of Contractor's performance of the Work. Should another contractor cause damage to the Work or property of Contractor or should the performance of work by any other contractor at the Site give rise to any other Claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the Construction Coordinator (if applicable) or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, or the Construction Coordinator (if applicable) on account of any such damage or Claim.

7.04.C. If Contractor is delayed at any time in performing or furnishing the Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, and Construction Coordinator (if applicable) for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Engineer, or Construction Coordinator (if applicable) for activities that are their respective responsibilities.

SC-8.02. Delete Paragraph 8.02.A in its entirety and replace with the following:

8.02.A. In case of termination of the employment of Engineer, Owner shall appoint an Engineer whose status in the Contract Documents shall be that of the former Engineer.

SC-8.06. Delete Paragraph 8.06.A in its entirety.

SC-8.11. Delete Paragraph 8.11.A in its entirety.

SC-9.03. Add the following new paragraphs immediately after Paragraph 9.03.A:

9.03.B. Resident Project Representative (RPR) will be furnished by Owner. The responsibilities, authority, and limitations of the RPR are limited to those of Engineer in accordance with Paragraph 9.09 and as set forth elsewhere in the Contract Documents and are further limited and described below.

9.03.C. Responsibilities and Authority:

9.03.C.1. Schedules: Review and monitor Progress Schedule, Schedule of Submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.

9.03.C.2. Conferences and Meetings: Conduct or attend meetings with Contractor, such as preconstruction conferences, progress meetings, Work conferences and other Project related meetings.

9.03.C.3. Liaison: (i) Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, and assist in understanding the intent of the Contract Documents; (ii) assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's onsite operations; (iii) assist in obtaining from Owner additional details or information when required for proper execution of the Work.

9.03.C.4. Interpretation of Contract Documents: Inform Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

9.03.C.5. Submittals: Receive submittals that are furnished at the Site by Contractor, and notify Engineer of availability for examination. Advise Engineer and Contractor of the commencement of any Work or arrival of materials and equipment at Site, when recognized, requiring a Shop Drawing or Sample if the submittal has not been approved by Engineer.

9.03.C.6. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and provide recommendations to Engineer; transmit to Contractor, in writing decisions as issued by Engineer.

9.03.C.7. Review of Work and Rejection of Defective Work: (i) Conduct onsite observations of the Work in progress to assist Engineer in determining if the Work is, in general, proceeding in accordance with the Contract Documents; (ii) inform Engineer and Contractor whenever RPR believes that any Work is defective; (iii) advise Engineer whenever RPR believes that any Work will not produce a completed Project that conforms generally to the Contract

Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged or does not meet the requirements of any inspection test, or approval required to be made; and advise Engineer of that part of the Work in progress that RPR believes should be corrected or rejected or uncovered for observation, or requires special testing, inspection, or approval.

9.03.C.8. Inspections, Tests, and System Startups: (i) Verify tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; (ii) observe, record, and report to Engineer appropriate details relative to the test procedures and system startups; and (iii) accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Engineer.

9.03.C.9. Records: (i) Maintain records for use in preparing Project documentation; (ii) keep a diary or log book recording pertinent Site conditions, activities, decisions and events; (iii) record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of Contractors, Subcontractors, and major Suppliers of materials and equipment.

9.03.C.10. Payment Requests: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

9.03.C.12. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify materials and equipment certificates and operation and maintenance manuals and other data required by Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents been delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

9.03.C.13. Completion: (i) Participate in a Substantial Completion inspection; assist in determination of Substantial Completion and the preparation of lists of items to be completed or corrected; (ii) Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied; and (iii) observe whether items on final list have been completed or corrected, and make recommendations to Engineer concerning acceptance.

9.03.D. Limitations of Authority: Resident Project Representative will not:

9.03.D.1. have authority to authorize a deviation from Contract Documents or substitution of materials or equipment, unless authorized by Engineer; or

9.03.D.2, exceed the limitations of Engineer's authority as set forth in Contract Documents; or

9.03.D.3. undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's authorized representative; or

9.03.D.4. advise on, issue directions relative to, or assume control over an aspect of the means, methods, techniques, sequences, or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents; or

9.03.D.5 advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor; or

9.03.D.6. participate in specialized field or laboratory tests or inspections conducted offsite by others, except as specifically authorized by Engineer; or

9.03.D.7. accept Shop Drawings or Samples from anyone other than Contractor; or

9.03.D.8. authorize Owner to occupy the Project in whole or in part.

SC-9.09. Add the following new paragraph immediately after Paragraph 9.09.E:

9.09.F. Contractors, Subcontractors, Suppliers, and others on the Project, or their sureties, shall maintain no direct action against Engineer, its officers, employees, affiliated corporations, and subcontractors, for any Claim arising out of, in connection with, or resulting from the engineering services performed. Only the Owner will be the beneficiary of any undertaking by Engineer.

SC-10.05. Delete Paragraphs 10.05.C through 10.05.E in their entirety and insert the following in their place:

10.05.C. Engineer's Action and Executive Negotiation:

Engineer's Action:

Engineer will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. Engineer's written decision on such Claim, dispute or other matter will be final and binding upon Owner and Contractor, unless within 10 days after issuance of Engineer's written decision, either party appeals the decision by giving the other party and Engineer written notice of request for executive negotiation.

In the event Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

Executive Negotiation:

Within 10 days of the delivery of notice of appeal to Engineer's written decision regarding Claim, dispute or other matter, senior representatives of at least Owner and Contractor, having authority to settle the dispute, and Engineer shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to exchange relevant information and to attempt to resolve the dispute.

In the event a mutually acceptable decision cannot be reached through executive negotiation within 20 days of the appealing party's notice, or mutually agreeable longer period, or if the party receiving such notice will not meet within 10 days, Owner or Contractor may make a written declaration, delivered to the other party and Engineer, that the executive negotiation is deemed unsuccessful and may initiate further dispute resolution measures in accordance with Article 16.

If no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to further appeal Engineer's written decision shall be delivered by Owner or Contractor to the other and to Engineer within 30 days after the date upon which the executive negotiation has been declared unsuccessful, or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by Owner and Contractor), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

SC-11.01. Delete Paragraph 11.01.A.5.c in its entirety and insert the following in its place:

11.01.A.5.c. Construction Equipment and Machinery:

11.01.A.5.c(1) Rentals of construction equipment and machinery, and the parts thereof in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. Such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

11.01.A.5.c(2) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the Rental Rate Blue Book published by Equipment Watch. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than $1,000 will be considered small tools.

SC-11.01. Add the following language to the end of Paragraph 11.01.A.5.h:

Express and courier services must be approved prior to use.

SC-11.01. Delete Paragraph 11.01.C in its entirety.

SC-11.02. Delete Paragraph 11.02 in its entirety.

SC-12.01. Add the following language to the end of Paragraph 12.01.C.2.c:

except, the maximum total allowable cost to Owner shall be the Cost of the Work plus a maximum collective aggregate fee for Contractor and tiered Subcontractors of 20 percent;

SC-12.01. Add the following new paragraph immediately after Paragraph 12.01.C:

12.01.D. *Right to Audit:* In the event Contractor submits request for additional compensation as a result of a change or differing Site conditions, or as a result of delays, acceleration, or loss of productivity, **Owner reserves right, upon written request, to audit and inspect Contractor's books and records relating to the Project**. Upon written request for an audit, Contractor shall make its books and records available within 14 days of request. Owner shall specifically designate identity of auditor. As part of audit, Contractor shall make available its books and records relating to the Project, including but not limited to Bidding Documents, cost reports, payroll records, material invoices, subcontracts, purchase orders, daily timesheets, and daily diaries. Audit shall be limited to those cost items which are sought by Contractor in a change order or claim submission to Owner.

SC-13.03. Delete Paragraph 13.03.B in its entirety and insert the following in its place:

13.03.B. Contractor shall employ an independent testing laboratory or testing agency and shall be responsible for arranging and shall pay for specified tests, inspections, and

approvals required for Owner's and Engineer's acceptance of the Work at the Site except:

costs incurred in connection with tests or inspections pursuant to Paragraph 13.04 shall be paid for as provided in said paragraph; and

as otherwise specifically provided in the Contract Documents.

SC-13.03. Add the following language at the end of Paragraph 13.03.D:

Tests required by Contract Documents to be performed by Contractor that require test certificates be submitted to Owner or Engineer for acceptance shall be made by an independent testing laboratory or agency licensed or certified in accordance with Laws and Regulations and applicable state and local statutes. In the event state license or certification is not required, testing laboratories or agencies shall meet the following applicable requirements:

13.03.D.1. Basic requirements of ASTM E329, "Standard Specification for Agencies Engaged in Construction Inspection, Special Inspection, or Testing Materials used in Construction" as applicable.

13.03.D.2. Calibrate testing equipment at reasonable intervals by devices of accuracy, traceable to the National Institute of Standards and Technology or accepted values of natural physical constants.

SC-14.02. Delete Paragraph 14.02.C.1 in its entirety and insert the following in its place:

14.02.C.1. Forty-Five days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due and when due will be paid by Owner to Contractor.

SC-14.02. Add the following new paragraph(s) immediately after Paragraph 14.02.D.3:

14.02.D.4. Items entitling Owner to retain set-offs from the amount recommended, including but not limited to:

14.02.D.4.a. Owner compensation to Engineer at an estimated average rate of $150 per each extra personnel hour for labor plus expenses, if applicable, because of the following Contractor-caused events:

14.02.D.4.a.(2). return visits to manufacturing facilities to witness factory testing or retesting;

14.02.D.4.a.(3). Submittal review in excess of two reviews by Engineer for substantially the same submittal, in accordance with Paragraphs 6.17.E.2 and 6.17.E.3 of these Supplementary Conditions;

14.02.D.4.a.(4). evaluation of proposed substitutes and making changes to Contract Documents occasioned thereby, in accordance with Paragraph 6.05.E of these Supplementary Conditions;

14.02.D.4.a.(5). Overtime worked by Contractor necessitating Engineer, and their officers, directors, members, partners, employees, agents, and other consultants and subcontractors of each, Resident Project Representative or Resident Project Representative's Site staff, if any, to work extraordinary overtime in accordance with Paragraph 6.02.C. of these Supplementary Conditions.

14.02.D.4.b. Liability for liquidated damages incurred by Contractor as set forth in the Agreement.

SC-14.06. Add the following new paragraph immediately after Paragraph 14.06.A:

14.06.B. In accordance with Louisiana Statute 38:2248, punch lists will include cost estimate for each item of work identified by Engineer based on mobilization, labor, materials, and equipment costs of correcting each punch list item. Completed punch list items will be paid upon expiration of 45-day lien period.

SC-14.07. Delete Paragraph 14.07.C.1 in its entirety and insert the following in its place:

14.07.C.1. Forty-five days after presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and, will be paid by Owner to Contractor.

The percentage of the value of the work done, as stated in Paragraph 14.02.A.3 of the General Conditions, will be withheld by the Owner for a period of not less than forty-five (45) consecutive calendar days after the contract has been accepted by the Owner, and such acceptance has been recorded in the Office of the Recorder of Mortgages for the Parish of Orleans. At the end of the forty-five (45) day period, the percentage withheld by the Owner, will be paid to the Contractor, less any sums that may be legally deducted under any provisions of this contract, upon the Contract or furnishing the Owner with a certificate from the Recorder of Mortgages for the Parish of Orleans, certifying that the contract is clear of all liens and privileges.

SC-14.10. Add the following new paragraph immediately Paragraph 14.09.2:

SC-14.10 *Maintenance Period*. The maintenance period under this contract, except as otherwise specifically provided for herein, shall be for a period of forty-five (45) consecutive calendar days beginning from the day after the contract has been accepted by the Owner, and such acceptance has been recorded in the Office of the Recorder of Mortgages for the Parish of Orleans. During the maintenance period the Contractor will

repair, at his own expense, all defects in the work that may arise, to the satisfaction of the Engineer. The Contractor shall restore all surfaces for which he is responsible under the specifications, whether unimproved, partially improved, or paved surfaces (See Section B of the General Specifications), and maintain them in good condition to the satisfaction of the Engineer. If the Contractor should fail or refuse to repair, at his own expense, any defects in structures or surfaces developing before the expiration of the aforesaid forty-five (45) days or to adjust satisfactorily any claims for damages to public or private property, the Owner shall have the right to continue to hold the retainer and to make the necessary repairs and to satisfy the claims for damages, by such means as the Owner shall elect, and to reimburse itself for the cost of these repairs and satisfied claims, out of the said retainer. Any surplus of this retainer will then be paid the Contractor, under the conditions above stated, any deficiency shall be made good by the surety.

SC-15.03.A. Delete the first sentence of Paragraph 15.03.A in its entirety and insert the following in its place:

Upon 7 days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract or any portion of the Contract.

SC-15.04. Delete Paragraph 15.04 in its entirety.

SC-16.01. Delete Paragraph 16.01 in its entirety and insert the following in its place:

SC-16.01 *Meet to Confer and Negotiate*

16.01.A. Engineer's action under Paragraph 10.05.C shall become final and binding 30 days after receipt of written notice of Engineer's action or decision unless, within that time period, Owner or Contractor gives to the other party written notice of intent to submit the Claim to a process of bilateral negotiations as set forth below.

16.01.B. Within 30 days of the delivery of such notice, Owner and Contractor shall meet and confer regarding the Claim. A good-faith effort to negotiate resolution shall be made by both parties.

16.01.C. If the negotiations contemplated by Paragraph SC-16.01.B are unsuccessful, management representatives of Owner and Contractor at least one tier above the individuals who met under SC-16.01.B shall meet, confer, and negotiate within 30 days of the closure of the unsuccessful negotiations.

16.01.D. If the Claim is not resolved by negotiation, Engineer's action under Paragraph 10.05.C shall become final and binding 30 days after termination of the negotiations unless, within that time period, Owner or Contractor:

16.01.D.1. gives to the other party written notice of intent to submit the Claim to a court of competent jurisdiction; or

16.01.D.2. agrees with the other party to submit the Claim to another dispute resolution process.

16.01.E. Notwithstanding any applicable statute of limitations, a party giving notice under Paragraph SC-16.01.D.1 shall commence an action on the Claim within 1 year of giving such notice. Failure to do so shall result in the Claim being time-barred and Engineer's action or denial shall become final and binding.

END OF SECTION

ATTACHMENT 1

Sewerage and Water Board of New Orleans Drug - Free Work Place Policy Contractor Requirements

ATTACHMENT TO GENERAL SPECIFICATIONS

STATEMENT OF POLICY

It is the policy of the Sewerage and Water Board of New Orleans that all work places associated with its operation, maintenance, improvements, and expansion be kept drug free. In order to insure this, the Sewerage and Water Board has approved the following drug testing policy to be implemented on this contract.

NOTICE

The contractor shall notify all personnel to be employed on this contract that they must submit to drug testing upon the occurrence of any accident, injury, or unsafe and hazardous incident which involves them. Agreement to submit to such drug testing shall be required for the employment of all personnel under this contract.

PENALTIES

Any employee who refuses to agree to testing under this policy or who refuses to be drug tested after the occurrence of any accident, injury or unsafe and hazardous incident which involves them, or who fails to report any such accident, injury or incident within twenty-four (24) hours of its occurrence, shall be deemed incompetent under Paragraph 47 of the General Specifications. Any employee found to have a positive test result after his conformational testing shall be deemed incompetent under Paragraph 47 of the General Specifications. Any employee deemed incompetent under these provisions shall be removed by the contractor from work under this contract and any other current Board contract.

TESTING PROCEDURE

The contractor shall while performing this contract, require any of its employees who are involved in an accident, injury or unsafe and hazardous incident while in the course and scope of their employment, whether vehicular or non-vehicular in nature, to be tested for blood alcohol or drug levels through a laboratory approved by the National Institute for Drug Abuse. Said employee shall provide a testing sample as soon as possible after such accident, injury or incident, but no longer than twenty-four (24) hours from the time of the occurrence. The contractor shall provide copies of the results of the initial testing on the samples involved to the Risk Manager of the Sewerage and Water Board of New Orleans as soon as such results are known. If the initial testing reveals a positive result, the contractor shall forward the remainder of the original testing sample to a second, conformational testing. The Sewerage and Water Board of New Orleans shall consider any result to be positive if it indicates any level which exceeds the levels set forth as follows:

CUT-OFF LEVELS INDICATING POSITIVE TEST RESULTS

The following initial cut-off levels shall be used when screening specimens to determine whether negative or positive:

	Initial Test Level (ng/ml)
Marijuana metabolites	50
Cocaine metabolites	300
Opiate metabolites	300
Phencyclidine (PCP, etc.)	25
Amphetamines	1000
Alcohol .05% by weight based on grams of alcohol per 100cc of blood	
LSD	150
Barbiturates	300
Benzodiazepines	300

Quantitative GC/MS confirmation procedures at the following cut-off values shall be used for the following drugs:

	Confirmatory Test Level (ng/ml)
Marijuana metabolites*	10
Cocaine metabolites**	150
Opiates (Morphine, Codeine)	150
Phencyclidine (PCP, etc.)	25
Amphetamines (amphetamine, Methamphetamine)	300
LSD	150
Barbiturates	300
Benzodiazepines	300

* Delta-9-Tetrahydrocannabinol - 9-Carboxylic Acid
** Benzoylecgonine

The contractor shall choose the laboratory to be used for drug testing, and shall identify such laboratory to the Risk Manager of the Sewerage and Water Board prior to receiving approval to start work. All laboratories shall be approved by the National Institute for Drug Abuse.

The contractor shall notify the Board's Risk Manager immediately of the results of any conformational testing.

The Contractor's Senior Project Superintendent working in consultation and conjunction with the Board's Risk Manager and the Board's Engineer, shall determine whether an accident, injury or unsafe or hazardous incident occurred. The Safety Department of the Sewerage and Water Board reserves the right to investigate any such matter and make a complete report to the Executive Director of the Sewerage and Water Board whose decision shall be final.

The Sewerage and Water Board shall not be liable for any cause of action of any employee of the contractor brought against the contractor as a result of this policy. The Sewerage and Water Board shall not be liable for the contractor's failure to stipulate adherence to the terms and conditions of this drug testing policy as a condition of employment of any employee on this contract. The Board shall not release the contractor from his responsibilities under the policy unless failure to adhere to the conditions of this policy shall be a direct result of any action taken by the Board.

These requirements shall be acknowledged by signature of the contractor's authorized representative in the space provided in the "Form of Proposal".

ATTACHMENT 2

Safety Orientation Notice

Attachment 2 - Safety Orientation Notice

Welcome

We welcome you to the S&WB and request your assistance in maintaining our Safety Standards. For the safety of yourself and everyone working at the S&WB, you are asked to observe the following safety precautions. When this notice has been read thoroughly, a senior representative of your company is required to distribute this information to all employees who will be affected. You may call the Board's Risk Management Department at (504) 585-2382 if you have any questions.

Basic

1. Smoking will be allowed in designated areas only.

2. Horseplay, practical joking and fighting are positively prohibited.

3. The use or possession of illegal drugs or intoxicating beverages is strictly prohibited on all S&WB property.

4. Housekeeping is a must. We will keep our area safe and free from litter and expect you do to the same.

5. Handrails must always be used when going up and down ladders or stairs.

6. When working in confined spaces, the contractor must be in full compliance with Occupational Safety and Health Administration (OSHA) Standard # 29CFR 1910.146 at all times. Atmospheric conditions such as adequate ventilation, the presence of oxygen and the absence of explosive gases must be assured before working in voids, tanks, or other enclosed spaces.

7. Radios must be turned off.

Emergency

8. The S&WB Emergency Response Plan is a document, which provides specific notification instructions to be followed in case of hazardous material spills. The Board's Environmental Affairs Office phone number is 942-3855 during normal business hours 7:30 a.m. to 4:00 p.m.

9. The Board's 24-hour emergency lines are (504) 529-2837 and 865-0575 (Central Control Dispatcher, Carrollton Plant.)

10. Since Board contracts are performed under various circumstances at various locations, prior to beginning any work, the contractor should consult with the Board employee who is responsible for monitoring the contract in order to establish the most effective procedures for handling emergencies.

Transportation

Warning signals and lights shall be used as follows:

11. Rotating beacons shall be used if your vehicle is so equipped.

12. Tail lights / emergency flashers shall be used.

13. Orange reflector type safety cones shall be placed to give other motorists warning.

14. If vehicle is moving, backing, or parking, proper traffic control shall be exercised.

Protective Clothing and Equipment

15. All personnel who are exposed to eye hazards will wear safety glasses. Hard hats will be worn at all times while an employee is in the immediate vicinity of overhead hazards or while operating heavy equipment without a Rollover Protection Device.

16. Protective clothing and equipment such as rubber aprons and gloves, eye and face protection, approved respirators or dust masks will be worn when handling all harmful chemicals.

Reporting

17. Defective equipment, machinery, hazardous conditions, or unsafe work practices or conditions shall be reported immediately to your Supervisor / Foreman who will then contact proper S&WB personnel for corrections.

18. All injuries will be reported to the Risk Manager, (504) 585-2422, or to the Safety Unit, (504) 585-2522, regardless of how minor an injury may seem.

19. S&WB employees may hold safety meetings to discuss and promote safe working conditions and accident prevention. You may be asked to attend.

Work Smart

20. Stay alert at all times, know what is going on around you. Know the safe operating procedures concerned with your assigned duties. When your duties may influence the safety of Board employees, notify the employees and their supervisors first.

21. Vendor / Contractors shall at all times demonstrate strict compliance with all Federal, State and Local regulations regarding safety, including but not limited to, all relevant Department of Environmental Quality (DEQ), Department of Transportation (DOT), Environmental Protection Agency (EPA), and Occupational Safety and Health Act (OSHA) regulations.

22. The Vendor / Contractor will at the request of the Risk Manager and/ or Safety Manager remove any of his employees found to be creating or contributing to unsafe conditions.

23. The following items are not allowed on any S&WB Facility or jobsite:

- Firearms and Ammunition
- Alcohol and illegal drugs

ATTACHMENT 3

Sewerage and Water Board of New Orleans
Electrical Safety Clearance Procedure

ATTACHMENT 3

Sewerage and Water Board of New Orleans
Electrical Safety Clearance Procedure

Definitions:

Operator: The Board employee who is on-site and in responsible charge of the operation of the plant, station, or other facility.

Out of Service: The electrical/mechanical disconnection of equipment which is to remain inoperable.

Power Dispatcher: The shift employee on duty at Central Control at the time safety clearance occurs.

Signee: The person who actually tags-out equipment for safety clearance.

Supervisor/Foreman: The Board employee who is the supervisor/foreman in responsible charge of the repair/maintenance of one or more work locations which requires safety clearance. This person may not necessarily be "on-site" at any particular location.

Tag-out: The physical tagging of equipment by an operator for the purpose of disabling equipment.

Lock-out: The physical locking of equipment by an operator for the purpose of disabling equipment.

General Provisions

1) All equipment repair/maintenance work which is scheduled and requires safety clearance should be presented to Central Control at the beginning of each work day by the supervisor/foreman/electrical engineer in charge of the repair/maintenance. Twenty four (24) hour advance notice of scheduled work for major outages is desirable; however, it is understood that due to the nature of the services provided by the Board this preferred notice may not be possible for every safety clearance.

2) In cases where two (2) or more crafts are working on, or require safety clearance on the same equipment, the supervisor/foreman/electrical engineer for each craft must follow the appropriate safety clearance procedure and the equipment must be tagged out for each craft's signee. No equipment can be tested and/or restored to service until all tags have been removed in accordance with the tag removal procedure.

3) When an operator requests service for equipment at an unmanned facility, i.e. an unmanned sewer station or unmanned underpass station, from either Electrical Maintenance or Mechanical Maintenance, the appropriate maintenance department shall request the responsible operator to tag-out the equipment. When the appropriate maintenance department, in the course of servicing this equipment, requires restoration of power, the appropriate maintenance department shall contact the responsible operator directly (if operator is present) or by radio or telephone (if operator is absent) and request that the responsible operator grant his permission. If the power is to be restored for only a short duration, the appropriate maintenance department shall thereafter contact the operator for permission to either remove power or restore power, as often as needed. The operator shall log each request. If the request to restore power is for a short duration only, and the operator does not received contact from the appropriate maintenance personnel to remove power again, the operator shall make every attempt to contact the appropriate maintenance personnel in order to ensure that no accident has occurred.

4) If equipment must remain "Out of Service" upon completion of the on-site work, the signee must request their tag be replaced with an "Out of Service" tag in the name of their department: e.g. "Out of Service - Electrical Maintenance", in addition it must be physically locked-out by that department. However the "Out of Service" tag does not relinquish the responsibility of following the safety clearance procedure each day that piece of equipment is worked on.

5) Any equipment restored to service after being tagged "Out of Service" must be tested through operational test procedures. The signee must remain, when possible, on-site until testing is complete.

6) Any individual involved in these procedures may halt the procedure at any time if it is felt the safety of the personnel and/or equipment warrants said stoppage, or if conditions within the system change that may require postponement of the work.

7) In the event the responsible person, signee, leaves the job site without releasing the cleared equipment and is unreachable to release their tag-out the following procedure must be enacted before the signees name, tag-out, can be removed from the cleared equipment.

    1) Cause must be established by the senior power dispatcher giving reason to remove the tag-out.

2) Senior power dispatcher must receive orders from the Chief of Operations or higher, in his absence, to remove said tag-out.

3) Concurrence given by a senior representative of the following:

a) Department or company to witch the signee works for.

b) Senior representative of the plant, station, facility in which the tag-out occurs.

c) If job site is in the field then, inspection by Electrical Engineering assuring work has halted for the day.

Once all areas have been satisfied then the senior power dispatcher may have the signees tag-out removed.

NOTE: The above and following procedures may be deviated from above at the discretion of the power dispatcher in cases of emergency.

Safety Clearance Procedure
25 Hertz System
"Non-Sewerage and Water Board Personnel"

1) The Company or responsible person representing that company shall first contact Electrical Engineering in regards to their outage request. Electrical Engineering will dispatch personnel to the job site and identify all equipment within close proximity to the work which should be cleared for safety.

NOTE: After normal working hours clearance request will be routed through Central Control who will notify the proper personnel in Electrical Engineering. It will be the responsibility of Electrical Engineering to identify said feeders.

2) Eletrical Engineering will then contact the power dispatcher informing them of; the company, the person supervising the work, the work to be performed, and supplies the power dispatcher with a clearance list.

3) Electrical Engineering will then direct the company's signee to personally appear at any Board facility involved in the clearance prior to the request. Upon arrival at a Board facility the signee will contact the power dispatcher making their clearance request.

4) The power dispatcher reviews their one line schematics for any additional equipment they feel is required for safety.

5) If the request involved equipment within a station or facility the power dispatcher then notifies the operator of the work to be performed and supplies the operator with a list of the clearance request.

6) The operator makes a visual inspection of the work site and adds to the clearance list any additional equipment which they note as being involved in or in close proximity to the work site. A finalized clearance list is then agreed upon by all parties involved.

7) The power dispatcher, with assistance from other operating personnel as required and through normal operating procedures, will disconnect from all power sources all equipment on the finalized list.

8) After the completion of step seven (7), with the company's signee at a Board facility, the company's signee will be notified of the disconnection of the equipment by the power dispatcher. The company's signee will request the operator at each location to place a tag-out with the company name/signee's name on each piece of equipment on the clearance list.

9) After receiving a tag-out report from the operators, the power dispatcher will then verify the tag-out reports against their finalized clearance list. If satisfactory, the power dispatcher will verify with the company's signee what was tagged-out. The company's signee will then be allowed to begin work.

10) At this point prior to the beginning of any actual work it is the responsibility of the person or persons performing the work to check the equipment with a voltage tester. If all voltage testing is satisfactory, "no voltage", work may begin.

NOTE: Due to the nature of some work it may be necessary that voltage be present.

11) Upon completion of the on-site work, the company's signee must report to a Board facility, involved in the clearance. At this point the company's signee will request the operator at each location to remove their tag-out with the company name/signee name off each piece of equipment. The operator and power dispatcher may restore the equipment to its connected position and test same following standard operating procedures.

12) If the equipment is to remain out of service, the company's signee must request their tag be removed and an appropriate "Out of Service" tag in the name of their company be placed on the equipment. The equipment will also be physically locked-out by the operator at each location, which would prevent the reconnection and testing process.

13) When "Out of Service" equipment is to be returned back into service, only an employee of the company which originally placed the "Out of Service" tag may request it be removed, returning said equipment into service.

Safety Clearance Procedure
60 Hertz System
"Non Sewerage and Water Board Personnel"

1) The company or responsible person representing that company shall first contact Electrical Engineering in regards to their outage request. Electrical Engineering will dispatch personnel to the job site and identify all equipment within close proximity to the work which should be cleared for safety.

2) Electrical Engineering will then contact the power dispatcher, if the work to be performed is outside of a station. The operator, if the work to be performed is inside the station. They will inform them of; the company, the person supervising the work, the work to be performed, and supplies the power dispatcher or operator with a clearance list.

3) The Electrical Engineering will then direct the company's signee to personally appear at any Board facility involved in the clearance prior to the request. Upon arrival at a Board facility the signee will conduct their business with the operator or power dispatcher based on the procedures listed below.

4) The power dispatcher reviews their one line schematics or the operator make a visual inspection of the work site and adds to the clearance list any additional equipment which they note as being involved in or in close proximity to the work site. A finalized clearance list is then agreed upon by all parties involved.

5) If handled through the power dispatcher:
The power dispatcher, with assistance from other operating personnel as required and through normal operating procedures, will disconnect from all power sources all equipment on the finalized clearance list.

If handled through the operator:

The operator will contact the power dispatcher informing them of the work to be performed along with a clearance list request. The power dispatcher reviews their one line schematics for any additional equipment they feel is required for safety. A finalized clearance list is then agreed upon by all parties involved. The operator will then through normal operating procedures disconnect from all power sources all equipment on the finalized clearance list.

6) After the completion of step five (5), with the company's signee at a Board facility, the company's signee will be notified of the disconnection of equipment by the operator or power dispatcher. The company's signee will then request the operator at each location to place a tag-out with the company's name/signee name on each piece of equipment on the clearance list.

7) If handled through the operator:

The operator will then contact the power dispatcher providing then with a tag-out report for logging purposes.

8) At this point prior to the beginning of any actual work it is the responsibility of the person or persons performing the work to check the equipment with a voltage tester. If all voltage testing is satisfactory, "no voltage", work may begin.

NOTE: Due to the nature of some work it may be necessary that voltage be present.

9) Upon completion of the on-site work, the company's signee must report to a Board facility involved in the clearance. At this point the company's signee will request the operator at each location to remove their tag-out with the company's name/signee name off each piece of equipment. The operator and/or power dispatcher may restore the equipment to its connected position and test same following standard operating procedures.

10) If the equipment is to remain out of service the company's signee must request their tag be removed and an appropriate "Out of Service" tag in the name of their company be placed on the equipment. The equipment will also be physically locked-out by the operator at each location, which would prevent the reconnecting and testing process.

11) When "Out of Service" equipment is to be returned back into service, only an employee of the company which originally placed the "Out of Service" tag may request it be removed, returning said equipment into service.

ATTACHMENT 4

SEWERAGE and WATER BOARD of NEW ORLEANS

Storm Water Pollution Prevention Plan (SWPPP) And Storm Water Best Management Practices (BMP) Requirements

ATTACHMENT 4 • SEWERAGE and WATER BOARD of NEW ORLEANS

Storm Water Pollution Prevention Plan (SWPPP)
And
Storm Water Best Management Practices (BMP) Requirements

GENERAL

1. The contractor shall prepare and maintain a Storm Water Pollution Prevention Plan (SWPPP), which describes in specific details the Contractor's program to prevent contamination of the storm water collection system for this project. A suggested SWPPP Templates and Sample Inspection Report, as well as other valuable information can be found at EPA's website http://cfpub.epa.gov/npdes/stormwater/swppp .cfm.

2. Contractor shall implement, maintain, inspect and remove all erosion and sediment controls identified in the SWPPP. The program shall address both common construction activities and extraordinary events.

3. Contractor shall include Water Pollution Control Drawings (WPCD) in the SWPPP to illustrate the locations, applications and deployment of Best Management Practices (BMPs) identified in the SWPPP. The WPCDs shall be included as an attachment to the SWPCP.

4. Best Management Practices (BMPs): A Best Management Practice is a technique, process, activity, or structure used to reduce the pollutant content of a storm water or non-storm water discharge. BMPs may include simple, non-structural methods such as good housekeeping, staff training, and preventive maintenance. Additionally, BMPs may include structural modifications such as the installation of berms, canopies or treatment control

5. The Contractor shall comply with laws, rules, and regulations of the State of Louisiana and agencies of the United States Government prohibiting the pollution of lakes, wetlands, streams, or river waters from the dumping of contaminates, refuse, rubbish or debris.

6. The contractor shall submit six (6) copies of the SWPPP, a minimum of 10 working days prior to beginning construction, to the Engineer. **Construction shall not begin until the SWPPP is approved.** Contractor shall update the SWPPP as necessary during the work to prevent contamination of the storm water collection system.

7. Before start of work, Contractor shall train all employees and subcontractors on the approved SWPPP and related WPCD and provide the Sewerage and Water Board with written documentation of said training.

8. Suggested BMPs can be obtained from Ella Barbe, LA DEQ Small Business Assistance Program, 201 Evans Rd. Bldg. 4, Suite 420 Harahan LA. Phone 504-736-7739, e-mail: ella.barbe@la.gov

CONSTRUCTION

The contractor shall keep a copy of the SWPPP on the job site. The contractor shall provide continuously at the jobsite all the tools, equipment, and materials necessary to implement the SWPPP at all times from project initiation through completion, including any punchlist or warranty work on the project. At a minimum the following requirements shall be met as applicable, to the maximum extent practicable, at construction sites:

1. **Storm Drain System Protection:** At the first order of work, the Contractor shall protect the existing storm drain system from entrance of construction debris and pollutants. Such protection shall include implementing the BMPs as outlined in the SWPPP. Protection shall prohibit the discharge of untreated runoff from temporary or permanent street maintenance/landscape maintenance material and waste storage areas from entering the storm drain system. Sediment that is generated on the project site shall be retained using structural drainage controls. In addition, the protection system shall have a minimum of three features: 1) a particulate filter of geosynthetic material securely fastened in place such that it cannot be bypassed without significant physical damage; 2) a prefilter for the particulate filter; and 3) on-hand materials to close off the inlet or opening in the case of a significant pollution spill. Contractor shall monitor and maintain all storm drain inlet protection devices during rain events to prevent flooding.

2. **Material Management** & **Storage:** No construction-related materials, wastes, spills or residues shall be discharged from the project site to streets, drainage facilities or adjacent properties by wind or runoff. All materials and/or equipment storage areas where liquid construction materials are placed shall be protected by a physical barrier capable of containing the entire volume of stored liquid materials. During active construction activities, portions of the barrier may be removed for access. However, the barrier materials must be readily accessible for replacement by onsite construction personnel. The barrier must be in place at all times during the absence of Contractor personnel at the storage site. Building materials shall be placed on pallets and covered in event of rain. Do not store materials in the street or gutter area.

3. **Equipment** & **Vehicle Maintenance:** Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site and shall not be allowed to discharge from the project site to streets, drainage facilities or adjacent properties by wind or runoff. The Contractor shall inspect vehicles and equipment on each day of use. Leaks shall be repaired off-site if possible. If necessary to repair on site, the runoff must be contained or the problem vehicle or equipment shall be removed from the project site until repaired. If necessary, drip pans shall be placed under the vehicles or equipment while not in use to catch and/or contain drips and leaks.

4. BMP Inspection: The contractor shall inspect all pollution control BMPs regularly. The Contractor shall also repair/replace any damaged or clogged element on a daily basis. During periods of precipitation where any runoff occurs, the system shall be checked twice a day, seven days a week, whether or not any work has been performed. The daily checks shall be between 6 a.m. and 9 a.m., and 4 p.m. to 8 p.m. The contractor shall keep a monitoring inspection log of each inspection.

5. **Spill Prevention** & **Cleanup Plan:** Contractor shall have a spill prevention plan and spill cleanup materials readily available and addressed in the SWPPP. Spills shall be cleaned

up immediately using dry methods if possible. Spill cleanup material shall be properly disposed off site. Contractor shall keep a record of any spills in the inspection log. In addition, at the end of the project, the Contractor must certify that all contaminated materials have been properly disposed in accordance with the SWPPP.

6. **Asphalt** & **Concrete Activities:** Asphalt and concrete activities shall be scheduled for dry weather. Contractor shall prohibit saw cutting during a storm event of 0.25 inches or greater. Store bags of cement away from gutters and storm drains, sealed and covered, protected from rainfall runoff and wind. Place tarp under cement mixer before operating to catch spills. Never dispose of cement washout or concrete dust onto driveways, streets, gutters or storm drains.

7. **Sidewalk Washing:** The following methods should be utilized to prevent discharge of sidewalk cleaning wastewater into the storm drain system:

   a. Sweep and pick up all areas to be cleaned before using water.
   b. Manually scrape gum from sidewalks and other surfaces.
   c. Must use high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to be rinsed.
   d. Use a wet/dry vacuum to collect wash water for disposal. Large volumes of wash water may require the use of a small sump pump to remove wash water from the job site.
   e. One or more of the following methods are recommended to prevent pollutants from entering the storm drain system:
      - Sandbags can be used to create a barrier around storm drains. *
      - Rubber mats or plugs can be used to seal drain openings. *
      - Temporary berms or containment pads help keep water on site.*
      - Use berms of sandbags to direct wash water to landscaping. *
      - Use large squeegees to accumulate sheet flow for collection.

      * Remember to remove plugs, berms, and sandbags or you may be liable for possible **flooding.**

   f. Wash water that may contain hazardous waste such as oil saturated absorbents, water with lead or other heavy metals from oxidized paint, and solvent cleaners requires special treatment and must be disposed of through a hazardous waste facility.

8. Employee BMP Training: Contractor shall train employees and subcontractors on BMP implementation, general good housekeeping, and proper spill containment and cleanup. Before start of work, Contractor shall provide the Board with written documentation of training and keep all documentation in the SWPCP.

9. **Inspection:** Contractor shall inspect and repair or replace, as needed, all job site BMPs a minimum of:
   - Biweekly
   - Before, during and after a major rain event.

   Contractor shall document the inspections in the SWPPP.

10. **Dewatering:** Avoid dewatering discharges where possible by using the water for dust control, infiltration, etc..

ATTACHMENT 5

Equal Employment Opportunity Requirements

EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

The Contractor shall comply with Executive Order 11246, entitled 'Equal Employment Opportunity,' as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60).

Contractor's compliance with Executive order 11246 shall be based on implementation of the Equal Opportunity Clause, and specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4.

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

2. The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

3. The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

5. The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

6. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
7. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or

with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

8. The contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States. [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966–1970 Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230, EO 13665 of April 8, 2014, 79 FR 20749, EO 13672 of July 21, 2014, 79 FR 42971]

PART 1 - Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) located at 41 CFR 60-4.3:

1. As used in these specifications:

    a) "Covered area" means the geographical area described in the solicitation from which this contract resulted;
    b) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
    c) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
    d) "Minority" includes:

        i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
        ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
        iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
        iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must

be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

    a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
    b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
    c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file

with the reason therefor, along with whatever additional actions the Contractor may have taken.

d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and

female contractor associations and other business associations.

p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in

the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

PART 2 - Segregated Facilities, 41 CRF 60-1.8

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term "facilities," as used in this section, means waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; Provided, That separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

PART 3 - Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) located at 41 CFR § 60-4.2:

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Time-tables	**Goals for minority participation for each trade**	**Goals for female participation in each trade**
	Insert goals for each year[1]	6.9%[2]

a. These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.
b. The Contractor's compliance with the Executive Order and the regulations in 41 CFR part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a),

[1] Goals can be found at: https://www.dol.gov/ofccp/TAguides/TAC_FedContractors_JRF_QA_508c.pdf
[2] Nationwide goal for all covered areas

and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

5. Participation by Disadvantaged Business Enterprises in Procurement under EPA Financial Assistance Agreements, 73 FR 15904

    a. Contractor agrees to comply with the requirements of USEPA's Program for Utilization of Small, Minority and Women's Business Enterprises. The DBE rule can be accessed at www.epa.gov/osbp. Contractor shall comply with 40 CFR Section 33.301, and retain all records documenting compliance with the six good faith efforts. The Contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 40 CFR part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies

American Iron and Steel and Federal Labor Standards

1. <u>American Iron and Steel Requirement</u>

The Contractor acknowledges to and for the benefit of_____("Purchaser") and the United States Environmental Protection Agency ("EPA") that it understands the goods and services under this Agreement are being funded with monies made available by the Water Infrastructure Finance and Innovation Act program of the EPA that has statutory requirements commonly known as "American Iron and Steel" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement. The Contractor hereby represents, warrants and covenants to and for the benefit of the Purchaser and the EPA that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver

of the American Iron and Steel Requirement, as may be requested by the Purchaser or the EPA. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or the EPA to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or the EPA resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the EPA or any damages owed to the EPA by the Purchaser). While the Contractor has no direct contractual privity with the EPA, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the EPA is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the EPA.

2. Compliance with Davis Bacon and related acts

(a) In any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, provided that such modifications are first approved by the Department of Labor):

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to theAdministrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The (write in name of Federal Agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor

withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborersand mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working onthe site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to thelaborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) {no text here}

(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if theagency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name

of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee)employed on the contract during the payroll period has been paid the full weekly wagesearned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the (write the name of the agency) or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, theFederal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees –

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his

or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wagedetermination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilizeapprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of thetrainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless theAdministrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determinationwhich provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standardsprovisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7.. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act. The following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section shall be inserted in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by § 5.5(a) or § 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the conract work which may require or involvethe employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employedon such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of

forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth inparagraph (b)(1) of this section, in the sum of $25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The (write in the name of theFederal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in § 5.1, the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contractfor all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require thecontracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

ATTACHMENT 6

Lobbying Restrictions

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

participation are not eligible for funding under the EPA financial assistance agreement, the recipient may choose to report the percentage of MBE and WBE participation based on the total eligible and non-eligible costs of the project.

(c) *Joint ventures.* For joint ventures, MBE and WBE participation consists of the portion of the dollar amount of the joint venture attributable to the MBE or WBE. If an MBE 's or WBE's risk of loss, control or management responsibilities is not commensurate with its share of the profit, the Agency may direct an adjustment in the percentage of MBE or WBE participation.

(d) *Central Purchasing or Procurement Centers.* A recipient must report MBE and WBE participation from its central purchasing or procurement centers.

(e) *Brokers.* A recipient may not count expenditures to a MBE or WBE that acts merely as a broker or passive conduit of funds, without performing, managing, or supervising the work of its contract or subcontract in a manner consistent with normal business practices.

(1) *Presumption .* If 50% or more of the total dollar amount of a MBE or WBE's prime contract is subcontracted to a non-DBE, the MBE or WBE prime contractor will be presumed to be a broker, and no MBE or WBE participation may be reported.

(2) *Rebuttal .* The MBE or WBE prime contractor may rebut this presumption by demonstrating that its actions are consistent with normal practices for prime contractors in its business and that it will actively perform, manage and supervise the work under the contract.

(f) *MEE or WEE Trucker s/Hau lers.* A recipient may count expenditures to an MBE or WBE trucker/hauler only if the MBE or WBE trucker /hauler is performing a commercially useful function. The following factors should be used in determining whether an MBE or WBE trucker /hauler is performing a commercially useful function:

(1) The MBE or WBE must be responsible for the management and supervision of the entire trucking /hauling operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting MBE or WBE objectives.

(2) The MBE or WBE must itself own and operate at least one fully licensed, insured , and operational truck used on the contract.

APPENDIX A TO PART 33-TERM AND CONDITION

Each procurement contract signed by an EPA financial assistance agreement recipient, including those for an identified loan under an EPA financial assistance agreement capitalizing a revolving loan fund. must include the following term and condition:

The contractor shall not discriminate on the basis of race. color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

PART 34-NEW RESTRICTIONS ON LOBBYING

Subpart A-General

Sec.
34.100 Conditions on use of funds.
34.105 Definitions.
34.110 Certification and disclosure.

Subpart B-Activities by Own Employees

34.200 Agency and legislative liaison.
34.205 Professional and technical services.
34.210 Reporting.

Subpart C-Activities by Other Than Own Employees

34.300 Professional and technical services.

Subpart D-Penalties and Enforcement

34.400 Penalties.
34.405 Penalty procedures.
34.410 Enforcement.

Subpart E-Exemptions

34.500 Secretary of Defense .

Subpart F-Agency Reports

34.600 S emi-annual compila t ion.
34.605 Inspector General report.

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 417 Fmt 8010 Simi 8010 Y:\SGML\223144.XXX

APPENDIX A TO P ART 34-CERTIFICATION RE-
GARDING LOBBYING
APPENDIX B TO PART 34-DISCLOSURE FORM
TO REPORT LOBBYING

AUTHORITY: Section 319; Pub. L. 101- 121 (31 U.S.C. 1352); 33 U.S.C. 1251 *et seq.;* 42 U.S.C. 7401 *et seq.;* 42 U.S.C. 6901 *et seq.;* 42 U.S.C. 300f *et seq.;* 7 U.S.C. 136 *et seq.;* 15 U.S.C. 2601 *et seq.;* 42 U .S .C. 9601 *et seq.;* 20 U.S.C. 4011 *et seq.;* 33 U.S.C. 1401 *et seq.*

S OURC E: 55 FR 6737, 6753, Feb. 26, 1990, unless otherwise noted.

CROSS-R EFERE NCE: See also Office of Management and Budget notice published at 54 FR 52306, December 20, 1989.

Subpart A-General

§ 34.100 Conditions on use of funds.

(a) No appropriated funds may be expended by the recipient of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal act ions: the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continu - ation, renewal , amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(b) Each person who requests or receives from an agency a Federal contract, grant, loan, or cooperative agreement shall file with that agency a certification, set forth in appendix A, that the person has not made , and will not make, any payment prohibited by paragraph (a) of this section.

(c) Each person who requests or receives from an agency a Federal contract, grant, loan, or a cooperative agreement shall file with that agency a disclosure form, set forth in appendix B, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under paragraph (a) of this section if paid for with appropriated funds.

(d) Each person who requests or receives from an agency a commitment providing for the United States to insure or guarantee a loan shall file with that agency a st atement , set forth in appendix A, whether that person has made or has agreed to make any payment to influence or attempt to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with that loan insurance or guarantee.

(e) Each person who requests or receives from an agency a commitment providing for the United States to insure or guarantee a loan shall file with that agency a disclosure for m, set forth in appendix B, if that person has made or has agreed to make any payment to influence or attempt to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with that loan insurance or guarant ee.

§ 34.105 Definitions.

For purposes of this part:

(a) *Agency,* as defined in 5 U.S .C. 552(0, includes Federal executive departments and agencies as well as independent regulatory commissions and Government corporations, as defined in 31 U.S.C. 9101(1).

(b) *Covered Federal action* means any of the following Federal actions:

(1) The awarding of any Federal contract;

(2) The making of any Federal grant;

(3) The making of any Federal loan;

(4) The entering into of any coopera - tive agreement; and,

(5) The extension, continuation, renewal, amendment, or modification of any Federal cont ract , grant , loan, or cooperative agreement .

Covered Federal action does not include receiving from an agency a commitment providing for the United States to insure or guarantee a loan. Loan guarantees and loan insurance are addressed independently within this part.

(c) *Federal contract* means an acquisition contract awarded by an agency, including those subject to the Federal Acquisition Regulation (FAR), and any other acquisition contract for real or

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 418 Fmt 8010 Simi 8010 Y:\SGML\223144.XXX

personal property or services not subject to the FAR .

(d) *Federal cooperative agreement* means a cooperative agreement entered into by an agency.

(e) *Federal grant* means an award of financial assistance in the form of money, or property in lieu of money, by the Federal Government or a direct appropriation made by law to any person . The term does not include t echnical assistance which provides services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, loan insurance, interest subsidies, insurance, or direct United States cash assistance to an individual.

(f) *Federal loan* means a loan made by an agency. The term does not include loan guarantee or loan insurance.

(g) *Indian tribe* and *tribal organization* have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C . 450B). Alaskan Natives are included under the definitions of Indian tribes in that Act.

(h) *Influencing or attempting to infl uence* means making, with the intent to influence, any communication to or appearance before an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

(i) *Loan guarantee* and *loan insurance* means an agency's guarantee or insurance of a loan made by a person .

(j) *Local government* means a unit of government in a State and, if char - tered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate dist r ict , a council of govern - ments, a sponsor group representative organization, and any other inst rumentality of a local government.

(k) *Officer or employee of an agency* in - cludes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under title 5, U.S. Code, including a position under a temporary appointment;

(2) A member of the uniformed services as defined in section 101(3), title 37, U.S. Code;

(3) A special Government employee as defined in section 202, title 18, U.S. Code; and,

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Com - mittee Act, title 5, U.S. Code appendix 2.

(l) *Person* means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit or not for profi t . This term excludes an Indian tribe, tribal organi - za t ion , or any other Indian organiza - tion with respect to expenditures specifically permitted by other Federal law.

(m) *Reasonable compensation* means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government .

(n) *Reasonable payment* means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

(o) *Recipient* includes all contractors, subcontractors at any tier, and subgrantees at any tier of the recipient of funds received in connection with a Federal contract, grant, loan, or cooperative agreement. The term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

(p) *Regularly employed* means, with respect to an officer or employee of a person requesting or receiving a Federal contract, grant, loan, or cooperative agreement or a commitment providing for the United States to insure or guarantee a loan, an officer or employee who is employed by such person for at least 130 working days within one year immediately preceding the date of the submission that initiates agency consideration of such person for

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 419 Fmt 8010 Simi 8010 Y:\SGM L\223144.XXX 223

receipt of such contract, grant, loan, cooperative agreement, loan insurance commitment, or loan guarantee commitment. An officer or employee who is employed by such person for less than 130 working days within one year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

(q) *State* means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a terr itory or possession of the United States, an agency or instrumentality of a State, and a multi-State, regional, or interstate entity having governmental duties and powers.

§ 34.110 Certification and disclosure.

(a) Each person shall file a cert ification, and a disclosure form, if required, with each submission that initiates agency consideration of such person for:

(1) Award of a Federal contract, grant, or cooperative agreement exceeding $100,000; or

(2) An award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding $150,000.

(b) Each person shall file a certification, and a disclosure form, if re - quired, upon receipt by such person of:

(1) A Federal contract, grant, or cooperative agreement exceeding $100,000; or

(2) A Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding $150,000,

Unless such person previously filed a certification, and a disclosure form, if required, under paragraph (a) of this section.

(c) Each person shall file a disclosure form at the end of each calendar qua r- ter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under paragraphs (a) or (b) of this section. An event that materially affects the accuracy of the information reported includes:

(1) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or,

(3) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(d) Any person who requests or receives from a person referred to in paragraphs (a) or (b) of this section:

(1) A subcontract exceeding $100,000 at any tier under a Federal contract;

(2) A subgrant, contract, or subcontract exceeding $100,000 at any tier under a Federal grant;

(3) A contract or subcontract exceeding $100,000 at any tier under a Federal loan exceeding $150,000; or,

(4) A contract or subcontract exceeding $100,000 at any tier under a Federal cooperative agreement,

Shall file a certification, and a disclosure form, if required, to the next tier above.

(e) All disclosure forms , but not cer - tifications, shall be forwarded from tier to tier until received by the person referred to in paragraphs (a) or (b) of this section. That person shall forward all disclosure forms to the agency.

(f) Any certification or disclosure form filed under paragraph (e) of this section shall be treated as a material representation of fact upon which all receiving tiers shall rely. All liability arising from an erroneous represent a- tion shall be borne solely by the tier filing that representation and shall not be shared by any tier to which the erroneous representation is forwarded . Submitting an erroneous certification or disclosure constitutes a failure to file the required certification or disclosure, respectively . If a person fails to file a required certification or disclo - sure, the United States may pursue all available remedies, including those authorized by section 1352, title 31, U.S. Code.

(g) For awards and commitments in process prior to December 23, 1989, but not made before that date, certifications shall be required at award or

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 00420 Fmt 8010 Simi 8010 Y:\SGML\223144.XXX

commitment, covering activities occurring between December 23, 1989, and the date of award or commit ment . However, for awards and commitments in process prior to the December 23, 1989 effective date of these provisions, but not made before December 23, 1989, disclosure forms shall not be required at time of award or commitment but shall be filed within 30 days .

(h) No reporting is required for an activity paid for with appropriated funds if that activity is allowable under either subpart B or C.

Subpart B-Activities by Own Employees

§ 34.200 Agency and legislative liaison.

(a) The prohibition on the use of a ppropriated funds, in §34.100 (a), does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person request - ing or receiving a Federal contract, grant, loan, or cooperative agreement if the payment is for agency and legislative liaison activities not directly related to a covered Federal act ion.

(b) For purposes of paragraph (a) of this section, providing any information specifically requested by an agency or Congress is allowable at any time.

(c) For purposes of paragraph (a) of this section, the following agency and legislative liaison activities are allowable at any time only where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency (in - cluding individual demonstrations) the qualities and characteristics of the person's products or services, conditions or terms of sale, and service capabilities; and,

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(d) For purposes of paragraph (a) of this section, the following agencies and legislative liaison activities are allowable only where they are prior to for - mal solicitation of any covered Federal action:

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and,

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Public Law 95-507 and other subsequent amendments .

(e) Only those activities expressly authorized by this section are allowable under this section .

§ 34.205 Profe ssio nal and tec hn ica l serv ices .

(a) The prohibition on the use of a ppropriated funds, in § 34.100 (a), does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a Federal contract, grant, loan, or cooperative agreement or an extension, continuation, renewal, amendment, or modification of a Fed - eral contract, grant, loan, or cooperative agreement if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal contract, grant, loan, or cooperative agreement or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal contract, grant, loan, or cooperative agreement .

(b) For purposes of paragraph (a) of this section, "professional and t echnical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engi - neer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowa ble . However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 421 Fmt 8010 Simi 8010 Y:\SGM L\223144.XXX 223

technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal , but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(c) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation, or reasonably expected to be required by law or regulation, and any other requirements in the actual award documents.

(d) Only those services expressly authorized by this section are allowable under this section.

§ 34.210 Reporting.

No reporting is required with respect to payments of reasonable compensation made to regularly employed officers or employees of a person .

Subpart C-Activities by Other Than Own Employees

§ 34.300 Professional and technical services.

(a) The prohibition on the use of a ppropriated funds, in §34.100 (a), does not apply in the case of any reasonable payment to a person, other than an officer or employee of a person reques ting or receiving a covered Federal action, if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal contract, grant, loan, or cooperative agreement or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal contract, grant, loan, or cooperative agreement .

(b) The reporting requirements in §34.110 (a) and (b) regarding filing a disclosure form by each person, if requir ed, shall not apply with respect to professional or technical services rendered directly in the preparation, submission, or negotiation of any com mit ment providing for the United States to insure or guarantee a loan.

(c) For purposes of paragraph (a) of this section, " professional and t echnical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting or a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engi neer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable . However , communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her cli ent 's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engi neer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 422 Fmt 8010 Simi 8010 Y:\SGM L\223144.XXX

(d) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation, or reasonably expected to be required by law or regulation, and any other requirements in the actual award documents.

(e) Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(f) Only those services expressly authorized by this section are allowable under this section.

Subpart D-Penalties and Enforcement

§ 34.400 Penalties.

(a) Any person who makes an expenditure prohibited herein shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure.

(b) Any person who fails to file or amend the disclosure form (see appendix B) to be filed or amended if required herein, shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(c) A filing or amended filing on or after the date on which an administrative action for the imposition of a civil penalty is commenced does not prevent the imposition of such civil penalty for a failure occurring before that date. An administrative action is commenced with respect to a failure when an investigating official determines in writing to commence an investigation of an allegation of such failure.

(d) In determining whether to impose a civil penalty, and the amount of any such penalty, by reason of a violation by any person, the agency shall consider the nature, circumstances, extent, and gravity of the violation, the effect on the ability of such person to continue in business, any prior violations by such person, the degree of culpability of such person, the ability of the person to pay the penalty, and such other matters as may be appropriate.

(e) First offenders under paragraphs (a) or (b) of this section shall be subject to a civil penalty of $10,000, absent aggravating circumstances . Second and subsequent offenses by persons shall be subject to an appropriate civil penalty between $10,000 and $100,000, as determined by the agency head or his or her designee.

(f) An imposition of a civil penalty under this section does not prevent the United States from seeking any other remedy that may apply to the same conduct that is the basis for the imposition of such civil penalty.

§ 34.405 Penalty procedures.

Agencies shall impose and collect civil penalties pursuant to the provisions of the Program Fraud and Civil Remedies Act, 31 U.S.C. 3803 (except subsection (c)), 3804, 3805, 3806, 3807, 3808, and 3812, insofar as these provisions are not inconsistent with the requirements herein.

§ 34.410 Enforcement .

The head of each agency shall take such actions as are necessary to ensure that the provisions herein are vigorously implemented and enforced in that agency.

Subpart E-Exemptions

§ 34.500 Secretary of Defense.

(a) The Secretary of Defense may exempt, on a case-by-case basis, a covered Federal action from the prohibition whenever the Secretary determines, in writing, that such an exemption is in the national interest. The Secretary shall transmit a copy of each such written exemption to Congress immediately after making such a determination.

(b) The Department of Defense may issue supplemental regulations to implement paragraph (a) of this section.

Subpart F-Agency Reports

§ 34.600 Semi-annual compilation.

(a) The head of each agency shall collect and compile the disclosure reports (see appendix B) and, on May 31 and November 30 of each year, submit to the Secretary of the Senate and the Clerk of the House of Representatives a report containing a compilation of the

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 423 Fmt 8010 Simi 8010 Y:\SGM L\223144.XXX

information contained in the disclo - sure reports received during the six-month period ending on March 31 or September 30, respectively, of that year.

(b) The report, including the compilation, shall be available for public inspection 30 days after receipt of the report by the Secretary and the Clerk.

(c) Information that involves intelligence matters shall be reported only to the Select Committee on Int elligence of the Senate, the Permanent Select Committee on Intelligence of the House of Representatives, and the Committees on Appropriations of the Senate and the House of Represent atives in accordance with procedures agreed to by such committees. Such information shall not be available for public inspection .

(d) Information that is classified under Executive Order 12356 or any successor order shall be reported only to the Committee on Foreign Relations of the Senate and the Committee on Foreign Affairs of the House of Represent - atives or the Committees on Armed Services of the Senate and the House of Representatives (whichever such committees have jurisdiction of matters involving such information) and to the Committees on Appropriations of the Senate and the House of Represent atives in accordance with procedures agreed to by such committees. Such information shall not be available for public inspect ion.

(e) The first semi-annual compilation shall be submitted on May 31, 1990, and shall contain a compilation of the disclosure reports received from Decem - ber 23, 1989 to March 31, 1990.

(f) Major agencies, designated by the Office of Management and Budget (0MB), are required to provide machine -reada ble compilations to the Secretary of the Senate and the Clerk of the House of Representatives no later than with the compilations due on May 31, 1991. 0MB shall provide detailed specifications in a memorandum to these agencies.

(g) Non-major agencies are requested to provide machine-readable compilations to the Secretary of the Senate and the Clerk of the House of Represent atives.

(h) Agencies shall keep the originals of all disclosure reports in the official files of the agency.

§ 34.605 In spec tor Genera l report.

(a) The Inspector General, or other official as specified in paragraph (b) of this section, of each agency shall prepare and submit to Congress each year, commencing with submission of the President 's Budget in 1991, an evalua - tion of the compliance of that agency with, and the effectiveness of, the requirements herein. The evaluation may include any recommended changes that may be necessary to strengthen or improve the requirement s.

(b) In the case of an agency that does not have an Inspector General, the agency official comparable to an Inspector General shall prepare and submit the annual report , or, if there is no such comparable official, the head of the agency shall prepare and submit the annual report.

(c) The annual report shall be sub - mitted at the same time the agency submits its annual budget just ifica - tions to Congress .

(d) The annual report shall include the following: All alleged violations relating to the agency's covered Federal actions during the year covered by the report, the actions taken by the head of the agency in the year covered by the report with respect to those alleged violations and alleged violations in previous years, and the amounts of civil penalties imposed by the agency in the year covered by the report.

APPENDIX A TO PART 34- CERTIFICATION REGARDING LOBBYING

Certification for Cont racts , Grants , Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned , to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress , or an employee of a Member of Con gress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 424 Fmt 8010 Simi 8002 Y:\SGM L\223144.XXX 223

extension, continuation, renewal, amendment, or modification of any Federal contract, grant , loan, or cooperative agreement .

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract , grant , loan , or cooperative agreement , the undersigned shall complete and submit Standard Form-LLL, " Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (inc ludin g subcontracts, subgrants, and contracts under grants , loans , and coopera - tive agreements) and that all subrecipients shall certify and disclose accordingly .

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, tit le 31, U.S . Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such fail ure .

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress , or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by sect ion 1352, title 31, U.S . Code. Any person who fails to file the required statement shall be sub ject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

VerDate Mar<15>2010 13:41 Aug 26, 2011 Jkt 223144 PO 00000 Frm 425 Fmt 8010 Simi 8002 Y:\SGML\223144.XXX

A P PEN DI X B TOP ART 34- D IS CLOSURE F ORM TO R EPOR T L OBBY I NG

DISCLOSURE OF LOBBYING ACTIVITIES

ApPfoved by 0M8
OI &-0046

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

1. Type of **Federal Action:**
☐ a. contract
b. grant
c. cooperative agreement
d. loan
e. loan guarantee
f. loan insurance

2. Status of **Feftral Action:**
☐ a. bid/offer/application
b. initial award
c. post-award

3 ☐ **Report Type:**
a. initial filing
b. material change
Fo, Materi.11 Change Only:
year_ quarter
date of last report_ _

4. Name and Address of Reporting Entity:
☐ Prime 0 Subawardee
Tier , *if known:*

C ressional District, *if known:*

S. If Reporting Entity in No . 4 is Subiiwardee, Enter Name md Address of Prime:

Con ressional District, *if known:*

6. Federal Department/Agency:

7. Federal Program Name/Description;

CFDA Number, *,f applicable:* ______________

8. fedflill Action Number, *if known:*

9. Awa.rd Amount, *if* known :
$

10. a. Name and Address of lobbying Entity
ti,f nd ividual, last name , first name , MIJ:

_b e ';1 f Services *(includinga dd res s if*
(last name, *first name, M I) ;*

attach *Continuatiotl* Sheets *Sf-LL!.-* *if* neceu•

11. Amount of P•yment */check all that apply):*
________________ ☐ actual ☐ planned

12. **form of P•yment** *(check all that apply):*
☐ a. cash
☐ b. in-kind; specify: nature__________________
value

13. **Type of P•yment** *(check all that apply! :*
☐ a. retainer
☐ b. one-time fee
☐ c. commission
0 d. contingent fee
☐ e. deferred ________________
☐ f. other; specify: __

14. Briel Description of Services Performed or lo be Performed and Dotels) of Service, including officer(,), employeels), or Member(s) contacted, for Payment Indicated in Item 1t:

attach Continuation Sheet(s) SF-LLL-A, if necess•

15. **Continuation Sheet(s)** Sf.Lll•A **attached:** ☐ Yes ☐ No

1'. lion ted ttwu,t, tflll form N -..thorited by title ll U.S.C. MCtioft 1)§ 2. This dndoaureallobbyir,& actml iialMllrial ion of fa::t upon which "'6ilnc. W• plM:ed by the tW, •bGn - thtt trMMCtiort W• made .-M .nto. l'hit ditcio.u.. N ,-.Vir9d t 10 31 lJ.S.C. 1151. This information wiH be ed to the Consr- _.,o,. .,nually a,,d will be avaltabte for publte inspectioo. Any penon who t.ih to file tM ir9d lh.N be tubte<t to a ciw ahy clnot i.n than St0.000 noc-. tkall 1100 .000 for •-=ti wth fai&uta.

Signature: ______________________

Print Nome: ______________________

Title: ______________________

Telephone No.: ____________ Date: ____________

Federal Use Only:

Authorized for Local hproduclion
St&nclard fOf'm - W

INSTRUCTIONS FOR COMPLETION OF SF-LU, DISCLOSURE OF **LOBBYING** ACTIVITIES

This disclosure form sNII be completed by the reporting ent ity, whether subawardee or prime Federal recipient, at the initiation or receipt of **a** covered Federal action, or a material change to **a** previous filina, pursuant to title 31 U.S.C. section 1352. The filing of **a** form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of **any agency, a** Member of Congress, an officer or employee of Congress, or an employee of **a** Member of Congress in connection with **a** covered Federal action . Use the SF-LLL-A Continuation Sheet for additional information if the **space** on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action .
3. Ide ntify the appropriate classification of this report . If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the la s t previou<ly submitted report by this reporting entity for this covered Fed er al action.
4. Enter the full name, address, city, state and zip code of the reporting ent ity. Include Congressional Dis tric t, if known. Check the appropriate classification of the reporting entity that designates if ir is, or expects to be, a prime or subaward recipient , Identify the tier of the subaward ee , **e.g.,** the first subawardee of the prime is the 1s t tie r. Subawards include but are not limited to subco ntra cts, subgrants and contract awards under grants.
5. If the organiution filing the report in item 4 cht>c ks " Subawa rdee", then enter the full name, address, city, state a11d zip code of the prime Federal recipient . I nclud e Congress io nal District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizatio nal level below **agency** name, if known, For example, Department of Transportation, United Stales Coast Guard .
7. Enter the Federal program name or description fo r the covered federal action (item 1). If known, enter the lull Catalog of Fede ral Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commit ments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1- (e .g ., Request for Proposal (RFP) number, Invitatio n for Bid (IFS) number; grant announcement number; the contract, grant, or loan award number; the app licatio nlprop os al control number assigned by the Federal age ncy). Include pre fixe s, **e.g.,** "RFP-DE-90-001."
9. for **a** covered Federal action where there has been an **award** or loan commitment by the Federal **agency,** enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or S.
10. **(a)** Enter the full name, add ress , city, state and zip code of the lobbying entity **engaged** by the report ing entity identified in item **4** to influence the covered federal action.

    (b)Enter the full names of the individual(s) perfo rming services, and include full address if different from 10 **(a) .** Enter Last Name, First Name, and Middle Initial (Ml).
11. Enter the amount of compensation paid or reasonably expected to be paid. by the reporting entity (Item 4) to the lob by ing entity (Ite m 10), Indicate whether the payment h•s been made (actual) or will be made (p!anned). Check all boxes that •pply. If this is **a** material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind cont ribut ion, specify the n•ture and value of the in-kind payme nt.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature,
14. Prooide **a** s pecific **and** detailed description of the services that the lobbyist NS performed , or will be expected lo perform, and the date(s) of any services rendered. Include all pr-eparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or ernployee(s) contacted or the officer(s), em ployee(s), or Mernber(s) of Congress that were contacted.
15. Check whether or not **a** SF-LLL-A Continuation Sheet(s) is •ttached.
16. The cert ifying offic!• I 1NII sign and date the form, print his/her name, title, and telephone number.

Public reporting bunion for this collection of infomwion ls nlimated to - 30 mintun per response, includi,. time for **-ng** iMtruclions, sean:hing existing elm soun:es. gathering and rnointtlni,. the dou Meded, and completing and -"l the collection of information. Send comments reprding the burden ntimate or -, other aspect of this collection of information, including suggntions for reducing this burde, n to the Office of Management and • P-- Reduction Project (0348-0046), WIShington, D.C. 20503.

DISCLOSURE OF **LOBBYING ACTIVITIES**
CONTINUATION SHEET

Approved by 0MB
0348-0046

Reporting Entity:_____Pogr_ of_ _

Authorized for Local Reproduction
Standard fonn - W•A

ATTACHMENT 7

Letter of No Adverse Effect to Historic Properties with Conditions from FEMA

The proposed undertaking will have no adverse effect on historic properties. Therefore, our office has no objection to the implementation of this project. This effect determination could change should new information come to our attention.

Kristin P. Sanders
State Historic Preservation Officer

Date 1112012023

U.S. Depnrtment of Homeland Security
Federal Emerge ncy Management Agency
Louisiana Integration and Recoveiy Office
1500 Main St ree t
Baton Rouge, LA 70802

FEMA

January 17, 2023

Kristen Sanders
State Historic Preservation Officer
Department of Culture, Recreation & Tourism
1051 N01ih Third Street
Baton Rouge, LA 70802

RE: Section 106 Review Consultation, Hurricane Katrina, FEMA-1603-DR-LA
Applicants: City of New Orleans and Sewerage and Water Board of New Orleans
Undertaking : Replace Identified Damaged Water Main Segments at the Water Distribution System, New Orleans, Orleans Parish, Louisiana (PW 20232 Version 4)
Determination: No Adverse Effect to Historic Properties with Conditions

Dear Ms. Sanders:

The Federal Emergency Management Agency (FEMA) will be providing funds authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended, in response to Disaster Declaration FEMA-1603-DR-LA for Hurricane Katrina, dated August 29, 2005, as amended. FEMA is initiating Section 106 review for the above referenced property in accordance with the *Programmatic Agreement among the Federal Emergency Management Agency, the Louisiana State Historic Preservation Officer, the Governor's Office of Homeland Security and Emergency Preparedness, and Participating Tribes,* dated December 21, 2016,' as amended (2016 Statewide PA).

FEMA, through its Publi c Assistance Program, proposes to provide federal funding through FEMA's Public Assistance Program to the Sewerage and Water Board of New Orleans (SWBNO or Subrecipient) to replace four water transmission main segments, in the 900, 1000, and 1100 blocks of Decatur Street and the 600 block of St. Peter Street in New Orleans' Vieux Carre (French Quarter).

Coordinates:
900 -1000-1100 Block Decatur St: start 29.9583, -90.0613; end 29.9607, -90.0592
600 Block St. Peter St: start 29.9580, -90.0648; end 29.9573, -90.0638

Background
Th scope of work (SOW) for this undertaking was included in an earlier scope for the replacement of ten (10) water transmission mains in the Vieux Carre/French Quarter and Iberville neighborhoods, scheduled to be completed under SWBNO Contract No. 2105. FEMA reviewed and

approved this earlier undertaking (PW 20232 Version 3) under the Statewide Programmatic Agreement dated August 17, 2009 and amended on July 22, 2011. Six of these ten water transmission main replacements were completed under SWBNO Contract No. 2105. During construction, it was discovered that four lines located in the Vieux Carre, of the proposed ten transmission main segments in Contract No. 2105, were in direct conflict with existing utilities . The initia l design involved a minimally invasive construction approach which was not an option in these four segments because of the utility conflicts. An alternate design for these four lines was investigated but was not possible because of the project's proximity to the Mississippi River. This circumstance caused SWBNO to remove the four Vieux Carre transmission lines from the scope of PW20232 Version 3 to incorporate scope for their replacement into the current project version, PW20232 Version 4.

Description of the Undertaking

The purpose of the Undertaking is to restore the preexisting function and condition of the infrastructure in the 900, 1000, and 1100 blocks of Decatur Street and the 600 block of St. Peter Street in accordance with SWBNO requirements and other applicable local, state, or federal standards, codes, and ordinances. The proposed SOW does not change the functions of the facilities and will take place within existing, previously disturbed rights-of-way (ROW), consisting of streets and sidewalks. All ROW within the proposed ground disturbance area currently contain water mains and house connections, sewer mains and house connections, drainpipes and catch basins, gas transmission lines and house connections, telecommunications cables, electrical conduit, and associated manholes, pull boxes, meters, valves, and other infrastructure. The following actions are required to replace the water transmission lines without interrupting water services to businesses and residences:

- remove roadway pavement and other paved areas;
- excavate and trench bedding for water, drain, and sewer line repairs or replacements (typically 4 feet to 15 feet in depth, 4 feet to 10 feet in width)
- restore or replace sub-lying cobblestone, brick, and other atypical sub-base materials in-kind or with suitable alternate materials;
- repair, remove and reinstall, or replace curbs, sidewalks, driveways, and footlaps in-kind;
- replace ADA ramps;
- replace utility service line laterals from the main to the connection point (trenches of varying depth, 3 feet to 5 feet in width);
- repair or replace utility meter and valve boxes and drain line outfall pipes;
- connect fire hydrants;
- repair or replace utility manholes, inlets, and clean-outs (3 feet to 15 feet in depth);
- minor tree root pruning.

Non-FEMA funding will be used to upgrade the drainage system to comply with current City of New Orleans standards and make improvements to the sewer system and will include:

- replace existing drain lines and existing catch basins with replacement of catch basin inlets;
- selectively replace existing drain manholes;
- existing sewer line point repairs and re-lining.

FEMA recognizes that that these are connected actions and will consider them in the scope of this Section 106 consultation.

Area of Potential Effects
In accordance with Stipulation II.C.(2)(b) of the 2016 Statewide PA, the Area of Potential Effect (APE) for standing structures and archaeology was developed in coordination with SHPO staff during the FEMA-SHPO conference call on September 28, 2022. FEMA has determined that the APE consists of two noncontiguous areas and covers approximately 1.85 acres (.75 hectares). It includes the area of ground disturbance, which lies entirely within the public ROW and excludes standing structures adjacent to the area of ground disturbance unless they have architectural features (gallery supports, columns, or posts; stoops or steps; or other architectural features) within the sidewalk. A 7.5' USGS map showing the location of the unde1taking and the two noncontiguous areas of the APE is attached to this letter (Figure 1):

- APE A, Decatur Street:
  - 900 block of Decatur Street from Dumaine Street to N. Peters Street - the APE extends from the building facades on the lake side of Decatur Street to the river side curb of Decatur Street;
  - 900 block of Decatur Street from N. Peters Street to St. Philip Street - the APE extends from the building facades on the lake side of Decatur Street to the river side edge of the ROW of Decatur Street;
  - 1000 block of Decatur Street - the APE extends from the building facades on the lake side of Decatur Street to the river side edge of the ROW of Decatur Street;
  - 1100 Block of Decatur Street - the APE extends from the building facades on the lake side of Decatur Street to the building facades on the river side of Decatur Street; and
  - the APE includes the areas of ground disturbance for the line connections at the intersections of Decatur Street with Dumaine Street, St. Philip Street, Ursulines Avenue, and Gov. Nicholls Street.

- APE B, St. Peter Street:
  - 600 Block of St. Peter Street - the APE extends from the building facades on the upriver side of St. Peter Street to the building facades on the downriver side of St. Peter Street and includes the areas of ground disturbance for the line connections at the intersections of St. Peter Street with Royal Street and Chartres Street.

In accordance with Stipulation II.C(2)(b) of the 2016 Statewide PA, FEMA is requesting SHPO's comments on or concurrence with the APE.

Identification and Evaluation

FEMA consulted the files of the National Register of Historic Places (NRHP), the Louisiana Office of Cultural Development's Cultural Resources National Register database (09/16/2022), the Louisiana Cultural Resources Map (09/16/2022) and associated site files (LDOA website), The Collins C. Diboll Vieux Carre Digital Survey (The Historic New Orleans Collection), Sanborn Fire Insurance Maps (Louisiana State Library, Digital Sanborn Maps), the Louisiana Digital Lib rary,. archived photographs and maps, selected monographs, as well as FEMA's internal files in order to identify historic properties within the APE. FEMA also conducted a site visit during November 2022 to identify standing structures within the APE. Photographs of existing conditions and reference maps (figures 2-14) are included in information attached to this letter.

The entire APE is located within the boundaries of the Vieux Carre National Historic Landmark (NHL), designated by the National Park Service in 1965 and listed as the Vieux Carre Historic District in 1966. The original 1965-1966 National Register form is not available for the Vieux Carre. The 1977 Vieux Carre Historic District nomination form provides the periods of significance as 1700-1799 and 1800-1899 and established the District boundaries as the Mississippi River, Canal Street, Rampart Street, and the rear property line of properties on the north (downriver) side of Esplanade Avenue. The 1977 form does not list contributing elements to the District. In 1982 the National Park Service reaffirmed the boundaries established in 1977. The Louisiana Division of Historic Preservation enumerated 1,732 prope1iies contributing to the Historic District in 1983 but did not list the contributing properties by address. This nomination was accepted by the National Register in 1984, The Louisiana National Register Database states that the Vieux Carre Historic District is listed under criteria A (History) and C (Architecture and Engineering), with a period of significance from 1745 to 1933. In 2011 the Vieux Carre Historic District Supplementary Listing Record added Conservation under significance Criterion A; the period of significance for the NRHP was extended to 1961 (the "French Quarter Revival" Period); and 49 properties were listed as contributing elements. In 2018, the period of significance was extended to 1968, and 28 additional buildings in the "French Quarter Style" were added as contributing elements .

FEMA identified thirty-eight (38) structures in the APE that are more than 45 years of age with architectural features in the sidewalk ROW as listed in Table 1.

All of the structures in Table 1 are located within the boundaries of the Vieux Carre National Historic Landmark and the Vieux Carre National Register Historic District. None of the buildings listed in Table 1 are currei1tly listed individually on the NRHP and none were individually inventoried in 1977, 1984, 2011, or 2018. The 1977 NRHP Inventory-Nomination form mentions "St. Peter and Royal streets" as "among the better known" assemblages of "nineteenth century" buildings in the Vieux Carre. The Ursuline Row buildings, 1107-1137 Decatur Street, are mentioned in the 1977 Inventory-Nomination form as contributing to the Historic District.

According to the 1984 Vieux Carre NRHP Inventory-Nomination form, "the Vieux Carre Historic District is of national significance in the area of architecture because it is the best material

Table 1. Standing Structures within the APE.

	Street	Side	Address nos.	Other address	Name of structure	Feature in APE	Year built	HD category
1	Decatur	Lake side	907-909			Gallery	ca. 1827	Contributing
2	Decatur	Lake side	911			Gallery	ca. 1827	Contributing
3	Decatur	Lake side	913			Gallery	ca. 1827	Contributing
4	Decatur	Lake side	915			Gallery	ca. 1827/ca. 1880	Contributing
5	Decatur	Lake side	917-919			Gallery	ca. 1822	Conh·ibuting
6	Decatur	Lake side	921-923		"Central Grocery"	Gall e ry	ca. 1822	Ineligible
7	Decatur	Lake side	925-927			Gallery	ca. 1871	Contributing
8	Decatur	Lake side	929-931			Gallery	ca. 1871	Contributing
9	Decatur	Lake side	933-935			Gallery	ca. 1871	Contributing
10	Decatur	Lake side	1001-1003	501-511 St. Philip		Gallery, bay windows	ca. 1810	Conh·ibuting
11	Decatur	Lake side	1005-1007			Gallery	1828	Contributing
12	Decatur	Lake side	1011			Gallery	1828	Contributing
13	Decatur	Lake side	101 3-1015			Gallery	1828	Conh·ibuting
14	Decatur	Lake side	10 25			Gallery, bay windows	ca. 1830	Contribut ing
15	Decatur	Lake side	'10 27			Gallery, bay windows	ca. 1830	Conh·ibuting
16	Decatur	Lake side	1031-1035			Gallery	ca. 1883	Conh·ibuting
17	Decatur	River side	1104-1114			Galle1y	ca. 1840	Conh·ibuting
18	Decatur	Lake side	1107		Ursuline Row	Galle1y	ca. 1831	Conh·ibuting
19	Decatur	Lake side	1109		Ursuline Row	Galle1y	ca. 1831	Conh·ibuting
20	Decatur	Lake side	1117		Ursuline Row	Galle1y	ca. 1831	Contributing
21	Decatur	Lake side	1119		Ursulin e Row	Gallery	ca. 1831	Conh·ibuting
22	Decatur	Lake side	1123		Ursuline Row	Gallery	ca. 1831	Contributing
23	Decatur	Lake side	1125-1127		Ursuline Row	Ga llery	ca. 1831	Conh·ibuting
24	Decatur	River side	1130-1132			Gallery	ca. 1865	Contributing
25	Decatur	Lake side	1135-11 37		Ursuline Row	Galle1y	ca. 1831	Contributing
26	Decatur	River side	1136-1138			Galle1y	ca. 1860	Conh·ibuting
27	Decatur	River side	1140			Galle1y	ca. 1835	Contributing
28	Decatur	River side	1200			Galle1y	ca . 1835	Contributing
29	St Peter	Upriver	600-616		Petit Theatre	Galle1y	1962, 1922	Conh·ibuting
30	St. Peter	Upriver	620		Petit Salon	Newels	ca. 1838	Contributing
31	St Peter	Downriver	621		Labranche Row	Gallery, bay window	1839-1840	Contributing

	Street	Side	Address nos.	Other address	Name of structure	Feature in APE	Year built	HD category
32	St Peter	Downriver	627		Labranche Row	Gallery	1839-1840	Contributing
33	St Peter	Upriver	628-630		Comm age re-Mercier House	Gallery	ca. 1800	Contributing
34	St Peter	Downriver	629		Labranche Row	Gallery	1839-1840	Contributing
35	St Peter	Upriver	632		Avart-Peretti House	Gallery	ca. 1842	Contributing
36	St Peter	Downriver	635-637		Labranche Row	Gallery	1839-1840	Contributing
37	St Peter	Downriver	639	700-708 Royal	Labranche Row	Gallery	1839-1840	Contributing
38	St Peter	Downriver	701-715	701-705 Royal		Gallery	1871	Contributing

illustration of a phenomenon which embraces the entire Mississippi Valley . .. a gradual transition from the Creole influence to complete domination by mainstream America ." With a period of significance stretching more than 200 years, the Vieux Carre National Historic Landmark District in cludes a mix of residential, commercial, industrial, and institutional buildings in a wide variety of types and styles. Styles include French Colonial, Spanish Colonia l, Creole, Transitional, Greek Revival, Antebellum, Late Victorian, Italia nate, Romanesque, Early Twentieth Century, and French Quarter Revival styles.

All the standing structures in the APE were constructed within the period ca. 1800 to 1962. Half of the stand ing structures within the APE reflect Transitional architecture and the period 1820-1835 while structures from this period constitute a much smaller percentage of historic buildings in the French Quarter as a whole, indicating the important contribution of these buildings to the architectural significance of the district.

FEMA has determined 37 structures in Table 1 are contributing elements to the NHL. FEMA will complete Louisiana Historic Record Inventory forms for each of the 38 structures listed in Table 1.

Among the aspects of integrity of the Vieux Carre historic district is its maintenance of the street grid, which has maintained its historic dimensions and alignments since comp letion of the street plan by French royal engineer Adrien de Pauger in 1721-1722 (Figure 15). Most colonial-era buildings in the Vieux Carre were replaced with new structures during the nineteenth century conforming to this street grid.

By the early decades of the nineteenth century, the original colonial-era lots facing Levee Street (renamed Decatur Street in 1852) and facing St. Peter Street were subdivided into smaller lots. During the period 1820-1840, investors and businessmen built new buildings in the 900, 1000 and 1100 blocks of Decatur Street (figures 16-24) and 600 block of St. Peter Street (Figures 25-29), principally Creole-influenced Transitional-style storehouses and townhouses with commercial premises on the ground floor and residential floors above, connected with common walls. A

prominent example of building development at the start of the 1830s was the "Ursuline Row" (present-day 1107-1141 Decatur Street) (figure 21 and 22), ten connected three-story Creole-style townhouses designed ca. 1830-1831 by the prominent New Orleans architects Claude Gurlie and Joseph Guillot. The 600 block of St. Peter Street developed similarly, including the "Labranche Row" of eleven connected townhouses (present-day 621-641 St. Peter Street, figures 25 and 29), built 1839-1840. Many of the Creole-influenced structures remain in the 900-1100 blocks of Decatur Street and 600 block of St. Peter Street in the present, in varying states of alteration, with some infill structures dating from the second half of the nineteenth century to early twentieth century.

Numerous Creole-influenced buildings built in the 900-1100 blocks of Decatur Street and 600 block of St. Peter Street during the period 1820-1840 were originally built with cantilever-supported balconies and had galleries added at a later date. Post-supported or column-supp01ied galleries were constructed on new buildings in New Orleans beginning in the 1840s and became widely fashionable after construction of the Pontalba Buildings in 1849-1851. The ground-floor gallery supports are generally constructed in the public ROW near the curb line of the sidewalk, the gallery occupying the space above the ROW between the building fa;ade and the curb. In the present day, ground-floor gallery supports in the Vieux Carre are predominantly metal (either iron or steel). The neoclassical gallery supports of the influential Pontalba Buildings are fluted, tapering cast iron columns, but cast-iron columns are today a less common form of ground-floor gallery support in the relevant Vieux Carre blocks . Most ground-floor gallery supports appear to be non-tapered steel pipes, some with decorative collars or sleeves attached at top and ground level; historic photographs indicate this form of column was already common early in the twentieth century. Also as indicated in historic photographs, as late as the mid-twentieth century many gallery posts on Decatur Street (and other locations) were of turned wood (Figure 22). No documentation is available as to historic or more recent footings into, or upon which, the post supports were or are set beneath the sidewalk.

Even within the last 30 years, galleries have been added to structures in the Vieux Carre originally built without galleries or have been rebuilt where historic galleries had been removed. Within the APE, examples are 915 Decatur Street (gallery added after 2003), 1104-1114 Decatur Street (gallery added 2001-2003), 1119 Decatur Street (gallery replaced with a balcony after 1968, and a gallery re-installed after 2011); and 600-616 St. Peter Street (gallery added after 1995).

An alteration to some commercial structures in the APE was the installation of ground-floor box bay shopfront windows, which project from the building fa9ade onto the sidewalk ROW. In most cases it is not !mown when bay windows were added to the buildings. Examples of commercial bay windows in the APE are at 1001-1003, 1025, and 1027 Decatur Street; and at 621 St. Peter Street.

The unpaved colonial-era, Territorial era, and antebellum streets of New Orleans were frequently quagmires and New Orleans experimented with various paving materials and methods throughout the nineteenth century. St. Peter Street likely was among the earlier streets of the city to receive hard surface paving since it was at least partly paved with cobblestone (figures 27 -28), a practice

begun about 1820 and which ceased by about 1850. After 1850 stone block paving largely replaced earlier paving methods in the Vieux Carre. By the early twentieth century, at least the upper portion of the 600 block of St. Peter Street had been re-paved with diagonally laid stone blocks (Figure 29). Decatur Street, a major commercial thoroughfare, was paved with stone blocks and stone curbs in 1850 (Figure 23). Stone curbs remain on the lake side of the 900-1100 blocks of Decatur Street; on the lake side of the 1100 block of Decatur; and in the 600 block of St. Peter Street. After the streets were paved, drainage was in open gutters, lined with brick, stone, or wood. The gutters were inconvenient for pedestrians and posed a hazard to vehicles. Sub-surface street drainage and sanitary sewers did not exist until after the development of drainage and sewerage systems by SWBNO after the turn of the twentieth century.

The sidewalks in the Vieux Carre have gone through a series of configurations from wood to hard surfaces of brick or flagstones, and later to concrete and then, in some cases, from concrete to brick or stone again in more recent decades, as discussed further below. By the 1860s, Decatur Street and St. Peter Street sidewalks were paved with flagstones (Figure 23), considered the highest standard for sidewalks at the time.

The earliest street lighting in the Vieux Carre was from colonial-period oil lamps, and gas streetlamps introduced in the 1830s, as were gas lamps attached to buildings. The gas supply pipes were subterranean. As a result of the popularity of galleries, most of the present-day sidewalk lighting in the 900-1100 blocks of Decatur Street and 600 block of St. Peter Street is installed underneath the galleries. Electric arc streetlights on high iron standards were installed in the French market area in the 1880s and are visible on Decatur Street in early 1890s photographs (Figure 24). Arc lighting was eventually replaced with incandescent street lighting . The current free-standing electric streetlight poles in the Vieux Carre emulate the appearance of earlier gaslights, but are not exact copies, and were originally installed in the late-1920s. Field survey in November 2022 observed very few of the existing 1920s free-standing streetlights in the APE contained bulbs, rendering them purely decorative.

Decatur Street between Dumaine Street and North Peters had horsecar tracks by 1866, and from 1874, Decatur Street had two different horsecar tracks between Dumaine and Ursulines Avenue; yet another horsecar track ran on Decatur Street between Dumaine and Ursulines. These horsecar lines along busy Decatur Street were electrified in 1895 and the tracks were re-built at that time to allow for the heavier electric streetcars. Track construction on these blocks entailed an excavation approximately 9 feet wide and three feet deep below street surface grade with successive layers of cypress planks, gravel, crossties and sand, wooden blocks supporting the rails, and "ballast-block" pavement. Two of the streetcar lines on Decatur Street were discontinued in 1925 and the last was discontinued in 1941. After the streetcar lines ceased to run, their catenary standard poles were eventually removed, as were the various other utility poles carrying overhead wires present on Decatur Street in earlier decades. The 600 block of St. Peter Street was never the location of horsecar or streetcar tracks.

Since the nineteenth century, the ROW in the APE also contained subterranean utilities, water supply being the first. The presence of any of Benjamin Latrobe's waterworks piping (initially of cypress and replaced by iron) that might have crossed Levee (Decatur) Street is hot documented. A water system with underground pipes definitely existed in the 900-1100 blocks of Decatur Street and the 600 block of St. Peter Street prior to 1885, as depicted on the Sanborn maps of that date. Presumably either the Water Works Company (after 1853) or the Crescent City Water Company (incorporated 1871) constructed the waterlines indicated on both St. Peter Street and Decatur Street in the 1885 Sanborn maps (a 10" pipe on Decatur Street and an 8" pipe on St. Peter Street).

The network of underground utilities within the narrow rights-of-way of the French Quarter streets was already complex by the second decade of the twentieth century. After 1900, the City of New Orleans Department of Public Works began to tie new street drainage infrastructure (catch basins and underground drainage pipes) into the larger-volume drainage features constructed by SWBNO. This work eliminated the deep open gutters of late-nineteenth century streets, with their pedestrian footbridges. Simultaneously, SWBNO constructed underground sanitary sewers and new drinking water supply systems within the street ROW. Unlike Decatur Street, the 600 block of St. Peter Street never had pole-hung overhead utility lines, and a plethora of competing private utility li nes, such as natural gas pipes, electrical supply lines, and telephone lines were placed underground.

In the present-day configuration of utilities within the APE, transmission lines and laterals besides those that are the subject of this undertaking continue to occupy the ROW underneath both streets and sidewalks. While utilities and telecommunication features in the Vieux Carre are principally underground, exceptions are 5G cellular towers installed throughout the Vieux Carre in 2022 (Figures 3-4, 6-10, 13-14).

The twentieth-century construction of underground utilities and the rise of automobile transportation favored the replacement of stone block street paving with asphalt paving . Decatur Street, which had heavy vehicle and motor truck traffic, was paved with asphalt in 1917. In 1920 St. Peter Street was the last street in the French Quarter to be paved with asphalt, after its stone block pavement was removed. Concrete was first used for road and sidewalk surfaces in New Orleans about 1908, and the flagstone sidewalks in the 600 block of St. Peter Street were replaced with concrete by the 1920s (Figure 30). By the mid-1930s, Decatur Street sidewalks, formerly stone, were paved with concrete, although stone curbs remained in place. In the present day, the sidewalks in the 600 block of St. Peter Street are stone, which replaced the former concrete in 1984, as indicated by bronze plaques set in the sidewalk at the intersections of St. Peter Street with Chartres and Royal Streets. Brick sidewalks have replaced concrete sidewalks on the lake side of the 900-1100 blocks of Decatur Street and the river side of the 1100 block of Decatur Street. The sidewalk and curbs are stone or concrete on the river side of the 900 and 1000 blocks of Decatur Street.

Identified Archaeological Sites Within the Vieux Carre

A total of 28 archaeological sites have been previously identified within the Vieux Carre (Table 2). These sites contain components that extend from the Contact/Historic Exploration period through

Table 2. Previously Identified Archaeological Sites in the Vieux Carre.

Site No.	Site Name	Site Function	Site Type	Affiliation	Survey Methodology	NRHP Assessment
16OR45/62	Costa Site/ Hennann Grima Historic House	Residence & Cooper Production	Standing Structure	Historic Exploration to Post WWII	Test Unit Excavation	Not Assessed
16OR46	Gallier House	Residence	Standing Structure	Antebellum, War& Aftermath	Gi'ab surface after construction	Not Assessed
16OR49	Ursuline Convent	Convent, School, Chapel, Residence, Office, Cemetery	Scatter, Midden, Standing Structure, Historic Ruin	Historic Exploration to Post-WWII	Shovel testing, Test Unit Excavation	Not Assessed
16OR51	Madam John's Legacy	Residence, Inn	Midden, Standing Structure	Historic Exploration to Industrial & Modern	Test Unit Excavation	Eligible
16OR52	US Branch Mint	Government, Military	Midden, Standing Structure	Historic Exploration to Post WWII	Test Unit Excavation, Core Sampling, Monitoring	Lis ted
16OR92	St. Peter Street Cemetery	Cemetery, Residence	Scatter, Midden, Cemetery, Standing Structure	His tor ic Explorat ion to Post WWII	Test Unit Excavation	Not Assessed
16OR98	Canal-Tou louse I	Dump	Midden	Industrial & Modern	Mechanical Trenching	Not Assessed
16OR99	Canal-Tou louse 2	Post-Contact (Unknown)	Historic Ruin	Industrial & Modern	Mechanical Trenching	Not Assessed
16ORI00	Canal-Toulou se 3	Post-Contact (Unknown)	His tor ic Ruin	Industrial & Modern	Mechanical Trenching	Not Assessed
16ORI0I	Canal-Tou louse 4	Post-Contact (Unknown)	Scatter, Historic Ruin	Industrial & Modern	Mechanical Trenching	Not Assessed
16ORl02	Canal-Toulouse 5	Post-Contact (Unknown)	Scatter, Historic Ruin	Industrial & Modern	Mechanical Trenching	Not Assessed
16ORl03	Canal-Tou louse 6	Dump	Midden	Industrial & Modern	Mechanical Trenching	Not Assessed
16 OR I04	Barracks - Montegut I	Post-Contact (Unknown)	Standing Structure	Industrial & Modern to Post WWII	Mechanical Trenching	Not Assessed
16ORl 29	Cabildo	Adminish·ative Center, Jail, Residence	Midden, Historic Ruin	Historic Exploration to Post WWII	Test Unit Excavation	Not Assessed

Site No.	Site Name	Site Function	Site Type	Affiliation	Survey Methodology	NRHP Assessment
16OR136	New Orleans Square 62	Military, Residence	Midden, Standing Structure, Historic Ruin	Historic Exploration to Post WWII	Test Unit Excavat ion	Not Assessed
16ORl38	US Customs House	Government	Standing Structure	Antebellum to Post WWII	Mechanical Trenching	Not Assessed
16OR140	Rionda-Nelson	Residence, School, Museum	Scatter, Midden, Standing Structure	Antebellum to Post WWII	Test Unit Excavation	Not Assessed
16OR141	Helena St. Martin	Residence	Standing Structure	Historic Exploration to Post WWII	Grab surface after constrnction	Not Assessed
16ORl46	Conlee Site	Commercial, Residence	Midden	Historic Exploration to Post WWII	Shovel testing, Test Unit Excavation	Not Assessed
16ORl76/ 225/467	419 Rue Decatur/ Rising Sun Hotel/ 400 Cha rtres Street	Residence, Commercial, Agricultural, Native Encampment	Scatter, Midden, Standing Structure	Historic Exploration to Post WWII	Shovel Testing, Angering, Test Unit Excava tion, Monitoring	Eligible
16OR209	Lower Pontalba Building	Government, Residence, Commercial	Midden	Historic Explo ration to Post WWII	Grab sur face after construction	Not Assessed
16OR210	1100N Rampart Street	Residence, Commercial	Midden, Historic Ruin	Historic Exploration to Post WWII	Test Unit Exc avation, Monitoring	Not Assessed
16OR443	Antoine Garden	Residence, Commercial, Public	Scatter	Historic Explo ration to Post WWII	Shovel testing, Test Unit Excav ation	Eligible
16OR686	City Square 41	Residence	Scatter	Historic Exp lo ration to Industrial & Modern	Shovel Testing, Augering, Probing, Test Unit Excavation	Not Assessed
16OR706	810 Royal Street	Commercial, Residence	Midden, Historic Ruin	Historic Exploration to Post WWII	Shovel testing, Test Unit Excavation	Not Assessed
16OR736	City Square 61	Commercia l	Standing Structure, Historic Ruin	Historic Exploration to Post WWII	Test Unit Excavation	Not Assessed
16OR737	City Square 89	Commercial, Residence	Standing Structure	Historic Exploration to Industrial & Modern	Shovel testing, Test Unit Excavation	Not Assessed

Site No.	Site Name	Site Function	Site Type	Affiliation	Survey Methodology	NRHP Assessment
16OR746	Irish Cultural Museum Locu s (City Square 91)	Residenc e	Midden	Post-Contact (unknown), His toric Explo ration to War& Aftermath	Shovel Te sting, Test Unit Excavation	Not Assessed

the post-World War II period. Six of the sites (sites 16OR45/62, 16OR129, 16ORl 76/225/467, 16OR443, 16OR706, and 16OR736) also included Native American ceramics. Methods of recordation for these 28 sites included grab surface collections following demolitions, shovel testing, augering, and test unit excavation. Only nine sites were recorded and/or excavated as a result of Section 106 compliance projects. The remaining 19 sites were investigated as a part of university programs, state-funded programs, and/or at the request of private property owners. Investigations at private owner request were in many cases limited in scope due to funding and/or time constraints. A review of the Louisiana NRHP Eligibility database indicated one site (Site 16OR52) is listed in the NRHP, three sites have been determined eligible for listing in the NRHP (sites 16OR51, 16ORl 76/ 225/467, and 16OR443), and the remaining 24 sites have not been formally assessed.

Previously Identified Archaeological Sites Within the APE

As plotted in the Louisiana Cultural Resources Map, previously identified site boundaries extend into the APE, Site 16OR129 (Cabildo) and Site 16OR736 (City Square 61)(Figure 31). Site 16OR129 was recorded in 1990 by Earth Search, Inc. when they excavated test units within the Cabildo courtyard prior to construction activities associated with drainage improvements. Excavations identified intact eighteenth- to nineteenth-century archaeological deposits and features associated with the 1730 civil prison (destroyed in the 1788 New Orleans fire) and the ca. 1790s reconstruction that replaced the 1730 prison. Features included walls, foundations, brick floors, and midden deposits . The artifact assemblage included architectural debris , historic ceramics, personal items, fauna! remains (noting that a large number or rat skeletal elements were recovered), and Native American ceramics. Additionally, in one midden artifacts were interpreted as evidence of bone button and gunflint manufacturing operations using prison labor.

A detailed ceramic analysis of the 20 Native American sherds recovered during excavation at 16OR129 was provided by T.R. Kidder at the end of the Earth Search report for the site. Most of the sherds were too small to determine vessel form and most analysis was limited to temper (comprised mostly of Mississippi Plain (shell tempered) and Addis Plain (organic, fine-paste temper) and surface treatments (incising and slippin g). Kidder suggests the presence of shell and organic tempered ceramics indicate colonial trade with local groups Native American groups, and the slipped ceramics suggest possible interaction with eastern Gulf Coast native populations.

Site 16OR736 was recorded by the University of New Orleans in 2017 at the 626-628 Bourbon Street lot within City Square 61. The University was invited by the property owner to conduct archaeological investigations in the lot when a paved portion in the building interior was removed during remodeling. The investigation was limited in area due to the extant floor beams and joists. It focused ori the excavation on a brick-lined privy that had been placed within an earlier, unlined cesspit. Artifacts recovered during excavation ranged from the late eighteenth century to the present and included historic ceramics, glass, fauna! remains, ferrous metal, construction materials, historic Native American ceramics, personal items, and an i.solated human skeletal element. The skeletal element, a human axis, was found within the brick privy shaft in disturbed fill and turned over to the Louisiana Department of Justice.

To date, nearly 60 reports associated with reconnaissance-level surveys, archaeological monitoring, archaeological inventory, and test unit excavations in the French Quarter have been submitted to the Louisiana Division of Archaeology. None of these reports or archaeological projects have examined road construction or underground utility repair and upgrades in the French Qumier, so little archaeological data has been collected within street ROW.

Assessment of Effects

Certain activities within the SOW meet Programmatic Allowances in Appendix B of the 2016 Statewide PA, including rebuilding of roads, in-kind repair or replacement of curbs and sidewalks, construction of ADA ramps, and replacement or minor upgrading of utilities within the existing footprint. FEMA has determined that certain activies within the SOW do not conform to allowances and therefore under Stipulation II.C of the 2016 Statewide PA, require Standard Project Review. These activities include: replacement of pipes within previously disturbed areas but which could extend into undisturbed soils and go outside the vertical footprint of existing utilities; and ground disturbance within archaeological site boundaries as mapped on the Louisiana Division of Archaeology Cultural Resources Map, namely, site 16OR129, the Cabildo NHL, which includes ROW within St. Peter Street; and site 16OR736, 626-628 Bourbon Street, which includes ROW within St. Peter Street and Royal Street (Figure 31). It is unlikely that intact archaeological deposits are within the extant footprint of the street and utilities, however , during the course of excavation it is possible that such deposits may be exposed.

FEMA has determined that archaeological properties may be affected by ground disturbing activities associated with utility replacement and repair and roadway reconstruction in the undertaking. Based on the available information, a discussion with SHPO on September 28, 2022, and a discussion with Federally recognized Tribes with an interest in the area on October 5, 2022, FEMA has determined that ground disturbing activities on these blocks will require monitoring by a Secretary oflnterior (SOI) qualified archaeologist and will be documented in a draft/final report meeting the Louisiana Division of Archaeology's standards and submitted to FEMA and SHPO.

FEMA has determined to include the following conditions in the Project Worksheet to ensure that the undertaking will not adversely affect historic properties:

- Staging areas will be limited to existing hardscape or gravel surfaces which are not located on a known eligible or unassessed archaeological site consistent with Allowance II.C. and II.C.1. of the 2016 Statewide PA.
- The design of ADA-compliant ramps will be consistent with Allowance II.C.(2)(e) of the 2016 Statewide PA.
- The Subrecipient shall prohibit the use of "stampers" and similar gravity equipment in order to preserve the structural integrity of the adjacent buildings and adjoining property, and shall require contractors to protect all adjacent properties, buildings, walls, fences, steps, etc., from damage due to demolition, removal, and construction. The removal of material adjacent to adjoining structures must be done in such a manner so as not to cause damage by direct blows, vibrations, or other methods of demolition or construction.
- The Subrecipient shall ensure the contractor provides an independent testing laboratory to perform vibration monitoring at locations throughout the project to monitor any vibrations or movements which may be caused by construction activities and to ensure that the vibrations do not exceed acceptable limits. The vibration monitoring shall be conducted by a testing laboratory having the appropriate experience, equipment, and credentials required.
- Ceramic street name tiles and historic markers shall be salvaged and reinstalled at their original location and orientation or as close as possible to their original location. Damaged or missing elements shall be replaced with salvaged or in-kind material.
- An archaeologist meeting the Secretary oflnterior (SOI) Qualification Standards (36 CFR Part 61) and who can differentiate human bone from non-human bone must be present to monitor utility replacement and repair and roadway reconstruction in the 900, 1000, and 1100 blocks of Decatur Street and the 600 block of St. Peter Street. In the event archaeological deposits are encountered, the monitors will have the explicit authority to immediately stop work in the vicinity of the discovery to take all reasonable measures to avoid or minimize harm to the finds or affected property and until such time as the archaeologist is able to record and assess any cultural features or surfaces exposed. SWBNO shall ensure that the archaeological findings are secured and access to the area of the discovery is restricted to prevent damage while FEMA, SHPO, and other appropriate parties, such as Tribes, determine the appropriate treatment.
- Monitoring activities will be documented by the SOI-qualified monitor in a report meeting the Louisiana Division of Archaeology's standards that will be submitted to FEMA's Historic Preservation Department for review and submittal to SHPO.
- If human skeletal remains are uncovered during the Undertaking, SWBNO shall immediately notify GOHSEP, FEMA, the New Orleans Police Department, and the Orleans Parish Coroner's Office. The local law enforcement officials shall assess the nature and age of the human skeletal remains. SWBNO shall take all reasonable steps to ensure that any

disturbance of the remains is photo documented. SWBNO shall ensure that the notice of the discovery required by Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq) is given to the Secretary of CRT or the Secretary's designee by contacting the Louisiana Division of Archeology at 225-342-8170 within seventy-two (72) hours of the discovery. If the coroner determines that the human skeletal remains are older than 50 years of age, the Secretary, CRT has jurisdiction over the remains. FEMA shall work with the SHPO, Tribes, the Louisiana Division of Archeology, SWBNO, and GOHSEP to ensure compliance with this State law and any other applicable laws. In addition, FEMA shall require that the guidelines contained in the ACHP's 2007 "Policy Statement Regarding Burial Sites, Human Remains, and Funerary Objects" is followed.

Copies or Summaries of Views by Consulting Parties and the Public

FEMA is forwarding this letter and the attached documentation to the Vieux Carre Commission, the Vieux Carre Property Owners, Residents, and Associates (VCPORA), the Preservation Resource Center of New Orleans, the New Orleans Historic District Landmarks Commission, the Louisiana Landmarks Society, and Preserve Louisiana for their review and comments as required by 36 CFR §800.4(d)(l) and we request that these potential consulting parties provide comments within the 15 days provided by the 2016 Statewide PA. FEMA is also notifying the National Park Service of the Undertaking as it affects the Vieux Carre National Historic Landmark.

FEMA has determined a finding of **No Adverse Effect to Historic Properties with Conditions** for this Unde1iaking and is submitting this Undertaking to you for your review and comment. In accordance with Stipulation I.E.(2)(b) of the 2016 Statewide PA, FEMA requests your comments within 15 days.

We respectfully request concurrence with this determination. Your prompt review of this project is greatly appreciated. Should you have any questions or need additional information regarding this undertaking, please contact me at jerame.cramer@fema.dhs.gov or (504) 247-7771, Benjamin D. Maygarden, Historic Preservation Specialist, at benjamin.maygarden @fema.dhs.gov or (202) 538-2718, or Courtney B. Cloy, Archaeologist, at courtney .cloy@fema.dhs.gov or (202) 258-2675.

Sin cerely,

Jerame J. Cramer
EHP Program Lead Louisiana
FEMA Region 6
Louisiana Integration and Recovery Office
Baton Rouge, LA

CC: File

SECTION 00 731.A

FEMA CLAUSES

00731.A FEMA CLAUSES

SPECIAL CONDITIONS FOR FEMA COMPLIANCE (06032022)

The Consultant/Contractor (whether referred to by either term) is advised that this project is to be funded by FEMA. This is an acknowledgement that FEMA financial assistance will be used to fund all or any portion of the contract to which these Special Conditions are appended. The Consultant/Contractor will comply will all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives. Notwithstanding any provision of the Agreement to the contrary, the following terms and conditions are applicable to this Agreement.

TERMINATION FOR CAUSE. The Board and the Consultant/Contractor shall each have the right to terminate this Agreement for cause, effective immediately upon the giving of written notice to the other party of its intent to terminate and the reasons therefor. If the termination for cause is subsequently challenged in a court of law and if the challenging party prevails, the termination for cause shall be deemed to be a termination for convenience and shall be effective thirty (30) days from the date that the original written notice of termination for cause was given to the challenging party and no further notice shall be required.

TERMINATION FOR CONVENIENCE. The Board shall have the right to terminate this Agreement without cause by giving the Consultant/Contractor written notice of its intent to terminate at least thirty (30) days prior to the date of termination. In the event that the Board elects to terminate for convenience, the Board shall be obligated to pay the Consultant/Contractor only for those Services performed up to and through the date of termination.

REMEDIES AND SANCTIONS AGAINST CONSULTANT'S DEFAULT. The Sewerage and Water Board of New Orleans retains all rights and recourse under Louisiana law to enforce this Agreement or recover damages in connection with any Consultant/Contractor breach or violation hereof.

EQUAL EMPLOYMENT OPPORTUNITY. During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

DRAFT

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

DRAFT

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided,* That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

<u>DAVIS BACON ACT</u> (applicable to Emergency Management Preparedness Grant Program, Homeland Security Grant Program, Homeland Security Grant Program, Nonprofit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program, and Transit Security Grant Program. It does not apply to other FEMA grant and cooperative agreement programs, including the Public Assistance Program.)

a. All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) and the requirements of (29 CFR Part 5, as may be applicable. The Contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.
b. Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.
c. Additionally, contractors are required to pay wages not less than once a week.

<u>COPELAND ANTI-KICKBACK ACT</u> (not applicable to Public Assistance Grant Program, but otherwise applicable to all construction or repair work above $2,000 where the Davis-Bacon Act also applies)

a. Contractor. The contractor shall comply with 18 U.S.C. Section 874, 40 U.S.C. Section 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
b. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA may by appropriate instructions require, and also a

DRAFT

clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

c. Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. Section. 5.12.

CONTRACT WORK HOURS AND SAFETY STANDARDS ACT.

(1) *Overtime requirements*. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) *Violation; liability for unpaid wages; liquidated damages*. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) *Withholding for unpaid wages and liquidated damages*. The Board shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) *Subcontracts*. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT (if applicable – this requirement applies to "funding agreements" but DOES NOT apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, or other programs where FEMA awards do not meet the definition of "funding agreements".) For any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of

DRAFT

experimental, developmental, or research work funded in whole or in part by the Federal government, or other "funding agreement" under 37 C.F.R. sec. 401.2(a), where the non-Federal entity wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement", the non-Federal entity must comply must comply with the requirements of 37 C.F.R. Part 401 and any implementing regulations.

CLEAN AIR ACT and FEDERAL WATER POLLUTION CONTROL ACT.

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C.§ 7401 *et seq.* and the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 7401 *et seq.*
(2) The Contractor agrees to report each violation to the Sewerage and Water Board of New Orleans and GOHSEP and understands and agrees that the GOHSEP will, in turn, report each violation as required to assure notification to FEMA, and the appropriate Environmental Protection Agency Regional Office.
(3) The Contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.

ENERGY POLICY AND CONSERVATION ACT.

The Contractor hereby recognizes the mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).

CLEAN WATER ACT.

The Contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders, or requirements issued under Section 508 of the Clean Water Act which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities.

SUSPENSION AND DEBARMENT. The Consultant/Contractor represents and warrants that it and its sub-recipients are not debarred, suspended, or placed in ineligibility status under the provisions of 24 CFR 24 (government debarment and suspension regulations).

(1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) This certification is a material representation of fact relied upon by the Sewerage and Water Board of New Orleans. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the

DRAFT

Sewerage and Water Board of New Orleans, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

BYRD ANTI-LOBBYING AMENDMENT.

The Contractor will be expected to comply with Federal statutes required in the Anti-Lobbying Act. Contractors who apply or bid for an award shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier up to the recipient who in turn will forward to the certification(s) to the federal awarding agency.

PROCUREMENT OF RECOVERED MATERIALS.

(a) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—
1. Competitively within a timeframe providing for compliance with the contract performance schedule;
2. Meeting Contract performance requirements; or
3. At a reasonable price.

(b) Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines website, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

(c) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

CONTRACTING WITH SMALL AND MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS.

Any party to this contract must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. These steps are required for the hiring of any subcontractors under this contract. The prime contractor is required to take all necessary steps identified in 2 C.F.R. § 200.321(b)(1)-(5) to ensure that small and minority businesses, women's business enterprises, and labor surplus area firms are used when possible."

Affirmative steps must include:

DRAFT

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and

(5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.

Any procurement of telecommunications and video surveillance services or equipment must comply with the provisions of 2. C.F.R. §200.216:

200.216. Prohibition on Contracting for Covered Telecommunications Equipment or Services

(a) Definitions. As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services (Interim), as used in this clause—

(b) Prohibitions.

(1) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year
2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug.13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

(2) Unless an exception in paragraph (c) of this clause applies, the contractor and its subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds from the Federal Emergency Management Agency to:

DRAFT

(i) Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(ii) Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(iii) Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system; or

(iv) Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(c) Exceptions.

(1) This clause does not prohibit contractors from providing—

(i) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) By necessary implication and regulation, the prohibitions also do not apply to: (i) Covered telecommunications equipment or services that:

i. Are not used as a substantial or essential component of any system; and

ii. Are not used as critical technology of any system.

(ii) Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.

(d) Reporting requirement.

(1) In the event the contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the contractor is notified of such by a subcontractor at any tier or by any other source, the contractor shall report the information in paragraph (d)(2) of this clause to the recipient or subrecipient, unless elsewhere in this contract are established procedures for reporting the information.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:

DRAFT

(i) Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments."

DOMESTIC PREFERENCES FOR PROCUREMENTS.

As appropriate and to the extent consistent with law, the parties should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

For purposes of this clause:

Produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

Manufactured products mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

ACCESS TO RECORDS AND RETENTION OF RECORDS.

(1) The Consultant/Contractor shall grant and agrees to provide the Board, the City of New Orleans, the State of Louisiana, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives, access to any books, documents, papers, and records of the Consultant/Contractor which are directly pertinent to this Agreement for the purpose of making audits, examinations, excerpts, and transcriptions.

(2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

DRAFT

(3) The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

(4) In compliance with the Disaster Recovery Act of 2018, the Board and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

(5) The Consultant/Contractor shall retain, and shall require any and all subcontractors to retain, all records pertaining in any respect to this contract, for five (5) years from the date of termination or other completion of this contract, or until such time as the State of Louisiana or the Board makes final payments and all other pending matters related to the Agreement are closed, whichever is later.

DHS SEAL, LOGO, AND FLAGS.

The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval. The contractor shall include this provision in any subcontracts."

COMPLIANCE WITH FEDERAL LAWS, REGULATIONS AND EXECUTIVE ORDERS.
This is an acknowledgment that FEMA financial assistance will be used to fund all or a portion of this Contract. The Consultant/Contractor will comply with all applicable federal law, regulations, executive orders, FEMA policies, procedures and directives.

NO OBLIGATION BY THE FEDERAL GOVERNMENT.

The federal government is not a party to this contract and is not subject to any obligations or liabilities to the non-federal entity, Contractor, or any other party pertaining to any matter resulting from the contract.

PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS.

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract.

AFFIRMATIVE SOCIOECONOMIC STEPS.

If subcontracts are to be let, the prime contractor is required to take all necessary steps identified in 2 C.F.R. § 200.321(b)(1)-(5) to ensure that small and minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

COPYRIGHT AND DATA RIGHTS.

The Contractor grants to the Sewerage and Water Board a paid-up, royalty-free, nonexclusive, irrevocable, worldwide license in data first produced in the performance of this contract to

DRAFT

reproduce, publish, or otherwise use, including prepare derivative works, distribute copies to the public, and perform publicly and display publicly such data. For data required by the contract but not first produced in the performance of this contract, the Contractor will identify such data and grant to the Sewerage and Water Board or acquire on its behalf a license of the same scope as for data first produced in the performance of this contract. Data, as used herein, shall include any work subject to copyright under 17 U.S.C. § 102, for example, any written reports or literary works, software and/or source code, music, choreography, pictures or images, graphics, sculptures, videos, motion pictures or other audiovisual works, sound and/or video recordings, and architectural works. Upon or before the completion of this contract, the Contractor will deliver to the Sewerage and Water Board data first produced in the performance of this contract and data required by the contract but not first produced in the performance of this contract in formats acceptable by the Sewerage and Water Board.

[REMAINDER OF PAGE INTENTIONALLY BLANK]

DRAFT

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION REGARDING LOBBYING
Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned Consultant/Contractor certifies, to the best of his/her/its knowledge and belief, that:

No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Consultant/Contractor certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Consultant/Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 *et seq*., apply to this certification and disclosure, if any.

_____ _____
Signature of Consultant/Contractor's Authorized Official Date

_____
Name and Title of Consultant/Contractor's Authorized Official

DRAFT

SECTION 00 731.B

WIFIA REQUIRED CLAUSES FOR CONTRACT DOCUMENTS

Section 00 731.B

WIFIA REQUIRED CLAUSES FOR CONTRACT DOCUMENTS

The "Specification Package and Bid and Contract Language" packet is a document that includes everything that must be in the specification package as a requirement of the WIFIA program. The package provides all necessary language for WIFIA funded projects.

EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THE FEDERAL LANGUAGE PROVISIONS WITH RESPECT TO STATE OR LOCAL LAW.

Borrower-Specific Requirements

- Demonstration Cities and Metropolitan Development Act, 42 USC 3301 et seq., as amended and Executive Order 12372, 47 FR 30959, July 16, 1982
- Prohibitions relating to violations of CWA and CAA with respect to Federal contracts, grants, or loans under 42 USC 7606 and 33 USC 1368 and EO 11738, 38 FR 25161, September 12, 1973
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, 42 USC 4601 et seq

Economic and Miscellaneous Authorities

Debarment and Suspension, Executive Order 12549, 51 FR 6370, February 21, 1986

Suggested Contract Language: Contractor certifies that it will not knowingly enter into a contract with anyone who is ineligible under the 2 CFR part 180 and part 1532 or who is prohibited under Section 306 of the Clean Air Act or Section 508 of the Clean Water Act to participate in the Project. Suspension and debarment information can be accessed at http://www.sam.gov. Contractor represents and warrants that it has or will include a term or conditions requiring compliance with this provision in all of its subcontracts under this Agreement.

New Restrictions on Lobbying, 31 U.S.C 1352

Suggested Contract Language: FEDERAL LOBBYING RESTRICTIONS. Recipients of federal financial assistance may not pay any person for influencing or attempting to influence any officer or employee of a federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress with respect to the award, continuation, renewal, amendment, or modification of a federal grant, loan, or contract. These requirements are implemented for USEPA in 40 CFR Part 34, which also describes types of activities, such as legislative liaison activities and professional and technical services, which are not subject to this prohibition. Upon award of this contract, Contractor shall complete and submit to the City the certification and disclosure forms in Appendix A and Appendix B to 40 CFR Part 34. Contractor shall also require all subcontractors and suppliers of any tier awarded a subcontract over $100,000 to similarly complete and submit the certification and disclosure forms pursuant to the process set forth in 40 CFR 34.110.

Civil Rights, Nondiscrimination, EEO Authorities

General Introductory Language

CIVIL RIGHTS OBLIGATIONS. Contractor shall comply with the following federal non- discrimination requirements:

a. Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, and national origin, including limited English proficiency (LEP). (42 U.S.C 2000D, et. seq)

b. Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities. (29 U.S.C. 794, supplemented by EO 11914, 41 FR 17871, April 29, 1976 and EO 11250, 30 FR 13003, October 13, 1965)

c. The Age Discrimination Act of 1975, which prohibits age discrimination. (42 U.S.C 6101 et. seq)

d. Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination on the basis of sex.

e. 40 CFR Part 7, as it relates to the foregoing.

Equal Employment Opportunity, (41 CFR Part 60). (EO 11246, 30 FR 12319, September 28, 1965)

*****EEO Required Contract Language. Must be included verbatim. *****

Equal Employment Opportunity Obligations Under EO 11246:

The Contractor shall comply with Executive Order 11246, entitled 'Equal Employment Opportunity,' as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60).

Contractor's compliance with Executive order 11246 shall be based on implementation of the Equal Opportunity Clause, and specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4.

During the performance of this contract, the contractor agrees as follows:

1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
2) The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment

without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
5) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
6) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
8) The contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States. [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966–1970 Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230, EO 13665 of April 8, 2014, 79 FR 20749, EO 13672 of July 21, 2014, 79 FR 42971]

Standard Federal Equal Employment Opportunity Construction Contract Specifications (41 CFR 60-4.3):

1) As used in these specifications:
   a) "Covered area" means the geographical area described in the solicitation from which this

contract resulted;

b) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
c) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
d) "Minority" includes:
    i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
    ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
    iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
    iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2) Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3) If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4) The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during

the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7) The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
   a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
   b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
   c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
   d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
   e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
   f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
   g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General

Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9) A single goal for minorities and a separate single goal for women have been established. The

Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
11) The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12) The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13) The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Segregated Facilities, 41 CRF 60-1.8

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term “facilities,” as used in this section, means waiting rooms, work areas, restaurants and other

eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; Provided, That separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) located at 41 CFR § 60-4.2:

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Time-tables	**Goals for minority participation for each trade**	**Goals for female participation in each trade**
	Insert goals for each year[2]	6.9%[3]

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

[2] Goals can be found at: https://www.dol.gov/ofccp/TAguides/TAC_FedContractors_JRF_QA_508c.pdf

[3] Nationwide goal for all covered areas

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

Participation by Disadvantaged Business Enterprises in Procurement under EPA Financial Assistance Agreements, 73 FR 15904

**Note:* The WIFIA program only requires use of the EPA DBE program' six good faith efforts during contract procurement. States may require additional DBE reporting.

Disadvantaged Business Enterprises (DBE). The contractor must ensure that the DBE's six good faith efforts are used during the procurement of subcontractors for the (Project). The six good faith efforts are found at: https://ww.epa.gov/grants/disadvantaged-business-enterprise-program-requirements#sixgoodfaithefforts.

American Iron and Steel and Federal Labor Standards

American Iron and Steel (AIS) Requirement

The Contractor acknowledges to and for the benefit of Sewerage and Water Board of New Orleans ("Purchaser") and the United States Environmental Protection Agency ("EPA") that it understands the goods and services under this Agreement are being funded with monies made available by the Water Infrastructure Finance and Innovation Act program of the EPA that has statutory requirements commonly known as "American Iron and Steel" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement. The Contractor hereby represents, warrants and covenants to and for the benefit of the Purchaser and the EPA that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the EPA. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or the EPA to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or the EPA resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the EPA or any damages owed to the EPA by the Purchaser). While the Contractor has no direct contractual privity with the EPA, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the EPA is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the EPA.

Note that the language below addresses Davis Bacon and Related Acts and incorporates the WIFIA borrower (Sewerage and Water Board of New Orleans) as an authorized representative, in accordance with the WIFIA loan agreement, to ensure compliance with this federal requirement.

***Required** Contract Language.*

Compliance with Davis-Bacon and Related Acts.

(a) In any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 C.F.R. § 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, provided that such modifications are first approved by the Department of Labor):

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-

Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)

(A) The WIFIA assistance recipient, [*Sewerage and Water Board of New Orleans*], on behalf of the U.S. Environmental Protection Agency (EPA), shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The WIFIA assistance recipient shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the WIFIA assistance recipient agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent to the Administrator of the Wage and Hour Division (WHD Administrator), U.S. Department of Labor, Washington, DC 20210. The WHD Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the WIFIA assistance recipient or will notify the WIFIA assistance recipient within the 30- day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the WIFIA assistance recipient do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the WIFIA assistance recipient shall refer the questions, including the views of all interested parties and the recommendation of the WIFIA assistance recipient, to the WHD Administrator for determination. The WHD Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the WIFIA assistance recipient or will notify the WIFIA assistance recipient within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the

contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. [*Sewerage and Water Board of New Orleans*], shall upon written request of the WIFIA Director or an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the WIFIA Director may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or

trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) {no text here}

(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to [*Sewerage and Water Board of New Orleans*] . The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to [*Sewerage and Water Board of New Orleans*], for transmission to the EPA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to[*Sewerage and Water Board of New Orleans*]).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable

wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of *Sewerage and Water Board of New Orleans*, EPA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA may, after written notice to the [*Sewerage and Water Board of New Orleans*], take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees –

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates

(expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the WHD Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the WHD Administrator determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the

requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and [*Sewerage and Water Board of New Orleans*], EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act. The following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section shall be inserted in full in any contract in an amount in excess of
$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by § 5.5(a) or § 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in

such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The [*Sewerage and Water Board of New Orleans*] shall upon its own action or upon written request of an authorized representative of the Department of Labor, or the EPA, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in § 5.1, the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the EPA shall cause or require the *Sewerage and Water Board of New Orleans*] to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the [*Sewerage and Water Board of New Orleans*], EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

END OF SECTION

LATEST UPDATES ON FEDERAL REQUIREMENTS

BUILD AMERICA, BUY AMERICA ACT

Other language may be included on contracts for clarity on this federal requirement if an applicable waiver applies. For example, if the WIFIA program has determined program waiver coverage, indicate in contract documents, "This Project is covered under the WIFIA Program Waiver (June 22, 2022), which waives BABA requirements."

Build America, Buy America (Effective May 14, 2022)
The Contractor acknowledges to and for the benefit of ("Purchaser") and the United States Environmental Protection Agency ("EPA") that it understands the goods and services under this Agreement are being funded with federal monies made available by the Water Infrastructure Finance and Innovation Act program of EPA that have statutory requirements commonly known as "Build America, Buy America;" that requires all of the iron and steel, manufactured products, and construction materials used in the project to be produced in the United States ("Build America, Buy America Requirements") including iron and steel, manufactured products, and construction materials provided by the Contactor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and Funding Authority (a) the Contractor has reviewed and understands the Build America, Buy America Requirements, (b) all of the iron and steel, manufactured products, and construction materials used in the project will be and/or have been produced in the United States in a manner that complies with the Build America, Buy America Requirements, unless a waiver of the requirements is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the Build America, Buy America Requirements, as may be requested by the Purchaser or the Funding Authority. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or Funding Authority to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or Funding Authority resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the Funding Authority or any damages owed to the Funding Authority by the Owner). If the Contractor has no direct contractual privity with the Funding Authority, as a lender or awardee to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the Funding Authority is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the Funding Authority.

Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment (Effective August 13, 2020). The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (P.L. 115- 232), at Section 889, prohibits EPA financial assistance recipients, including WIFIA borrowers, from expending loan funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in the Act, "covered telecommunications equipment or services" means:

a) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
b) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
c) Telecommunications or video surveillance services provided by such entities or using such equipment.
d) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

The Act does not prohibit:

a) Procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements.
b) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

END OF SECTION

ATTACHMENT 1

Categorical Exclusion and Extraordinary Circumstances Review Form

Categorical Exclusion and Extraordinary Circumstances Review Form
United States Environmental Protection Agency
Washington, DC 20460

I. General Information

Project Name	WIFIA Id Number
Sewer and Water Line Rehabilitation	19137LA

Borrower Name

Sewerage and Water Board of New Orleans

Project Description

The requested WIFIA loan would be used to fund projects which fall into four categories:

- Federal Emergency Management Agency (FEMA) funded Water Line Replacement via the Joint Infrastructure (JIRR) Program
- SWBNO and FEMA funded Sewer Line Replacement via the Joint Infrastructure Recovery Roads (JIRR) Program
- Sewer System Evaluation and Rehabilitation Program (SSERP) mandated by EPA Consent Decree
- SWBNO funded Sewer Force Main Replacement and Improvement work

A total of 164 individual projects are included in the WIFIA loan.

Project Location Description *(street address/city/state/ZIP code; site characteristics)*

The project location is defined as portions of Orleans Parish, Louisiana served by SWBNO system, which represents the majority of the parish. It is expected that the vast majority of work will be conducted within existing right of ways or where the existing pipelines are currently located.

II. EPA Contact for Environmental Review on this Project (If different from Responsible Official)

Name	Title	Phone Number
Arielle Gerstein	Program Manager	(202) 566-1868

III.A. Categorical Exclusion Eligibility *(Check YES or NO)* Complete the following questions in their entirety to determine if the project is eligible for a Categorical Exclusion (CATEX) pursuant to 40 CFR § 6.204(a)(l)(ii). Additionally, supporting statements and documentation can be included in Attachment 1.

If yes to any, CATEX applies — Does the project involve actions relating to existing infrastructure systems (e.g., sewer systems; drinking water supply systems; and stormwater systems, including combined sewer overflow systems) and involve :

YES	NO	
D	IZI	Minor upgrading
IZI	☐	Minor expansion of system capacity or rehabilitation (including functional replacement) of the existing system and its components (such as the sewer collection network and treatment system; the system to collect, treat, store and distribute drinking water; and stormwater systems, including combined sewer overflow systems)
☐	IZI	Construction of new minor ancillary facilities next to or on the same property as existing facilities

If yes to any, CATEX does not apply — Will the project include actions that:

YES	NO	
☐	IZI	Involve new or relocated discharges to surface or ground water
☐	IZI	Will likely result in the substantial increase in the volume or the loading of pollutant to the receiving water
☐	IZI	Will provide capacity to serve a population 30% greater than the existing population
☐	IZI	Are not supported by the state, or other regional growth plan or strategy
☐	IZI	Directly or indirectly involve or relate to upgrading or extending infrastructure systems primarily for the purpose of future development

Project Name	WIFIA Id Number
Sewer and Water Line Rehabilitation	19137LA

111.B. Extraordinary Circumstances *(Check YES or NO}* Complete the following questions in their entirety to determine if the project involves any of the following extraordinary circumstances which would make it ineligible for a CATEX pursuant to 40 CFR § 6.204(b)(l) through (b)(IO). Additionally, supporting statements and documentation can be included in Attachment 1.

YES	NO	
☐	IZI	1) Is the action known or expected to have potentially significant environmental impacts on the quality of the human environment either individually or cumulatively over time?
☐		2) Is the action known or expected to have disproportionately high and adverse human health or environment al effects on any community, including minority communities, low-income communities, or federally-recognized Indian tribal communities?
☐		3) Is the action known or expected to significantly affect federally listed threatened or endangered species or their critical habitat?
☐		4) Is the action known or expected to significantly affect national natural landmarks or any property with naturally significant historic, architectural, prehistoric, archaeological, or cultural value, including but not limited to, property listed on or eligible for the National Register of Historic Places?
☐		5) Is the action known or expected to significantly affect environmentally important natural resource areas such as wetlands, floodplains, significant agricultural lands, aquifer recharge zones, coastal zones, barrier islands, wild and scenic rivers, and significant fish or wildlife habitat?
☐	☒	6) Is the action known or expected to cause significant adverse air quality effects?
☐	☒	7) Is the action known or expected to have a significant effect on the pattern and type of land use (industrial, commercial, agricultural, recreational, residential) or growth and distribution of population, including altering the character of existing residential areas or may not be consistent with state or local government, or federally -recognized Indian tribe approved land use plans or federal land management plans?
☐	IZI	8) Is the action known or expected to significantly cause significant public controversy about potential environmental impacts of the proposed action?
☐		9) Is the action known or expected to be associated with providing financial assistance to a federal agency through an interagency agreement for a project that is known or expected to have potentially significant environmental impacts?
☐		10) Is the action known or expected to conflict with federal, state, or local government, or federally-recognized Indian tribe environmental resource-protection, or land-use laws or regulations?

Title of Project	WIFIA Id Number
Sewer and Water Line Rehabilitation	19137LA

111.C. Extraordinary Circumstances Statement *{Check ONLY ONE box)* If the responses to Section III.A indicate the project is CATEX eligible, and if a **NO** response was recorded for each of the questions in Section 111.B, then no Extraordinary Circumstances are present pursuant to 40 CFR § 6.204(b) and one of the following statements should be selected.

D 1) **No extraordinary circumstances apply** to the proposed action pursuant to 40 CFR §§ 6.204(a)(1) and 6.204(b). This statement is based on either past experience with similar actions **at the proposed action site** resulting in a CATEX and/or information gathered as part of previous NEPA or environmental due diligence review conducted **at the proposed action site.** Provide any supporting documentation or references in Attachment I.

2) A statement and supporting documentation is attached explaining why no extraordinary circumstances exist or apply to the proposed action pursuant to 40 CFR §§ 6.204(a)(1) and 6.204(b).

IV. NEPA Review Determination and Responsible Official Signature

Sections I through Ill must be completed to satisfy EPA's documentation requirements for CATEX eligibility. If completion of this form indicates that a CATEX *does apply ,* the Responsible Official must sign below.

Categorical Exclusion Determination The EPA finds that the proposed action is eligible for exclusion from detailed environmental review under 40 CFR § 6.204(a)(l)(ii), and will not involve any of the extraordinary circumstances delineated under 40 CFR § 6. 204(b)(1) through (b)(l0). Consequently, the EPA will not prepare an environmental impact statement or an environment al assessment for the proposed project. The EPA may revoke this categorical exclusion if changes in the proposed action render it ineligible for exclusion or if new evidence emerges which indicates that serious local or environmental issues exist or federal, state, or local laws would be violated.

As the Responsible Official, I have determined that **this action is eligible for a Categorical Exclusion** per the substantive environmental review requirements under EPA regulations at 40 CFR § 6.204. Section 111.C of this form has been completed providing the required Extraordinary Circumstances Stat ement.

ANDREW SAWYERS Digitally signed by ANDREW SAWYERS
Date: 2021.03.09 18:51:55 -05'00'

Andrew D. Sawyers, Director
Office of Wastewater Management

Date

Title of Project	WIFIA Id Number
Sewer and Water Line Rehabilitation	19137LA

Attachmerit 1. CATEX Eligibility and/or Extraordinary Circumstances Statement(s)

The space below may be used for a statement and supporting documentation explaining CATEX eligibility why no extraordinary circumstances exist or apply to the proposed action pursuant to 40 CFR §§ 6.204(a)(l) and 6.204(b) . Attach additional pages as needed.

Minor, short-term impacts on communities during construction may occur such as noise, vibration, increased construction traffic, temporary roadway detours, and erosion and runoff, which would be reduced by implementation of drainage, erosion and sediment control measures prior to initiating any work. These measures shall be in accordance with the most current federal, state, and local regulations. Ultimately, the project would improve the environmental health conditions of the area and protect public health and safety long-term. The proposed project would not have disproportionately high and adverse human health or environmental effects on minority, low-income, or federally-recognized Indian tribal communities.

On September 29, 2020, the species list was obtained from the United Stated Fish and Wildlife Service (USFWS) Louisiana Ecological Services Field Office, using the Information, Planning, and Consultation Syst em. Three listed species were identified, including one mammal species (West Indian Manatee) and two fish species (Atlantic Sturgeon and Pallid Sturgeon). No critical habitats under the jurisdiction of the USFWS are known to occur within the project ar eas. No in-water work is proposed as part of the project. The proposed project will not impact streams, rivers, or any other freshwater habitat that would be suitable habitat for listed species, and therefore will have no effect on listed species.

The proposed Project includes 164 projects that will rehabilitate and repair the sewer system to minimize sanitary system overflows. A majority of these projects fall under the scope of the JIRR administered by FEMA. As part of the JIRR, the City of New Orleans and the Applicant have proposed a phased approach to damage repair, replacement, or improvements that can be systematically reviewed by FEMA in accordance with this document as plans and specifications for individual repair projects are developed. 139 of these projects fall under the JIRR Abbreviated Consultation Process (ACP) agreement and 26 have been reviewed by the Louisiana State Historic Preservation Officer (SHPO) as part of the Southshore Basin Sanitary Sewer Rehabilitation (SSERP) pro jects .

Only one project, the SWB Gen DeGaulle Sewer Force Main Replacement Project, required separate Section 106 consultation by EPA. EPA only submitted this project to the Louisiana SHPO because the remaining projects fall under the JIRR or SSERP agreements already in place so they have already been determined to have no effect by SHPO or will be submitted by the FEMA through the JIRR agreement. EPA has reviewed the supporting documentation for the SWB Gen DeGaulle Sewer Force Main Replacement Project, and initiated consultation with the Louisiana SHPO on November 17, 2020, and a response from the SHPO's archaeologist was received, dated December 8, 2020. The SHPO response stated that "No historic properties will be affected for this undertaking" for the SWB Gen DeGaulle Sewer Force Main Replacement included under the WIFIA loan.

The Louisiana coastal zone includes all of Orleans Parish . On October 8, 2020, EPA determined that the projects are consistent with the Louisiana Coastal Zone Management (CZM), and requested the Louisiana CZM concurrence on this determination. On October 8, 2020, the Louisiana CZM concurred with EPA's det erm inat ion as the Office of Coastal Management (OCM) provided general consistency concurrence as it has found that financial assistance of a proposed project would be not be inconsistent with the state CZM program . The CZM Determination provided is a blanket letter covering all infrastructure projects in the state. The state grants this determination to any agency providing funding for infr astruct ure projects within the state of Louisiana.

ATTACHMENT 2

Federal Cross-Cutting Authorities Review Memorandum

FEDERAL CROSS-CUTTING AUTHORITIES REVIEW MEMORANDUM

From: Arielle Gerstein, Program Manager, WIFIA Program

To: Record

Subject: Federal Cross-Cutting Authorities Review for the Sewerage and Water Board of New Orleans' (SWBNO) Sewer and Water Line Rehabilitation, Repair, and Replacement Program (SWR3) (WIFIA ID 19137LA)

Date: February 1, 2021

This memorandum summarizes the WIFIA Engineering Team's evaluation of the applicability of federal environmental cross-cutting authorities, the impacts from the project, the results of coordination and consultations with other agencies, and documents the review process.

PROJECT DESCRIPTION:

The requested WIFIA loan would be used to fund water projects which fall into four categories:

- Federal Emergency Management Agency (FEMA) funded Water Line Replacement via the Joint Infrastructure (JIRR) Program
- SWBNO and FEMA funded Sewer Line Replacement via the Joint Infrastructure Recovery Roads (JIRR) Program
- Sewer System Evaluation and Rehabilitation Program (SSERP) mandated by EPA Consent Decree
- SWBNO funded Sewer Force Main Replacement and Improvement work

164 individual projects are included in the WIFIA loan. Individual projects are listed in Section E of the WIFIA application.

Supporting Documentation:

Attachment A: WIFIA Application Section E, Project List

PROJECT LOCATION:

The project location is defined as portions of Orleans Parish, Louisiana served by SWBNO system, which represents the majority of the parish. It is expected that the vast majority of work will be conducted within existing right of ways or where the existing pipelines are currently located.

.

1. ENVIRONMENTAL JUSTICE EXECUTIVE ORDER NO.12898

Orleans Parish, has an average minority population of 32 percent, which is meaningfully greater than the 20 percent minority population of Louisiana. Although minority demographic data does not exceed 50 percent, minority-based environmental justice communities are considered to be present throughout the project area. The project area has an average low-income population of 25 percent, which is lower than the state of Louisiana at 34 percent. No tribal areas were identified within the project area.

Minor, short-term impacts on communities during construction may occur such as noise, vibration, increased construction traffic, temporary roadway detours, and erosion and runoff, which would be reduced by implementation of drainage, erosion and sediment control measures prior to initiating any work. These measures shall be in accordance with the most current federal, state, and local regulations. Ultimately, the project would improve the environmental health conditions of the area and protect public health and safety long-term. The proposed project would not have disproportionately high and adverse human health or environmental effects on minority, low-income, or federally-recognized Indian tribal communities. Therefore, this proposed action has met the provisions of Executive Order 12898.

Supporting Documentation:

Attachment A: EJ Screen Report

2. ENDANGERED SPECIES ACT (16 U.S.C. §§ 1531–1599)

On September 29, 2020, the species list was obtained from the United Stated Fish and Wildlife Service (USFWS) Louisiana Ecological Services Field Office, using the Information, Planning, and Consultation System. Three listed species were identified, including one mammal species (West Indian Manatee) and two fish species (Atlantic Sturgeon and Pallid Sturgeon). No critical habitats under the jurisdiction of the USFWS are known to occur within the project areas.

Construction activities may impact some vegetation cover existing along maintained right of ways through clearing and incidental damage from trucks backing into them, damage to root systems by trenching, excavation, soil compaction, and general site activity. The amount of temporarily disturbed area is expected to be minimal because a majority of the rehabilitation work is within well developed areas, roadways, and rights-of-way.

The Florida manatee lives in freshwater, brackish and marine habitats. Submerged, emergent, and floating vegetation are their preferred food. The Atlantic Sturgeon is an anadromous fish which migrates from salt water into large coastal rivers to spawn and spend the warm months. The majority of its life is spent in fresh water. The Pallid Sturgeon are a bottom-oriented, large river obligate fish inhabiting the Missouri and Mississippi rivers and some tributaries.

No in-water work is proposed as part of the project. The proposed project will not impact streams, rivers, or any other freshwater habitat that would be suitable habitat for listed species, and therefore will have no effect on listed species. EPA has determined that its project will have no effect on listed species, and therefore, section 7(a)(2) consultation with the USFWS is not required and EPA's

responsibilities under the Act have been satisfied.

Supporting Documentation:

Attachment B: SWBNO Species List (September 2020)

3. BALD AND GOLDEN EAGLE PROTECTION ACT (16 U.S.C. §§ 668 -668C)

The proposed activity does not involve capture, transport, exhibition, collection, control or disturbance of eagles or eagle parts. No nests are anticipated to occur within the project area. Therefore, the requirements and regulations of this act do not apply.

Supporting Documentation:

Attachment B: SWBNO Species List (September 2020)

4. FISH AND WILDLIFE COORDINATION ACT (16 U.S.C. § 661 ET SEQ.)

The Project would not control or modify surface waters; therefore, the requirements and regulations of this act do not apply.

5. MARINE MAMMAL PROTECTION ACT (16 U.S.C. §§ 1361-1407)

The projects will not affect marine mammals and no in-water work is proposed; therefore, the regulations and requirements of this act do not apply.

6. NATIONAL HISTORIC PRESERVATION ACT (NHPA) AS AMENDED (54 U.S.C. § 300101 ET SEQ.: HISTORIC PRESERVATION) AND ARCHEOLOGICAL AND HISTORIC PRESERVATION ACT, AS AMENDED (54 U.S.C. §§ 312501-312508: PRESERVATION OF HISTORICAL AND ARCHEOLOGICAL DATA)

The proposed Project includes 164 projects that will rehabilitate and repair the sewer system to minimize sanitary system overflows. A majority of these projects fall under the scope of the JIRR administered by FEMA. As part of the JIRR, the City of New Orleans and the Applicant have proposed a phased approach to damage repair, replacement, or improvements that can be systematically reviewed by FEMA in accordance with this document as plans and specifications for individual repair projects are developed. 139 of these projects fall under the JIRR Abbreviated Consultation Process (ACP) agreement and 26 have been reviewed by the Louisiana State Historic Preservation Officer (SHPO) as part of the Southshore Basin Sanitary Sewer Rehabilitation (SSERP) projects.

Only one project, the SWB Gen DeGaulle Sewer Force Main Replacement Project, required separate consultation by EPA. EPA only submitted this project to the Louisiana SHPO because the remaining projects fall under the JIRR or SSERP agreements already in place so they have already been determined to have no effect by SHPO or will be submitted by the FEMA through the JIRR agreement. The EPA has reviewed the supporting documentation for the SWB Gen DeGaulle Sewer Force Main Replacement Project, and initiated consultation with the Louisiana SHPO on November 17, 2020, and a response from the SHPO's archaeologist was received, dated December 8, 2020. The SHPO response stated that "No historic properties will be affected for this undertaking." for the SWB Gen DeGaulle Sewer Force Main Replacement included under the WIFIA loan.

Supporting Documentation:

Attachment A: Project List (denoting JIRR or SSERP consultation)

Attachment C: SHPO Correspondences (November 17 and December 8, 2020)

7. ARCHAEOLOGICAL RESOURCES PROTECTION ACT (16 U.S.C. §§ 470AA-MM)

The project is not located on federal or Indian lands; therefore, the regulations and requirements of this act do not apply. (See EPA's EnviroMapper, EPA Tribal Areas (lower 48 states) data layer at https://enviro.epa.gov/enviro/em4ef.home).

8. NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT (25 U.S.C. § 3001 ET SEQ.)

The project is not located on federal or Indian lands; therefore, the regulations and requirements of this act do not apply. (See EPA's EnviroMapper, EPA Tribal Areas (lower 48 states) data layer at https://www.epa.gov/emefdata/em4ef.home).

9. CLEAN WATER ACT (SECTION 404) AND RIVERS AND HARBORS ACT (SECTION 10)

The project area does not contain streams, wetlands, and waters of the United States. The projects will be designed to avoid impacts to wetlands. Therefore, a Section 404 permit is not required. The project will not impact any Section 10 waters of the Rivers and Harbors Act.

Supporting Documentation:

Attachment D: U.S. Fish and Wildlife Service NWI Wetlands data accessed through NEPAssist (October 2020)

10. PROTECTION OF WETLANDS (EXECUTIVE ORDER NO. 11990 (1977), AS AMENDED BY EXECUTIVE ORDER NO. 12608 (1997))

The project area does not contain streams, wetlands, and waters of the United States. The projects will be designed to avoid impacts to wetlands; therefore, this executive order does not apply.

11. FLOOD PLAIN MANAGEMENT (EXECUTIVE ORDER NO. 11988 (1977), AS AMENDED BY EXECUTIVE ORDER NO. 12148 (1979))

The project area is within the 100-year flood plain. New Orleans faces the risk of flooding from the Mississippi River, heavy rains, and hurricane storm surge through Lake Pontchartrain and Lake Borgne. Although the projects are in a flood zone, the impact to the floodplain is negligible. The project involves the replacement and rehabilitation of existing infrastructure and does not involve the construction of new facilities, therefore, the project is not expected to result in changes to floodplains.

Supporting Documentation:

Attachment D: FEMA Flood layer data accessed through NEPAssist (October 2020)

12. SAFE DRINKING WATER ACT (42 U.S.C. §§ 300F-300J-26)

The project area is not located within a sole source aquifer; therefore, the regulations and requirements ofthe Safe Drinking Water Act do not apply.

Supporting Documentation:

Attachment C: Data.gov data accesses through NEPAssist for project site (October 2020)

13. FARMLAND PROTECTION POLICY ACT (7 U.S.C. §§ 4201-4209)

The locations proposed for infrastructure repair and restoration are fully developed, with no natural soil surface remaining. Although approximately a small percentage of the soil mapped within Orleans Parish is considered to be prime farmland, the Farmland Protection Policy Act (FPAA) addresses the conversion of farmland to non-farmland uses only. Because the various proposed project locations would already be developed, urbanized areas, the FPPA is precluded.

Attachment D: U.S. Geological Survey's National Land Cover Database layer accessed through NEPAssist

14. COASTAL ZONE MANAGEMENT ACT (16 U.S.C. §§ 1451-1466)

The Louisiana coastal zone includes all of Orleans Parish. On October 8, 2020, EPA determined that the projects are consistent with the Louisiana Coastal Zone Management (CZM), and requested the Louisiana CZM concurrence on this determination. On October 8, 2020, the Louisiana CZM concurred with EPA's determination as the Office of Coastal Management (OCM) provided general consistency concurrence as it has found that financial assistance of a proposed project would be not be inconsistent with the state CZM program. The CZM Determination provided (Attachment G) is a blanket letter covering all infrastructure projects in the state. The state grants this determination to any agency providing funding for infrastructure projects within the state of Louisiana.

Supporting Documentation:

Attachment F: CZM Determination Request

Attachment G: CZM Determination

15. COASTAL BARRIERS RESOURCES ACT (16 U.S.C. §§ 3501-3510)

According to the USFWS Official Coastal Barrier Resources System Maps, there are no coastal barriers within or near the study areas. Therefore, the regulations and requirements of this act do not apply. (See https://www.fws.gov/ecological-services/habitat-conservation/cbra/maps/mapper.html.)

16. WILD AND SCENIC RIVERS ACT (16 U.S.C. §§ 1271-1287)

There are no Wild and Scenic Rivers within the project area; therefore, the regulations and requirements of this act do not apply. (See https://www.rivers.gov/river-app/index.html?state=LA)

17. ESSENTIAL FISH HABITAT CONSULTATION PROCESS UNDER THE MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT (16 U.S.C. §§ 1801-1891)

Although the City of New Orleans is surrounded by essential fish habitats, the projects are not located with in essential fish habitat and would therefore not significantly affect essential fish habitat. See https://www.habitat.noaa.gov/protection/efh/efhmapper/.

18. MIGRATORY BIRD TREATY ACT (16 U.S.C. §§ 703-712)

This project does not involve the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and/or nests; therefore the regulations and requirements of this act do not apply.

19. CLEAN AIR ACT CONFORMITY (42 U.S.C. § 7506(C))

The project area is in attainment for all criteria pollutants, except ozone, lead, and particulate matter (PM2.5 and PM10). The emissions associated with this project are limited to construction. No operational emissions are expected to occur. Construction-related emissions will be generated from the exhaust of mobile equipment and fugitive dust from earthmoving and are not expected to affect the area's attainment of air quality standards.

Supporting Documentation:

Attachment D: U.S. EPA Non-Attainment Area data accessed through NEPAssist for project site (October 2020)

20. WILDERNESS ACT (16 U.S.C. § 1131 ET SEQ.)

Projects are not located within a National Wilderness Area; therefore, the regulations and requirements of this act do not apply. (See http://www.wilderness.net/map.cfm).

SECTION 00 750

SECTION 3 PLAN

Section 3 Plan

Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u and 24 CFR Part 75) requires that employment and economic opportunities generated by certain HUD financial assistance shall be directed to low- and very low-income persons, particularly those who receive government assistance for housing and those residing in the community in which the federal assistance is spent.

This project will be funded using HUD Housing and Community Development Financial Assistance and is therefore subject to Section 3. The selected bidder, respondent or funding applicant will be responsible for ensuring compliance with all applicable Section 3 requirements. More information as well as Section 3 worker and business certification forms can be found online at www.nola.gov/section-3/.

Instructions: For sealed bids, the two lowest bidders must complete and submit this form with your post-bid document submission. RFP/RFQ respondents must submit this form as part of your proposal or qualifications submission. All subrecipients, contractors and subcontractors on Section 3 projects must submit this form. The entity receiving a contract from the City of New Orleans must submit all required documentation, including subcontractors' Section 3 Plans, prior to contract award. General questions about Section 3 requirements and forms can be directed to section3@nola.gov.

Project:_____ **Solicitation #:**_____

Business Name:	Address:
Authorized Representative:	Title:
Phone #:	Email:
Trade/Services Provided:	

Section 3 Requirements

Employment and Training

To the greatest extent feasible, employment and training opportunities arising in connection with Section 3 projects shall be provided to Section 3 workers within the New Orleans metropolitan area. Where feasible, priority for employment and training will be given to:

1. Section 3 workers residing within the service area or neighborhood of the project, and
2. Participants in YouthBuild programs.

Contracting

To the greatest extent feasible, contracts for work awarded in connection with Section 3 projects shall be provided to business concerns that provide economic opportunities to Section 3 workers residing within the New Orleans metropolitan area. Where feasible, priority for contracting opportunities will be given to:

1. Section 3 business concerns that provide economic opportunities to Section 3 workers residing within the service area or the neighborhood of the project, and
2. YouthBuild programs.

Compliance Benchmarks

To demonstrate compliance with Section 3, contractors are required to follow the prioritization of effort outlined above and meet or exceed the following benchmarks:

1. **25 percent** or more of the total number of labor hours worked by all workers on the project shall be performed by **Section 3 workers**, and
2. **5 percent** or more of the total number of labor hours worked by all workers on the project shall be performed by **Targeted Section 3 workers**.

Definitions

- **Section 3 worker:** Any worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:
  (1) The worker's income for the previous or annualized calendar year is below the income limit established by HUD (*see Income Limits table below*).
  (2) The worker is employed by a Section 3 business concern.
  (3) The worker is a YouthBuild participant.

- **Targeted Section 3 worker:** A Section 3 worker who is:
  (1) A worker employed by a Section 3 business concern; or
  (2) A worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:
    (i) Living within the service area or the neighborhood of the project; or
    (ii) A YouthBuild participant.

- **Service area or the neighborhood of the project:** An area within one mile of the Section 3 project or, if fewer than 5,000 people live within one mile of a Section 3 project, within a circle centered on the Section 3 project that is sufficient to encompass a population of 5,000 people according to the most recent U.S. Census.

HUD Income Limits

The table below shows the income limits set by HUD that determine eligibility for certain programs, including Section 3. HUD develops income limits based on Area Median Income (AMI) estimates and Fair Market Rent (FMR) area definitions. For more information, please see the HUD Income Limits Documentation System online at www.huduser.gov/portal/datasets/il.html.

New Orleans-Metairie, LA HUD Metro FMR Area

Fiscal Year	2022	2021	2020	2019	2018	2017
Low-income (80% AMI)	**$43,900**	**$39,300**	**$39,450**	**$37,750**	**$36,750**	**$35,500**

The New Orleans-Metairie, LA HUD Metro FMR Area contains the following parishes: Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, and St. Tammany.

1. Does your business qualify as a Section 3 business concern? ☐ **YES** ☐ **NO**

If you answered YES, complete the Section 3 Business Certification form on p. 6 and submit with this Plan. If you answered NO, you do not need to complete the Section 3 Business Certification.

A **Section 3 business concern** is a business that satisfies ***at least one*** of the following criteria, as documented within the last six-month period:

a. The business is at least 51% owned and controlled by low- or very low-income persons;

b. The business is at least 51% owned and controlled by residents who currently live in public housing or Section 8-assisted housing; or

c. Over 75% of the labor hours performed for the business over the prior three-month period were performed by Section 3 workers – *i.e.*, workers who currently are, or when hired within the past five years were: i) low-income persons or ii) YouthBuild participants.

2. How many workers are needed to complete the project?

Please list the job classifications and number of workers your company will need to complete the contract work. Attach additional sheets if necessary.

Job classification (Office/Clerical, Manager, Engineer, Technician, Supervisor/Foreman, Electrician, Plumber, Laborer, Trainee, Security, etc.)	**Total estimated number of workers needed**	**Number of workers in current workforce**	**Estimated number of additional workers needed**

3. Will you be using subcontractors on this project? ☐ YES ☐ NO

If you answered YES, please list below. Attach additional sheets if necessary.

Business name	**Scope of work (trade or service description)**	**Is this a Section 3 business? *Yes / No***	**Estimated contract value**
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$
			$

4. Do you commit to engage in good faith efforts to meet or exceed the Section 3 Benchmarks?

☐ **YES** ☐ **NO**

Such qualitative efforts may include, but are not limited to:

- Applicant Outreach –
  - Engage in outreach efforts to generate job applicants who are Targeted Section 3 workers, including posting job openings at the job site, HUD Opportunity Portal, social media pages, and other platforms.
  - Clearly indicate Section 3 eligibility on all job postings, notifications, and advertisements with the following statement: *"This is a Section 3 eligible job opportunity. We encourage applications from individuals that are low-income, live in public housing, and/or receive a Section 8 voucher."*
  - Include the Section 3 Worker Self-Certification form in all job postings.
- One-Stop / YouthBuild Outreach – Engage in outreach or referrals with local YouthBuild programs, Louisiana Workforce Commission, JOB 1, or other community organizations to assist with training and recruiting Section 3 and Targeted Section 3 workers.
- Training and Apprenticeship – Provide training or apprenticeship opportunities.
- Job Fairs – Hold one or more job fairs, or sponsor a job informational meeting in the project area.
- Business Concern Outreach –
  - Engage in outreach efforts to identify and secure bids from Section 3 businesses by advertising notices of contracting opportunities and related information on the HUD Opportunity Portal and local community papers.
  - Provide written notice to all known Section 3 business concerns, with sufficient time for interested businesses to respond to bid invitations.
  - Send notice of contracting opportunities to local community development organizations, business development organizations, or minority contracting associations.
  - State clearly in all notices that the contracting opportunity is Section 3 eligible, and include a copy of the Section 3 Business Concern Certification form.
- Competition Assistance – Provide technical assistance to help Section 3 business concerns understand and bid on contracts.
- Contract Sizing – Size, split, or divide contracts into smaller jobs to facilitate participation by Section 3 business concerns, particularly where economies of scale or efficiency of delivery are not factors. [2 CFR 200.321(b)(3)]
- Bidder Viability Support – Provide bonding assistance, guaranties, or other efforts to support viable bids from Section 3 business concerns.
- Business Registries – Promote use of the HUD Opportunity Portal or other business registries designed to create opportunities for disadvantaged and small businesses.
  - Visit https://hudapps.hud.gov/OpportunityPortal/ to post jobs and contracting opportunities.

Additional activities and efforts aimed at increasing economic opportunities for Section 3 workers and businesses may include, but are not limited to:

- Employment Assistance – Provide technical assistance to help Section 3 workers compete for jobs, or connect them with assistance in seeking employment, including resume assistance, interview preparation, coaching, or job placement services.
- Work Readiness and Retention – Provide or refer Section 3 workers to services supporting work readiness and retention, such as interview clothing, licensing or testing fees, transportation, or childcare.
- Financial Literacy – Help Section 3 workers obtain financial literacy training or coaching.
- Education Assistance – Provide assistance to Section 3 workers to apply for or attend community college, four-year educational institution, or vocational/technical training.

5. Do you commit to prioritize your efforts in hiring, training, and contracting as required by the Section 3 regulations and outlined on page 1 of this Plan?

☐ **YES** ☐ **NO**

Certification

The business entity identified above commits to comply with Section 3 of the Housing and Urban Development Act of 1968 (24 CFR Part 75). If awarded a contract subject to Section 3, the business agrees to adhere to all such requirements, including meeting the benchmarks set forth by the regulations, maintaining records of Section 3 activity, providing evidence of qualitative efforts, and submitting compliance reports to the City of New Orleans periodically or upon request. The business will submit any additional documentation as necessary, including updates or revisions to this Section 3 Plan, documentation of labor hours, and certification forms for Section 3 workers and business concerns.

_____ _____

Authorized Representative Signature **Date**

Section 3 Business Certification

Section 3 requires that, to the greatest extent feasible, contracts for work awarded in connection with Section 3 projects shall be provided to Section 3 business concerns, as defined in 24 CFR 75.5.

Business Name:	Address:
Authorized Representative:	Title:
Phone #:	Email:
Trade/Services Provided:	

Section 3 Eligibility:

Does your business qualify as a Section 3 business concern per 24 CFR 75.5? ☐ **YES** ☐ **NO**

Your business qualifies as a **Section 3 business concern** if it satisfies ***at least one*** of the following criteria, as documented within the last six-month period *(check all that apply)*:

☐ The business is at least 51% owned and controlled by low- or very low-income persons (see qualifying income limits below, or refer to www.huduser.gov/portal/datasets/il.html).

☐ The business is at least 51% owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

☐ Over 75% of the labor hours performed for the business over the prior three-month period were performed by Section 3 workers – *i.e.*, workers who currently are, or when hired within the past five years were: i) low-income persons or ii) YouthBuild participants.

The City of New Orleans Office of Community Development reserves the right to request additional documentation at any time to verify the information provided on this form.

HUD Income Limits

The income limits for the **New Orleans-Metairie, LA HUD Metro FMR Area** apply to the following parishes: Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, and St. Tammany.

Fiscal Year	2022	2021	2020	2019	2018	2017
Low-income (80% AMI)	**$43,900**	**$39,300**	**$39,450**	**$37,750**	**$36,750**	**$35,500**

Certification:

By submitting this form, I hereby certify under penalty of perjury that the information provided above is true and correct. I understand that providing false information is grounds for termination of Section 3 certification. I further understand that qualifying as a Section 3 business concern is not an entitlement or guarantee of contract award. I agree to allow this information to be shared with local and federal entities in an effort to increase my business's contracting potential.

Authorized Representative Signature **Date**

SECTION 00 760

GENERAL WAGE RATES

"General Decision Number: LA20240005 06/14/2024

Superseded General Decision Number: LA20230005

State: Louisiana

Construction Type: Heavy

Counties: Jefferson, Orleans, Plaquemines, St Bernard, St Charles, St James, St John the Baptist and St Tammany Counties in Louisiana.

HEAVY CONSTRUCTION PROJECTS (Includes flood control, water & sewer lines, and water wells. Also includes elevated storage tanks in all listed parishes except Plaquemines and St. James. Excludes industrial construction-chemical processing, power plants, and refineries.)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order m1n1mum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at

http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2024
1	06/14/2024

CARP0729-001 01/01/2023

	Rates	Fringes
MILLWRIGHT	$ 36.00	13.30

CARP1846-006 07/01/2022

	Rates	Fringes
CARPENTER (formbuilding/formsetting and Piledrivers)	$ 29.09	10.27

ELEC0130-005 12/04/2023

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JAMES, AND ST. JOHN **THE** BAPTIST PARISHES

	Rates	Fringes
ELECTRICIAN (including low voltage wiring)	$ 34.00	15.20

* ELEC1077-002 05/27/2024

ST. TAMMANY PARISH

	Rates	Fringes
ELECTRICIAN (including low voltage wiring)	$ 28.84	3%+11.37

ENGI0406-018 07/01/2009

	Rates	Fringes
OPERATOR: Power Equipment		
Bulldozer	$ 21.26	6.70
Mechanic	$ 23.31	6.70

PLAS0567-003 08/01/2022

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JOHN THE BAPTIST, and ST. TAMMANY PARISHES

	Rates	Fringes
Cement Mason/Concrete Finisher	$ 30.47	7.97

PLAS0812-003 01/01/2022

ST. JAMES PARISH

	Rates	Fringes

Cement Mason/Concrete Finisher	$ 31.83	5.90

PLUM0060-002 06/05/2023

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JAMES (Southeastern Portion), ST. JOHN THE BAPTIST, and ST. TAMMANY PARISHES

	Rates	Fringes
Plumbers (excluding pipe laying)	$ 31.70	13.85

PLUM0198-005 12/08/2022

ST. JAMES PARISH (Northwestern Portion)

	Rates	Fringes
PLUMBER (excluding pipe laying)	$ 32.42	16.50

* SULA2004-007 05/13/2004

	Rates	Fringes
CARPENTER (all other work)	$ 13.75 **	2.60
Laborers:		
Common/Landscape	$ 9.88 **	0.00
Fence	$ 11.24 **	0.00
Flagger	$ 8.58 **	0.00
Mason Tender	$ 7.25 **	0.00
Pipelayer	$ 9.84 **	0.00
PIPEFITTER (excluding pipelaying)	$ 17.52	4.51
Power equipment operators:		
Backhoe/Excavator	$ 14.42 **	0.00
Crane	$ 16.34 **	3.30
Dragline	$ 16.50 **	0.00
Front End Loader	$ 13.89 **	0.00
Oiler	$ 10.03 **	0.00
Truck drivers:		
Dump	$ 11.01 **	0.00
Pickup	$ 12.25 **	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.20) or 13658 ($12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU'"' or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, **2014.**

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and

non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R ♦ 1.3¢)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the

Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION"

Special Provisions

SECTION 01200 – SPECIAL PROVISIONS

PART I	**SPECIAL PROVISIONS**
SECTION 1.01	General Specifications and Intent of Contract
SECTION 1.02	Scope of Work
SECTION 1.03	Special Project Requirements
SECTION 1.04	Interpretation of Documents
SECTION 1.05	Special Safety Precautions
SECTION 1.06	Safety and Health Regulations
SECTION 1.07	Safety Protection & Security
SECTION 1.08	Coordination with Utility Companies
SECTION 1.09	Cooperation with Utilities
SECTION 1.10	Aboveground Utilities
SECTION 1.11	Existing Underground and Other Installations
SECTION 1.12	Utilities Exploration
SECTION 1.13	Security
SECTION 1.14	Temporary Utilities
SECTION 1.15	Inclement Weather Days
SECTION 1.16	As-Built Drawings
SECTION 1.17	Progress Meetings & Schedule Requirements
SECTION 1.18	Pre-Construction Video Surveys
SECTION 1.19	Contractor Progress Payment Invoicing and Documentation
SECTION 1.20	Sequence of Construction
SECTION 1.21	Sewer System Evaluation and Rehabilitation Program Requirements
SECTION 1.22	Water Point Repairs
SECTION 1.23	Contract Task Orders
SECTION 1.24	Procore Collaboration Software
SECTION 1.25	Environmental Protection & Storm Water Pollution Prevention
SECTION 1.26	Contractor Requirements for Construction Work in the French Quarter
SECTION 1.27	Notice to Proceed – Startup Time

PART II	**SUPPLEMENTAL TECHNICAL SPECIFICATIONS**
SECTION 2.01	Removal of Existing Pavement
SECTION 2.02	Curbs or Curb and Gutter Bottoms
SECTION 2.03	Removal of Existing Sidewalks, Driveways, and Footlaps

SECTION 2.04	Excavation
SECTION 2.05	Construction Routing and Maintenance
SECTION 2.06	Sheeting and Bracing
SECTION 2.07	Sanitary Sewer System Rehabilitation
SECTION 2.08	Gravity Sewer Pipebursting
SECTION 2.09	Pre- and Post-Rehabilitation CCTV Inspection and Cleaning
SECTION 2.10	Sanitary Sewer Manhole Rehabilitation
SECTION 2.11	Cured in Place Pipe Lining
SECTION 2.12	Water Point Repairs
SECTION 2.13	Geotextile for Stabilization
SECTION 2.14	Geogrid
SECTION 2.15	Vibrations Due to Construction Activities
SECTION 2.16	Superpave Asphaltic Concrete Requirements
SECTION 2.17	Interim Asphalt Pavement
SECTION 2.18	Base Course
SECTION C202	Removal of Structures and Obstructions
SECTION C203	Preparation of Roadway Pavement Subgrade
SECTION C302	Base and Subbase Course
SECTION C402	Traffic Maintenance Aggregate
SECTION C501	Asphaltic Concrete Mixtures
SECTION C601	Portland Cement Concrete Pavement
SECTION C701	Culverts and Storm Drains
SECTION C702	Manholes, Catch Basins, Drop Inlets, and Clean-outs
SECTION C706	Driveways and Sidewalks
SECTION C707	Curbs and Gutters
SECTION C713	Temporary Signs, Barricades and Pavement Markings
SECTION C727	Mobilization
SECTION C729	Traffic Signs and Devices
SECTION C732	Plastic Pavement Markings
SECTION C740	Construction Layout
SECTION C741	Water Mains
SECTION C742	Sewer Lines
SECTION EI19	De-mobilization
SECTION EI20	Re-mobilization

PART III	**SPECIAL ITEMS**
SECTION 3.01	Temporary Signs, Barricades, Pavement Markings, Construction Signing, Traffic Maintenance and Public Safety
SECTION 3.02	Mobilization
SECTION 3.03	Clearing and Grubbing and Disposal of Materials
SECTION 3.04	Construction Layout
SECTION 3.05	Traffic Control Plan
SECTION 3.06	Saw Cutting (Sidewalk, Driveway and Curbs)
SECTION 3.07	Pavement Saw Cutting Adjacent to Existing Pavement and at Patches and Utility Trenches
SECTION 3.08	Removal of ADA-Accessible Ramps, Curb and Gutter, and Concrete Sidewalk at intersections including saw cutting
SECTION 3.09	ADA-Accessible Ramps, Curb and Gutter, and Concrete Sidewalk at intersections
SECTION 3.10	Driveways and Sidewalks (Special Finish)
SECTION 3.11	Sidewalk Transition Adjacent to ADA-Accessible Curb Ramp Areas
SECTION 3.12	ADA-Accessible Curb Ramp Retrofit
SECTION 3.13	Concrete Pavement (8” Thick)
SECTION 3.14	Root Pruning, Tree Protection, Landscaping, and Sidewalk Gravel Bed
SECTION 3.15	Granular Material and Fill Material
SECTION 3.16	Catch Basin and Manhole Repairs and Vertical Adjustments
SECTION 3.17	Drain Line Repairs / Replacement
SECTION 3.18	Timber Curb
SECTION 3.19	Type-A Dead End Installation
SECTION 3.20	Concrete Barrier or Mountable Curb with Laying Strip
SECTION 3.21	Project Sign
SECTION 3.22	Non-Standard Sewer Rehabilitation Items
SECTION 3.23	Non-Standard Water Point Repair Items
SECTION 3.24	Well Point System (NOT USED)
SECTION 3.25	Pre and Post Rehabilitation CCTV Inspection and Cleaning Drain Structure(s)
SECTION 3.26	Waterline Pipe Bursting (NOT USED)
SECTION 3.27	Non-Standard Bid Items

PART I - SPECIAL PROVISIONS

SECTION 1.01 - GENERAL SPECIFICATIONS AND INTENT OF CONTRACT

A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. In case of discrepancy, the following order of precedence will apply:

1. Change Orders
2. Agreement
3. Proposal
4. Addendum
5. Supplementary Conditions
6. General Conditions
7. Special Provisions (Section 01200) as included in the Specifications
8. Drawings
9. Standard Specifications entitled, "General Specifications for Street Paving, 2015 Edition"
10. Standard Drawings entitled, "Sewerage & Water Board of New Orleans Standard Drawings 2015"

Calculated dimensions will govern over scaled dimensions.

B. The Sewerage and Water Board of New Orleans General Specifications, General Notes (DWG. NO. 7260-S, 7260-W, and 7260-D) and Standard Drawings, shall govern for the construction of all sewer, water, and drainage systems except as otherwise approved by the properly authorized officer of the Sewerage and Water Board. All sewer, water, and drainage work when complete, must be inspected and accepted by the Sewerage and Water Board of New Orleans before final payment can be approved.

C. The intent of the contract is to provide performance of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, project specifications and terms of the contract.

D. When an item in the proposal and contract contains a choice to be made by the Contractor and of the type material to be furnished, the Contractor, before the work is initiated, shall indicate his choice in accordance with the specifications for that item. Such notification shall be submitted to the Sewerage and Water Board Director in writing.

E. Payment for all bid items shall include all incidental materials, labor, supervision, and equipment required for installation in place according to the plans and specifications or as directed by the Sewerage and Water Board Director.

F. There shall be no direct pay for any work that is not listed in the bid proposal but is required to complete the construction of this project in accordance with the project plans and specifications. All costs thereof shall be included in the bid price of other items.

G. Prior to bidding, the Contractor is to examine the contract documents and visit the site to determine the extent of the work. Should the Contractor have any doubts or questions regarding Pay Items, he should, before submitting his bid, contact the Department of Finance, Purchasing Bureau.

H. The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used and interpretation of these Specifications shall be made upon that basis.

I. The Sewerage and Water Board Director reserves the right to accept or reject any and all bids. The Sewerage and Water Board Director reserves the right to reduce, delete or increase the quantity of any item in the proposal.

J. Section C121.01 of the General Specifications for Street Paving, 2015 Edition shall be amended to include the following language:

"The contractor shall not sublet any portion of the contract, excluding material, without the prior written consent and approval of the Sewerage and Water Board Director, including work sublet to an authorized Disadvantaged Business Enterprise. If such consent is given, the contractor will be permitted to sublet a portion of the work but shall perform with the contractor's own organization work amounting to at least 50 percent of the total contract cost.

A subcontractor shall not further subcontract to a third party any portion of this authorized work, excluding material, without written consent, including work sublet to an authorized Disadvantaged Business Enterprise."

K. Section C135 Changes in the Work of the DPW 2015 General Specifications For Street Paving (2015 edition) is hereby deleted in its entirety and replaced with the following:

The Sewerage and Water Board Director shall have the right to make alterations in the line, grade, plan, form, or dimensions of the work herein contemplated, either before or after the commencement of the work and without notice to the sureties. If such alterations diminish the quantity of work to be done, they shall not constitute a claim for damages for anticipated profits for the work deleted.

SECTION 1.02 - <u>SCOPE OF WORK</u>

A. It is the intent of this project to install waterlines, rehabilitate sanitary sewer lines and sewer manholes, install drainage items, and remove and reconstruct the streets specified in the proposal.

B. Removal and reconstruction work shall be accomplished in accordance with the construction documents and shall include but is not limited to the following:

1. Installing drainage, sewer lining and water main systems as shown on the plans or as defined in the specifications or shown in the standard details.
2. Removing existing pavement and excavating to required depths as shown on the plans. Hauling and legally disposing of existing pavement and surplus materials from the project site.
3. Constructing new granite curbs including concrete base for granite curb.
4. Replacing slate sidewalks including concrete base required for the slate sidewalk.
5. Constructing concrete handicap ramps at locations shown on the plans.
6. Other work incidental to the project as shown on the plans.
7. The Sewerage and Water Board Director reserves the right to reduce, delete or increase the quantity of any item in the proposal.

SECTION 1.03 - SPECIAL PROJECT REQUIREMENTS

A. All utility frames, covers, and boxes shall be tilted to generally conform to the slope of the ramp or walk. Where frames, etc. fall at the edge of a ramp or slope, adjust the tilt halfway between ramp slope and original elevation and warp the surface of ramp to blend into the edge of utility frames. Covers and boxes are to be adjusted by the Contractor. Private utility frames, covers and boxes are to be adjusted by the respective private utility company.

B. Temporary Barricades and Sidewalks: The Contractor shall provide and maintain construction fences, barricades, tree protection fencing, warning lights and temporary sidewalks as required by the Sewerage and Water Board Director or other authorities in approved locations affording complete protection to the public and providing security to the premises during the construction period. The Contractor shall provide all necessary items to insure pedestrian access to properties during construction. When required, flashing lights shall be installed at required locations. Contractor shall maintain pedestrian access to all businesses and residences during construction. The Contractor shall provide temporary ADA compliant pedestrian bridges to businesses and residences when the entrance is inaccessible on the sidewalk or at any other time as required to maintain access. Contractor shall also maintain pedestrian and vehicular access on all side streets leading to Conti Street during construction. Contractor shall submit proposed plans for fencing/temporary barricades, pedestrian access ramps and vehicular side street access to the City for review. There will be no direct pay for the cost of the items described above in this paragraph, except for the temporary fencing. The cost of the items described above in this paragraph, except for the temporary fencing, shall be included in other bid items.

C. Compliances: The Contractor shall comply with safety standards and governing regulations for cleaning operations. Waste materials shall not be burned at the site. Debris or excess materials shall not be buried on the Owner's property. Volatile or other harmful or dangerous materials shall not be discharged into drainage systems. The Contractor shall remove waste materials from the site and dispose of such waste in a lawful manner.

D. Salvageable Materials: Before the Contractor shall remove any items from the site, the Owner reserves the right to retain in his possession any demolished items that the Owner deems salvageable. All other items, after review by Owner, may be salvaged by the Contractor. All salvage materials as determined by the Sewerage and Water Board Director shall be delivered at the Contractor's expense to the related locations listed below and must provide forty-eight (48) hour notice to these locations before delivering the salvaged material.

1. Materials such as stone curbs, cobble stone, etc. to the Public Works/Maintenance yard at 838 South Genois Street.
2. Materials such as Traffic Control devices (signs and signals) to the DPW sign shop at 2700 Lafitte St.
3. Materials such as CB, MH frames, covers, hydrants, valves, etc. to the S&WB Central Yard at 2900 Peoples Ave.
4. Materials such as tree grates to the Department of Parks &Parkway Nursery at 2829 Gentilly Blvd.
5. Recycled asphalt product

E. The Contractor shall remove existing sidewalks, driveways, and pavement to full depth in areas shown on drawings, or as directed by project engineer, and shall take care not to damage existing pavement and existing curbing that is to remain. The use of "STOMPERS" and similar gravity equipment is prohibited in order to preserve the structural integrity of the adjacent buildings and adjoining property. All excavation is to be done from the street.

F. The Contractor shall be required to protect all adjacent properties, buildings, walls, fences, steps, etc., from damage due to demolition, removal, and construction of items required by the Contract Documents. Removal of material adjacent to adjoining structures should be done in such a manner so as not to cause damage by direct blows, vibrations, or other methods of demolition or construction. The Contractor shall promptly repair damages caused to adjacent facilities by demolition and construction operations at no cost to the property Owner or City.

G. The Contractor shall clean adjacent structures and improvements of dust, dirt and debris caused by demolition and construction operations, as directed by the Sewerage and Water Board Director or governing authorities. The Contractor shall return adjacent areas to condition existing prior to the start of the work.

H. The Contractor shall, before removing any signpost, etc., coordinate such removal with all of the appropriate City agencies and companies involved. Existing signposts, light standards, and all other items penetrating the sidewalk shall be straightened and reset in accordance with the Sewerage and Water Board Director's requirements, at no direct payment. All traffic control devices and their associated hardware (sign, signal, conduit, and marking) removed or damaged during execution of this contract, other than as provided for in this contract, shall be replaced by the Contractor at no cost to the S&WB.

I. No sign, or signal shall be removed without the approval of the Sewerage and Water Board Director. The Contractor accepts all liabilities during the time of removal. Contractor will notify the DPW Traffic Engineer in writing when controls are removed and reinstalled. All signs, signals and markings removed during construction, shall be restored and in place prior to the final inspection.

J. It shall be the responsibility of the Contractor to maintain all public roadways, sidewalks, driveways, etc. in a clean condition during the construction project. All mud, trash, debris, etc. deposited on said areas by the Contractor shall be removed daily, before the end of work or more frequently, as necessary to maintain a clean condition. The Contractor shall return adjacent areas to condition existing prior to the start of the work.

K. The Contractor shall ensure that mail and trash pickup services can be provided on a continuous basis during construction of the project. If necessary, the Contractor shall relocate or provide curb side mailboxes for use during the construction period. No direct payment will be made for this work. Any costs incurred by this work will be included in project bid items.

L. For daily work on projects the Sewerage and Water Board Director shall provide the Contractor with a project specific "We Are Working" notification template that shall include the start and end date, not exceeding a thirty (30) day duration, and detailed scope of work to be performed. New notifications shall be distributed if the end date exceeds thirty (30) days from the time of distribution.

M. The Contractor may be allowed to work on the weekend but shall first request permission from the City no later than seventy-two (72) hours prior to beginning that work. Notification flyers, provided by the Sewerage and Water Board Director, must be distributed at least forty-eight (48) hours before any weekend work begins in an area.

N. The Contractor shall notify the Sewerage and Water Board Director office at least seventy-two (72) hours for all water valve closures. Water valve closures for businesses, schools/colleges/universities, and medical facilities that require specialized advanced coordination must be provided one week prior. Notification flyers, provided by the Sewerage and Water Board Director, must be distributed at least forty-eight (48) hours before the valve closures.

O. The Louisiana Department of Health and Hospitals requires at least twenty-four (24) notification of all test valve closures. Notification flyers, provided by the City and/or RoadworkNOLA, must be distributed at least twenty-four (24) hours before the valve closures. Test valve closures for businesses, schools/colleges/universities, and medical facilities that require specialized advanced coordination must be provided 72 hours in advance.

P. The Contractor must obtain approval from the City and/or RoadworkNOLA prior to distribution of notifications and is responsible for distributing all notifications, as required above. Failure to properly notify, based on these requirements, will result in a stop work order issued.

Q. It shall be the responsibility of the Contractor to distribute and obtain all Construction Authorization forms during the construction project. If necessary, a Construction Authorization form will be provided to the Contractor by the City. The Construction Authorization form is to be signed by the homeowner and a witness. All signed Construction Authorization forms are to be furnished to the Sewerage and Water Board Director prior to any work on the property listed on the Construction Authorization form. The Contractor shall return all disturbed areas to the condition existing prior to the start of the work.

R. The Contractor shall contact all utility companies prior to starting work to verify utility locations, depths of lines, etc., prior to starting demolition. Care should be taken in excavation around all utility lines. Utility service shall be maintained at all times for adjacent property owners, etc.

S. UTILITY SERVICES: Maintain existing utilities, keep in service, and protect against damage.

1. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to the governing authorities with no direct payment.

2. Note: Locations of existing utilities shown on the drawings are approximate. The Contractor shall verify their locations in the field with the appropriate agency in order to avoid conflicts and damage to utilities. Should damage occur to any existing utility lines or equipment, the Contractor shall be responsible for all cost repairs or replacements.

SECTION 1.04 - INTERPRETATION OF DOCUMENTS

No oral interpretation will be made to any bidder as to the meaning of any of the Contract Documents which in effect would modify any of the provisions of the same. Every request for an interpretation of the Documents shall be made in writing and delivered to the Sewerage and Water Board Director, at least seven (7) days (excluding weekends and holidays) before the time fixed for opening of bids. Any addenda shall be issued by the Sewerage and Water Board Director a minimum of 72 hours (excluding weekends and holidays) in advance of the time fixed for opening of bids. All bidders are requested to direct all questions about the contract documents promptly to the Sewerage and Water Board Director.

SECTION 1.05 - SPECIAL SAFETY PRECAUTIONS

In addition to the requirements of the General Specifications, it shall be the Contractor's responsibility to verify with the utility owners (electric, gas, telephone, communications, cable, etc., and New Orleans Sewerage and Water Board) having facilities within the project area, that the use of the Contractor's equipment (weights, configurations, characteristics, etc. provided by the Contractor) within the project area will not adversely affect their facilities.

SECTION 1.06 - SAFETY AND HEALTH REGULATIONS

The Code of Federal Regulations, Title 29, Occupational Safety and Health Administration (OSHA) shall apply. Safety and Health Provisions of the State of Louisiana shall apply where more stringent and where not covered by OSHA. The Contractor shall notify the Sewerage and Water Board Director within 24 hours of any reportable injury.

SECTION 1.07 - SAFETY PROTECTION & SECURITY

The Contractor shall be responsible for initiating, providing, maintaining, and supervising all safety precautions and programs in connection with the work. He shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

a. All Employees on the work and other persons who may be affected thereby,

b. All the work and all materials or equipment to be incorporated herein, whether in storage on or off the site, and

c. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, drives, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss. He shall erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for its safety and protection. He shall notify owners of adjacent utilities when prosecution of the work may affect them.

The Contractor shall develop and provide an effective safety and health plan for inspection and training required and communicates the work practices to be applied to the work site(s). The Contractor must develop and implement a comprehensive health and safety plan for his or her employees, which covers all aspects of onsite construction operations and activities associated with the contract. This plan must comply with all applicable health and safety regulations and any project-specific requirements.

The Contractor must provide a copy of this plan to the Sewerage and Water Board Director prior to issue of the NTP. Acceptance of the Contractor's health and safety plan only signifies that the plan generally conforms to the requirements of the contract; it does not relieve the Contractor of the responsibility for providing employees with a safe and healthful work environment.

The Control measures outlined in the site-specific safety plan, provides each worker assigned to the job the opportunity to complete his/her task safely. Summary of this document should include but not limited to the following:

Description	Summary	Reference
Contractor Name	Self-Explanatory	29 CFR 1910-OSHA General Industry Safety and Health
Contract No.	Self-Explanatory	
Project Name	Self-Explanatory	
Responsibility and lines of Authority	Include the identification and job responsibilities of personnel responsible for safety and the lines of authority for each level of	

	responsibilities.	
Responsible Member (Competent Person)	Designated by employer to identify hazards that are dangerous to employees	29 CFR 1926.32 (f) Section 01 200 Special Provisions, Section 1.07
General safety and health provisions	List the steps to be taken to control the hazards	29 CFR 1926.20
Safety training and education	All employees shall be trained in the recognition and avoidance or unsafe conditions, standards, to control or eliminate any hazards or other exposure	29 CFR 1926.21(B)(2)
Housekeeping	Work areas, walkway clear of debris; garbage and flammable /hazardous waste disposed, frequently and regularly	29 CFR 1926.25
Illumination	Construction areas, roadways, trenches, ditches, and storage areas where work is in progress shall be lighted with either natural or artificial illumination	29 CFR 1926.26
Personal protective equipment	Employers are to ensure all personnel wear of protective equipment in all operations where there is an exposure to hazardous conditions	29 CFR 1926.28
Site Inspection	Designated person to make frequent and regular documented inspections of the job site/sites, materials, and equipment. Provide proof of inspector's qualifications and or training certificates	29 CFR 1926.20(b)(3)
Lockout/tagout	Procedures established for unsafe equipment identified or made inoperable by tagging, locking, or removing	29 CFR 1926.20(b)(1)&(b)(2)

Representatives of the Contractor shall meet with the Sewerage and Water Board Director and Engineers representative prior to the start of construction for the purpose of reviewing safety requirements and discussing implementation of all health and safety provisions pertinent to the work under the assigned contract.

The representative will review the Contractor's site-specific safety and health plan with the Contractor as well as review all required safety data sheets (SDS) submitted for proposed products to be used by the Contractor. Due to the nature of the project/contract, the Contractor may be required to provide additional written comprehensive safety and health plans for the specific contract to include but not limited to the following:

Confined Space	Entry into any Manholes, Sewer, and Storm drains must be cleared for entry.	29 CFR 1910.146

Excavation and Shoring	Safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet (1.22 meters) or deeper.	29 CFR 1926 Subpart P
Lift Plan	Jobsite lifting with hydraulic excavators and backhoes is routine and lift capacity with rigging of each lift must be established.	29 CFR 1926.252 29 CFR 1926.601 29 CFR 1926.1400

Review and Acceptance of the Contractor's health and safety plan only signifies that the plan generally conforms to the requirements of the contract; it does not relieve the contractor of the responsibility for providing employees with a safe and healthful work environment.

The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Sewerage and Water Board Director for approval.

It shall be the Contractor's responsibility to maintain safety in the construction and maintenance zones within the project's vicinity. If the Contractor hires law enforcement during the project's duration, it shall be funded as an element in the Contractors Indirect Cost buildup presented at time of bid.

All damage, injury or loss to any property referred to in paragraphs b and c caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor at no direct payment. The Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed and the Sewerage and Water Board Director has issued the Notice of Project Acceptance.

In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the Contractor without special instructions or authorization from the Sewerage and Water Board Director, is obligated to act, at his discretion, to prevent threatened damage, injury, or loss.

The Contractor must protect and support all water, sewer, drain, and gas pipes or other conduits and buildings, walls, fences, or other properties which are liable to be damaged during the execution of his work. He shall take all reasonable and proper precautions to protect persons, animals, and vehicles of the public from injury, and shall erect and maintain a fence or railing around all excavation and place a sufficient number of warning lights about the work and keep them burning from twilight until sunrise and shall employ one or more watchmen as an additional security. He must, as far as practicable and consistent with good construction, permit access to private and public property and leave fire hydrants and catch basins free from encumbrances. He must restore, at his own expense, all injured property caused by any act of omission on his part, or on the part of his agent, including but not limited to sidewalks, curbing, pipes, conduits, sewers and other public or private property, to a condition as good as it was when he entered upon the work.

In case of failure on the part of the Contractor to restore such property or make good such damage, the City may upon forty-eight (48) hours' notice proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof, will be deducted from any monies due, or which may become due, under this contract.

Safety is the responsibility of the Contractor. There will be no direct payment for erecting and maintaining a fence or railing around excavations, placing warning lights and providing watchmen and supporting and protecting utilities as prescribed herein and the cost thereof shall be included in the prices bid for pay items in the Contract. There will be no direct payment for providing and supervising all safety precautions and programs in connection with the work and the cost thereof shall be included in the prices bid for pay items in the contract.

SECTION 1.08 - COORDINATION WITH UTILITY COMPANIES

A. All utility companies, including the Sewerage and Water Board, shall be contacted three working days prior to starting work to verify utility locations, depth of lines, etc., prior to starting demolition.

B. Contractor is responsible for contacting all utility companies so the utility companies can coordinate their efforts to move into the area to make whatever revisions they have to make to their utility installation.

C. Care shall be taken in excavation around all utility lines. Utility service shall be maintained at all times for adjacent property owners.

D. The Contractor shall notify the electric, gas, telephone, communications, and cable utility companies, utility owners, etc., three working days in advance of digging near or across their conduits or buried cables.

E. The Sewerage and Water Board must be notified three working days in advance of laying sewer and water lines called for in this contract.

F. Damage that may occur to any utility shall be repaired and paid for by the Contractor, except as noted to be paid for as a Bid Item.

G. The Contractor shall notify Entergy, S&WB and all other utility companies before any demolition takes place. The utility companies and the Contractor's representative should open all covers in the area and inspect and note any damage to frames, lines, manhole walls, etc. Any additional damage that occurs during demolition shall be repaired at the Contractor's expense. The utility companies have the option of repairing items and back charge the Contractor for such repairs.

H. UTILITY SERVICE: Maintain existing utilities, keep in service, and protect against damage during demolition operations.

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to the governing authorities.

The Contractor is hereby cautioned that many of the underground utility pipes, lines, conduits, cables, etc., are located immediately below the existing grade. Location and elevation of all utility lines have been established based on information furnished to the Engineers by the respective utility companies. However, location and depth of utility lines may vary from those shown on the Plans and Profiles.

The Contractor shall be required to provide property owners a minimum forty-eight (48) hours advanced notice for any foreseen or planned interruption of utility service(s).

SECTION 1.09 - COOPERATION WITH UTILITIES

A. The Contractor shall cooperate with officials of utility companies to avoid delays in completion of work due to non-removal or non-adjustment of utilities.

B. Some utility facilities will be removed, relocated, or adjusted in accordance with agreements between the City and utility companies. Such work may be underway concurrently with the Contractor's work and within construction limits covered by this contract.

C. Contractor shall consider in his bid all permanent and temporary utilities lines and appurtenances in their present or relocated positions and that no additional compensation will be allowed for delays, inconvenience or damage sustained by him due to interference from the said utility lines and appurtenances or the operation of moving them.

SECTION 1.10 - ABOVE GROUND UTILITIES

A. The Contractor shall exercise due care and caution to prevent damage to Fire Hydrants, Traffic Lights, Street Light Standards, Parking Meters, Utility Poles, Guy Poles, etc., whenever it is necessary to remove any type of pavement around such items. The Contractor shall repair and/or replace any such item damaged by his operations to the satisfaction of the utility's owner.

B. It shall be the responsibility of the Contractor to notify the appropriate owners of such facilities in the way of construction so that they can have representatives present, if they so desire, when the Contractor is performing such work around their facilities.

SECTION 1.11 - EXISTING UNDERGROUND AND OTHER INSTALLATIONS

Existing underground installations are indicated on the drawings only to the extent such information was made available to or discovered by Engineer in preparing the drawings. There is no guarantee as to the accuracy or completeness of such information, and all responsibility for the accuracy and completeness thereof if expressly disclaimed.

The Contractor shall be responsible for the preservation of all public and private property, monuments, highway signs, telephone lines, other utilities, etc., along and adjacent to the Work; shall use every precaution necessary to prevent damage to pipes, conduits, and other underground structures; and shall protect carefully from disturbance or damage all land monuments and property marks until an authorized agent has witnessed or otherwise referenced their locations and shall not remove them until directed by the property owners. The street and highway signs and markers, that are to be affected by the Work, shall be carefully removed when the work begins and stored in a manner to keep them clean and dry. The Contractor must obtain all necessary information in regard to existing utilities, and shall give notice in writing to the owners of the property or the authorities in charge of streets, gas, water, pipes, electric, sewers and other underground structures, including conduits, railways, poles and pole lines, manholes, catch basins, fixtures, appurtenances, and all other property that may be affected by the Contractor's operations, at least three (3) working days before his operations will affect such property or as specified elsewhere. The Contractor shall not hinder or interfere with any person in the protection of such work or with the operation of utilities, at any time. When property or the operation of railways, telephone lines, telegraph lines or other public utilities are endangered, the Contractor shall at his own expense, maintain flagmen or watchmen and any other necessary precautions to avoid interruption of service or damage to life or property, and shall promptly repair, restore, or make good injury or damage caused by his operations in an acceptable manner.

SECTION 1.12 - UTILITIES EXPLORATION

Utilities exploration shall include all labor, materials, and equipment necessary for the Contractor to conduct a field investigation including exploratory excavations in advance of construction for the purpose of determining the existing location, size, and depth of all underground utilities shown or identified on the Drawings, any and all meetings with representatives of each utility, and furnishing the information to the Engineer. In addition to those utilities indicated on the Drawings, the Contractor shall also make exploratory excavations of all utilities which could impact the construction. This work shall include all test pit excavations including backfilling with sand, compaction, dewatering, pavement removal and replacement, and other related items. No direct payment shall be made for utility exploration.

SECTION 1.13 - SECURITY

Contractor shall be responsible for protection of the site, and all work, materials, equipment, and existing facilities thereon, against vandals and other unauthorized persons.

No claim shall be made against the City by reason of any act of an employee or trespasser, and Contractor shall make good all damage to the City's property resulting from his failure to provide security measures as specified.

Security measures shall be at least equal to those usually provided by the City to protect his existing facilities during normal operation, but shall also include such additional, security fencing, barricades, lighting, watchman services, and other measures as required to protect the site.

SECTION 1.14 – TEMPORARY UTILITIES

A. Temporary Lighting: Contractor shall provide, at his expense, temporary lighting facilities for prosecution and inspection of the work. These facilities shall be installed and maintained by the Contractor. Locate in such a manner as to result in the least interference with work upon the Project site and existing facilities. Contractor shall also provide temporary street lighting where the existing street lighting is disrupted due to construction activities.

B. Temporary Power: Contractor shall provide, at his expense, temporary power facilities required for prosecution and inspection of the Work. These facilities shall be installed and maintained by the Contractor. Locate in such a manner as to result in the least interference with work upon the Project site and existing facilities.

C. Temporary Water: The Contractor shall make the necessary arrangements, at his expense, for securing and transporting all water required in the construction, including water required for the mixing of concrete, sprinkling, flushing, flooding, or jetting, and including any temporary pipeline or equipment which may be necessary to make use of such water.

D. Temporary Sanitary Facilities: The Contractor shall provide, at his expense, adequate portable sanitary facilities on the site and shall be obscured from public view to the greatest extent possible. They shall be cleaned, deodorized, and disinfected each day construction is in progress, all at the Contractor's expense. If toilets of the chemically tested type are used, at least one toilet will be furnished for each 20 workers, in addition to the above requirement. Contractor shall enforce the use of such sanitary facilities by all personnel at the site.

SECTION 1.15 – INCLEMENT WEATHER DAYS

For this Contract, an Inclement Weather Day shall be defined as any day on which construction operations were unable to proceed for at least five (5) continuous hours of the day or 65% of the regular working hours, whichever is greater. Should the Contractor prepare to begin work on any given day in which inclement weather, or the conditions resulting from inclement weather, prevent work from beginning at the usual starting time, and the crew is dismissed as a result thereof, the day will be declared an Inclement Weather Day, whether or not conditions change during the day, resulting in the rest of the day becoming suitable for work. The Contractor shall notify Sewerage and Water Board Director and Engineer within 48 hours of an Inclement Weather Delay listing the critical path tasks affected by the delay.

SECTION 1.16 - AS-BUILT DRAWINGS

Contractor shall provide manually marked-up "red line" drawings to the project engineer for use in creating "as-built" AutoCAD® record drawings of the project. The original contract drawings shall be modified to show all additions, deletions, and other changes made during construction. Drawing modifications shall include both a markup of the graphics and a brief written explanation describing any changes. Wherever applicable, revisions shall include updates to details, sections, index, notes, drawing callouts, plan, and plan & profile views.

Each Sheet of the red line drawings shall include a stamp showing: RED-LINE DRAWINGS, name of Contractor, Superintendent's signature, and Date. Drawings shall also include: All field changes, any change in line or grade from the original drawings, location of mains and house service connections, and the limits of pavement removal and replacement.

To promote accuracy; red line drawings shall be updated on a bi-weekly basis with copies provided to the Sewerage and Water Board Director as work is completed for each block. Redlines shall be jointly reviewed/developed by the Contractor and Resident Inspector and discussed at each construction progress meeting. The Contractor shall furnish a final set of redline drawings prior to final inspection. The Contractor shall furnish redline drawings at no direct payment.

SECTION 1.17 - PROGRESS MEETINGS & SCHEDULE REQUIREMENTS

A. Progress meetings shall be scheduled biweekly or as requested by the Sewerage and Water Board Director.

B. Location of Meetings: The project field office of the Contractor or as approved by the Sewerage and Water Board Director.

C. Attendance: Sewerage and Water Board Director's Representative, Contractor, subcontractors, and suppliers as appropriate to the agenda, others as required.

D. Requirement: In addition to an updated approved schedule, the Contractor shall also provide a detailed two week look ahead schedule demonstrating the block locations along with the scope to be performed and present it to the Project Team as shown on the agenda. The Project Team shall review the requested schedule at the progress meeting and agree on an approved list of locations and scope of work. Contractor to provide CPM schedule, two-week look ahead schedule, RFI log, Plan Change Log, Submittal Log, and invoice status at each progress meeting.

E. Format: The Department will provide a two week look ahead schedule template at the Pre-Construction meeting, which shall be completed prior to all progress meetings. The Contractor's CPM schedule shall include the following criteria:

1. Schedule shall have a title that includes the Sewerage and Water Board Project ID and name.
2. The project schedule shall depict all field activities necessary to complete the work.
3. Activities shall be sufficiently detailed to include the block number, and a start/end date.
4. All schedule activities should be fully integrated, having predecessors and or successors.
5. Gantt chart shall show the predecessors and successors of each activity.
6. Critical Path Activities should be uniquely identified in the Gantt chart legend.
7. Schedules shall have a progress line in the Gantt chart that represents contractors progress to the date of the request.

F. Obligation: The Contractor shall abide by the schedule shown on the approved two week look ahead schedule. The Contractor shall not deviate from the approved schedule at any time, without obtaining prior approval. Shall deviations of the approved schedule be required, the Contractor shall submit deviations, in writing, requesting approval of the new locations and scope of work.

G. Repercussion: Failure to adhere to the approved two week look ahead will put the contractor in default and may result in a stop work order or termination of the contract for cause. This includes all work deviated from the approved schedule, including subcontractor work.

SECTION 1.18 – <u>PRE-CONSTRUCTION VIDEO SURVEYS</u>

Section C126.05 of the "General Specifications for Street Paving" is amended to include the following requirements:

Pre-Construction Video Surveys are optional and be performed at the Contractor's discretion. There shall be no direct payment for the Pre-Construction Video Surveys.

SECTION 1.19 – <u>CONTRACTOR PROGRESS PAYMENT INVOICING AND DOCUMENTATION</u>

Contractor shall be required to provide a detailed breakdown of each payment request that includes a summary of the work completed for each bid item by each municipal block. Additionally, a summary of the work completed for each bid item for each intersection, identified as "Intersection of (insert street name) Street and (insert cross street name) Street" shall be provided for quantification purposed blocks begin/end at the apparent right-of-way line of intersecting streets as shown on the plans. Contractor shall be required to provide separate invoices for the following categories when applicable:

- A.1.1 City of New Orleans Department of Public Works FEMA Eligible work items,
- A.1.3 City of New Orleans Department of Public Works FEMA ADA Eligible work items,
- A.2 City of New Orleans Department of Public Works non-FEMA Eligible work items,
- B.1.1 Sewerage and Water Board of New Orleans FEMA Eligible work items,

The Sewerage and Water Board Director will provide invoice and form templates, and direction to the Contractor on which work is non-FEMA Eligible.

Each contractor payment request shall include:

1. Two (2) original invoices certified by the Engineer and S&WB (if applicable) signed in blue ink. All invoices shall include the FEMA PW number and the S&WB reference number. Invoices shall be submitted monthly and shall include the billing period.
2. Two (2) original S&WB STS-651 and PWC-15 forms certified by the Engineer and S&WB signed in blue ink.
3. Two (2) Compact discs with all invoice forms and backup including but not limited to:
    a. Cover letter containing: Date, project ID, project name, invoice No., pay Period, Invoice amount, company logo, Purchase Order No., Service Contract No., FEMA PW No.
    b. Pre and post construction photographs for all completed work
    c. ADA ramp breakdown by location per funding source
    d. S&WB cost estimate STS-651 and PWC-15 Excel workbook.
    e. Certified payroll (if required)
    f. Updated approved CPM Schedule
    g. Approved Weather and Working Days report
    h. BMP/SCM Inspection Report with weather conditions noted and if rain occurred, appropriate photographs documenting Stormwater Pollution Prevention Plan Stormwater Control Measures in place.

SECTION 1.20 - SEQUENCE OF CONSTRUCTION

A. Section C126 of the General Specifications are hereby supplemented as follows:

B. The Contractor shall submit construction sequence and schedule to the Engineer and Sewerage and Water Board Director for approval prior to the start of construction in accordance with Section C126. Contractor shall be required to follow the approved sequence and schedule unless he has first obtained written approval from the Sewerage and Water Board Director for a deviation. Contractor shall incorporate in his schedule work items of other utilities and Contractors to ensure proper sequencing. The schedule shall include work items from Entergy New Orleans' contractor, Entergy Electric's construction crews, Entergy Gas's construction crews, and AT&T. Contractor shall be responsible for coordination and sequencing of the overall schedule. Construction Phases for Decatur St. (Dumaine St. – Governor Nicholls St.) and St. Peter St. (Chartres St. – Royal St.) shall be shown on Plans (Sheets D-2 and D-3).

C. Contractor shall, within three (3) days of initiating any work on a street, prepare and submit to the Sewerage and Water Board for review, a practical critical path schedule and phasing plan showing the order in which the Contractor proposes to carry on the work, the dates on which he will start the phases of the work, and the anticipated dates for completion of the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The Contractor shall enter on the chart the actual progress and present the updated information at each weekly Contractor/owner construction meeting or at such intervals as validated by the Sewerage and Water Board Director and shall provide electronically to the Sewerage and Water Board Director.

D. To facilitate Sewerage and Water Board Director testing and inspection requirements once Contractor starts utility work the utility installations shall be executed on a continuous basis until substantial completion of all utility work. Contractor shall substantially complete all work, including pavement restoration, for any continuous roadway segment with water and/or sewer work prior to initiating operations on roadway segments consisting of only roadway pavement restoration work, unless approved in writing by the Sewerage and Water Board Director. Once Contractor mobilizes to start work on a roadway segment Contractor must complete all approved work, including any necessary utility repairs or relocations in a continuous fashion within the approved scheduled time and shall maintain adequate personnel and equipment on site until such time all work is substantially complete. Work to be substantially completed includes, but is not limited to, utility replacement or rehabilitation, including all services, connections and tie-ins; roadway

repairs; curbs and gutters; drive aprons; sidewalks; ramps; proper backfilling of all cavities; and other incidental work in accordance with the project plans and specifications. Any work restricting access to any street, drive, or sidewalk shall be completed prior to substantial completion being granted. If to meet the approved schedule the contractor elects to work on multiple sites simultaneously the contractor must ensure the proper resources are available in order to adequately handle all the work in progress as specified. Contractor is responsible for performing all tasks to substantially complete all work in a concentrated area prior to moving onto another work area.

E. When scheduling work Contractor shall phase limits of construction to allow completion of all pavement work within ten (10) working days unless otherwise approved by the Sewerage and Water Board Director. The Contractor shall use traffic aggregate or steel plates for pavement activities exceeding ten (10) working days to minimize impacts to traffic flow in accordance with Section C402 in the General Specifications and Section 2.06 regarding the item C402(51) at no direct pay. Pavement repair shall commence immediately following the acceptance of the waterline installation on each block. In addition, Contractor shall only perform utility trenching operations ahead a distance sufficient for the length of pipe installation planned for the current workday, plus a reasonable additional distance ahead to reveal any obstructions that may necessitate changing the line or grade of the pipe. All other associated work within the scheduled work limits shall be completed in accordance with the approved critical path schedule and phasing plan.

F. Contractor shall phase all roadway construction including intersections to allow for the maintenance of traffic and emergency vehicle access.

G. Contractor shall notify the Sewerage & Water Board Director in writing at least two (2) working days prior to mobilizing and starting any utility work, including trenching, and at least two (2) working days prior to the day utility tie-ins to the existing system will be made and service will be transferred to the new main. These notifications shall be in addition to any other notification in accordance with Sewerage & Water Board requirements and per the project plans and specifications. Contractor shall notify the Sewerage & Water Board Director in writing at least two (2) working days prior performing any roadway restoration work detailed on the plans or include in approved plan changes, including removal operations.

H. Contractor shall receive no additional compensation for any work related to the means, methods, techniques, scheduling, sequences or procedures that are required to complete the project in accordance with the project plans and specifications.

I. The successful bidder shall be awarded the work for a period of three hundred (300) calendar days starting from the day after the Overall Notice to Proceed, which shall constitute the overall duration or contract period. The contract prices are firm during the entirety of the project.

J. The quantities given in the proposal form are approximate for the comparison of bids only. The Sewerage and Water Board Director reserves the right to purchase only such items and in such quantities as needed for the duration of this contract after acceptance of the lowest responsible bid. The Sewerage and Water Board Director also reserves the right to perform part of the work with its in-house forces or hire other contractors for similar work in the project area during the contract period.

The overall project scope shall be broken down and delineated as individual Task Orders, as detailed on Plan Sheets D-2 and D-3. Each Task Order may consist of one or multiple plan sheets, which will serve as the scope for that specific Task Order to include all utilities, roadway, and associated infrastructure work per the associated plan sheets.

Contract Task Orders shall be issued to the Contractor individually or grouped with multiple Task Orders at once, at the discretion of the Engineer and Sewerage and Water Board Director. Prior to issuance of a Task Order, Contractor, Engineer and S&WB will hold a Pre-Task Order Meeting to discuss scope, schedule, and

delivery strategy. Attached as Exhibit 01 is a sample Task Order to be utilized for this process.

All work within the limits of each Task Order shall be shown to the Contractor by a representative of the S&WB and/or Engineer prior to commencing work. Appropriate drawings and details will be furnished to the Contractor with each Task Order. Work sites may be non-continuous blocks for an individual task order; however, every effort will be made to consolidate the work to minimize scattered work sites.

Each Task Order will be issued with appropriate drawings or other attachments and will designate a specific Task Order number. All correspondence, billing, etc., pertaining to the work should reference the Task Order number and the current job number designation.

The Contractor shall begin the work within 10 days after issuance of an executed task order and a corresponding Task Order Notice to Proceed. If the Contractor fails to start a task order within 10 days of the Notice to Proceed date or leaves the work incomplete for over a 30-day period, the City shall approach the next lowest bidder to start and/or complete the Task Order(s) or utilize other contractors to perform the work. However, if the Contractor has a valid reason for the lack of progress or delayed start of an issued Task Order that is beyond the Contractor's control, he must obtain written permission from the Engineer or S&WB for the stipulated delay.

S&WB reserves the right to put a Task Order on hold at any time as needed, without reason. If the scope of work is discontinued, the Contractor will be compensated only for the completed and accepted items of work. There will be no compensation for any claims of downtime due to a Task Order being put on hold or discontinued. S&WB reserves the right to modify, add, or remove scope within an issued Task Order as needed to best serve the Project.

Beyond the initial Task Order issued for said Project, additional Task Orders shall be issued only when the previously issued Task Order is deemed Substantially Complete by the Engineer and S&WB. Substantial Completion, as defined for this purpose, shall be determined by one or more of the following criteria:

- Issued work within a given Task Order is 95% complete by the planned scope and cost or agreed upon scope and cost;
- All Utilities, Roadways & Driveways within the Task Order are complete and open to traffic;
- Any incomplete work consists of Punch List items which typically consist of addressing areas in need of minor backfilling, completion of pavement striping, necessary yard restorations, site clean-up, etc.

Additional Task Orders on the project shall only be issued when the preceding task orders are either complete or substantially complete, as defined above. If the Contractor fails to complete a task order within the agreed time frame or leaves the work incomplete or inactive for a period of 30 days, absent any previously agreed upon stipulated delay claim, S&WB reserves the right to complete the remainder of that task order, as well as all additional remaining work included in the overall project scope by either the use of S&WB work forces or other contractors.

It is understood by the Contractor that the quantities provided in the schedule of bid prices are a fair approximation of the amount of work to be done, and that the sum of the products of the approximate quantities multiplied by the unit price bid constitutes the base bid price, which sum shall be used in the comparison of bids and the awarding of the respective contracts. The actual constructed quantities may vary from the quantities listed in the proposal form.

SECTION 1.21 – SEWER SYSTEM EVALUATION AND REHABILITATION PROGRAM REQUIREMENTS

A. This contract does not include work commissioned by the Sewerage & Water Board of New Orleans under their Sewer System Evaluation and Rehabilitation Program in response to an EPA Consent Decree. However, any sewer rehabilitation work fulfilled under this contract shall meet the sewer rehabilitation requirements included herein this section. Contractor shall refer to sections 2.07 through 2.12 and Section 3.22 for additional sewer rehabilitation requirements for consent decree and non-consent decree sewer rehabilitation work.

SECTION 1.22 – WATER POINT REPAIRS

A. The Contractor shall furnish all labor, supervision, materials, and equipment required to complete items in this section.

B. All workmanship and materials shall conform to Section C741 of the Department of Public Works General Specifications for Street Paving, S&WB Dwg. No. 7260-W, and S&WB Standard Drawings, except as noted herein.

C. The Contractor shall examine the locations of every plan sheet, well in advance of any planned construction within that block, and report all leaks to the S&WB by calling in 52-WATER (529-2837).

D. Damages to the water distribution system caused by the Contractor, shall be repaired by the Contractor at no direct pay, or repaired by the S&WB at the Contractor's expense. If in the opinion of the Engineer that damages to the water distribution system were not a result of the Contractors normal construction activities, the contractor will be paid at the unit prices of the appropriate bid item.

E. All lead service lines (LSL) exposed within the project limits, regardless of status of utility replacement at the location of the LSL, shall be reported to the S&WB project representative immediately. Resident must receive S&WB-approved written notification at the time any LSL is located and/or replaced." The LSL shall be replaced once written approval is provided by S&WB representative.

F. If directed to replace the LSL, the service connection must be replaced from the water main to the meter box. Temporary splices or repairs of leaking or damaged LSLs are not allowed. If directed by S&WB project representative to relocate water meter location, the pipe material must be identified between the meter box and property line. If the service line between the meter and the property line is of lead material, the Contractor and S&WB shall coordinate with the property owner to ensure the entire LSL is replaced between the water main and the property.

G. Contractor shall refer to section 2.12 and section 3.23 for technical specifications and special pay items specific to the work in this section.

SECTION 1.23 – CONTRACT TASK ORDERS

The successful bidder shall be awarded the work for a period of Contract Duration working days starting from the day after the Overall Notice to Proceed, which shall constitute the overall duration or contract period. The contract prices are firm during the entirety of the project.

The quantities given in the proposal form are approximate for the comparison of bids only. The Sewerage and Water Board Director reserves the right to purchase only such items and in such quantities as needed for the duration of this contract after acceptance of the lowest responsible bid. Additional unit price

quantities will be in accordance with Section C136. The S&WB also reserves the right to perform part of the work with its in-house forces or hire other contractors for similar work in the project area during the contract period.

The overall project scope shall be broken down and delineated as individual Task Orders in contract documents. Each Task Order may consist of one or multiple plan sheets, which will serve as the scope for that specific Task Order to include all utilities, roadway, and associated infrastructure work per the associated plan sheets.

Contract Task Orders shall be issued to the Contractor individually or grouped with multiple Task Orders at once, at the discretion of the Engineer and the Sewerage and Water Board Director. Prior to issuance of a Task Order, Contractor, Engineer and S&WB will hold a Pre-Task Order Meeting to discuss scope, schedule, and delivery strategy. Task Order durations shall be determined by the Contractor during the Pre-Construction Meeting. Exhibit 1, attached at the end of this section, is a sample Task Order to be utilized for this process.

All work within the limits of each Task Order shall be shown to the Contractor by a representative of the Department of Public Works and/or Engineer prior to commencing work. Appropriate drawings and details will be furnished to the Contractor with each Task Order. Work sites may be non-continuous blocks for an individual task order; however, every effort will be made to consolidate the work to minimize scattered work sites.

Each Task Order will be issued with appropriate drawings or other attachments and will designate a specific Task Order number. All correspondence, billing, etc., pertaining to the work should reference the Task Order number and the current job number designation.

The Contractor shall begin the work within Ten (10) days after issuance of an executed task order and a corresponding Task Order Notice to Proceed. If the Contractor fails to start a task order within Ten (10) days of the Notice to Proceed date or leaves the work incomplete for over a 30-day period, the Sewerage and Water Board Director shall proceed in accordance with Sections C123 and C126 or shall approach the next lowest bidder to start and/or complete the Task Order(s) or utilize other contractors to perform the work. However, if the Contractor has a valid reason for the lack of progress or delayed start of an issued Task Order that is beyond the Contractor's control, he must obtain written permission from the Engineer or S&WB for the stipulated delay.

S&WB reserves the right to put a Task Order on hold at any time as needed, without reason. If the scope of work is discontinued, the Contractor will be compensated only for the completed and accepted items of work. The Sewerage and Water Board Director reserves the right to modify, add, or remove scope within an issued Task Order as needed to best serve the Project. Temporary waterline tie-ins shall be abandoned, removed, and tied into the adjacent mainline in accordance with Section C741 in the General Specifications at no direct pay.

Beyond the initial Task Order issued for said Project, additional Task Orders shall be issued only when the previously issued Task Order is deemed Substantially Complete by the Engineer and S&WB. The Contractor can request additional task orders to be issued and approved by the Sewerage and Water Board Director. Substantial Completion, as defined for this purpose, shall be determined by one or more of the following criteria:

- Issued work within a given Task Order is 95% complete by the planned scope and cost or agreed upon scope and cost;
- All Utilities, Roadways & Driveways within the Task Order are complete and open to traffic;

- Any minor incomplete work or Punch List items which typically consist of addressing areas in need of minor backfilling, completion of pavement striping, necessary yard restorations, patching, site cleanup, etc.

Additional Task Orders on the project shall only be issued when the preceding task orders are either complete or substantially complete, as defined above. The Contractor can request additional task orders to be issued and approved by the Sewerage and Water Board Director. If the Contractor fails to complete a task order within the agreed time frame or leaves the work incomplete or inactive for a period of Thirty (30) days, absent any previously agreed upon stipulated delay claim, S&WB shall proceed in accordance with Sections C123 and C126 and reserves the right to complete the remainder of that task order, as well as all additional remaining work included in the overall project scope by either the use of S&WB work forces or other contractors. The Contractor shall notify the Sewerage and Water Board Director within 48 hours of a critical path task delay listing the critical path tasks affected by the delay.

It is understood by the Contractor that the quantities provided in the schedule of bid prices are a fair approximation of the amount of work to be done, and that the sum of the products of the approximate quantities multiplied by the unit price bid constitutes the base bid price, which sum shall be used in the comparison of bids and the awarding of the respective contracts. The unit cost quantities represent a complete cost total, representing all work required to provide a completed project scope. The actual constructed quantities may vary from the quantities listed in the proposal form.

EXHIBIT 1
JIRR FEMA
Sewerage and Water Board of New Orleans Project No. RRXXX
TASK ORDER 01

Sewerage and Water Board of New Orleans
8800 S. Claiborne Ave.
New Orleans, LA 70118

Estimated Cost: Date Issued:

Plan Sheets:

Contractor: Project No. FEMA

You are hereby directed to commence work within XX days of the date of this work order and complete all work, including restoration, within XX days, in accordance with project specifications. If this task order is not substantially completed within XX days, no further task orders will be issued.

See attached Plan Sheets for details of **Task Order 01**.

Description:

Task Order 01 contains XX sheets located within XX Neighborhood in Orleans Parish. **Special attention shall be given to the roadway elevations to ensure positive drainage to the adjacent catch basins.** All work described in the attached plan sheets is subject to field verification. Variations shall be approved by the Engineer. The following is a list of the plan sheets associated with Task Order 01.

Site Location	DPW Sheet(S)	S&WB Sheet(s)
XXX	XX	XX
XXX	XX	XX
XXX	XX	XX

SIGNED:

Contractor.:_____DATE: _____

Engineer.:_____
_____DATE:_____

S&WB.:_____DATE:_____

Attachments

SECTION 1.24 – PROCORE COLLABORATION SOFTWARE

COLLABORATION SOFTWARE

1. SUMMARY
    a. Utilize S&WB-provided Procore construction management software (www.procore.com) to submit, track, distribute and collaborate on project documentation and action items.
    b. The intent of utilizing Procore construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times.
2. SOFTWARE USES
    a. Daily Log
        i. Daily log entry from web and mobile with automatic capture of daily weather conditions.
        ii. Attach photographs to entries directly from mobile.
        iii. Reporting capabilities to easily report on man-hours and activities for a certain time frame and contractor.
    b. Dashboards
        i. Dashboards that show the status of all currently assigned items with drill down capability to see the subject, assignee and due date of each item.
    c. Deficiency Tracking
        i. A means for recording, assigning and confirming completion of any deficiency or observation noted during the course of construction. Is accessible from web and mobile.
    d. Directory
        i. All team member's contact information that is accessible from web and mobile.
    e. Documents
        i. Storage location for miscellaneous project documents with the ability to have a folder hierarchy and privacy settings on folders.
        ii. No storage limit.
        iii. Download tracking.
        iv. Ability to revise and check out files, with access to all previous revisions.
    f. Drawings
        i. A system maintained current set of drawings on web and mobile, with access to all previous revisions as well.
        ii. Automatic hyperlinking capability for detail callouts.
        iii. Drawing markup capabilities on web and mobile.

iv. Ability to link RFIs, Submittals, Punchlist Items, Photos and Project Documents to the drawings.

v. Drawing Markups should be carried forward when new revisions are uploaded.

vi. Markups and linked documentation should be able to be public or private based on desired level of user accessibility.

g. Financial Management

i. Manage contracts, payment applications and change orders through the software.

ii. View contracts and change orders from web and mobile.

h. Inspections

i. Create inspections from web and mobile.

ii. Create a deficiency item from an inspection that can be assigned and tracked to completion.

i. Meetings

i. Create, edit and view meeting minutes from web and mobile.

ii. Create action items with assignees and due dates from a meeting item.

j. Mobile Accessibility

i. Native mobile applications for iOS and Android phones at a minimum that provide access to relevant project documentation, including as-built versions of Drawings and Specifications, even when there is no internet access.

k. Photos

i. Upload and view photos from web and mobile.

ii. Markup photos from mobile to clarify anything important in the photo.

iii. Link photos to specific locations on drawings.

l. Punchlist

i. Create punch-list items from web and mobile and link them to specific locations on the drawings.

ii. Distribute punch-list items to all contractors, for contractors to mark them as resolved with photographic proof of resolution via mobile, and for the items to be marked as complete via mobile or web.

m. Requests for Information (RFIs)

i. Create RFIs with assignees, due dates and attachments.

ii. Assignees can respond to RFIs both via the software and by responding to the system generated email.

iii. Auto-generated log of all RFIs.

n. Schedule

i. Display schedules from typical scheduling software such as Microsoft Project, Primavera P3, Primavera P6 or Asta Powerproject.

o. Specifications

i. Upload project specifications and manage them at the individual specification level.

ii. View and search specifications on web and mobile.

iii. Upload revisions to individual specifications and maintain all revision history.

iv. Auto-generated current specification log that provides access to the current version of each specification.

v. Link specifications to submittals and view the specification from the submittal.

p. Submittals

i. Upload a submittal register of all expected submittals.

ii. Create multi-step approval workflows for submittals, with reminder notifications for the current assignee.

iii. Upload any file type without size restrictions.

iv. Auto-generated submittal log.

3. TECHNOLOGY

a. Fully web based with mobile apps for Windows, iOS and Android phones.

b. Accessible without logging in through a virtual private network (VPN).

c. Works on the current version of Internet Explorer, Google Chrome, Mozilla Firefox and Apple Safari browsers.

d. Can generate emails automatically, and all attachments are included in the emails via download links to avoid emails not being delivered due to size.

e. PDF output of forms such as RFIs, Submittals, Meetings, Change Orders, etc. should be available and customizable.

4. TRAINING AND SUPPORT

a. Support to all parties via email, phone and live chat at no additional charge.

b. Training in the form of self-paced learning videos as well as interactive webinars.

c. The contractor shall hold a kickoff meeting with the Owner and applicable consultants at the beginning of the project to discuss how the software will be used, routing & naming protocols, etc.

5. PROCEDURES

a. RFIs and Submittals

i. The Contractor will be responsible for submitting all RFIs and Submittals through the software and assigning them to the appropriate parties.

ii. The S&WB's Architects, Engineers, Consultants, etc. are responsible for reviewing, approving, and posting all responses to RFIs and submittals via the software, including all relevant attachments.

iii. Responses to all RFIs shall be reviewed, accepted, or rejected by the Sewerage and Water Board Director of Public Works and or the Sewerage and Water Boards appointed representative.

iv. The Contractor will distribute approved and accepted responses to all affected subcontractors and confirm agreement with the response by closing the item.

b. Construction Documentation

i. The Engineer will manage Drawings, Specifications and Documents in the software to ensure that the current version of all applicable construction documentation is available to the entire team via web and mobile.

ii. The Engineer will ensure that all RFIs which modify the current drawings are posted to the drawings and available via web and mobile within 24 hours of the RFI being responded to.

c. The Engineer will record and distribute meeting minutes and action items via the software.

d. The Engineer's Resident Inspector will create daily reports, take daily site photos, and make them publicly available. Daily reports shall include but not limited to: Report number, days used on the contract, quantities per pay item, personnel and equipment on site, Construction start and end time, and construction activities per block.

e. Punchlist

i. All punch-list items will be managed through the software.

ii. Punchlist items will be created by the Engineer during the substantially complete project site walk-through with the Owner, Contractor and Owner's Representatives.

iii. It will be at the Owner's discretion whether Punchlist Items can be closed while a representative from the Owner or applicable consultant is not present.

f. General

i. It is intended that the contractor will utilize the software for at least all functions identified in "Section 2 – Software Uses."

6. PRICING

a. The cost of Procore Technologies services has been paid in full by the Owner

b. The software allows for unlimited users to ensure that all parties have access to the system.

7. HARDWARE

a. The Contractor will ensure all necessary users have access to devices compatible with Procore

b. The Contractor will maintain at least one Procore compatible device on site with a screen of 7" or larger for ease of viewing, sharing, and discussing plans in the field.

SECTION 1.25 – ENVIRONMENTAL PROTECTION AND STORM WATER POLLUTION PREVENTION

Environmental Protection and Storm Water Pollution Prevention Plan shall be in accordance with Section C204 Environmental Protection and Stormwater Pollution Prevention Plan from the General Specifications except as modified here-in.

The Contractor certifies under penalty of law that he understands and will abide by the terms and conditions of the following:

1. Permit LAR10M21: Orleans Parish-wide coverage for Storm Water Discharges Associated with Construction Activities five (5) acres or more for the JIRR Program

2. Sewerage & Water Board of New Orleans Plumbing Code

3. The Joint Infrastructure Recovery Request (JIRR) Program is authorized under LPDES Permit LAR10M215 that encompasses all of Orleans Parish for Storm Water Discharges Associated with Construction Activities five (5) acres or more. The permit had an effective date of June 8, 2020 and expiration date is March 28, 2024. This permit coverage alone automatically mandates that all JIRR projects regardless of the project size will be part of a "larger common plan of development" Since the entire program is covered, the contractor does not have to obtain a state-issued permit from LDEQ; regardless, an adequate Stormwater Pollution Prevention Plan shall be developed and maintained regardless of the size of the project.

4. Compliance with JIRR Permit LAR10M21.

SECTION 1.26 – CONTRACTOR REQUIREMENTS FOR CONSTRUCTION WORK IN THE FRENCH QUARTER

A. General:

- The contractor will provide SWBNO its staging plans within 90 days of NTP.

B. Business Access:

- The contractor will ensure sidewalks are passable to foot traffic at all times, except to complete tie-ins at the end of the block.
    - Tie-ins should take no longer than one day.
- Business/residence access points should be accessible at all times.
- Delivery access should be available at all times.
    - If delivery access will be restricted, the contractor must inform the resident/business 48 hours in advance.
- There will be no laydown yard on site.
    - If a laydown yard is needed SWBNO will need to approve it. The proposed laydown yard site cannot interfere with foot traffic on the work site.
- Produce and post clear wayfinding signage for vehicular traffic detour.
    - SWBNO can provide templates.
- Produce and post clear wayfinding signage for foot traffic depicting detours and business access.
    - SWBNO can provide templates.

- No work between the hours of 6pm and 7am.
- The contractor will adhere to the City noise ordinance from 7am to 6pm.
- The contractor will perform no work and ensure all sidewalks are open and safe for foot traffic on the following days:

Holiday / Event	Anticipated Dates
Mardi Gras	Before March 5, 2025 (work should start after Mardi Gras)
Crescent City Classic	April 19, 2025 (Easter Weekend)
French Quarter Fest	April 10-13, 2025
New Orleans Wine and Food Experience	June 5-9, 2025
Pride Weekend	June 13 – 15, 2025
Essence Fest	July 4-7, 2025
Satchmo Summerfest	August 2 – 3, 2025

C. Impacts to Neighbors:

- The contractor will employ above-ground water bypasses to keep water service available for homes and businesses in the work area.
    - The contractor will respond to water bypass repairs within one hour.
- Contractor will follow city noise ordinances at all times during work hours.
- The contractor will monitor vibration throughout work.
- The contractor will conduct video surveys of properties before work to document previous condition.
    - For residents and business owners that refuse the video survey, the contractor will document their refusal via a form provided by SWBNO and share both print and digital copies with SWBNO.
- The contractor will coordinate with utility companies, including cable/phone, electricity, gas and develop Incident Management Protocols to address potential issues that may arise.
    - The contractor will provide ongoing assistance to SWBNO throughout incidents. During an incident, the contractor will make available sufficient communications staff and project resources to work effectively with SWBNO and proactively perform the contractor's communications responsibilities; and during a crisis incident situation, the contractor will provide SWBNO with content for holding statements within 15 minutes of the event occurring.
- The contractor will follow the Complaint Protocol defined by SWBNO.

D. Public Outreach:

- The contractor will adhere to and fulfill customer notifications as outlined in the outreach plan developed by SWBNO.
- The contractor will provide a knowledgeable staff member to participate in up to six community meetings hosted in relation to the project. Anticipated timeline for meetings includes:

- Contract awarded meeting
- One month out meeting
- During construction meeting(s) (potentially associated with phasing timeline)

- The contractor will provide SWBNO one-week notice via phone call and email before closing sidewalks/restricting access to businesses or residences to allow the utility to properly communicate with stakeholders.
- The contractor must notify impacted residents, property owners, and businesses one week in advance and the day before the following activities via physical collateral (e.g., letter, flyer, door hanger) and email (using the contact list collected and provided by SWBNO) using branded templates provided by SWBNO. The notifications must include an easy-to-read map of the detour and applicable timeline:
  - Sidewalk closure/restrictions to building access
  - Road closures
- The contractor must notify impacted residents, property owners, and businesses 72 hours in advance and the day of the following activities via physical collateral (e.g., letter, flyer, door hanger) and email (using the contact list collected and provided by SWBNO) using branded templates provided by SWBNO:
  - Planned water shut off
  - Planned sewer shut off
- The contractor will attempt to provide physical notice to residents and businesses on all floors of impacted buildings.
- The contractor will share any public-facing communication materials with the SWBNO Communications Department for review and quality control before distributing to customers.
  - When creating public-facing communication materials, the contractor will follow SWBNO's brand guidelines and utilize templates provided by SWBNO when possible.
- The contractor will direct all media inquiries to SWBNO's Communication Department.

E. Coordination Calls:

- Participate in monthly communications coordination calls
- Participate in four-week look-ahead calls

SECTION 1.27 – <u>NOTICE TO PROCEED – STARTUP TIME</u>

The Notice to Proceed (NTP) is scheduled to be issued for Monday, January 6, 2025. However, the Contractor shall not mobilize, store materials and equipment or place traffic control devices (detours) on site until March 5, 2025. The contract time begins with the date of the NTP. Prior to March 5, 2025 the Contractor shall submit a detailed construction schedule and shop drawings for review to the Engineer along with providing notifications to the residents and businesses, and executing and submitting the Southeast Louisiana Flood Protection Authority - East Hold Harmless Agreement located in Appendix A in order that it can be forwarded to the Southeast Louisiana Flood Protection Authority – East in order that the Permit OL2023-00272 may be issued, and obtain any other permits as required by the contract documents. A traffic control plan shall be submitted to the Director or Chief Traffic Engineer for the Department of Public Works Traffic Division for review a minimum of 30 days prior to mobilization on site. Procuring materials and equipment with long lead times and coordination of trash pickup shall be performed by the Contractor prior to mobilization. Before mobilization the Contractor shall coordinate any work as the site with being performed by Entergy electric and Entergy gas. Also prior to mobilization on site the Contractor shall coordinate all work with Entergy Gas and Entergy Electric.

Parking and Traffic Control Requirements

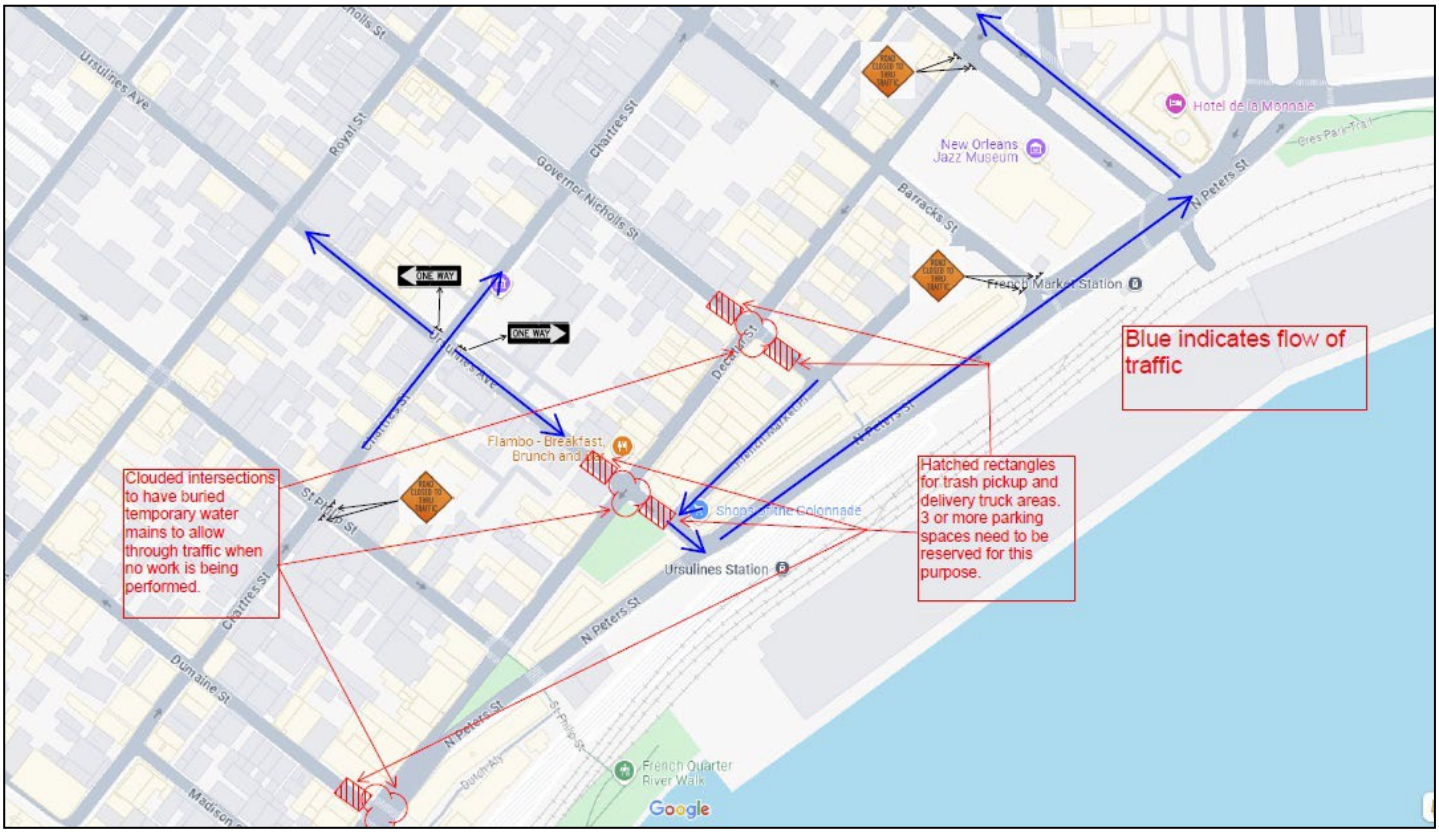
1. The contractor's personal vehicles shall not be parked adjacent to the project site, in the work zones or on detour routes.

2. The intersections of Decatur at Dumaine St. and Saint Phillip St. may be closed during construction.

3. The intersections of Decatur at Ursulines Ave. and Governor Nicholls St. shall have one lane open to traffic on those side streets. Temporary water lines shall be buried at these intersections.

4. At the intersections of Decatur at Dumaine St., St. Phillip St. and Governor Nicholls St. the first three parking spaces adjacent to Decatur St. Shall be reserved for trash pickup and delivery trucks.

See the Attached detour route plan guidelines.



Detour Plan Guide Lines

PART II – SUPPLEMENT TECHNICAL SPECIFICATIONS

SECTION 2.01 - REMOVAL OF EXISTING PAVEMENT

A. All existing pavement designated to be removed shall be removed and disposed of beyond the limits of project by the Contractor.

B. Payment for concrete and asphaltic concrete pavement removal shall include removal, hauling and disposing of pavement off of the project site.

C. Pavement consisting of asphaltic concrete over Portland cement concrete shall be considered Composite Pavement. Composite Pavement shall be removed, without regard to thickness, at the price bid per square yard for REMOVAL AND DISPOSAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT. There will be no additional payment if the Contractor elects to cold mill or remove the existing asphalt surface prior to removal of the concrete pavement.

D. Payment for the pay item C202(52)(C) REMOVAL AND DISPOSAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT shall be made at the contract unit price, including removal and disposal of existing curb at no direct pay.

SECTION 2.02 - CURBS OR CURB AND GUTTER BOTTOMS

The Contractor shall remove and dispose of all existing curb or curb and gutter bottoms in accordance with the plans. Existing stone curb to be removed shall be delivered to the Department of Public Works Maintenance Yard located at 838 South Genois Street unless directed by the Owner (No additional pay for disposal).

Price for new dowel curbs in new concrete pavement shall include horizontal dowels and longitudinal reinforcement as detailed on the standard plan by the City of New Orleans Department of Public Works (DPW).

Price for new curb shall include transitions, depression or hand forming curbs at obstructions as may be directed by the Sewerage and Water Board Director or required by the Department of Parks and Parkways.

The Contractor shall backfill and compact behind curb with select material obtained from roadway excavation or other approved sources and install the top 4 inches with batture sand behind the curb for dressing and beneath sidewalks and driveways at no direct pay. Payment shall be included in the unit price bid for curbs, sidewalks, or driveways as applicable.

Price for new curb and gutters associated with new asphalt pavement shall include all transverse and longitudinal reinforcement in conformance with the details on standard plan by S&WB included with these specifications.

Price for new curb or curb and gutters associated with Handicapped Ramp construction shall be measured and paid for as subsidiary to unit price bid for ADA-ACCESSIBLE CURB RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS.

SECTION 2.03 - REMOVAL OF EXISTING SIDEWALKS, DRIVEWAYS, AND FOOTLAPS

Existing concrete sidewalk, driveway, and footlaps shown to be removed shall be removed and properly disposed of by the Contractor. At locations where sidewalk, driveway, or footlaps are to be removed but are not to be replaced, the contractor shall backfill the area with selected excavated or other suitable approved material at no direct payment.

SECTION 2.04 - EXCAVATION

A. Limits of roadway excavation are shown on the plans and are measured from the bottom of the existing pavement to the bottom of the base course, and/or sub-base (where applicable). All excavated material shall be hauled and disposed of off the project site.

B. The quantity shown in the proposal form is approximate and is included for information purposes only. Partial payments for excavation will be made on a percentage basis computed from the ratio of linear foot of roadway excavation completed to the total length of roadway in the project.

SECTION 2.05 - CONSTRUCTION ROUTING AND MAINTENANCE

The Contractor must minimize damage to streets used for access to the project for the delivery of materials and equipment by observing weight and speed limits as defined in the City Code in Section 38-169 and 38-73 (h) respectively. Access routes to the work site from designated "truck routes" will be established at the preconstruction meeting. The Contractor and his subcontractor(s) will be required to adhere to these routes to and from the project site. The routes may be revised by the Sewerage and Water Board Director to accommodate the work as it progresses. The Contractor is required to keep the work site clean, particularly the roadways adjacent to the work site. The Contractor shall clear such roadways of dirt, silt sand or other such material as often as necessary, or as specified by condition at the close of each workday.

SECTION 2.06 - SHEETING AND BRACING

A. Sheeting and bracing shall meet the design, material, installation, and maintenance requirements of all SAFETY AND HEALTH REGULATIONS.

B. The cost of sheeting and bracing shall be included in the unit price bid per linear foot for drain, sewer, or water lines.

C. The Contractor shall provide design services, materials, and labor necessary for sheeting, shoring, and bracing of excavations as required for trenches in a safe working condition. The Contractor shall provide for protections and supports of utilities, roadways, buildings, and structures, etc. when performing project work. The Contractor shall provide an adequate system to withstand lateral pressure in trenches, in accordance with local, state, and federal regulations. Where required to be designed by a licensed engineer, the sheeting and shoring plan must be submitted to the Engineer for his records.

SECTION 2.07 - SANITARY SEWER SYSTEM REHABILITATION

A. The supplemental specifications within this section are applicable to all sewer rehabilitation work within the scope of the SSERP or FEMA sewer rehabilitation program as per paragraphs 1.21A and 1.21B. Any general conditions, materials or methods not discussed within this section shall be governed by the SPW standard specifications section C742 and the S&WB standard details and specifications.

B. Sewer Flow Control

1. Contractor is responsible for all sewer flow control. There will be no direct pay for flow isolation, flow diversion (bypass) pumping or any other outreach and coordination required as part of flow isolation.

2. Contractor is responsible to determine the method of sewer flow control for any pipe size and flow quantity. S&WB cannot provide any guarantees to draw the system down to reduce surcharging.

3. Contractor shall ensure that sewer does not back-up into private property and shall have a plan to prevent sewer back-ups prior to start of work in case of unforeseen delays. A sewer flow control plan is required to be submitted prior to start.

4. Where it becomes necessary to shut down a private sewer service line while work in progress, and before the service lines are reconnected, the residents are to be notified by the Contractor at least one week prior to work and again 24 hours prior to shut down. Sewer service shutdowns shall be limited to 8 hours in duration and between the hours of 8:00 am and 6:00 pm, otherwise an alternate means of sewer flow shall be provided, including but not limited to by-pass pumping.

5. Under no circumstances shall sewer be removed from the system or discharged onto the ground or into the drainage system or other waterway. Refer to section 1.21G in cases of accidental spills or discharges.

6. Only pneumatic (inflatable) pipe plugs, specifically designed for municipal sewer applications, shall be installed in the gravity sewer system for flow control or diversion. Each plug shall bear a permanent identification tag with the installer's emergency contact information. A photo of a typical plug, showing the attached identification tag, must be submitted to the Engineer for approval. Plugs without ID tags will not be permitted on the jobsite or inside vehicles on the jobsite. The Engineer may direct the immediate suspension of work and removal from the worksite of unapproved flow control devices.

a. Under no circumstances shall any plug be left inside a pipe or manhole overnight. Pipe plugs are to be removed from the jobsite at the end of each workday.

7. Flow diversion pumping shall be performed to the satisfaction of the S&WB networks engineering representative, shall be complete with all pumps, piping and other appurtenances required to pump the required sewer flow around the work site continuously with capacity for unforeseen wet weather flows and shall not adversely impact upstream or downstream sewer flow conditions or levels. Flow diversion pumping setups shall be always manned by an experienced operator the pump is required to operate or sit in standby. Flow diversion pumping equipment and piping shall be drained back into the sanitary sewer system prior to disassembly. Contractors are required to submit a flow diversion plan to the engineer 5 business days prior to setting up a flow diversion pumping setup.

8. Any sewerage removed from the gravity system, such as dewatering of surcharged manholes or line segments shall be disposed into the sanitary sewer system.

9. When sewer flow control is used to perform CCTV inspection, the following depths of flow shall be maintained at a maximum:

a. For 10” and smaller diameter pipe, flow depth shall be maintained at or less than 10% of the pipe diameter.

b. For 12” through 24” diameter pipe, flow depth shall be maintained at or less than 15% of the pipe diameter.

c. For pipes larger than 24” diameter pipe, flow depth shall be maintained at or less than 20% of the pipe diameter.

10. For every location where flow diversion is required, the Contractor shall submit a site-specific flow diversion plan to the Engineer at least five (5) business days prior to mobilizing flow diversion equipment. The plan shall include pipe sizes and lengths, pump make/manufacturer, pump capacities, pump curves, a scaled drawing or diagram showing limits of the work, location of suction and discharge hoses, adjoining sewer segments and manholes, flow direction and plug locations, and any additional information requested by the Engineer.

11. The Contractor must conduct sewer flow control, isolation, and diversion in accordance with the approved plan and must have a Competent Person at the site throughout the flow control operation. Flow diversion pumps shall be always manned by and experienced operator.

C. Gravity Sewer and Service Lateral Rehabilitation

1. Contractor is responsible to obtain sewer service location records from the S&WB and to verify the location sewer service connections prior to excavation.

2. Contractor shall perform gravity sewer and service lateral rehabilitation in accordance with the sewer rehabilitation sheets.

3. Any service connections located within the limits of an excavated point repairs, or mainline replacement (excavated or otherwise) shall be fully replaced, including the wye and the 6” service lateral from the main line sewer to the property line. Abandoned service connections shall not be replaced unless directed by the S&WB.

4. All service line replacements shall include replacement of the tee or wye fitting at the main line sewer at no additional cost. The contractor shall perform a standard mainline point repair to replace the service tie-in, which will be paid for separately under the respective bid item price.

5. Sewer service laterals and main line sewers shall be installed at the same grades and elevations of the pipe being replaced. However, in cases where the sewer service lateral provides less than 2% slope, the contractor shall re-grade the service lateral from the property line to the main line sewer to provide a 2% slope where possible.

6. Contractor shall provide rigid non-shear couplings or flexible elastomer couplings with stainless steel shear bands where a mainline point repair or a service later replacement results in the connection between dissimilar pipe materials. These couplers shall conform to ASTM C425 for connections to vitrified clay pipe and otherwise ASTM C1173. The bands shall be stainless steel 316 and on conformance to ASTM A240. The shear rings shall be in conformance to ASTM A240. There will be no direct pay for these provisions; contractor shall include this cost in their respective bid items of work.

7. All tees, wyes, cleanouts, plugs and other fittings shall be of the same material as the mainline pipe and/or service repair piping used in the rehabilitation.

8. Trenching for gravity sewer and service lateral rehabilitation shall be in accordance with the S&WB standard drawings, unless additional requirements are necessary for compliance with local, state, or federal regulations pertaining to health and safety. Any existing foundation or trenching lumber shall remain in place.

9. Contractor shall completely close the sewer system prior to the end of his workday. The Contractor may not leave any open main line repairs or service laterals with the site unattended. The Contractor is responsible to complete all opened work or to provide temporary piping prior to leaving the site at no additional cost.

10. The Contractor shall not begin backfilling operations over excavated sewer rehabilitation until the work has been inspected by a representative of the S&WB.

11. The S&WB reserves the right to request a mandrel test of any mainline sewer replacements at no additional cost in accordance with DPW standard specifications section C742.03(b).

12. All mainline sewer point repairs and replacements shall be recorded via CCTV immediately after completion of the rehabilitation, backfilling, compaction but prior to final pavement restoration of the site. The site is defined as the full work zone contained to a mainline sewer line segment bound by two manholes inclusive of the full length of main line sewer and all connecting service laterals.

D. Backfill Requirements for Work Near Mississippi River Levee. All sewer rehabilitation excavations within 1,500-ft Mississippi River Levee (MRL) centerline shall be limited within the following US Army Corps of Engineers (USACE) restrictions itemized below:

1. All excavation work within 400-feet of the Mississippi River levee is performed, completed, and backfilled while the stage of the Mississippi River is below +11.0 feet on the Carrollton Gage, at New Orleans, Louisiana.

2. All excavation work more than 400-feet but less than 1,500-feet from the Mississippi River levee is performed, completed, and backfilled while the stage of the Mississippi River is below +15.0 feet on the Carrollton Gage, at New Orleans, Louisiana.

3. Information concerning current river stages may be obtained on our website at www.mvn.usace.army.mil.

4. Sewer pipe bedding must be grouted after compaction. The grout shall meet the following criteria: The slurry shall consist of one part cement, two parts bentonite, and six parts sand mixed with enough water to produce a slurry viscous enough to thoroughly fill the voids. The resulting slurry shall have no less than 12 pounds of solids per gallon.

5. All non-bedding backfill must be impermeable clay – no sand at no direct pay.

6. All work must be coordinated with the Orleans Levee District (OLD) in advance and will be subject to OLD inspection and approval prior to S&WB acceptance.

7. Any damage to the levee or floodwalls resulting from the applicant's activities is repaired at the applicant's expense.

8. The contractor shall provide a detailed schedule for all sewer rehabilitation excavations for coordination with the OLD and USACE. This schedule shall be updated and resubmitted at any time the work dates for these sites has changed.

SECTION 2.08 – GRAVITY SEWER PIPEBURSTING

A. General requirements

1. This Specification covers the work necessary to furnish and install, complete and in-place, high–density polyethylene pipe (HDPE) by the pipe bursting method specified herein. The CONTRACTOR shall provide all materials, labor, equipment, and services necessary for bypass pumping diversion of sewage flows, installation of HDPE pipe, reconnection of all service connections, and closed-circuit television (CCTV) pre- and post-inspection and air testing of the completed pipe system.

2. The CONTRACTOR shall locate receiving/insertion pits to suit the pipe bursting operation. Pits located in areas where new manholes are not being installed shall be excavated, backfilled, and compacted at no additional cost to the owner. This includes providing a new manhole at no additional cost to the owner if an existing manhole is removed or damaged.

B. Qualifications

1. The pipe bursting contractor shall be certified and satisfactorily trained by the pipe bursting system manufacturer that such company is fully trained and is a licensed installer of their pipe bursting system.

2. Polyethylene pipe joining shall be performed by personnel trained in the use of butt-fusion equipment by the specific manufacturer of said equipment and recommended methods for new pipe connections. Personnel directly involved with installing the new pipe shall receive training in the proper methods for handling and installing the polyethylene pipe. Training shall be performed by a qualified and certified representative of the equipment and pipe manufacturer.

3. The CONTRACTOR shall hold the BOARD and ENGINEER whole harmless in any legal action resulting from patent infringements.

C. Reference specifications, codes, and standards

1. The following references are part of this Specification. In case of conflict between the requirements of this Specification and those of the listed documents, the requirements of this Specification shall prevail.

2. The latest edition of the following references shall be used:

a. ASTM D1248 - Polyethylene Plastics Molding and Extrusion Materials

b. ASTM D2657 - Heat Joining of Thermoplastic Pipe and Fittings
ASTM D3035 - Polyethylene Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter

c. ASTM D3261 - Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

d. ASTM D3350 - Polyethylene Plastic Pipe and Fittings Materials
e. ASTM F714 - Standard Specification for Polyethylene Plastic Pipe Based on Outside Diameter

D. Contractor submittals

1. Shop Drawings:

a. The CONTRACTOR shall submit catalog cuts, specifications, dimensioned drawings, installation details and sketches, and other pertinent information for the HDPE pipe installation work. All materials provided shall be fully in accordance with the requirements of the reference specifications specified above.

b. The CONTRACTOR shall verify with the pipe manufacturer all connection details.

c. The CONTRACTOR shall submit detail drawings and a written description of the construction procedure and sequence including its locations to bypass insertion and receiving bypass sewage flow of the host sewer and service laterals, install new hose sewer and service laterals, and disconnection and reconnection of the sewer service lateral connections.

2. Certification: The CONTRACTOR shall furnish a certified affidavit of compliance for all HDPE pipe and fittings furnished confirming that the materials supplied fully conform to the requirements specified herein.

3. Warranty as specified in Paragraph 1.06 Warranty of this Specification

4. The CONTRACTOR shall submit a complete plan for a sewage bypass pumping system in accordance with Section 2.07.

5. The CONTRACTOR shall perform trial fusion welds in the field for both main line and lateral connections and submit samples to the ENGINEER for review prior to installation of the pipe. Full penetration welds shall provide a homogeneous material across the cross section of the weld. The fusion machine employed for the trial welds shall be the same machine to be utilized for the complete project installation work.

6. Fusion equipment shall be operated only by technicians who have been certified by the pipe manufacturer or supplier and who have a minimum of 2 years' experience of fusion welding 8 inches or larger diameter pipelines. The technician's experience and verifiable references shall be documented in the HDPE pipe submittal.

E. Quality assurance

1. Quality assurance procedures shall be performed by the pipe manufacturer fully in accordance with the requirements of this Specification. The certification shall include certified laboratory data confirming that said tests have been performed on a sample of the pipe to be provided under this contract, or pipe from that production run, and that satisfactory results were obtained prior to any installation of said pipe.

2. Fusion joining and other procedures necessary for correct assembly of the polyethylene pipe shall be done only by personnel trained in those skills to the satisfaction of the ENGINEER and the pipe supplier.

3. Only those tools designed for the aforementioned procedures and approved by the pipe manufacturer or supplier and the ENGINEER, shall be used for assembly of pipe fittings to ensure proper installation. The heater plate shall be equipped with suitable means to measure the temperature of plate surfaces and to assure uniform heating such as thermometers or pyrometers.

4. Pipe (bursting) insertion equipment shall be operated only by technicians who have a minimum of 2 years' experience in the installation of the polyethylene pipe, using pipe bursting lining technology as specified herein. The technician's experience and references shall be documented in the HDPE pipe submittal.

5. The CONTRACTOR shall televise the installed pipe after existing services have been reconnected and manhole reconnection and sealing procedure work has been completed. The original post-television inspection video tape shall be provided to the ENGINEER for final approval.

F. The CONTRACTOR shall provide to the OWNER a warranty to be in force and effect for a period of 1 year from the date of final acceptance by the OWNER. The warranty shall require the CONTRACTOR to repair or replace the pipe should leakage, separation, collapse, or other failure result from faulty materials or installation as determined by the ENGINEER.

G. Materials

1. The CONTRACTOR shall provide polyethylene pipe as specified. The pipe shall be made to diameter and tolerances in accordance with ASTM D3035. The minimum ratio of orthogonal diameters prior to installation shall be 0.95. All pipes shall be made from virgin grade material. The pipe shall be of the diameter and class shown or specified and shall be furnished complete with all fabricated fittings, and other appurtenances as necessary for a complete and functional system.

2. Markings: Pipe materials shall be legibly marked by the pipe manufacturer. The following shall be printed on the pipe:

a. Name and trademark of manufacturer.

b. Nominal pipe size.

c. Dimension ratio.

d. The letters PE followed by the polyethylene grade per ASTM D1248, followed by the Hydrostatic Design Basis in hundreds of psi.

e. Manufacturing Standard Reference.

f. A production code from which the date and place of manufacture can be determined.

H. Pipe Material

1. Pipe: Pipe shall be high molecular weight, high-density polyethylene pipe. The material shall be listed by the Plastic Pipe Institute (PPI) with a designation of PE 3408 and have a minimum cell classification of 345434C, D, or E (inner wall shall be light in color) as described in ASTM D3350. The pipe material shall meet the requirements for Type III, Class B or C, Category 5, Grade P34 material as described in ASTM D1248. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification from the same raw material pipe. Pipe (excluding black colored pipe) stored outside shall not be recycled. Pipe and fittings shall be made in conformance with ASTM F714 and ASTM D3261 as modified for the specified material. The pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, or other injurious defects. It shall be uniform in density and other physical properties. Any pipe not meeting these criteria shall be rejected.

2. Pipe Color, Pipe shall conform to the following color scheme:

a. Inside: The inner wall shall be soft white only (Opticore or equal),

b. Outside: The outer wall shall be black only.

3. Standard Dimension Ratio (SDR): Pipe shall conform to the following:

a. Nominal Size: 8 to 12 inches.

b. Outside Diameter: 8 to 12 inches.

c. SDR: Minimum 17.

I. Polyethylene pipe shall be joined by butt fusion welding, as specified in Paragraph O, Pipe Joing, herein.

J. Connection of new service lateral to the sewer main shall be accomplished by use of electrofusion saddle type fittings. The service connection shall be specifically designed for connection to the HDPE sewer main being installed, and shall be Central Electrofusion System, as manufactured by Central Plastics Company, Shawnee, Oklahoma.

K. The CONTRACTOR shall protect existing and new facilities including utilities, road pavement, and private property from damage by forces generated by the pipe bursting equipment. Any damage to any existing facilities as a result of the pipe bursting operation shall be the responsibility of the CONTRACTOR. If it is found that the damage is a result of the pipe bursting operation, the cost to repair or replace the damage facility shall be the responsibility of the CONTRACTOR.

L. Preparation

1. All work shall be performed as specified herein and supervised by personnel experienced in the installation of the pipe.

2. All sewer service connections shall be identified and located by CCTV prior to the start of any pipe bursting operation and pipe insertion. Upon commencement, pipe insertion shall be continuous and without interruption from one manhole to another, except as approved by the ENGINEER. Upon completion of the insertion and installation of the new pipe, the CONTRACTOR shall expedite the reconnection of lateral service connections so as to minimize any inconvenience to the customers.

3. The project foreman assigned to the project by the CONTRACTOR shall be onsite at all times from the time of inception to the time of completion.

M. Handling and storage

1. The CONTRACTOR shall exercise special care during the unloading, handling, and storage of all polyethylene pipe to ensure that the pipe is not cut, gouged, scored, or otherwise damaged. Any pipe segment, which has cuts in the pipe wall exceeding 10 percent of the wall thickness, shall be cut out and removed from the site at the CONTRACTOR’s cost. The pipe shall be stored so that it is not deformed axially or circumferentially, which may hinder pipe installation. After the unloading of any pipe material ordered to the project site and before installation of the pipe, the CONTRACTOR shall inspect all pipe to verify its condition prior to installation with the ENGINEER and/or the project

inspector. A pipe condition inspection report provided by the CONTRACTOR shall be filed with and approved by the ENGINEER prior to installation.

2. All polyethylene pipe, without an ultraviolet inhibitor, shall not be stored unprotected against the outside elements.

N. Repairs to the existing line

1. If the pre-installation video inspection reveals a sag in the existing sewer greater than one-half the diameter of the existing pipe, the CONTRACTOR shall take necessary measures to eliminate these sags by the system of pipe replacement, digging a sag elimination pit and bringing the bottom of the pipe trench to a uniform grade in line with the existing pipe invert or by other measures that shall be approved by the ENGINEER. There is no additional pay for this work.

2. The CONTRACTOR shall repair the pipe where point repairs are identified on the Drawings. If not shown, it will constitute extra work when approved by the ENGINEER. Any required point repairs shall be performed as per these specifications and will be paid for separately under the respective bid items for the work.

O. Pipe joining

1. Sections of polyethylene pipe shall be joined into continuous lengths on the jobsite above ground. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. Fusion equipment used in the joining procedure shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, fusion temperature, alignment, and fusion pressure. Electrofusion may be used for field closures as necessary when appropriate fusion equipment can be utilized in a trench type environment. For end sections or "tail" pipe, the use of electrofusion couplings as manufactured by Central Plastics Company can be utilized.

2. A fire-retardant bag or suitable enclosure shall be used with the heater plate to facilitate control of heating process and to protect the heater plate surfaces from dirt and other debris when not in use. The heater plate surfaces shall be cleaned regularly as needed to prevent accumulation of fusion welding residues or other substances that may result in faulty pipe joining.

3. Butt fusion shall conform to ASTM D2657 and pipe manufacturer's criteria for the type of joining. Joint strength shall be equal to that of the adjacent pipe.

4. The inside and outside of pipe ends shall be cleaned with a cotton or non-synthetic cloth to remove dirt, water, grease, and other foreign materials. The pipe ends shall be cut square and carefully aligned just prior to heating.

5. After achieving the proper melt pattern, the pipe ends shall be brought together in a firm, rapid motion applying sufficient pressure to form a pipe bead (1/8 inch to 3/16 inch in height) around and inside the entire circumference of the pipe.

P. Pipe installation

1. The CONTRACTOR shall excavate, expose, and isolate all sewer service connections prior to replacing the existing sewer. The existing service connections may be encased in mortar, concrete, or reinforced concrete. There will be no additional compensation for demolition of this concrete.

2. The CONTRACTOR shall install the pipe by utilizing a constant tension system with a hydraulic or pneumatic bursting device that breaks away the existing pipe. A static "cone cracking"

method may be used, but only by advancing the mole bursting head with a "solid steel tow rod" pulled by a constant tension hydraulic pulling wrenching system. The advancement of the bursting mole head with a "chain" shall be prohibited. The void created by the bursting device shall be sufficient in size to accommodate the HDPE pipe, which shall be installed immediately after the void has been formed. The CONTRACTOR shall be responsible to provide adequately designed pipe bursting equipment to accomplish the replacement of the existing pipe under all adverse conditions.

3. The CONTRACTOR may utilize existing manholes where practical. Location of pits outside of existing manholes should be considered as replacement of existing manholes that are not designated to be replaced shall be at the sole cost of the CONTRACTOR. Manhole inverts and benches and channels shall be removed to permit access for installation equipment as appropriate. When installing through an existing manhole, the input and output pipe openings shall be enlarged as appropriate to accommodate to the maximum OD size of the bursting device. At no time shall the bursting device and/or the installation process put any undue stress on the existing surface. Benches and channels shall be reconstructed to proper elevations after the new pipe is in–place.

4. The CONTRACTOR shall secure the pipe to concrete structures or manholes after the pipe has been installed along the length of sewer replaced. The CONTRACTOR shall use a water stop or flange adapter, as supplied by the pipe manufacturer, that is fused and seated perpendicular to the pipe axis, around the pipe exterior, and grouted into the structure wall to create a watertight seal. The new pipe shall be installed 12 inches inside of the manhole opening. The structure or manhole connections shall be made a minimum of 12 hours after pipe insertion.

Q. Low pressure air testing

1. After a manhole-to-manhole section of sanitary sewer has been pipe bursted and prior to any service lines being connected to the replacement pipe, the pipe shall be plugged at each manhole with pneumatic plugs. The design of the plugs shall be such that they will hold against the test pressure without requiring external blocking or bracing. One of the plugs shall have three air hose connections; one for inflating of the plug; one for reading the air pressure in the sealed line; and one for introducing air into the sealed line.

2. Low pressure air shall then be introduced into the sealed line until the interlay air pressure reaches 4.0 psig greater than the average back pressure resulting from any groundwater that may be over the pipe. At least 2 minutes shall elapse to allow the pressure to stabilize.

3. The time required for the internal pressure to decrease from 3.5 to 2.5 psig greater than the average backpressure resulting from any groundwater that may be over the pipe, shall not be less than the time shown for a given diameter in the following table:

Carrier Pipe Diameter (inches)	Minimum Elapsed time (minutes)
8	4
10	5
12	6
15	7

R. Reconnection of sewer service connections

1. The CONTRACTOR shall successfully test the installed pipe prior to reconnecting sewer services.

2. All sewer service laterals shall be replaced from the new main line to the respective property line and will be paid for separately under the respective unit bid items.

3. Service connections shall be connected to the new pipe and installed in a hole that shall be drilled the full inside diameter of the outlet or as recommended by the connection manufacturer. Service connections shall only be connected to the mainline with the use of fused service fittings as per the requirements in this section.

S. Final cleaning and television inspection

1. Prior to final acceptance and final inspection of the pipe by the ENGINEER, the CONTRACTOR shall flush and clean all parts of the system by removing all accumulated construction debris, rocks, gravel, sand, silt, and other foreign material from the pipe.

2. After completion of the pipe installation, service reconnections, finish work at the manholes and final cleaning, the sewer shall be televised with a color CCTV tilt-head camera recorded in VHS format. The original tape shall be provided to the ENGINEER.

SECTION 2.09- PRE- AND POST-REHABILITATION CCTV INSPECTION AND CLEANING

A. Scope of work

1. Cleaning: The Contractor shall furnish all labor, materials, equipment, and incidentals required to clean sanitary sewer line segments and manholes to remove all debris, solids, sand, grease, grit, etc. as specified herein.

2. Sewer Flow Control: The Contractor shall provide all the labor, materials, equipment, and incidentals necessary to divert wastewater flow in accordance with Subsection 2.07.B of this specification.

3. Contractors shall perform line cleaning and CCTV inspection of sewer lines for the following conditions. There is no direct pay for CCTV inspections unless noted otherwise.

a. Pre-rehabilitation of Find and Fix lines, at direct pay.

b. Pre-rehabilitation of sewer line segments requiring full length CIPP lining.

c. Pre-rehabilitation of sewer line segments requiring full length replacement via pipe bursting or other trenchless methods.

d. Post-rehabilitation of any sewer line segments inclusive of all rehabilitation methods (replacement, point repair, lining, etc.).

e. Upon written request by the engineer to perform additional CCTV inspections, at direct pay.

f. In the case of a CCTV performed as a Pre-rehabilitation inspection for a full length CIPP and then the CIPP is canceled as a result of the CCTV findings, the Contractor will be reimbursed for the line cleaning and CCTV at direct pay.

g. For pre-rehabilitation of sewer service laterals requiring CIPP lining see Paragraph G.

h. For post-rehabilitation of sewer service laterals requiring CIPP lining see Paragraph G.

B. Submittals

1. The Contractor shall maintain a master copy of all DVD's and CCTV inspection reports submitted, until final acceptance of contract. All DVDs, and CCTV inspection reports submitted by the Contractor will become the property of the Board.

2. The Contractor shall submit two (2) DVD's, one (1) hard copy, and one (1) electronic copy of corresponding CCTV inspection reports on a weekly basis for all work accomplished the previous week.

3. For pre-rehabilitation and post-rehabilitation CCTV inspection, the Contractor shall submit to the Engineer for review two (2) DVD's, one (1) hard copy, and one (1) electronic copy of the CCTV inspection reports on-line segments identified herein as requiring pre-rehabilitation CCTV inspection.

4. Where defect coding is required, the Contractor shall provide the defect coding in the Microsoft Access database provided by the Board. Defect coding shall be performed in accordance with the Sewerage & Water Board of New Orleans' Sewer Condition Classification Manual.

5. The Contractor shall submit documentation that the CCTV inspection equipment to be utilized meets the requirements in these specifications.

6. Forms and reports the Contractor proposes using to document cleaning work.

C. Camera distortions, inadequate lighting, dirty lens, blurred/hazy or unsteady video will be grounds to reject pre- and post-rehabilitation CCTV inspections. If quality of the pre- and post-rehabilitation CCTV inspections and inspection reports is not adequate as determined by the Engineer, the Contractor shall provide a new pre- or post-rehabilitation CCTV inspection or inspection report. No additional payment shall be made for pre- and post-rehabilitation re-inspections.

D. When water from the public water supply is needed to meet the cleaning requirements of the equipment and the sewer, the Contractor shall obtain transient water meters from the Board with payment of a deposit. The Contractor shall be billed monthly by the Board for water usage. As a general rule, prior written approval from the Board is not needed to use fire hydrants located within this project area under this contract. However, fire hydrant keys are required and are available from the Sewerage and Water Board's Networks Department with payment of a deposit. The Contractor will be responsible for payment of deposit and payment of a monetary fine should the hydrant key(s) not be returned.

E. All high velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a variety of high velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 degrees to 45 degrees in all size lines to be cleaned. In addition to conventional nozzles, use a nozzle or series of nozzles which direct the cleaning force to the bottom of the pipe for sewers

18 inches and larger. The equipment shall include a water tank, auxiliary engines, pumps, and hydraulically driven hose reel all contained within one single unit. All controls shall be located so the equipment can be operated above ground. A gauge shall be installed to indicate working pressure on the discharge of high-pressure water pumps.

F. CCTV inspection

1. The Contractor shall supply camera skids and floating skids or rafts as required to complete pre- and post- rehabilitation CCTV inspection as required in the Contract. The Contractor shall inspect sewer lines with pan and tilt conventional television equipment. The operation of the television equipment shall be controlled by a skilled technician or supervisor who shall be located at the control panel in the mobile television studio. The CCTV equipment including reels and the television studio are to be contained within a single vehicle.

2. The camera system shall be able to navigate around minor objects, roots, and debris. The camera cable shall be retracted to remove slack and to ensure an accurate footage reading.

3. The distance between manholes shall be verified by measuring tape. If the counter distance and the taping distance differ by more than 2 feet per 100 feet, the run shall be re-televised by CCTV Contractor.

G. Pre-rehabilitation CCTV

The Contractor shall perform pre-rehabilitation CCTV inspection as required herein.

1. The Contractor shall perform cleaning activities prior to pre-rehabilitation CCTV inspection.

2. The purpose of the pre-rehabilitation CCTV inspection is to provide defect coding data to the Engineer to determine the extent of rehabilitation for line segments identified as find and fix line segments. In addition, pre-rehabilitation CCTV inspection is intended to verify the location of service connections and to verify that additional repairs are not required for line segments and service laterals identified to receive full length CIPP liners.

3. Defect coding for line segments identified as find and fix line segments is required. The Contractor shall submit defect coding of find and fix line segments in the Microsoft Access database provided by the Board

4. The Engineer will make the final determination of rehabilitation for line segments identified as find and fix line segments.

5. The Contractor shall determine if a change or addition in the rehabilitation method(s) is necessary for line segments identified to receive a full length CIPP liner. If the Contractor determines that a change or addition in the rehabilitation method(s) is necessary, the Contractor shall provide the pre-rehabilitation CCTV inspection, DVD, and inspection report to the Engineer for review and approval.

H. Post-rehabilitation CCTV

1. The Contractor shall perform post-rehabilitation CCTV inspection as required herein.

2. Sewer line segments repaired by full-length replacement or by full-length lining will require cleaning prior to CCTV inspection and will require defect coding in accordance with the Board’s Sewer Condition Classification Manual, latest edition.

3. Sewer line segments repaired by excavated point repair will require cleaning prior to CCTV inspection. The Contractor shall inspect the main from manhole to manhole, but defect coding of the line segments is not required.

4. Service laterals repaired by CIPP lining shall receive post-rehabilitation CCTV inspection. Defect coding of the service lateral is not required.

I. Cleaning

1. All interior surfaces of sewer lines shall be cleaned adequately to provide for a camera used in internal inspection to discern structural defects, misalignment, and infiltration and inflow sources. Cleaning shall be performed prior to internal inspection to preclude the buildup of debris from infiltration and inflow sources and discharges from upstream sewer line segments sections.

2. Cleaning: Cleaning shall be defined as the use of high velocity jet nozzle cleaning equipment to clean the line to the satisfaction of the Engineer.

3. Specialty cleaning: Specialty cleaning is defined as removal of obstructions such as roots and intruding connections. Obstruction removals may require the use of special equipment such as rodding or bucket machines, and/or expanding cutters. The Contractor will obtain authorization from the Engineer prior to conducting any specialty cleaning. Authorization shall be required for each individual sewer reach. No payment shall be made for specialty cleaning without prior approval by the Engineer.

4. No fire hydrant shall be obstructed so as to prevent its use in case of a fire in the area served by the hydrant.

5. The Contractor shall provide the Board with monthly readings of water consumption for billing purposes. All cleaning equipment must be equipped with a backflow preventer to prevent any contamination to the public water supply. When utilizing water from the public water supply, the Contractor shall remove water meters, fitting, and piping from fire hydrants at the end of each working day. The Contractor shall not waste water from public water supplies due to poor connections to hydrants.

6. If cleaning of an entire line segment cannot be successfully performed from one manhole, the equipment shall be re-setup at the manhole on the opposite end of the pipe segment being cleaned and cleaning shall be re-attempted.

7. The Contractor shall use a nozzle that directs the cleaning force to the full circumference of the pipe.

8. When using hydraulically propelled devices, the Contractor shall take necessary precautions to ensure that the water pressure created does not cause damage or flooding to public or private property.

9. The Contractor is responsible for the disposal of waste from cleaning operations at a permitted disposal site. The Board's East Bank Sewage Treatment Plant is available for disposal of waste from cleaning operation under this Contract. The Contractor shall abide by the operational policies and normal administrative working hours for the East Bank Sewage Treatment Plant when used for disposal.

10. Acceptance of sewer cleaning work is contingent upon the successful completion of the television inspection. If television inspection shows debris, solids, sand, grease, or grit remaining in the line, the cleaning is considered unsatisfactory. The Contractor, at no additional cost to the Board, shall repeat the cleaning, inspection, and televising of the sewer line until cleaning is acceptable by the Engineer.

J. Television equipment

1. Closed Circuit TV Equipment: The Contractor shall select and use closed-circuit television equipment that will produce color video recordings. The Contractor shall supply camera skids and floating skids or rafts as required to complete the CCTV portion of the Contract.

2. Pipe Inspection Camera

a. The television camera used for the sewer line inspection shall be one specifically designed and constructed for sewer pipeline inspection. The camera shall be waterproof and shall be operative in any conditions that may be encountered in the inspection environment. The camera shall be operative in 100% humidity conditions. The Contractor shall produce video recordings using a pan-and-tilt, radial viewing pipe inspection camera that pans ±275 degrees and rotates 360 degrees.

b. Television inspection of an entire line segment cannot be successfully completed from one manhole; a reverse set-up must be performed to obtain a complete television inspection. If successful televising of the entire line segment cannot then be accomplished, the inspection effort shall be abandoned. The Contractor will be paid for the inspection of the actual length of line segment televised. There will be no additional payment for reverse set-ups.

c. The camera shall be moved through the line segment in either direction at a rate not to exceed 30 feet per minute. Any means of propelling the camera through the sewer line which would produce non-uniform or jerky movement of the camera, will not be acceptable, Stop the camera at all defects so that a clear picture of the defect remains on the video screen for the operator to verbally describe the defect on the tape. Record a full 360° pan view at all service lateral lines.

3. Wherever prevailing conditions allow, the CCTV camera head shall be positioned to reduce the risk of picture distortion. In circular sewers, position the television camera lens centrally (in prime position) within the sewer. In non-circular sewers, camera location shall be at mid-height of the sewer, unless otherwise agreed, and centered horizontally. In all instances, orient the camera along the longitudinal axis of the sewer when in prime position. A positioning tolerance of plus or minus 10% of the vertical sewer dimension shall be allowed when the camera is in prime position.

4. The adjustment of focus and iris shall provide a minimum focal range from 2 inches in front of the camera's lens to infinity. The distance along the sewer in focus from the initial point of observation shall be a minimum of twice the vertical height of the sewer. The illumination must be such as to allow an even distribution of the light around the sewer perimeter without the loss of contrast, flare out of picture, or shadowing.

5. The Contractor shall use a camera with camera height adjustment so that the camera lens is always centered at one-half the inside diameter or higher in the pipe being televised. The Contractor shall provide remote and/or automatic focus and aperture control.

6. The television inspection equipment shall be of such high quality as to enable the following to be achieved:

a. Color: With the monitor adjusted for correct saturation, the six colors plus black and white shall be clearly resolved with the primary and complementary colors in order of decreasing luminance.

b. Resolution: The live picture must be displayed on a monitor capable of providing a clear, stable image free of electrical interference with a minimum horizontal resolution not less than 450 lines.

7. The Closed-Circuit Television monitor display shall incorporate an automatically updated record in feet and tenths of a foot of the distance along the line from the cable calibration point to the center point of the camera. The Contractor shall use a suitable metering device that enables the cable length to be accurately measured; this shall be accurate to ±2%. The Contractor shall demonstrate that the tolerance is being complied with, by tape measurement between manholes on the surface. This taped measurement must be included on each television inspection log both written and electronic. If the Contractor fails to meet the required standard of accuracy, the Engineer shall instruct the Contractor to re-survey those lengths of sewer at no additional cost to the Board.

8. Video recordings shall be high quality. The video recording shall reproduce clearly discernable sound and video information on the television monitor. The recording shall be free of interference and shall produce a clear, stable image.

9. The audio portion of the recording shall be clear and complete, and easily discernible. The audio portion shall record the location or identification of the line segment, the manhole-to-manhole direction of travel, and the distance traveled on the specific inspection. The audio portion shall record and identify all visible defects and include the information required by the Sewerage and Water Board of New Orleans' Sewer Condition Classification Manual, latest edition.

10. The video recording equipment shall be continuously connected to the television inspection and monitoring equipment. The video recording and monitoring equipment shall have the built-in capability to allow the Engineer and the Contractor to instantly evaluate both the audio and video quality of the video recording at all times during the television survey. Video recordings shall be enclosed in plastic containers which shall clearly indicate the date the tape was recorded, the designated section(s) of sewer lines contained on the tape, and the referenced sewer inspection report covering the sections of the sewer lines so included.

11. Lateral Inspection Camera

a. The television camera used for the lateral inspection shall be one specifically designed and constructed for lateral inspection. The Contractor shall provide a portable "mini-cam" CCTV inspection system. This system shall provide a color video satisfactory to the Engineer and contain footage readings displayed on the monitor and videotape at all times. The accuracy of the distance meter shall be checked by the use of tape measurement and the accuracy shall be within 2%.

b. When the cleanout for a service line is inaccessible, the Contractor shall perform CCTV inspection of the service lateral from the mainline utilizing a lateral camera launcher system. A sewer main line television camera shall be used to position the lateral camera launcher.

12. DVD

a. The Contractor shall provide video recordings with audio comments in the DVD format, recorded at Standard Play (SP).

b. Complete sewer line segments shall be included on the same video recordings (i.e., CCTV inspections for sewer line segments shall not be divided among videotapes).

c. The video format shall be an MPEG-1 compressed video, and resolution video format shall be QSIF (Quarter-size Standard Image Format) of 176 x 112 pixels for NTSC video format.

d. Two labels are required on each DVD. One label shall be placed on the DVD Case and the other on the face of the DVD. The Contractor shall permanently label each as follows:

DVD Case

PRECONSTRUCTION AUDIO-VIDEO SURVEY
Contract No. Tape No.

Face of DVD

Project Title:_____Contractor: _____

Date Televised (MM/YY):_____Date Submitted _____

Manhole No. From	Manhole No. To	Pipe Diameter	Pipe Length	Street	Starting Counter No.

K. Television Inspection Report

1. The Contractor shall complete a Television Inspection Report covering the television inspection work and the information acquired, as described in the Sewerage and Water Board of New Orleans' Sewer Condition Classification Manual, latest edition.

2. The same television inspection code sheet shall be used throughout the Contract. The code sheet shall include abbreviations for specific defects as detailed in the Sewer Condition Classification Manual. Submit all electronic data files for the previous week's work to the Engineer weekly CD-ROM. Include hard copy printouts of the correlating inspection reports with each submittal. Submit electronic files on CD-ROM and DVDs for corresponding lines concurrently. Submit all electronic data files in a Microsoft Access database format provided by the Board. The manual and data entry database are available for review at the office of the SSERP Program Manager.

3. At the start of each line segment video recording, record and report the measured length of the sewer line being inspected. Begin with zero at the inside face of the start manhole, and end at the inside face of the end manhole.

4. At the start of each line segment video recording, electronically generate and clearly display, on the viewing monitor and video recording, a record of data in alphanumeric form containing the following information:

a. Size and Length of Line;

b. Automatic update of the camera's position, in feet and tenths, in the sewer line from adjusted zero;

c. Type of pipe material;

d. Upstream manhole name and downstream manhole name;

e. Date of inspection;

f. Road name or line segment location description;

g. Direction of inspection (upstream or downstream);

h. Starting time of the inspection.

5. Once the survey of the sewer line is under way, continuously display specific data on the viewing monitor and video recording. The size and position of the data display shall not interfere with the main subject of the picture yet shall be easily readable when the recording is replayed. At a minimum, the following data should be displayed:

a. Automatic update of the camera's position, in feet and tenths, in the sewer line from adjusted zero.

b. Upstream manhole name and downstream manhole name.

6. Each sewer length, i.e., the length of sewer between two consecutive manholes, shall be entered on a separate coding sheet. Thus, where a Contractor elects to "pull through" a manhole during a CCTV Survey, he shall start a new coding sheet at the manhole "pulled through" and shall re-set the distance to zero on the coding sheet.

7. The Contractor shall make submittals as required herein, on a weekly basis for all work accomplished the previous week.

L. Camera operation

1. All efforts should be made to prevent damage to the sewer conduit during the television inspection. In the case where damage is caused by the Contractor, for any reason, such as would be caused by incorrect deployment of bonds or retrieval of lodged equipment, the cost of repair or remedy shall be absorbed by the Contractor and shall be considered an incidental part of the Work. No separate measurement or payment will be made.

2. The CCTV operator shall accomplish simultaneous video and audio recording of defects, services, on site.

3. The camera shall be moved through the line in either direction at a uniform rate, stopping when necessary to insure proper documentation of the sewer's condition. Manual winches, power winches, TV cable, powered rewinds, and crawler devices or other devices that do not obstruct the camera view and do not interfere with proper documentation of the sewer conditions shall be used to move the camera through the entire sewer line section. The Contractor shall reposition his equipment as necessary so that the inspection can be performed from manhole on the opposite end of the pipe segment being viewed.

4. The lateral inspection camera video shall contain the forward and backward movement of the camera up to the mainline and back to the cleanout. If an attempt to video the service lateral line cannot be completed to the sewer main line, the blockage will be reported to the Engineer in writing and the service lateral line CCTV inspection will be abandoned.

5. When utilizing a lateral camera launcher system from the mainline, a maximum of 100 linear feet of the lateral or to the property cleanout, whichever is closer to the sewer main line, shall be inspected. Actual footage inspected may vary depending on lateral condition, bends, roots, launcher limitations, etc.

SECTION 2.10 - SANITARY SEWER MANHOLE REHABILITATION

A. Scope of work

1. The Contractor shall furnish all labor, materials, equipment, and incidentals required for the purpose of restoring structural integrity, eliminating water infiltration, repair of voids, and providing corrosion protection of the sanitary sewer manholes as shown on the Drawings and specified herein and assumed to be approximately 48" in diameter.

2. Sanitary sewer manhole rehabilitation shall include the following:

a. Leak-proofing of deteriorated, leaking, or structurally unsound manholes by lining with lightweight structurally reinforced concrete systems.

b. Repair and sealing of the manhole base, benches, channel, walls, corbel/cone, and chimney of brick, block, or precast manholes, including the removal of any unsound material.

c. Injection of chemical grout.

d. Cleaning and preparatory patching of manholes receiving liners.

e. Removal of flush valves and water service lines.

3. Sanitary sewer manhole rehabilitation for frames and covers replacement or adjustments shall be performed in accordance with section 3.16 of these special provisions (Items CF-371 through CF-378).

B. Submittals

1. The Contractor must submit for approval the manufacturers' specifications for all products that will be used for manhole rehabilitation. Only materials approved by the Engineer shall be on the job site.

2. The Contractor must, upon request by the Engineer, submit all other product information deemed necessary by the Board.

3. The Contractor must submit a written Vacuum Test Report for each test location of the concrete lining system indicating pressures, duration, actual leakage amounts, and other data to the Engineer for approval as a condition of acceptance. Testing is to be performed only when the Board inspector is present.

4. For the installation of the lightweight spray applied structural concrete lining system the Contractor shall submit a Warranty Certificate showing that the Contractor, the Applicator, and the Manufacturer will warrant the installed cementitious lining system against infiltration and corrosion for a minimum of 1 year from Final Acceptance of the Contract by the Board.

5. The Contractor shall provide certification from each product manufacturer utilized that the applicator is certified to apply the product and the manufacturer has witnessed and approved the application in the first manhole to be rehabilitated with the product.

C. Manhole rehabilitation materials

1. General

a. All materials shall be designed, manufactured, and intended for sewer manhole rehabilitation and the specific application in which they are used.

b. Each material shall be designed for application over damp surfaces (not wet surfaces or surfaces with actively running water) without degradation of the final product or the bond between the product and the manhole surface.

2. Infiltration Control: Stopping active leaks in concrete and masonry manholes shall be achieved by using the following:

a. Hydraulic Cement:

i. The hydraulic cement shall be a fast-setting, volume-stable, waterproofing, cementitious plugging material. The material shall consist of hydraulic cement, graded silica aggregates, and special plasticizing/accelerating agents. It shall not contain chlorides, gypsum, plasters, iron particles, aluminum powder or gas-forming agents, nor shall it promote the corrosion of steel.

ii. The material shall meet the following physical property requirements:

Set time (max)	ASTM C403	60 to 90 sec
Compressive strength (1hr)	ASTM C109	1000 psi
Bond strength (1hr)	ASTM C321	50 psi.

iii. The product must be factory blended requiring only the addition of water at the job site and shall not include any basic ingredient that exceeds the maximum allowable EPA limit for any heavy metal. Water used to mix product shall be clean and potable.

b. Chemical Grout:

i. The chemical grout shall be a hydrophilic liquid that is water reactive and will change from a free-flowing liquid to a water impermeable elastomeric gel upon injection to stop excessive infiltration to a manhole. The reaction (curing) shall produce a chemically stable and non-biodegradable, tough, flexible gel. The chemical grout shall be a urethane liquid in uncured form with a moderate viscosity suitable for pumping and variable curing times. ii. The polyurethane chemical grout shall be Scotch-Seal 5610 by 3M, Avanti AV-254, or approved equal.
The material shall meet or exceed the following requirements:

- The liquid shall have a solids content of 80% and a specific gravity of 1.04 to .11.
- The liquid shall have a viscosity of 300 to 1000 centipoise at 70-degree Fahrenheit.
- Gel times shall be in accordance with the manufacturer's recommendations.
- The grout shall have the ability to increase viscosity, density, gel strength and resistance to shrinkage by the use of additives in the reaction water.

iii. A reinforcing agent shall be added to the reaction water at the manufacturer's suggested rate. This agent is intended to increase the polyurethane gel's resistance to wet/dry cycles, freeze/thaw cycles, and solid movement stresses. The reinforcing agent shall be appropriate for the specific grout product that is to be used.

iv. Additional chemical grout additives, such as catalysts or accelerators, needed to make the grout function properly shall be as manufactured by 3M, Avanti, or approved equal and shall be used in a manner approved by the manufacturer.

3. Patching

a. Material - Patching, repointing, filling, and repairing nonleaking holes, cracks, and spalls in concrete and masonry manholes, including trough repair shall be achieved by using the following material:

b. A premixed non-shrink, cement-based, patching material. The material shall consist of hydraulic cement, graded silica aggregates, special plasticizing/accelerating agents, which has been formulated for vertical or overhead use. It shall not contain chlorides, gypsums, plasters, iron particles, aluminum powder, or gas-forming agents, nor shall it promote the corrosion of steel.

i. The material shall meet the following physical property requirements:

Set time (max)	ASTM C403	30 min
Compressive strength (1 hr.)	ASTM C109	800 psi
Compressive strength (28 day)	ASTM C109	3000 psi.

ii. The product must be factory blended requiring only the addition of water at the job site and shall not include any basic ingredient that exceeds the maximum allowable EPA limit for any heavy metal. Water used to mix product shall be clean and potable.

D. Spray applied and centrifugally cast lining materials

1. The material applied to the surface of the manhole shall be a lightweight structurally reinforced cementitious blend of siliceous aggregates, non-metallic fibers, and other additives. The material shall produce a monolithic liner that is impervious to the flow of water, resistant to sulfide attack, and restores structural integrity to the existing manhole walls. The material shall be Permacast MS-10,000, Quadex QM-1s, SCM Reliner MSP, Strong Seal MS-2A, or approved equal.

2. The product must be factory blended requiring only the addition of water at the job site and shall not include any basic ingredient that exceeds the maximum allowable EPA limit for any heavy metal. Water used to mix product shall be clean and potable.

3. The cementitious lining system shall result in a monolithic structure conforming to the interior shape and contour of the existing manhole and covering all interior surfaces. The lining system shall be completely watertight and free of any joints or openings other than pipe inlets, pipe outlets, and the rim opening. The junction of the lining material with the pipe material at the inlets and outlets shall be watertight.

4. The cementitious lining system shall allow rehabilitation of a concentric, eccentric, or flat top manhole without removing the manhole frame casting and top section or corbel.

5. For manholes greater than 12 feet in depth, the lining shall withstand the pressures associated with a groundwater depth equal to the manhole depth. Linings for all other manholes shall withstand the pressures associated with a minimum depth of 12 feet. The manufacturer's recommended lining thickness dimensions to withstand groundwater pressure shall be submitted to the engineer for review.

6. The material shall have the following minimum requirements:

Compressive Strength (28 days), psi	ASTM C109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars	3,000
Tensile Strength, psi	ASTM C496 - Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens	300
Flexural Strength, psi	ASTM C293 - Standard Test Method for Flexural Strength of Concrete	600
Bond Strength, psi	ASTM C321 - Standard Test Method for Bond Strength of Chemical-Resistant Mortars	130
Shrinkage, %	ASTM C596 - Standard Test Method for Drying Shrinkage of Mortar Containing Hydraulic Cement	0
Density, lb/cf	(when applied)	105

7. The material shall be designed for the selected method of application.

E. Wall cleaning material

1. Pressure Washing Equipment shall have the following minimum requirements:

a. Operating Pressure – 3,000 psi with the capability to produce a continuous flow of water at a minimum temperature of 210-degree Fahrenheit at a minimum force of 3,000 psi.

2. Cleaners: Detergent or muriatic acid capable of removing dirt, grease, oil, and other matter which would prevent bonding of the sealing material to the manhole wall. The Contractor shall refer to the lining material manufacturer's recommendations for preparatory surface cleaning.

F. New manhole frames and covers shall be East Jordan Iron Works (Vulcan) V-1501, or approved equal, as detailed on DPW STD Drawings 3143-E-1. Work shall be performed and will be paid for as per section 3.16.

G. Manhole casting embedment sealant

1. The sealant shall be a premium, extruded, bituminous, tacky rubber sealant in rope form for use on manholes as an embedment material for the frame to adjusting brick/mortar corbel. Work shall be performed and will be paid for as per section 3.16.

2. Sealant shall conform to the latest version of ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealants and Federal Specification SS-S-210A – Sealing Compound, Preformed Plastic, for Expansion Joints and Pipe Joints, Type I.

3. The sealant shall have the following properties:

Physical Properties	REQUIRED
Initial Elongation, %, min.	300
Elongation, %, min., at two weeks in total water immersion	300
Storage Life	Indefinite
Service Temperature Range, ^{0}F	-20 to 200

H. The Contractor shall perform all work needed to structurally repair manholes, improve sewer flow, prevent entrance of inflow or groundwater, and prevent entrance of soil or debris.

I. Delivery, storage, and handling

1. The materials shall be delivered to the job site in original unopened packaging and clearly labeled with the manufacturer's identification and printed instructions. The Contractor shall handle and store all material in accordance with manufacturer instructions and shall dispose of all wastes in accordance with applicable regulations.

2. The Contractor shall keep products safe from damage. The Contractor shall promptly remove damaged products from the job site and replace damaged products with undamaged goods.

J. Project conditions

1. Manholes Containing Flow Monitoring Equipment:

a. Drawings may not show locations of flow monitoring equipment. If a manhole contains any mechanical hardware or electrical flow monitoring equipment, the Contractor shall immediately notify the Engineer.

b. Work in such manholes shall be rescheduled at no additional cost to the Board until the Board has removed the equipment and the Contractor has been given further instructions.

c. Manholes with mechanical hardware or electrical equipment shall not be subjected to diversion pumping.

d. Any damage to installed equipment, resulting from the Contractor's failure to adhere to the above, shall be repaired by the Board at the Contractor's expense.

2. Field Location of Manholes:

a. The Contractor shall be responsible for locating and uncovering all manholes. If the Contractor is unable to locate a manhole after due diligence with measuring tapes, metal detectors, and probing, the Contractor shall notify the Engineer in writing for Board assistance.

b. The Contractor is cautioned that manholes that are not part of the subsystem being rehabilitated may be located within the project limits. No payment will be made to the Contractor for work in manholes not indicated on the Drawings or as directed in writing by the Engineer.

K. Manhole covers, frames, and adjusting rings from abandoned, broken, or adjusted castings shall remain the property of the Board. The Contractor shall deliver salvaged items at a time and to a property location designated by the Board.

L. Rehabilitation of manhole structure

1. Disposal Sites: The Contractor may dispose of sludge, sand, debris, grit, and liquid wastes resulting from performance of operations in this contract at the East Bank Sewage Treatment Plant (6501 Florida Avenue). There will be no charge for disposal at this location. The Contractor may utilize and coordinate other licensed disposal sites at no additional cost to the Board, upon approval by the Engineer.

2. Cleaning: All concrete and masonry surfaces to be rehabilitated shall be cleaned prior to the application of rehabilitation products. All grease, oil, laitance, coatings, loose bricks, mortar, unsound brick, or concrete and other foreign materials shall be completely removed. Water blasting utilizing 210-degree Fahrenheit steam unit and proper nozzles shall be the primary method of cleaning; however, other methods such as wet or dry sandblasting, acid wash, concrete cleaners, degreasers and/or mechanical means may be required to properly clean the surface. All surfaces on which these methods are used shall be thoroughly rinsed, scrubbed, and neutralized to remove cleaning agents and their reactant products. Debris resulting from cleaning shall not be washed downstream but shall be removed from the manhole.

3. Infiltration Control: After surface reparation and prior to the application of mortars and coatings, infiltration shall be stopped by use of an approved water stop compound or chemical grout. All large holes or voids around steps, joints or pipes, all spalled areas and all holes caused by missing or cracked brick shall be patched and all missing mortar shall be removed from the area to be patched or repointed, exposing a sound subbase. All cracks not subject to movement and greater than 1/16 inch in width shall be grouted with approved non-shrink-patching mortar.

4. Channel Repair: The Contractor shall remove all loose grout and rubble from existing channel. The Contractor shall rebuild channel if required by reshaping, repairing slope of shelves or benches. Work shall include aligning inflow and outflow ports in such a manner as to prevent the deposition of solids at the transition point. All inverts shall follow the grades of the pipe entering the manhole. Changes in direction of the sewer and entering branch or branches shall have a true curve of as large a radius as the size of the manhole will permit, but will be shaped to allow easy entrance of maintenance equipment including buckets, CCTV, etc.

5. Manhole Steps: All existing non-stainless-steel manhole steps shall be cut smooth with the wall or be removed completely prior to lining.

6. Full Depth Wall Liner: The lining system shall be installed in accordance with the manufacturer's recommendation to withstand groundwater pressures. Cementitious lining shall be applied to manhole wall, bench, and channel surfaces. All cementitious linings shall have a minimum thickness of 5/8 inch. All multi-component polymeric lining shall have a minimum thickness of 1/2 inch.

a. Application of all products shall be by manufacturer certified applicators.

b. Manholes requiring lining shall be cleaned no more than 2 hours before lining. The surface prior to lining shall be damp without noticeable free water droplets or running water. Materials shall be applied to a minimum uniform thickness ensuring that all cracks, crevices, and voids are filled, and a smooth surface remains after light troweling.

c. For spray applied lining, the first application shall take an initial set (disappearance of surface sheen which could be 15 minutes to 1 hour depending on ambient conditions) before the second application, if necessary, to assure a minimum total finished thickness of 5/8 inch. For centrifugally cast lining, the rotating casting applicator shall be positioned to evenly apply the material and shall be withdrawn at a rate to ensure a final minimum thickness of 5/8 inch. A depth gauge shall be used during application, at various locations, to verify the required thickness.

d. The Contractor shall apply light troweling to compact the material into voids and set the bond. The surface shall be troweled to a smooth finish with care taken not to over trowel and bring additional water to the surface.

e. The bench covers used to catch debris shall be removed and the bench and channel lined to produce a gradual slope from the walls to the channel with the thickness at the edge of the channel being no less than 5/8 inch. The wall and channel intersection shall be rounded to a uniform radius along the circumference of the intersection.

f. No application shall be made to a frozen surface or if freezing is expected to occur within the manhole for 24 hours after application. If ambient temperatures are in excess of 90-degree Fahrenheit, precautions shall be taken to keep the mix temperature at the time of application below 90-degree Fahrenheit.

g. The application shall have a minimum cure time as recommended by the manufacturer before being subjected to active sewer flow.

h. Liner samples shall be taken by the Board assigned testing laboratory on a weekly basis or as directed by the Engineer.

M. Testing and acceptance of full depth liners

1. Cementitious Liners

a. All rehabilitated manholes utilizing a full depth comprehensive lining system shall be tested by using a vacuum method. This testing shall follow the manufacturer's recommendations for proper and safe procedures. Vacuum testing of manholes and structures shall be performed following proper curing of the lining. Any visible leakage in the manhole or structure, before, during, or after the test shall be repaired regardless of the test result at no additional cost to the Board.

b. All pipes for vacuum testing shall be installed at the top access point of the manhole. A vacuum of 10 inches of mercury (5.0 psi) shall be drawn on the manhole and the time for the pressure vacuum to drop 9 inches of mercury (4.5 psi) shall be measured. Manholes will be considered to have failed the air test if the time to drop 1 inch of mercury is less than the value shown in the following table.

Vacuum Test Timetable

Depth - feet	48" Diameter	60" Diameter	72" Diameter	96" Diameter
4	10 sec.	13 sec.	16 sec.	19 sec.
8	20 sec.	26 sec.	32 sec.	38 sec.
12	30 sec.	39 sec.	48 sec.	57 sec.
16	40 sec.	52 sec.	64 sec.	76 sec.
20	50 sec.	65 sec.	80 sec.	95 sec.
24	60 sec.	78 sec.	96 sec.	114 sec.
+ Each 2'	+ 5 sec.	+ 6.5 sec.	+ 8.0 sec.	+ 9.5 sec.

c. When testing, manhole depths shall be rounded to the nearest foot. Testing times for intermediate values of manhole depth shall be interpolated. For manhole depths greater than 24 feet, the values shown in the last line of the table shall be added to the 24-foot value for each additional 2 feet of depth.

d. If the manhole or structure fails the vacuum test the Contractor shall perform additional repairs and repeat the test procedures until satisfactory results are obtained at no additional cost to the Board.

e. After the manhole rehabilitation work has been completed, the Contractor shall allow the manhole to be visually inspected by the Engineer. The finished surface shall be free of blisters, "runs", "sags", or other indications of uneven lining thickness. There shall be no evidence of visible leaks.

N. Manhole benches and channels

1. The Contractor shall remove obstructions and all loose materials from benches, troughs, and pipe inverts prior to shaping the channel. The Contractor shall form a smooth, U-shaped channel having a minimum depth of one-half exiting pipe diameter and connecting the inlet and exiting pipes of the manhole using an approved manhole rehabilitation material. The Contractor shall control flow to allow sufficient setting time for material used.

2. The Contractor shall form a smooth transition between the reshaped channel and a raised manhole bench to eliminate sharp edges of pipe, concrete bench, and channel. The Contractor shall make finished benches and channels smooth and without defects which would allow for accumulation of debris.

O. Removal of Flush Valve Apparatus and Water Service Lines

1. For each sewer manhole with a flush valve present, the Contractor is required to remove the flush valve apparatus from the manhole (ITEM NO. CSS742(X10) below). Prior to starting this work, Contractor must send written notification, including manhole ID numbers, to the Engineer. The Engineer's inspector must witness all work performed.

2. Remove the service line from the manhole to a distance of two (2) feet beyond the exterior face of the manhole wall as directed by the Engineer's inspector. [See SSERP Detail for Flush Valve Removal]. The water line penetration hole shall be filled from both inside and outside of the manhole with non-shrink grout, (ITEM NO. CSS742(X11) below). The Engineer's inspector must witness all work performed.

3. For each sewer manhole with a water service line present, locate and disconnect the service line at the water main (ITEM NO. CSS742(X12) below). [See SSERP Detail for Flush Valve Removal]. Prior to starting this work, Contractor must send written notification, including manhole ID numbers, to the Engineer. The Engineer's inspector must witness all work performed.

4. The Contractor shall refer to the S&WB unit sheets to find the closest water main. To locate the point of connection at the water main, identify the shortest distance between the water main and the point where the service line penetrates the manhole. [See SSERP Detail for Flush Valve Removal]. Typically, the actual connection is within six feet in either direction of the theoretical connection point. On the manhole side of the water main, and at approximately twelve (12) inches clear from the outside of the water main, carefully sawcut any pavement and excavate parallel to the main until the water service line is located. Once located, trace the service line to the main. Limits of pavement saw cutting and removal shall be limited to within panels and not extend beyond panel joints without engineer's approval.

5. At the water main, the service line may or may not be connected to the water main with a corporation cock. If a corporation cock is present, the corporation cock should be turned off and the service line disconnected. The cock should be inspected to determine if it is leaking. If there is no corporation cock, or if the corporation cock is leaking, it will be necessary for the S&WB to shut down the water main. The Contractor shall then remove the direct connection or leaking corporation cock and seal the tap hole using a full circle stainless steel repair clamp approved by the Engineer (ITEM NOS. CSW741-01 or CSW741-02).

6. The remainder of the water service line shall be abandoned in place.

7. Restore the site to pre-construction condition in accordance with the restoration specifications and pay items in this contract.

P. Final Acceptance of the Contract will be granted via Sewerage and Water Board Resolution. All Contract work is not considered final accepted until the Resolution has been passed by the Board of Directors.

SECTION 2.11 – CURED-IN-PLACE PIPE LINING

A. The Contractor shall provide all labor, materials, equipment, and incidentals to accomplish the Cured-In-Place Pipe (CIPP) Lining of all existing sewer pipe and service laterals as shown on the Drawings and specified herein.

B. The Contractor shall furnish an extended warranty for liner materials from the liner manufacturer for a total of 5 years from the date of Final Acceptance.

C. The Contractor shall have a minimum of two (2) years' experience in sewer line repairs by CIPP liner installation. The CIPP liner product manufacturer shall have a minimum installation history of two (2) years and 100,000 linear feet of furnished product including the sizes applicable for this project. Verifiable experience shall be submitted to the Board upon request.

D. Liner

1. All CIPP lining products shall comply with the latest versions of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube, or ASTM F1743 - Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP). The Contractor shall furnish a general purpose unsaturated, polyester, or thermosetting vinyl ester resin and catalyst system that provides cured physical strengths specified herein.

2. The flexible tube shall consist of one or more layers of needled felt or equivalent woven or non-woven material manufactured under quality-controlled conditions set by the manufacturer and be capable of carry resin and withstanding installation pressures and curing temperatures. The tube shall be compatible with the resin system used and shall contain no intermediate layers that delaminate after resin curing. It shall not be possible to separate any layers with a probe or knife blade such that the layers separate cleanly or the probe or knife blade moves freely between the layers.

3. The flexible tube material shall be able to stretch to fit irregular pipe sections and negotiate bends. The tube shall be fabricated to a size that when installed will neatly fit the internal circumference and length of the existing sanitary sewer main lines and service lateral lines when installed. Allowance shall be made for circumferential stretching during insertion so that the final cured product is snug against the wall of the host pipe and free of fins and buckles.

4. The resin used shall be a thermoset resin system that is compatible with the CIPP installation. The resin shall be able to cure in the presence of water and the initiation temperature for cure shall not be more than 180o F.

5. The liner thickness shall be sized for a minimum hydrostatic and earth load of 8 feet. The earth load and hydrostatic load shall be increased to the manhole depth for bury depths in excess of 8 feet unless otherwise noted.

6. The wall color of the interior pipe surface of the CIPP after installation shall not be of a dark or nonreflective nature that could inhibit proper CCTV inspection.

7. The liner shall be structurally designed for a fully deteriorated host pipe/direct bury condition, prism loading, and AASHTO Standard Specification for Highway Bridges HS-20-44 live loading due to traffic. The liner shall be designed for the following conditions:

DESIGN PARAMETER	VALUE
Minimum Service Life	50 years
Soil Density	120 pounds per cubic foot (lb/cf)
Soil Modulus	1000 pounds per square inch (psi)
Minimum Safety Factor	2.0
Ovality Factor	2%
Maximum Deflection	5% in vertical axis
Long Term Modulus Reduction Factor	50%

8. The final CIPP liners shall conform to the minimum structural standards as listed below in accordance with the latest versions of ASTM D790 - Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials and ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube:

FINAL CIPP	MINIMUM REQUIRED
Flexural Stress	4,500 psi
Short Term Flexural Modules	250,000 psi
Long Term Flexural Modules	125,000 psi

9. The liner shall be fabricated from materials which when complete are chemically resistant to and will withstand internal exposure to domestic sewage having a pH range of 5 to 11 and temperatures up to 125o F. CIPP liners shall meet the minimum chemical resistance requirements in accordance with the latest version of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

10. The liner shall be furnished to the following minimum thickness, or the thickness based upon design criteria as specified herein, whichever is greater:

Pipe Diameter (inch)	Depth of Sewer Invert (feet)	CIP Nominal Thickness (millimeter)_	(inches)
6	to 20	4.5	0.177
8	to 20	6.0	0.236
10	0 to 15	6.0	0.236
10	15.1 to 20	7.5	0.295
12	0 to 10	6.0	0.236
12	10.1 to 20	7.5	0.295
15	0 to 10	7.5	0.295

15	10.1 to 15	9.0	0.354
15	15.1 to 20	10.5	0.413
18	0 to 10	9.0	0.354
18	10.1 to 15	10.5	0.413
18	15.1 to 20	12.0	0.472
Pipe Diameter (inch)	Depth of Sewer Invert (feet)	CIP Nominal Thickness (millimeter)_	(inches)
21	0 to 10	10.0	0.374
21	10.1 to 20	15.0	0.555
24	0 to 10	12.0	0.472
24	10 to 22	15.0	0.590
27	0 to 10	12.0	0.465
27	10.1 to 20	18.0	0.705
30	0 to 10	15.0	0.590
30	10 to 22	21.0	0.817
36	0 to 20	24.0	0.921

E. Expanding hydrophilic rubber joint seal

1. The rubber joint seal shall be an extended hydrophilic rubber compounded from chloroprene (Neoprene) rubber and hydrophilic resin, which expands on contact with water.

2. The rubber joint seal shall be bonded with adhesive on one face to hold it in place during assembly.

3. On contact with water, the rubber shall swell a minimum of 8 times its original volume, if necessary, and mold itself to completely fill any gaps and exert pressure evenly to ensure the seal. High compression or bolt up forces shall not be necessary to affect a complete and watertight seal.

F. Chemical grout - Chemical Grout in accordance with SECTION 2.10 - SANITARY SEWER MANHOLE REHABILITATION, Subsection C, Paragraph 2, Subparagraph b.

G. Delivery, storage, and handling

1. The Contractor shall comply with the pipe manufacturer's printed recommendations for delivery, storage, and handling of all products.

2. The Contractor shall keep products safe from damage. The Contractor shall promptly remove damaged products from the job site and replace damaged products with undamaged goods at no additional cost to the Board.

H. All required flow isolation of private services shall be in accordance with section 2.07.B of these special provisions.

I. Preparation

1. The Contractor shall carry out his operations in accordance with all OSHA and manufacturer’s safety requirements. Particular attention is drawn to those safety requirements involving the entering of confined spaces.

2. The Contractor shall take field measurements to verify the existing pipe diameter, ovality and length prior to manufacturing liners. The manufacturer shall incorporate these measurements into the manufacturing process of the liner. The outside of the flexible tube shall be marked along its full length at regular intervals not to exceed five (5) feet. It shall be the responsibility of the Contractor to remove all internal debris such as solids and roots and clean the existing sewer line prior to installation of the liner in accordance with Section 2.09 Pre-and Post-Rehabilitation CCTV Inspection and Cleaning.

3. Inspection of existing sewer lines shall be performed by experienced personnel trained in locating breaks, obstacles, and service connections by CCTV. The interior of the line shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the CIPP liner into the main lines or service lateral lines, and such conditions shall be noted so they can be corrected. A videotape and log shall be kept as specified in Section 2.09 Pre-and Post-Rehabilitation CCTV Inspection and Cleaning.

4. The Contractor shall provide for the flow of sewage around the section or sections of pipe designated for lining as specified in Section 2.07B, Sewer Flow Control. The Contractor shall be completely responsible for preventing service line back-ups during the CIPP liner installation and curing periods.

5. The Contractor shall clear the line of obstructions such as solids, protruding gaskets, dropped joints, protruding service connections, or collapsed pipe that will prevent the insertion of the liner, as noted during pre-rehabilitation CCTV inspection. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, the Contractor, upon approval from the Engineer, shall make a point repair to uncover and remove or repair the obstruction prior to lining.

6. Location and distance from the upstream and downstream manholes of all internal and external point repairs shall be determined before rehabilitation commences.

7. Only those sewer services that are live and active shall be repaired or reinstated after the sewer main has been lined or replaced. The Contractor shall note that not all sewer lines segments have been televised in their entirety due to obstructions blocking further entry, etc. These obstructions shall be cleared to allow CCTV viewing of the entire segment length before lining is

commenced. The number of service connections on some sewer segments may exceed the number of buildings actually served. It is the Contractor's responsibility to determine through dye testing, CCTV inspection or other acceptable methods, the services that are live and require reinstatement prior to commencing lining of the sewer main. Services that are confirmed to be inactive shall not be reinstated. Services that are inactive, but reinstated, shall be plugged at no additional expense to the Board.

J. Installation

1. Installation shall be accomplished by inversion or winched-in-place methods and cured in place by ambient temperature or circulating hot water or steam to produce a hard, jointless, impermeable pipe repair. Installation procedures shall be in accordance with the latest versions of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube or ASTM F1743 - Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP), and the manufacturer's recommendations.

2. The Contractor shall designate a location where the reconstruction tube will be vacuum impregnated prior to installation. The Contractor shall allow the Engineer to inspect the materials and "wet out" procedure. Sufficient excess resin shall be used in accordance with the latest version ASTM F1216. A roller system shall be used to uniformly distribute the resin throughout the tube.

3. Before installation begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the existing conduit, and the maximum allowable pressure so as not to damage the tube. Once the installation has started the pressure shall be maintained between the minimum and maximum pressures until the installation has been completed.

4. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil). The post-cure temperature should be held for a period as recommended by the resin manufacturer, during which time the recirculation of the water and cycling of the head source to maintain the temperature continues.

5. The bond between all CIPP layers shall be strong and uniform. All layers, after cure, shall be completely saturated with resin.

6. The CIPP shall be cooled to a temperature below 100oF before relieving the hydrostatic head. Care should be taken in release of the static head so that a vacuum will not be developed that could damage the newly installed liner.

7. Where practicable, liners can be installed in continuous runs through manholes where there are two of more continuous sewer segments requiring lining, especially to connect several short segments with continuous lining.

8. The temperature of water discharged to the sewer system from processing liners shall not exceed 125o F maximum, or the level allowed by State or local standards if less than 125o F.

9. The Contractor shall furnish on-site on a continuous basis one (1) additional operational robotic cutter assembly train and key spare components as a "stand-by" unit in the event of primary equipment breakdowns.

K. Post installation

1. After installation of the liner in a full segment pipe, a minimum of one (1) inch of the liner material shall be left to protrude from the wall of the entrance and the exit manhole.

2. The Contractor shall install a joint seal at all manhole inlet and outlet connections to seal the area where the line enters or leaves each manhole. The Contractor shall use grout to dress up around the end of the liner. This space may be sealed with a mechanical seal, chemical seal, or combination of both. The method used shall be as approved by the Engineer.

3. The upstream and downstream manholes shall be inspected and any holes or voids in the manhole wall immediately surrounding the new liner shall be sealed with a hydrophilic rubber joint seal and chemical grout as specified herein. The Engineer shall approve the seal.

4. Where liners of any type are installed in two or more continuous manhole segments, the liner invert through the trough of intermediate manholes shall be left intact. Final finishing of the installation in those intermediate manholes shall require removal of the top of the exposed liner with a horizontal cut and neat trimming of the liner edge along the top edge of the bench and any cut portions removed from the system.

5. Portions of any piece of liner material removed during installation shall be available for inspection and retention by the Engineer. Any unrestrained samples shall not be used for testing purposes.

6. The Contractor shall reinstate openings for all drop assemblies after relining the mainline sewer.

7. Service connections shall be reinstated without excavation, utilizing a remotely controlled cutting device monitored by a CCTV camera. The coupons from this action shall be collected downstream and submitted to the Engineer. The Contractor shall provide certification that he has the required equipment to reinstate the service connections as specified herein.

8. After the liner has been installed, in the event that the Contractor chooses to temporarily reinstate service lines, all active existing services may be temporarily reinstated by punching through the liner from the interior of the pipeline. Temporary reinstatements shall allow normal flow from the service line into the mainline. Final reinstatement of all active services within a rehabilitated line segment shall be performed internally using a robotic cutter within 48 hours of curing and buffed to a minimum of 95% of the original service opening size. The finished opening shall contain no jagged edges.

L. Testing

1. During the cool down process, after installation and curing of the liner, the Contractor shall perform tests on the sewer line to determine if it is watertight. No separate payment will be made for testing.

2. The Contractor shall furnish all necessary equipment to conduct the test.

3. The sewer shall be tested using either exfiltration test methods in accordance with the latest version of ASTM F1216 – Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated tube or air test methods as specified herein.

4. After completing lining and service reinstatement, every liner shall be CCTV inspected in accordance with Section 2.09 of the Special Provisions. Segments not fully conforming to these Specifications must be immediately brought to the Engineer's attention. The Contractor shall furnish a written proposed method of correction within 24 hours for approval by the Engineer.

5. The Board will have a certified independent testing lab analyze finished liner samples taken from the restrained sample located at the manhole invert. The Contractor shall furnish samples directly to the Engineer within 2 days after installation.

a. A minimum of one (1) sample shall be taken from every four (4) segments installed. The restrained samples shall be a minimum of one (1) foot in length. The Contractor shall place a sample mold aligned with and the same size as the existing sewer in such a manner as to allow the installation of the liner material through the restraining sample mold. This sample mold shall be made of SDR 35 PVC, or an Engineer approved equal.

b. The resin-impregnated tube shall be installed and cured through this restraining mold in order to obtain a liner sample representative of the actual liner physical characteristics. The sample shall be removed from the mold and shall be labeled with the project number, date of installation, pertinent manhole numbers, nominal thickness, flow direction, and location of installation. The Contractor and Engineer shall acknowledge receipt and transfer of all samples.

c. Tests in accordance with the latest versions of the ASTM standards for flexural strength, flexural modulus and wall thickness will be conducted by the independent testing lab.

d. A sample will be provided by the Contractor to the Engineer for all CIPP installation over 18" inches in diameter to be tested in accordance with ASTM standards.

M. Acceptance

1. The finished CIPP liner shall be fully rounded and free from visible defects, including but not limited to damage, deflection, holes, delamination, ridges, cracks, uncured resin, foreign inclusions, or other objectionable defects as determined by the Engineer.

2. There shall be no visible infiltration through the liner, or around the liner at manhole or service line connections. The Contractor shall be required to repair any visible leaks in a manner approved by the Engineer.

N. Non-conforming work

1. If either the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP liner are less than 80% of the approved design values, the product is considered unacceptable. A method of repair or replacement shall be submitted for review and approval by the Engineer. All work required to remedy non-conforming work shall be at no additional expense to the Board.

2. For all instances, as described in this Subsection, other than thickness, flexural strength, and flexural modulus of elasticity, where the CIPP liner is deemed unacceptable, the Contractor shall submit a method of repair or replacement for review and approval by the Engineer. All work required to remedy non-conforming work shall be at no additional expense to the Board.

3. Where post-installation thickness measurements and/or physical property testing is performed, payment for installed cured-in-place pipe shall be made in accordance with the following:

a. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP are 90% or greater than the approved design values, full payment shall be made accordingly.

b. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP are between 90% and 80% of the approved design values, with all at least 80% of the approved design values, payment shall be based on:

Adjusted Unit Price = Unit Price Bid X Value Factor, where:

Value Factor = [_* thickness +_* flexural strength +_* flexural modulus of elasticity] / 3.

* Insert actual measured or tested result expressed as a percentage of specified value. Maximum allowable percentage is 100%.

4. If a defect repair is required after the liner has cured, a short segment tube shall be used to splice across the defect repair. The overlap on each defect shall be twice the diameter, or 12 inches, whichever is greater.

O. Measurement and payment for Cured In Place Liners shall be in accordance with the DPW Standard Specifications Section C742.05(k).

SECTION 2.12 – <u>WATER POINT REPAIRS</u>

A. The supplemental specifications within this section are applicable to water related work not listed as a standard bid item in Section C741. Any general conditions, materials or methods not discussed within this section shall be governed by the DPW Standard Specifications Section C742 and the S&WB standard details and specifications.

B. Water point repairs shall be completed in accordance with this section as well as DPW General Specifications Section C741.02.2 and Special Provisions Section 1.22.

C. Point repairs of an existing water main shall consist of recaulking an existing lead bell joint and installing a bell joint clamp, repairing a leak on the water main by installing a full circular stainless steel repair clamp, or replacing a section of existing water main.

D. Point repairs of an existing water house connections 5/8” to 2” shall consist of replacing the entire service connection from the water main to the meter. Existing 5/8” and ¾” services shall be replaced with 1” Polyethylene (PE) tubing. There shall be no splices allowed in repair of the existing water house connection, unless directed by the Engineer.

E. Point repairs of an existing water house connection greater than 2” shall consist of replacement of existing pipe with polyvinyl chloride (PVC) of equal diameter from the main to the shut-off valve where practical. Couplings used to make connections between existing and new pipe shall be AWWA approved and pressure rated as required by S&WB.

F. New water mains sized 2-inch shall be Polyethylene plastic tubing (PE4710, DR 9) conforming to ASTM D2737 and AWWA C901-17, latest edition, and shall be compliant with NSF/ANSI 61. All bronze and brass fittings, connectors, corporation stops, and any other appurtenance used to complete the installation of the water main shall be of domestic manufacture and be lead free. Polyethylene pipe shall be jointed by thermal butt-fusion , flange assemblies, or polyethylene mechanical joint adapters. Installation shall be in accordance with manufacturer's recommendation.

G. All new water mains shall be polyethylene plastic tubing (PE4710, DR 9) conforming to ASTM D2737 and AWWA C901-17, latest edition, and shall be compliant with NSF/ANSI 61. All bronze and brass fittings, connectors, corporation stops, and any other appurtenance used to complete the installation of the water main shall be of domestic manufacture and be lead free. Polyethylene pipe shall be jointed by thermal butt-fusion, flange assemblies, or polyethylene mechanical joint adapters. Installation shall be in accordance with manufacturer's recommendation.

H. All pipe joints shall be installed watertight under all service conditions. Any leaks from improperly installed or defective joints discovered at any time prior to the one-year maintenance period following substantial completion will be repaired by and at the expense of the Contractor.

I. Before the water service is interrupted, the Contractor shall:
   a) Expose the existing water main at the repair point location and verify the type, size, and elevation of the existing service.
   b) Have sufficient materials, equipment, and manpower available at the job site.
   c) Verify materials on hand will meet the job needs after uncovering the existing mains.
   d) Request a water test closure through the S&WB Networks Department (942-3891) a minimum of thirty (30) working days in advance of the scheduled repair.
   e) Have notified all residents and the New Orleans Fire Department a minimum of seventy-two (72) hours in advance of interruption of service.
   f) Any damage caused by the Contractor, will be at the Contractor's own expense.

SECTION 2.13 – <u>GEOTEXTILE FOR STABILIZATION</u>

A. General: This work consists of furnishing and placing geotextile fabric in accordance with these specifications and in conformance with the details shown on the plans.

B. Materials: The geotextile fabric shall conform to Section 1019, Class D.

C. Construction Requirements: Rolls of geotextile fabric shall be kept covered at all times until used. Geotextile fabric that has been installed shall be covered with embankment within 7 calendar days. When ultraviolet damage occurs, the geotextile fabric shall be removed and replaced. The geotextile fabric shall be placed at the locations shown on the plans or as directed. Adjacent rolls of geotextile fabric will be overlapped or sewn. When rolls are overlapped, the overlap shall be a minimum of three (3') feet, including the ends of the rolls. The top layer of the geotextile fabric shall be parallel with adjacent rolls and in the direction of construction.

1. Geotextile fabric shall be placed as smooth as possible with no wrinkles or folds, except curved road sections. For curved road sections, the geotextile fabric shall be folded to accommodate the curve. The fold shall be in the direction of construction and pinned or stapled. Ruts that occur during construction shall be filled and compacted prior to placement of geotextile fabric.

2. Damaged geotextile fabric shall be either removed and replaced with new geotextile fabric or covered with a second layer of geotextile fabric extending three (3') feet in each direction from the damaged area.

SECTION 2.14 – GEOGRID

These items shall be governed by the requirements of the "General Specifications for Street Paving," the City of New Orleans, State of Louisiana, latest edition, Section C203 Geogrid, shall be the General Conditions for this Contract and shall govern except as modified here-in. Acceptable geogrid, when approved by the Engineer, shall meet the required material properties, geometry, and characteristics listed below.

PROPERTY	TEST METHOD	UNITS	GEOGRID OPTION VALUES	
Geometry				
Aperture Shape			Square	Equilateral Triangular
Aperture size	I.D. Calipered or Observed	in (mm)		1.6 (40) (nom)
MD		in (mm)	1.3 (33) (nom)	
CMD		in (mm)	1.3 (33) (nom)	
Thickness				
Ribs	Calipered	in (mm)		0.05 (1.2) (nom)
MD	Calipered	in (mm)	0.09 (2.4) (nom)	
CMD	Calipered	in (mm)	0.06 (1.5) (nom)	
Junctions	Calipered	in (mm)	0.125 (3.2) (nom)	0.13 (3.3) (nom)
Physical Characteristics				
Tensile Strength @ 2% Strain				
MD	ASTM D6637	lb/ft (kn/m)	650 (9.5)	
CMD	ASTM D6637	lb/ft (kn/m)	685 (10)	
Tensile Strength @ 5% Strain				
MD	ASTM D6637	lb/ft (kn/m)	1164 (17)	
CMD	ASTM D6637	lb/ft (kn/m)	1300 (19)	
Ultimate Tensile Strength				
MD	ASTM D6637	lb/ft (kn/m)	1713 (25)	
CMD	ASTM D6637	lb/ft (kn/m)	1775 (26)	
Overall Flexural Stiffness	ASTM D7748	mg-cm	2,150,000 (min)	
Radial Stiffness at 0.5% strain	ASTM D6637	lb/ft	38,500 (min)	18,495 (min)
Aperture Stability	ASTM D7864	m-N/deg	0.80 (min)	
Junction Efficiency	ASTM D6637 & D7737	%	93 (min)	93 (min)
Material				
Polypropylene	ASTM D-4101 Group 1/Class 1/Grade 2	%	98 (min)	98 (min)
Carbon Black	ASTM 4218	%	0.5 (min)	0.5 (min)

SECTION 2.15 – VIBRATIONS DUE TO CONSTRUCTION ACTIVITIES

Section C126 of the "General Specifications for Street Paving" is amended to include the following requirements:

The vibration monitoring is optional and be performed at the Contractor's discretion. There shall be no direct payment for vibration monitoring services.

SECTION 2.16 – SUPERPAVE ASPHALTIC CONCRETE REQUIREMENTS

All Superpave asphaltic concrete placement shall conform to Section C502 except where modified here within.

Roadway quality control, roadway acceptance, and surface tolerance shall apply to this project and shall conform to Section C501.-

Superpave asphaltic concrete binder course placement shall consist of ¾ inch (0.75") maximum nominal aggregate size. Superpave asphaltic concrete wearing course mixture shall consist of ½ inch (.5") maximum nominal aggregate size. Grade of Asphalt Cement shall be at minimum a PG 67-22. The Engineer shall verify the correct material is used and ensure that roadway density requirements are met in accordance with the contract documents.

The thickness of Superpave binder course shall be placed with a 5" section. Two (2) lifts shall be used: one at 3" and then one at 2". The thickness of Superpave wearing course shall be placed with a 2" section using one single lift.

NTSS-1HM (trackless tack) shall be considered as an acceptable prime coat when requested by the Contractor, approved by the Engineer, and follows the requirements of Section 505 from the latest version of LaDOTD Louisiana Standard Specifications for Roads and Bridges.

When the Owner determines that a core sample shall be obtained, the samples will be drilled by the Contractor at the locations determined by the Sewerage and Water Board Director at no direct pay and those samples shall be provided to the Department.

SECTION 2.17 – INTERIM ASPHALT PAVEMENT

Temporary asphalt pavement shall be same mix as asphaltic concrete wearing course; shall be a minimum of two (2) inches thick; shall be placed over a minimum of six (6) inches of compacted crushed stone or crushed concrete and encapsulated in a layer of geotextile fabric.

Measurement and payment for interim asphalt pavement shall be made at the unit price bid per square yard for Special Bid Item No. CF-501 INSTALL TEMPORARY PAVEMENT, 2" THICK when listed on the Unit Price Form.

SECTION 2.18 – BASE COURSE

All Base Course materials shall conform to section C302 except where modified here within.

Gray Limestone stone conforming to section C302.03 part C is the acceptable material for base course.

Recycled Portland Cement Concrete is not acceptable as a base course material. This is acceptable as a Traffic Maintenance Aggregate.

SECTION C202 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

C202.01 DESCRIPTION: This work consists of removal and satisfactory disposal of pavements, sidewalks, curbs, gutters and other obstructions not designated or permitted to remain, except obstructions to be removed under other contract items. It shall also include salvaging of designated materials and backfilling resulting trenches, holes and pits, except the area to be excavated. At locations where pavement, curbs or gutter, sidewalk, driveway, or footlaps are to be removed but are not to be replaced, the Contractor shall backfill the area with selected excavated or other suitable approved material at no direct payment.

C202.02 GENERAL CONSTRUCTION REQUIREMENTS: The Contractor shall remove and dispose of all pavements, sidewalks, curbs, gutters and other obstructions. Designated salvageable material shall be removed, without unnecessary damage, in sections which may be readily transported. Salvageable material shall be stacked at specified storage areas by the Contractor. When no storage sites are specified, salvaged materials shall be delivered to the street maintenance yard. Materials not designated to be salvaged shall be disposed of, off the project, outside the view of the traveling public with written permission of the property owner on whose property the material is placed. Copies of agreements with property owners shall be furnished to the Director prior to beginning of work. Saw cut may be required prior to removal.

C202.03 MEASUREMENT: When the contract stipulates that payment will be made for the removal of specific items on a unit basis, measurement will be made by the unit stipulated in the contract.

Hauling salvaged materials (Granite Curbs) to specified storage sites will not be measured for

payment. Saw cut will be measured by the linear foot unless otherwise noted.

C202.04 PAYMENT: Payment for "removal and disposal of existing Portland Cement Concrete Pavement" shall be made at the contract unit price, including removal of asphaltic concrete pavement, regardless of thickness, on top of the existing Portland Cement Concrete Pavement and curb and gutter bottom if monolithic with pavement.

Payment for removal and disposal of "existing sidewalk, driveway, footlap," "existing curb", "existing curb and gutter bottom", "existing gutter bottom or rolling strip" and "existing asphaltic concrete pavement" shall be made at the contract unit price.

Payment for "saw cut" shall be made at the contract unit price per Linear Foot.

When the removal is an area to be excavated and payment is made under other items, no deduction will be made for those items.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C202(52)(C)	Removal and Disposal of Existing Portland Cement Concrete Pavement (Composite)	Square Yard

C202(52)(D)	Removal and Disposal of Existing Sidewalk, Driveway, Foot Lap (Concrete, Brick, Asphalt, etc.)	Square Yard
C202(52)(F)	Removal of Existing Curb and Gutter bottom	Linear Foot
C202(55)	Saw Cut Concrete Curb, Pavement, Side-Walk, Driveway, etc. According to Plans (_" Depth)	Linear Foot
Extra Item 12	Remove Existing 24" Waterline (Store / Disposal)	Linear Foot
Extra Item 15	Remove and Store existing Granite Curbs	Linear Foot

SECTION C203 – <u>PREPARATION OF ROADWAY PAVEMENT SUBGRADE</u>

C203.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C203 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in..

C203.02 MEASUREMENT: Roadway excavation, excluding pavement removal paid for in other items, shall be measured by the cubic yard, theoretical section, computed by the average end area methods.

Unsuitable subgrade, excavation, and sand filling, where directed for use by the Director, shall be measured by the cubic yard truck measure.

Geotextile fabric shall be measured by the square yard of covered areas in place. There will be no measurement for overlaps.

Geogrid will be measured by the square yard in place. There will be no measurement for overlaps.

C203.03 PAYMENT: Payment for the accepted quantities will be made at the contract unit prices.

Payment for "Roadway Excavation" shall include excavating, hauling, disposing of the excavated materials.

Payment for "Unsuitable Subgrade Excavation & Sand Filling" shall include excavation, disposal of unsuitable subgrade and replacing this material with sand, graded and compacted.

No direct payment will be made for grading and/or compacting the subgrade.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C203(51)	Roadway Excavation	Cubic Yard
C203(58)	Unsuitable Subgrade, Excavation, & Sand Filling	Cubic Yard (Truck Measure)
C203(59)	Geotextile Fabric for Stabilization	Square Yard
C203(60)	Geogrid	Square Yard

SECTION C302 – BASE AND SUBBASE COURSE

C302.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C302 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in..

C302.02 MEASUREMENT: The quantities for payment will be based on the horizontal dimensions and compacted thickness of the completed course shown on the plans, and any adjustments approved by the Director.

C302.03 PAYMENT: Payment for base course or subbase course will be made at the contract unit price per Cubic Yard (net section) including prime coat.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C302(51)	Base Course	Cubic Yard, Net Section

SECTION C402 – TRAFFIC MAINTENANCE AGGREGATE

C402.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C402 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in..

C402.02 MATERIALS: Aggregate for maintenance of traffic shall be crushed stone, crushed concrete, or approved equal.

C402.03 EQUIPMENT: Equipment necessary to produce a finished product meeting the specification requirements shall be furnished and maintained by the Contractor.

C402.04 CONSTRUCTION REQUIREMENTS: When directed, the Contractor shall satisfactorily place, shape, compact and maintain areas requiring traffic maintenance aggregate. When directed, the aggregate material shall be reused on the project at designated locations for traffic maintenance at no direct pay. When aggregate surfacing is no longer necessary for maintenance of traffic, the Contractor shall, unless otherwise directed, remove the aggregate surfacing and dispose of the removed materials in accordance with Section C202.

C402.06 MEASUREMENT: When directed, traffic maintenance aggregate shall be furnished and measured by the cubic yard, truck measure. Traffic maintenance aggregate for access to driveways and temporary surfacing of utility trenches will be provided and placed at no direct pay.

C402.07 PAYMENT: Payment for traffic maintenance aggregate maintained and subsequently removed (when required) will be made at the contract unit price.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C402(51)	Traffic Maintenance Aggregate	Cubic Yard (Truck Measure)

SECTION C501 – ASPHALTIC CONCRETE MIXTURES

C501.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C501 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C501.02 MEASUREMENT: Measurement shall be in accordance with the requirements of Sections C501 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans Louisiana, and latest revisions.

C501.03 PAYMENT: Payment shall be in accordance with the requirements of Sections C501 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans Louisiana, and latest revisions.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C501(53)	Asphaltic Concrete (2”Thick)	Square Yard

SECTION C601 – PORTLAND CEMENT CONCRETE PAVEMENT

C601.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C601 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C601.02 MEASUREMENT: The area of all roadway pavements will be determined by actual measurements from back of curb to back of curb and no allowance will be made for curvature of the cross section. Deductions will not be made for the rails of electric and other railroads, nor for subsurface structures in the street occupying less than twelve square feet of area, when these are within the area or areas paved under the contract.

C601.03 PAYMENT: Payment for Portland cement concrete pavement will be on a lot basis, at the contract unit price per square yard, which includes furnishing and placing all materials including tie-bars, dowel bars, joint material and welded wire fabric. If the pavement does not conform to acceptance requirements, payment will be made at an adjusted unit price in accordance with Section C601.02. Payments includes cost of high early strength concrete.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C601(54)	Reinforced Concrete Pavement (7” Thick)	Square Yard

SECTION C701 – CULVERTS AND STORM DRAINS

Culverts and storm drains shall conform to all of the requirements of the General Specifications and Standard Plans of the Sewerage & Water Board (S&WB) of New Orleans (the latest revision) except as noted.

C701.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C701 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C701.02 MEASUREMENT: Drain pipes will be measured in place and the length determined by measuring from center to center of manholes, or other subsurface structures of which they form a part. If the drain line is connected to a square or rectangular manhole, the measurement will be to the center of the manhole. If the drain line is connected to a box canal wall, the measurement will be to the face of the wall.

C701.03 PAYMENT: Payment for the accepted quantities will be made at the contract unit price.

(a) Payment for reinforced concrete pipe shall be made at the contract unit price, per linear foot of the types and sizes specified, including excavation, removal of existing pipe (if any), foundation lumber, bedding, engineering fabrics, backfill, complete shoring, pumping as necessary and tie-ins to manholes and catch basins. (Bid Items C701(53) or C701(54)).

(b) Payment for reinforced concrete wye in a new drain line shall be made at the contract unit price per Item No. C701(59) and shall be in addition to the payment per linear foot for reinforced concrete drain pipe.

Payment for reinforced concrete wye in an existing drain line shall be made at the contract unit price per Item No. C701(65), including a ten (10') foot point repair (total length including wye),couplings, excavation, removal of existing pipe, granular bedding, engineering fabric, backfill, foundation lumber, shoring, and pumping as necessary and saw cutting of existing pipe. (Bid Items (C701(53) or C701(54)).

(c) Payment for reinforced concrete tee shall be made at the contract unit price, per Item No. C701(66).

(d) Payment for point repairs of existing drain lines, up to ten (10') feet shall be made at the contract unit price, per each of the sizes specified, including excavation, foundation lumber, bedding, engineering fabrics, backfill, complete shoring and pumping, as necessary, pipe fittings, couplings, saw cutting existing pipe, removal of existing pipe, and tie-ins to existing manholes if required as per Item No. C701(68). Payment for point repair beyond ten (10') feet shall be made at the contract unit price per linear foot, including the above work, as per Item No.C701(69).

(e) Drain house connections from new drain line to back of curb shall be paid per each including, fittings, tie-ins, excavation, backfilling, removal of existing pipe (if any) and drilling the reinforced concrete pipe, per Item No. C701(70). Payment for drain service line tie-ins beyond back of curb will be made by linear foot of tie-in service lines, including the removal of existing pipes, fittings, and backfill (Item C701(71)). PVC collector line to catch basins for drain house connections shall be paid per linear foot, including, fitting tie-ins to catch basins, excavation, and backfilling per item No. C701(72).

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C701(53)	Reinforced Concrete Pipe (Size)	Linear Foot
C701(59)	Reinforced Concrete Wye or Arch Equivalent – New (size)	Each

C701(72)	Collector Line to Catch Basins for Drain House Connections (Size)	Linear Foot
Extra Item 14	Tie to Existing Drainage Structure	Each

SECTION C702 – MANHOLES, CATCH BASINS, DROP INLETS, AND CLEAN-OUTS

C702.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C702 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C702.03 MEASUREMENT: New and adjusted manholes, catch basins, drop inlets and clean-outs will be measured by the pay unit. New or rehabilitated manholes will be measured by vertical foot height. The height of manholes will be determined by measuring from the invert of the manholes to the top of the cast iron cover. Excavation and backfill shall not be measured for payment.

C702.04 PAYMENT: Payment for the accepted quantities will be made at the contract unit price.

(a) Payment for "standard manhole" shall be made at the contract unit price per foot height, including excavation, granular bedding and backfilling.

(b) Payment for "catch basin adjustment" shall be made at the contract unit price per each, including excavation, granular bedding and backfilling. For type C, the price shall include the risk of breakage and replacement of any casting and the cost of bricking up the front grating where necessary, so as to make such catch basins conform to a No. 1 standard catch basin.

(c) Payment for "catch basin & drop inlet" shall be made at the contract unit price per each, including excavation, granular bedding and backfilling.

(d) Payment for "rehabilitate existing catch basin" shall be made at the contract unit price per each.

(e) Payment for "rehabilitate existing manhole" shall be made at the contract unit price per foot height.

(f) Payment for "tap-in to existing drain line" shall be made at the contract unit price per each.

(g) Payment for "adjust manhole or drop inlet up to six (6") inches with brick and mortar" shall be made at the contract unit price per each, including the base material (Portland cement concrete or asphaltic) to be replaced around the manhole. Payment for "adjust manhole or drop inlet over six (6") inches" shall be made at the contract unit price per foot height, or any fraction of a foot, including the above work.

(h) Payment for "six (6") inch drain cleanout for roof drain" shall be made at the contract unit price per each, including excavation and backfilling.

(i) Payment for "cleanout box in existing culvert" and in "new culvert" shall be made at the contract unit price per each, including excavation and backfilling.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C702(52)(J)	No. 1 Standard Drain Manhole	Foot Height
C702(53)(M)	No. 1 Standard Catch Basin	Each

C702(54)(A)(1)	Adjust Manhole or Drop Inlet up to 6" with Brick and Mortar	Each

SECTION C706 – DRIVEWAYS AND SIDEWALKS

C706.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C706 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C706.02 MEASUREMENT: The area of driveways will be determined by surface measurements and no extra allowance will be made forshoulders.

Sidewalk pavements will be paid for by surface measurements and no deduction will be made for subsurface structures occupying less than five (5) square feet of area. Areas under structures encroaching on public property not paved will not be included in the surface measurement.

C706.03 PAYMENT: Payment for concrete driveways, sidewalks or banquette pavement will be made at the contract price per square yard, which includes excavation, installation of expansion joint and welded wire fabric. Granular material for adjustment and removal of existing driveways, sidewalk or banquette pavement shall be paid for in otheritems.

Payment for "letters or numbers for Tile street names" will be per each tile at the contract unit price.

Payment for "Resetting Tile Street Name" will be per name at the contract unit price.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C706(54)	Sidewalk at Intersection Including Handicapped Ramps (_____" Thick)	Square Yard
C706(56)	Handicapped Ramp (Specify Concrete Brick or Stone)	Square Yard
C706(57)	Brick Sidewalk	Square Yard
C706(58)	Relaying Brick Sidewalk	Square Yard
C706(59)	Stone Sidewalk	Square Yard
C706(60)	Relaying Stone Sidewalk	Square Yard
C706(61)	Letter or Number for Tile Street Name	Each
C706(62)	Resetting Tile Street Name	Each
Extra Item 16	Adjust Miscellaneous Utility Box to Grade in Sidewalk (Elect., Gas, Telep., Etc.)	Each

SECTION C707 – CURBS AND GUTTERS

C707.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C707 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C707.10 MEASUREMENT: The length of curb, gutter, and curb and gutterbottom will be established by measurements of the actual curb, gutter and curb and gutterbottom in place and no allowance will be made for waste due to closures or other causes.

Circular curb shall be measured at the top outer face.

Timber curb will be measured by the number of board feet (MFBM) including board and posts.

Joint materials, rebars, concrete base and piers for stone curb or resetting existing curb shall not be measured for payment.

Excavation for reconstruction of curb and gutter bottom only, and excavation for setting and resetting stone curbs in rehabilitating projects shall not be measured for payment.

C707.11 PAYMENT: Payment for curbs, gutters, and curbs and gutterbottoms shall be made at the contract unit price per linear foot including curb transitions or depressions or after hand-forming curbs and curb and gutterbottom as directed by the Director, subject to the payment adjustment provisions of Section C501 for asphaltic concrete mixtures and Section C601 for Portland cement concrete.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C707(56)	6" Concrete Barrier Curb with or Without Dowels (Straight, Circular or Depressed)	Linear Foot
C707(62)	Stone Curb Including Base (Straight, Circular or Depressed)	Linear Foot
C707(63)	Reset Existing Curb (Precast Concrete, Stone, etc.) Including Base	Linear Foot

SECTION C713 – TEMPORARY SIGNS, BARRICADES AND PAVEMENT MARKINGS

C713.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C713 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C713.05 MEASUREMENT: The furnishing, erecting, maintaining and subsequent removing of temporary construction signs, barricades, pavement markings & markers and related devices will be measured on a lump sum basis.

C713.06 PAYMENT: Payment for temporary construction signs, barricades and related devices will be at the contract lump sum price in accordance with the following schedule:

% of Total Contract Amount Earned	Allowable % Lump Sum Price for Temporary Signs and Barricades
Initial Erection	20
25	40
50	60
75	80
100	100

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C713(51)	Temporary Signs, Barricades, Pavement Markings	Lump Sum

SECTION C727 – MOBILIZATION

C727.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C727 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C727.02 PAYMENTS:

(a) When the contract does not include a pay item for mobilization, no direct payment will be made for mobilization.

(b) When the contract contains a pay item for mobilization, payment will be made at the contract lump sum price, subject to the followingprovisions:

Partial payments for mobilization will be made in accordance with the following schedule up to a maximum of ten (10%) per cent of the original contract amount, including this item, and paymentof any remaining amount will be made upon completion of all work under the contract.

Percent of Total Contract Amount Earned		Allowable Percent of the Lump Sum Price For the Item
1st Partial Estimate	up to	25 **%**
10 **%**	up to	50 **%**
25 **%**	up to	75 **%**
50 **%**	up to	100 **%**

No payment adjustments will be made for this item due to changes in the work. Additional Mobilization cost occasioned, by a plan change, if approved, will be paid for within the Plan Change.

Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C727(51)	Mobilization	Lump Sum

SECTION C729 – TRAFFIC SIGNS AND DEVICES

C729.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C729 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C729.02 MEASUREMENT: Traffic signs, street name signs, project signs, delineators and object marker assemblies shall be measured per each.

Concrete footing for securing sign posts will not be measured for payment.

C729.03 PAYMENT: Payment for installation of traffic signs, project signs, delineators and object marker assemblies shall be made at the contract unit price per each, including signs, posts and footing to complete the item in place.

Payment for installation of street name signs shall be made at the contract unit price per each, including four signs at each post, brackets, hardware, posts and footing to complete the item in place.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C729(51)	Traffic Sign	Each

SECTION C732 – PLASTIC PAVEMENT MARKINGS

C732.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C732 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C732.02 MEASUREMENT:

(a) Plastic Pavement Striping: Plastic striping will be measured by the linear foot of striping, exclusive of gaps.

(b) Plastic Pavement Legends and Symbols: Plastic legends and symbols will be measured by lump sum. Symbols shall include all letters, lines, bars or markings necessary to convey the message at each location.

C732.03 PAYMENT: Payment for plastic pavement markings and removal of existing markings will be made at the contract unit prices.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C732(52)	Plastic Pavement Striping (Solid Line)(_____" Width)	Linear Foot
C732(54)	Plastic Pavement Legends and Symbols	Each
C732(52)(A)	Plastic Pavement Striping (Solid)(4in W)(Thermo 90 Mil)	Linear Foot
C732(52)(B)	Plastic Pavement Striping (Solid)(6in W)(Thermo 90 Mil)	Linear Foot
C732(52)(E)	Plastic Pavement Striping (Solid)(24in W)(Thermo 125 Mil)	Linear Foot

SECTION C740 – CONSTRUCTION LAYOUT

C740.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C740 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C740.03 MEASUREMENT: Measurements for determination of pay quantities will be made by the Department. Construction layout and utility oversight and coordination will be measured per lump sum, which will include all labor, materials and incidentals required to complete the work. No changes in the lump sum contract price will be made for minor additions or deletions to the scope of work.

C740.04 PAYMENT: Payment for construction layout, and utility oversight and coordination will be made at the contract lump sum price in accordance with Table 740-1.

Payment will be made under:

Table C740-1
Construction Layout Payment Schedule

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Construction Layout
Staffed	25
25	50
50	80
75	95
100	100

ITEM NO.	PAY ITEM	PAY UNIT
C740(51)	Construction Layout	Lump Sum

SECTION C741 – WATER MAINS

C741.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C741 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C741.02 PAYMENT: Payment for the accepted quantities will be made at the contract unit price.

(a) Payment for furnishing and installing New Water Mains shall be made at the contract unit price per linear foot, including main line fittings (bends, tees, etc.), fire hydrant leads, tie-ins, excavation, removal of existing pipe (if any), pumping as necessary to prevent contaminatingthe existing system, bedding, complete shoring, backfilling material, hauling and disposal of excavation material, and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for plugging and abandoning existing manholes and filling with flowable material (sand/cement mixture).

(b) Payment for furnishing and installing 1-inch through 2-inch Polyethylene Pipe for water house connections (adjustment/replacement) shall be made at the contract unit price per each, including excavation, backfilling, service saddles, corporation cock and removal of existing pipe (if any) and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for tie-ins to the main or meter. Minimum size of water house connections shall be1".

(c) Payment for furnishing and installing 4-inch through 8-inch PVC pipe for water house connections shall be made at the contract unit price per each, including, excavation, backfilling, and removal of existing pipe (if any) and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for tie-ins to the main or meter. PVC pipe for house connections shall meet the requirements of Section C741.02.01.

(d) Payment for furnishing and installing New Fire Hydrant shall be made at the contract unit price per each. including, excavation, backfilling, and removal of existing pipe (if any), and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form.

(e) Payment for furnishing and Installing Water Valves up to and including 12-inch shall be made at the contract unit price per each. Payment for the installation of valves shall include furnishing and installing all ductile iron pipe, mechanical joint retainer glands, gaskets, including stainless steel tee bolts and nuts, etc. for a complete installation and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. The cost for valve boxes indicated on the plans shall be included in the bid price of the valves.

(f) Payment for furnishing and Installing Water Valves 16-inch and larger shall be made at the contract unit price per each. Payment for the installation of valves shall include furnishing and installing all ductile iron pipe, mechanical joint retainer glands, gaskets, including stainless steel tee bolts and nuts, etc. for a complete installation and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form.

(g) Payment for furnishing and installing Water Main Offset shall be for offsets consisting of four (4) mechanical joint bends complete with retainer glands, stainless steel nuts and bolts and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form, and shall be made at the contract unit price per each. Water line offsets consisting of only two (2) bends will be paid for at one-half (1/2) the unit price bid. Offsets are paid when not indicated on the plans. There is no direct pay for offsets shown on the plans.

(h) Payment for Plug Existing Water Main and Fill With Flowable Material (sand/cement mixture) shall be made at the contract unit price per linear foot, shall include all necessary equipment to completely fill the abandon main with sand/cement and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form.

(i) Payment for Construction of New Water Valve Manholes for 4-inch through 12-inch valves shall be made at the contract unit price per each, including excavation, granular bedding, foundation slab, manhole casting and cover and backfilling and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for plugging and abandoning existing manholes

and filling with sand.

(j) Payment for Construction of New Water Valve Manholes for valves 16-inch and larger shall be made at the contract unit price per each, including excavation, granular bedding, foundation slab, manhole casting and cover, valve box, and backfilling and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for plugging and abandoning existing manholes and filling with sand.

(k) Payment for Remove Mud and Debris from Inside of Water Meter Box shall consist of the removal of all mud or debris within a meter box that does not need adjustment or replacement, and shall be made at the contract unit price per each.

(l) Payment for Adjust Complete Water Meter Box to Grade shall consist of adjusting the meter box to grade by placing bricks, slate, or similar material under the meter box pan, and shall be made at the contract unit price per each. There shall be no separation between the upper barrel and the lower meter box pan. Any mud or debris within the box shall be removed before the upper barrel and lower pan have been adjusted. There will be no additional payment for removal of mud and debris under another item. Meter boxes shall be adjusted to grade in areas where the grade of the curbs and/or sidewalks is changed or as directed by the Director. If the water house connection needs to be replaced from the meter to the property line in order to adjust the meter box, the new water house connection shall be paid under the item, "Remove and replace water house connection (from meter to property line) (all sizes)".

(m) Payment for Replace Broken Water Meter Box (5/8" to 1") shall be made at the contract unit price per each, shall include any meter box replacement or any new meter box required and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. Installation shall be as shown on S&WB Drawing. No. 7134-W.

(n) There shall be no direct payment for salvaging existing valves, fire hydrants, manhole castings and covers, etc.

(o) All other items of work necessary to the performance of the project, for which no specific unit price and/or lump sum pay item is established, shall be considered and designated part of the construction, and the existing pay items shall be full compensation. Items including but not limited to, trench safety, traffic control, contract closeout, shop drawings, submittals, and office support shall be merged into the prices bid.

(p) Temporary water mains, services connections and valves paid for separately under this item.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C741(51)(B)	6" New Water Main with Main Line Fittings	Linear Foot
C741(51)(C)(1)	8" PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(E)(1)	12" PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(I)(2)	24" Ductile Iron (Restrained Joint) New Water Main with Main Line Fittings	Linear Foot
C741(52)	New 2" Valve	Each
C741(52)(B)	New 6" Valve	Each
C741(52)(C)	New 8" Valve	Each

C741(52)(E)	New 12" Valve	Each
C741(52)(I)	New 24" Valve	Each
C741(54)	New Fire Hydrant	Each
C741(55)(A)	Replace 5/8” to 1” Water House Connection with 1” Water House Connection (from Main to Meter)	Each
C741(55)(B)	Replace 1-1/2” Water House Connection (from Main to Meter)	Each
C741(55)(C)	Replace 2” Water House Connection (from Main to Meter)	Each
C741(55)(D)	Replace 4” Water House Connection (from Main to Meter)	Each
C741(55)(E)	Replace 6” Water House Connection (from Main to Meter)	Each
C741(55)(F)	Replace 8” Water House Connection (from Main to Meter)	Each
C741(71)(C-01)	8” Water Line Offset up to 24”	Each
C741(74)(A)	New Water Valve Manhole (4” through 12" Valves)	Each
C741(75)	Remove Mud and Debris from Inside Water Meter Box	Each
C741(76)	Adjust Complete Water Meter Box to Grade	Each
C741(77)	Replace Broken Water Meter Box (5/8”) to (1”)	Each
Extra Item 01	Temporary 2” Waterline	Linear Foot
Extra Item 02	Temporary 6” Waterline	Linear Foot
Extra Item 03	Temporary 8” Waterline	Linear Foot
Extra Item 04	Temporary 12” Waterline	Linear Foot
Extra Item 05	Temporary Tie to Existing Waterline	Each
Extra Item 07	Temporary 2” Gate Valve and Valve Box	Each
Extra Item 08	Temporary 6” Gate Valve and Valve Box	Each
Extra Item 09	Temporary 8” Gate Valve and Valve Box	Each
Extra Item 10	Temporary House Connection to Existing Water Meter	Each
Extra Item 11	24” Line Stop	Lump Sum
Extra Item 17	Install New Water meter and Meter Box	Each

SECTION C742 – SEWER LINES

C742.01 DESCRIPTION: This work shall be in accordance with the requirements of Section C742 of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

C742.02 MEASUREMENT: Sewer mains will be measured in place and the length determined by measuring from center to center of manholes or other subsurface structures of which they form a part.

Depth of sewer mains for payment purposes shall be determined by measurement from the invert to the top of casting at original existing grades of connecting manholes. Depth of manholes shall be measured from invert to the top of casting.

C742.03 PAYMENT:

(a) Payment for relocation, replacement and restoration of existing sewer mains or installation of new sewer mains shall be made at the contract unit price per linear foot of the size and depth, which includes excavation, pumping, as necessary, complete shoring, foundation lumber, bedding, installation of new main, including fittings, backfill, drainage fabric and tie-ins. If the existing sewer main is to be replaced, the cost shall include removal of the existing sewermain.

(b) Payment for "install sewer manhole" shall be made at the contract unit price per foot high, including excavation, granular bedding and backfilling. If the existing manhole is to be replaced, the cost shall include removal of the existing sewer manhole.

(c) Payment for "replacing manhole casting and cover" shall be made at the contract unit price per each including removal of the existing sewer manhole casting, installing the new casting at the specified grade and backfilling the excavation with approved backfill material. Adjustment to grade of the manhole casting shall be included in the cost of replacement.

(d) Payment for "point repair of existing sewer mains" shall be made at the contract unit price per each of the size and depth specified, including excavation, foundation lumber, bedding, drainage fabric, backfill, complete shoring, pumping as necessary and tie-ins. Payment for point repair beyond ten (10') feet shall be made at the contract unit price per the linear foot, including the above works.

(e) Payment for "new sewer house connection from main to back of curb" shall be made at the contract unit price per each of the size specified including installation of a wye or tee in the main, PVC pipes, fittings, a cap behind the curb, excavation and backfill.

(f) Payment for "replacing existing sewer house connection from existing main to back of curb" shall be made at the contract unit price per each including the installation of PVC pipe, fittings, excavation, backfill, and tie-ins from the existing wye or tee to the existing sewer house connection back of curb.

(g) Payment for "reconnecting existing sewer house connection to new main" shall be made at the contract unit price per each including installation of a new tee or wye into the main, removal and rep1xcement of up to three feet of the existing, excavation and backfill.

(h) Payment for "reconnecting existing sewer house connection to new main and extend to back of curb" shall be made at the contract unit price per each including the installation of PVC pipe, fittings, excavation, backfill, tie-in, and installation of a new wye or tee in the new main, from the new wye or tee to the existing sewer house connection back of curb.

(i) "Replacing existing sewer house connection beyond back of curb." If directed by the Director to replace the sewer house connections in (f) or (h) beyond back of curb, payment for this item shall be made at the contract unit price per linear foot per any additional footage beyond back of curb.

(j) "Adjust Sewer House Connections" includes removing and replacing up to 15 feet of existing sewer house connection where required to avoid conflict with new water, drain, or other utility line, including tie-ins at both ends, fittings, excavation, installation, backfill, no siphon permitted. Payment for this item shall be made at the contract unit price per each.

(k) Payment for "pipe lining" shall be made at the contract unit price per linear foot of the size and method specified to; (1) clean and inspect the existing pipe to be sure that the liner can be properly installed, (2) install the liner in accordance with Special Specifications; and (3) clean up and restore any damage caused by the lining process.

(l) Payment for "cut liner to restore existing service connections" shall be made at the contract unit price per each of the size and the method specified. If the lining method for restoring service connections requires excavation, the price shall include all excavation, backfill and surface restoration.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C742(57)	Sewer Point Repair up to Ten Feet (Size & Depth)	Each
C742(58)	Sewer Point Repair beyond Ten Feet (Size & Depth)	Linear Foot
C742(59)	New Sewer House Connections from Main to Back of Curb (Size)	Each
C742(65)	Pipe Lining (Size & Method)	Linear Foot
C742(66)	Cut Liner to Restore Existing Sewer House Connection (Size & Method)	Each
Extra Item 13	Adjust Sewer Clean Out to Grade	Each

SECTION EXTRA ITEM 19 (EI19) – <u>DE-MOBILIZATION</u>

EXTRA ITEM 19 DESCRIPTION: De-Mobilization may be utilized or required due to high water of the Mississippi River or any other reason or directed by the Engineer. Prior to the river reaching the high-water limit (per the USACE) the S&WB, based on predictions of the USACE, may direct (in writing) the contractor to halt construction / excavation.

All excavations shall be backfilled and compacted as required. Temporary asphalt pavement and temporary sidewalks shall be placed as directed by the Engineer. Temporary asphalt pavement and temporary sidewalks are paid for under other items.

Pedestrian access to sidewalks and all building exits and entrances shall be cleared and free of obstructions. All lanes (including parking lane) shall be open to traffic. Temporary pavement marking shall be placed as directed by the Engineer.

EXTRA ITEM 19 MEASUREMENT: Temporary pavement marking and backfill for trenches will not be measured for payment. Temporary asphalt pavement and temporary sidewalks are paid for under other items. Bonds and insurance are paid for under item C727Mobilization.

EXTRA ITEM 19 PAYMENT: Payment will be made at the unit price bid. Payment includes materials and equipment removed and stored off site. Incidental coordination, supervision, labor, equipment, and material to perform the de-mobilization.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
EXTRA ITEM 19	De-Mobilization	Each

SECTION EXTRA ITEM 20 (EI20) – <u>RE-MOBILIZATION</u>

EXTRA ITEM 20 DESCRIPTION: Re-Mobilization shall be paid for as it applies to the elevation of the Mississippi River or any other reason as directed by the Engineer. When the Mississippi River elevation is below the elevation permitted by the USACE the S&WB will direct (in writing) the contractor to begin construction. The contractor will be allowed 30 calendar days (grace period) to re-mobilize after which time the contract time will commence.

EXTRA ITEM 20 MEASUREMENT: The removal of temporary asphalt pavement and temporary sidewalks are paid for under other items. Bonds and insurance are paid for under item C727 Mobilization.

EXTRA ITEM 20 PAYMENT: Payment will be made at the unit price bid. Payment shall be in accordance with the requirements of Sections C727 Mobilization of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans Louisiana, and latest revisions. Includes coordination, supervision, labor, equipment, transportation of equipment and material to perform the re-mobilization.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
EXTRA ITEM 20	Re-Mobilization	Each

SECTION EXTRA ITEM 21 – <u>TEMPORARY SIDEWALK</u>

EXTRA ITEM 21 DESCRIPTION: This work shall be in accordance with the requirements of the General Specifications for Street Paving, 2015 Edition, Department of Public Works City of New Orleans, Louisiana, and latest revisions, or as amended here in.

EXTRA ITEM 21 MEASUREMENT: The area of temporary sidewalk will be determined by surface measurements and no extra allowance will be made for shoulders.

Temporary sidewalk pavements will be paid for by surface measurements and no deduction will be made for subsurface structures occupying less than five (5) square feet of area. Areas under structures encroaching on public property not paved will not be included in the surface measurement.

EXTRA ITEM 21 PAYMENT: Payment for temporary sidewalk will be made at the contract price per square foot, which includes excavation, installation of expansion joint and welded wire fabric. Granular material for adjustment and removal of existing driveways, sidewalk or banquette pavement shall be paid for in other items.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
EXTRA ITEM 21	Temporary Sidewalk	Square Foot

PART III – SPECIAL ITEMS

SECTION 3.01 – TEMPORARY SIGNS, BARRICADES, PAVEMENT MARKINGS, CONSTRUCTION SIGNING, TRAFFIC MAINTENANCE AND PUBLIC SAFETY

This item shall be governed by the provisions of General Specifications Section C129 Temporary Signs, Barricades, Pavement Markings, Construction Signing, Traffic Maintenance and Public Safety except as follows:

There shall be no direct payment for Temporary Signs, Barricades, Pavement Markings, Construction Signing, Traffic Maintenance and Public Safety. All costs associated with Temporary Signs, Barricades, Pavement Markings, Construction Signing, Traffic Maintenance and Public Safety shall be included in other major items of the proposal.

SECTION 3.02 – MOBILIZATION

For this project mobilization will be considered as a subsidiary obligation of the contractor under other bid proposal items. There shall be no direct payment for mobilization, or for any items that may be referenced as subsidiary to or included in mobilization. All costs associated with mobilization shall be included in other major items of the proposal.

SECTION 3.03 – CLEARING AND GRUBBING AND DISPOSAL OF MATERIALS

There shall be no direct payment for any required Clearing and Grubbing and removal and disposal of material not listed for removal in the proposal. There shall be no direct payment for removal and disposal of culverts, metal curb protection at intersections, metal plates at driveways, existing drain lines or drainage structures and other materials other than Portland Cement Concrete Pavement and Asphaltic Cement Concrete Pavement. All costs associated with Clearing and Grubbing, and removal and disposal of other material shall be considered subsidiary to and included in Roadway Excavation or other major bid items of the proposal.

SECTION 3.04 – CONSTRUCTION LAYOUT

A. This item shall be governed by the requirements of Standard Specification Item C740(51) except as modified here-in. The Contractor will be responsible for laying out the work prior to beginning of construction and establishing grades for all roads to maintain positive drainage when the profile of the road is altered. The Contractor shall initiate a Request for Information to the Engineer for review if any changes to the existing road profile are to be made. The Contractor shall provide elevations to the Engineer in order to evaluate the effect of grade changes to the adjacent driveways, sidewalks, and residential lots. The Contractor shall submit a detailed sketch to the Engineer that shows existing roadway elevations and the proposed gutter line. This effort shall consist of adjusting catch basins or drop inlets as the low points of this profile. Any change to the existing road profile shall be approved by the engineer and S&WB prior to making any changes. The Engineer shall review and approve the proposed gutter line to assert that the road is laid out adhering to City Standards. Any changes made to the existing road profile without the City's approval may be rejected and replaced at the Contractor's expense.

B. Prior to starting construction in each block, the Contractor shall be required to mark using survey marking paint the limits of the pavement, driveway, sidewalk, and handicapped ramp removal as shown on the plans, and mark using a contrasting color any areas the contractor recommends as additional removal/replacement due to constructability concerns.

C. There shall be no direct payment for Construction Layout. All costs associated with the requirements included in Section C740 of the General Specifications shall be included in other major items of the proposal.

SECTION 3.05 – TRAFFIC CONTROL PLAN

The requirements of General Specifications Section C128 PERMITS AND REGULATIONS shall apply except a detailed traffic control plan shall be required for this project.

A. The Contractor shall maintain fifty (50%) percent of the roadway accessible to vehicular traffic at all times, and for major streets shall maintain 100% of roadway accessible to vehicular traffic between the hours of 7-9 A.M. and 4-6 P.M. A traffic control plan indicating, in detail, the location of all signs, lights, and barricades must be prepared by the Contractor for the written approval of the Sewerage and Water Board Director, no less than two, nor more than ten working days in advance of implementation. It shall be the Contractor's responsibility to obtain these approvals in writing. There is no direct pay for this requirement.

B. The Police Department, Fire Department, all affected utilities as well as any and all residents and/or businesses affected must be informed a minimum of twenty-four (24) hours in advance of anticipated closures and the duration thereof.

C. Construction traffic control signs, barricades, warning lights, devices, and methods, shall comply with Part VI of Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) unless otherwise directed by the Sewerage and Water Board Director. There is no direct pay for this.

D. All traffic control devices (roadway markings, signs, signals, signal controls, etc.) destroyed as a result of construction shall be replaced at the Contractor’s expense.

E. The Contractor shall notify the Sewerage and Water Board Director immediately if the project requires changes or modifications to existing traffic control signs, parking meters, etc.

The Contractor performing work under this contract shall be required to coordinate and cooperate in scheduling his operations with the Sewerage and Water Board Director and S&WB prior to finalizing pavement repairs to accommodate other contractor’s activities. There shall be at no direct payment for traffic control plans.

SECTION 3.06 – SAW CUTTING (SIDEWALK, DRIVEWAY AND CURBS)

A. This item shall be governed by the requirements of General Specification Item C202 (55) except as modified here-in. To ensure against ragged connections between old and new work, saw cutting will be required at sidewalks, driveways, curbs, and/or at other paved construction areas as may be designated by the Engineer.

B. The saw cuts in sidewalks shall be full depth with an appropriate saw to ensure the straight vertical edge for the upper portion on the patch. After the edges have been cut, the areas to be removed are broken in small pieces with pneumatic chisels or drills and the pieces removed. The resulting broken edge of the concrete below the saw cut is left fairly rough and irregular but in approximately vertical plane so that it will provide aggregate interlocks between the patch and existing concrete. Joints and typical joint spacing within the repair area shall be established or reestablished in accordance with the details shown on City of New Orleans Department of Public Works Standard Drawings.

The saw cuts in driveways and curbs shall be full depth with an appropriate saw to ensure the straight vertical edge for the upper portion on the patch. After the edges have been cut, the areas to be removed are broken in small pieces with pneumatic chisels or drills and the pieces removed. The resulting broken edge of the concrete below the saw cut is left fairly rough and irregular but in approximately vertical plane so that it will provide aggregate interlocks between the patch and existing concrete. When breaking the concrete driveway pavement an attempt shall be made to save a minimum twelve (12) inches of the existing welded wire fabric on each side.

Joints and typical joint spacing within the repair area shall be established or reestablished in accordance with the details shown on City of New Orleans Department of Public Works Standard Drawings.

C. Measurement and payment for saw cutting required to establish joints interior to the work area as required by the DPW Standard Details and General Specifications shall not be allowed.

D. Measurement and payment for saw cutting of sidewalks, driveways, or curbs along the ends or perimeter of removal areas as required to protect existing concrete that is to remain in-place shall be made at the unit price bid per linear foot for Special Bid Item No. CF-3 SIDEWALK, DRIVEWAY AND CURB SAW CUTTING when listed on the Unit Price Form.

E. There shall be no Measurement and payment for the depth of saw cutting of sidewalks, driveways, or curbs along the ends or perimeter of removal areas. The depth of saw cutting shall follow the plan drawings regarding the pavement section thickness.

SECTION 3.07 – PAVEMENT SAW CUTTING ADJACENT TO EXISTING PAVEMENT AND AT PATCHES AND UTILITY TRENCHES

A. This item shall be governed by the requirements of Standard Specification Item C202 (56) except as modified here-in. The cut in roadway pavement adjacent to existing pavement that is to remain in place, and for patching, and for utility trenches shall be made prior to demolition of the paved area to be removed and shall be sawcut full pavement depth to ensure the adjacent paved areas that are to remain in place are protected from damage during the demolition process. If the contractor damages the edge of sawcut pavement the contractor shall be required to re-sawcut the entire concrete panel, or as approved by the engineer, to remove the damaged area. Any saw cutting, pavement, and related items that are required due to Contractor damage of existing pavement shall be at no direct cost.

B. This item shall include saw cutting for both Portland cement concrete and asphaltic concrete pavement along the ends or perimeter of removal areas as required to protect existing pavement that is to remain in-place. The pavement saw cut, assuming a full pavement-depth saw cut up to a 10” maximum depth, shall be made with an appropriate saw to ensure the straight vertical edge for the upper portion on the patch. After the edges have been cut, the areas to be removed shall be broken in small pieces with pneumatic chisels or drills and the pieces removed.

C. Measurement and payment for saw cutting required to establish or reestablish contraction and expansion joints interior to the work area as required by the DPW Standard Details and General Specifications shall not be allowed.

D. Measurement and payment for saw cutting existing pavement along the ends or perimeter of removal areas adjacent to patches and utility trenches shall be made at the unit price bid per linear foot for Special Bid Item No. CF-4 PAVEMENT SAW CUTTING ADJACENT TO EXISTING PAVEMENT AND AT PATCHES AND UTILITY TRENCHES when listed on the Unit Price Form.

SECTION 3.08 - REMOVAL OF ADA-ACCESSIBLE RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS INCLUDING SAW CUTTING

A. This item shall be governed by the requirements of Standard Specification Item C202 except as modified here-in. The unit price bid per Square Yard for this item shall include all saw cutting of curb, curb and gutter bottom, sidewalk, and pavement, removal and proper disposal of existing pavement, curb, curb and gutter bottom, sidewalk, ramps, and curb transitions, including all excavation, associated with handicapped ramp removal and at the locations shown on the plans.

B. Measurement and payment for Handicap Ramps and Concrete sidewalks at intersection shall be made at the unit price bid per square yard for Special Bid Item No. CF-5 REMOVAL OF HANDICAPPED RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS INCLUDING SAW CUTTING when listed on the Unit Price Form.

SECTION 3.09 - ADA-ACCESSIBLE CURB RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS

A. This item shall be governed by the requirements of General Specification Item C706 (54) except as modified here-in. Concrete sidewalks at intersection shall include the handicap ramp Type B as detailed on the Construction Documents, and the latest ADA standards, unless otherwise approved by the Sewerage and Water Board Director in writing on a case-by-case basis. Concrete shall be 3000 psi compressive strength at 28 days reinforced with 6x6 - W2.9xW2.9 reinforcing mesh weighing forty-two (42) lbs. per 100 sq. ft. placed at 2” from the top of slab.

B. Breaking out and removing existing pavement, curb, and sidewalk will be paid for under another item. Transitional sidewalk, where required, will be paid for under for under other items of the proposal.

C. Measurement and payment for Handicap Ramps and Concrete sidewalks at intersection shall be made at the unit price bid per square yard for Special Bid Item No. CF-6 ADA-ACCESSIBLE CURB RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS, when listed on the Unit Price Form, and shall include: detectable warning surfaces, all necessary sand, backfill, concrete, transitional flares, transitional curbs, the curb with thickened section and gutter bottom, and all additional curb transitions required for ramp construction in accordance construction requirements of the Standard New Orleans DPW details.

All non-compliant ADA Handicap Ramps within the limits of construction shall be replaced with ADA compliant ramps unless otherwise approved by the Sewerage and Water Board Director.

Price shall include all backfill and compaction behind curb and along the edges of walk with select material obtained from roadway excavation or other approved sources and installation of the top 4 inches with batture sand for dressing and beneath sidewalks and curbs as required.

Price shall include removal and replacement of adjacent roadway pavement as required to form curb, gutter, and ramp transition areas, where adjacent pavement is not included on the drawings and quantified in other items of the proposal.

Price shall include all dowelling and transverse and longitudinal reinforcement in conformance with the Standard New Orleans DPW details.

Price for new curb or curb and gutters associated with Handicapped Ramp construction shall be measured and paid for as subsidiary to Square Yard unit price bid for ADA-ACCESSIBLE CURB RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS.

SECTION 3.10 - DRIVEWAYS AND SIDEWALKS (SPECIAL FINISH)

This work consists of furnishing and constructing specially finished concrete driveways, sidewalks, and incidental paving slabs. Special finish sidewalks and driveways in this section shall be in conformance with the requirements of C706 of the DPW General Specifications.

A. SUBMITTALS

1. Product Data: Submit manufacturer's complete technical data sheet for the following:

   a. Colored admixture.
   b. Powder antiquing release agent.
   c. Imprinting/Texturing tools.

2. Samples for initial selection: Manufacturer's color charts showing full range of colors available.

3. Pea Gravel concrete mix shall be submitted in addition to standard concrete mixes for sidewalks and driveways. Pea Gravel Mix shall be in conformance with the requirements of Section C706 of the DPW General Specifications.

B. QUALITY ASSURANCE

1. Manufacturer Qualifications: Manufacturer with 5-years experience in production of specified products.

2. Installer Qualifications: An installer with 5-years experience with work of similar scope and quality.

3. Comply with the requirements of ACI 301.

4. Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout the Project.

5. Notification of manufacturer's authorized representative shall be given at least 1-week before start of Work.

6. Integrally Colored Concrete Mockups:

7. Provide under provisions of Section "Submittals".

8. At location on Project selected by Owner and Engineer, place and finish 10 feet by 10 feet area.

9. For accurate color, the quantity of concrete mixed to produce the sample should not be less than 3 cubic yards or not less than 1/3 the capacity of the mixing drum on the ready-mix truck and should always be in full cubic yard increments. Excess material shall be discarded according to local regulations.

10. Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction and expansion joints in sample panels. Mockup shall be produced by the individual workers who will perform the work for the Project.

11. Retain samples of cements, sands, aggregates and color additives used in mockup for comparison with materials used in remaining work.

12. Accepted mockup provides visual standards for work of Section.

13. Mockup shall remain through completion of the work for use as a quality standard for furnished work. Remove mockup when directed.

C. DELIVERY, STORAGE, AND HANDLING

Colored Admixture: Comply with manufacturer's instructions. Deliver colored admixtures in original, unopened packaging. Store in dry conditions.

D. PROJECT CONDITIONS

Integrally Colored Concrete Environmental Requirements:

1. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.

2. Avoid placing concrete if rain, snow, or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.

3. Comply with professional practices described in ACI 305R and ACI306R.

E. PRODUCTS

1. MATERIALS

a. Colored Admixture for Integrally Colored Concrete:

Admixture shall be a colored, water-reducing, admixture containing no calcium chloride with coloring agents that are lime proof and UV resistant.

b. Stamping/Imprinting Tools and Materials:

Stamping/Imprinting Tools and Materials shall be furnished by the Color Admixture manufacturer.

c. Powder antiquing release agent shall be recommended by pattern tool manufacturer and compatible with integral color additives.

2. COLORS AND PATTERNS

a. Concrete Color:

Provide cement, sand, aggregate and colored admixture as required to match existing stamped/colored concrete.

b. Curing Compound: Color to match colored concrete.

c. Surface Texture: Stamped concrete finish.

d. Stamp/Imprinting Pattern:

As required to match existing stamped driveway. The Contractor shall submit imprinting pattern to Engineer for review and approval before construction.

F. MEASUREMENT

The area of driveways will be determined by surface measurements and no extra allowance will be made for shoulders. Sidewalk pavements will be paid for by surface measurements and no deduction will be made for subsurface structures occupying less than five (5) square feet of area. Areas under structures encroaching on Public Property not paved will not be included in the surface measurement.

G. PAYMENT

Payment for special finish concrete driveways and sidewalks shall be made at the contract price per square yard, which includes excavation, installation of expansion joint and welded wire fabric. Granular material for adjustment and removal of existing driveways, sidewalk or banquette pavement shall be paid for in other items.

ITEM NO.	PAY ITEM	PAY UNIT
CF-7	4” Concrete Sidewalk (Special Finish)	Square Yard
CF-8	6” Concrete Driveway (Special Finish)	Square Yard
CF-9	6” Concrete Driveway (Special Finish) (Pea Gravel)	Square Yard

SECTION 3.11 - SIDEWALK TRANSITION ADJACENT TO ADA-ACCESSIBLE CURB RAMP AREAS

A. This item shall be governed by the requirements of Standard Specification Item C706 (51) Concrete Sidewalk, C706 (57) Brick Sidewalk, and C706 (59) Stone Sidewalk except as modified here-in. This item shall include all necessary work associated with transitioning line and grade of existing sidewalk and non-roadway paved transition areas adjacent to proposed handicapped ramp locations.

B. The unit price bid per Square Yard for SIDEWALK TRANSITION ADJACENT TO HANDICAPPED RAMPS shall include all saw cutting, removal and proper disposal of existing sidewalk and non-roadway paved transition areas, all excavation, subgrade preparation, setting bed, concrete foundation, grading, compaction, tamping, and furnishing and placing all necessary fill material, backfill, dressing, sand for adjustment, joints, reinforcement, grout, finishing, curing, and sidewalk or non-roadway paved transition area constructed of a material to match the existing type and surface course unless otherwise directed by the Sewerage and Water Board Director. Where existing sidewalk or non-roadway paved transition areas to be removed is Portland Cement Concrete the new surface course shall be 4 inches thick 3,000 psi concrete at 28 days reinforced with 6x6 - W2.9xW2.9 reinforcing mesh. Where existing sidewalk or non-roadway paved transition areas to be removed is Brick or Stone the new surface course shall be replaced in-kind and

compliant with the construction requirements of the General Specifications for the type material removed. Where feasible and accepted by the Sewerage and Water Board Director existing salvaged material, if reusable, can be removed, properly cleaned, and re-installed. Price shall include all backfill and compaction behind curb and along the edges of walk with select material obtained from roadway excavation or other approved sources and the installation of the top four inches with Batture sand for dressing as required. The Contractor is solely responsible for coordinating with the respective utility for any required adjustments or relocations as required. If approved by the respective utility any necessary utility box adjustments shall be performed by the contractor in accordance with the appropriate standards and requirements at no direct payment.

C. When SIDEWALK TRANSITION ADJACENT TO HANDICAPPED RAMPS has been shown on the unit price proposal the extent of transition area allowable for measurement and payment shall be a maximum of 8'-0" in length in each direction from proposed handicapped ramps where existing sidewalk requires replacement to meet line and grade dictated by compliance with the latest ADA standards. The width of the sidewalk transition shall match the width of the material to be removed to meet line and grade dictated by compliance with the latest ADA standards. Locations eligible for use of this pay item shall be recommended by the contractor to the project engineer's Resident Inspector (RI) for submission to the Sewerage and Water Board Director of an approved amount per each location proposed. The Contractor shall consult directly with the RI and provide field measurements, recommendations, and existing and proposed grades as needed to install ADA compliant sidewalk transitions to proposed handicapped ramp locations. Only locations and extents specifically pre-approved by the Sewerage and Water Board Director during construction will be eligible for payment. SIDEWALK TRANSITION ADJACENT TO HANDICAPPED RAMPS shall not be considered a material part of the work contemplated, and only amounts specifically approved in writing from the Sewerage and Water Board Director shall be measured and paid for at the contract unit price bid with no adjustment to the unit price for an increase or decrease in the final quantity approved.

D. Measurement and payment:

1. SIDEWALK TRANSITION ADJACENT TO HANDICAPPED RAMPS, not shown on the Construction Drawings but included in the unit price proposal, shall only be measured and paid for each location and specific quantity approved in writing by the Sewerage and Water Board Director for Special Bid Item No. CF-13 SIDEWALK TRANSITION ADJACENT TO HANDICAPPED RAMPS.
2. All sidewalk areas that are shown on the Construction Drawings are measured and paid for in other applicable pay items of the proposal.

SECTION 3.12 - ADA-ACCESSIBLE CURB RAMP RETROFIT

A. DESCRIPTION

1. This item shall include all necessary work associated with adding ADA compliant tactile / detectable warning surface tiles to existing curb ramps. This Section includes Specifications for furnishing and installing Surface Applied Tactile / Detectable Warning Surface Tiles (SA) in an inline truncated dome pattern on all curb ramps and walking surfaces at the locations and to the dimensions shown on the Drawings, in accordance with the Contract Documents and as directed by the Sewerage and Water Board Director. (Surface Applied Tactile is also known as Surface Mount Tactile Warning Tiles or Retrofit Tactile Warning Tiles).

B. RELATED DOCUMENTS

1. Drawings and general provisions of the Contract Documents.

2. Americans with Disabilities Act (ADA) Title 49 CFR Transportation, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 Detectable Warnings on Walking Surfaces. FHA Memo (5-06-02) titled Truncated Domes. Federal Register Volume 71, No. 209, 49 CFR Part 37 (10-30-06), ADA Standards for Transportation Facilities (11-29-06, DOT): Sections 406, 705, and 810. ADA Standards for Accessible Design – 2010 (9/05/11, DOJ), ADAAG: Sections 705 and 810. Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Rights of Way (7/23/11, Access Board), PROWAG: Sections R208, R304, R305, R308, and R309.

3. American Society for Testing and Materials (ASTM) Test Methods B117, C501, C1028, D543, D570, D638, D695, D790, G151, G155, and E84.

4. American Association of State Highway and Transportation Officials (AASHTO): Test Method AASHTO-H20

C. SUBMITTALS

1. Product Data: Submit manufacturer's literature describing products, installation procedures and maintenance instructions.

2. Samples for Verification Purposes: Submit two (2) Tactile Warning Surface samples minimum 8" x 8" of the kind proposed for use. Samples shall be properly labeled and shall contain the following information: Name of Project, Submitted by, Date of Submittal, Manufacturer's Name, and Catalog Number.

3. Shop Drawings: Submit Standard Manufacturer Shop Drawings showing all pertinent characteristics of the Surface Applied Tactile Warning Tile (SA) including profile, sound on cane contact amplification feature, fastener locations and installation methods.

4. Material Test Reports: Submit current test reports from qualified, accredited independent testing laboratory in accordance with ASTM guidelines and indicating that materials proposed for use are in compliance with specification requirements and meet the properties indicated. All test reports submitted shall be representative of the Surface Applied Tactile Warning Tile (SA) delivered to the Project.

5. Maintenance Instructions: Submit copies of manufacturer's specified maintenance practices for each type of Tactile Warning Surface Tile and accessory.

D. GUARANTEE

1. SA Tiles shall be guaranteed in writing for a period of five (5) years from date of Contract's final completion. The guarantee includes manufacturing defects, breakage, and deformation.

E. MATERIALS

1. Composition: SA Tiles shall be manufactured using a matte finish exterior grade homogeneous (uniform color throughout thickness of product) glass and carbon reinforced polyester based Sheet Molding Compound (SMC) composite material. Truncated domes must contain fiberglass reinforcement within the truncated dome for superior structural integrity and impact resistance. A matte finish will be required on the Tactile Warning Surface for superior slip resistance performance superior to that offered by a gloss finish. Use of Tactile Warning Surface Products employing coatings or featuring layers of material

with differing composition, performance, or color properties is expressly prohibited under this Section.

2. Color: Color shall be homogeneous throughout SA Tile, Dark Gray (G) per Federal Standard 595B Table IV, Color No. 36118.

3. Domes: Square grid pattern of raised truncated domes of 0.2" nominal height, base diameter of 0.9" and top diameter of 0.45". The Federal Code of Regulations permits a truncated dome spacing range of 1.6"-2.4." For superior wheelchair, walker and shopping cart mobility, the preferred truncated dome spacing shall have a center-to-center (horizontally and vertically) spacing of 2.35", measured between the most adjacent domes on square grid.

4. Configuration: SA Tile sizes shall be as indicated on the Contract Drawings. The field area shall consist of a non-slip textured surface with a minimum static coefficient of friction of 0.80, wet and dry. At a minimum, the thickness of the body of SA Tile shall measure 3/16" (nominal). The SA Tile thickness shall not exceed ½" maximum when measured from the curb ramp surface to the top of the truncated dome. The field area shall consist of a non-slip textured surface with a minimum static coefficient of friction of 0.80, wet and dry.

5. In compliance with the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Rights of Way (7/23/11, Access Board, "PROWAG") Section R302.7.2 and California Code of Regulations (CCR 2007) Section 1127B.5.5 and Section 1133B.8.5, the Composite Tactile Warning Surface Tiles shall have a perimeter beveled edge with a maximum slope of 1:2 in order to minimize the potential for a pedestrian tripping.

6. Radius SA Tile:

   a. Radius SA Tile measures 24"x 33.25" and features reverse score lines on each 24" dimension for a 10', 15', and 20' radius condition. The Radius SA Tile out of the box measures 11' - 6" radius.

   b. Truncated domes feature proper dome alignment for a radius application. Radius SA Tile shall be cut to the appropriate configuration using the reverse score lines as a guide.

7. Follow Tactile Warning Surface Manufacturer's installation procedures.

8. Dimensions: SA Tiles shall be held within the following dimensions and tolerances:

   a. Length and Width:

      i. Rectangular SA Tile: 2.35" Dome Spacing

      ii. Radius SA Tile: 1.6" - 2.4" Dome Spacing

9. Fasteners: The Tactile Warning Surface Tile shall have minimum twelve (2'x3' Tactile Warning Surface Tile) to twenty-four (3'x5' Tactile Warning Surface Tile) countersunk fastening holes. Color matched, stainless steel 304, flat head drive anchor: ¼" diameter x 1 1/2" long.

10. Adhesive:

a. Polyether Structural Adhesive/Sealant by Chem Link (M-1)

b. Urethane Elastomeric Adhesive by Bostik (Hydroment Ultra-Set Advanced or Durabond D-818)

c. Approved equal.

11. Sealants:

a. Single Component Urethane Sealant:

i. Sources: BASF NP1 by BASF Building Systems or Sikaflex 1A by Sika Corp.

ii. Colors: Black, Limestone, Redwood Tan

b. Polyether Structural Adhesive/Sealant by Chem Link (M-1)

i. Colors: Black, Gray, Limestone, White

c. Approved Equal

12. Available manufacturers, subject to compliance with these Specifications include, but are not limited to, the following:

a. ADA Solutions Inc. of Chelmsford, MA (Phone: 800-372-0519, Fax: 978-262-9125, Web Site: www.adatile.com, Email: info@adatile.com, or owner approved equal.

F. EXECUTION

1. Preparation

a. Transmit submittals and deliverables required by this Section.

b. Furnish products as indicated.

c. Substrate Condition: Ensure substrate is in suitable condition, and in compliance with the Tactile Warning Surface manufacturer recommendations, to receive work of this Section. Prior to construction, refer any and all discrepancies to the Engineer for further action.

2. Installation

a. Contractor will not be allowed to install Tactile Warning Surface Tiles until all submittals have been reviewed and approved by the Engineer.

b. SA Tile shall be installed per manufacturer's instructions.

c. To the maximum extent possible, the SA Tiles shall be oriented such that the rows of in-line truncated domes are parallel with the direction of the ramp. When multiple SA Tiles regardless of size are used, the truncated domes shall be aligned between the tactile warning surface tiles and throughout the entire tactile warning surface installation.

d. In accordance with the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Rights of Way (7/23/11, Access Board): Sections 304 + 305), Tactile Warning Surface Tile shall be located relative to the curb line as shown within Sections 304+305 of the Guidelines.

e. Cutting of SA Tiles may be required to accommodate specific site conditions. All possible attempts shall be made to minimize cutting of the SA Tiles. Minimum acceptable width of the cut SA Tile shall be 9".

f. Environmental Conditions: Air and substrate temperatures must exceed 40 degrees for at least 8 daytime hours for a sound and proper installation. A "weed torch" may be used to boost the substrate temperature to expedite cure of adhesives and sealants.

g. Immediately prior to installing the SA Tiles, the concrete surfaces must be inspected to ensure that they are clean, dry, free of voids, curing compounds, projections, loose material, dust, oil, grease, sealers and determined to be structurally sound with a minimum four (4) day concrete cure period (unless otherwise directed by the SA Tile manufacturer) and that the surface is flat. As necessary, substrate may be mechanically cleaned with a diamond cup grinder or shot blaster to remove any dirt or foreign material although a broom or leaf blower is usually adequate for cleaning of the substrate.

h. Apply adhesive on the backside of the SA Tiles following the perimeter border and internal cross pattern established by the SA Tile manufacturer. Sufficient adhesive must be placed on the prescribed areas to have full coverage across the 2-inch width of the adhesive locator.

i. Set the SA Tile(s) true and square to the curb ramp areas as detailed in the Drawings. Allow 1/8" separation between successive SA Tiles for expansion/contraction.

j. Drill holes true and straight to a depth of 2" by 1/4" using the recommended bit. As necessary, additional countersunk holes may be added to the SA Tile by using a 5-point ½" (82 degree) countersink to create the necessary holes.

k. Mechanically fasten SA Tile to the concrete substrate using a 32oz. to 48oz. hammer to set the composite sleeve anchors. Ensure that the fastener has been set to full depth, straight and true. Care should be taken when setting the fastener to avoid any advertent blows with the hammer to the SA Tile.

l. Following the installation of the SA Tile, the sealant system should be applied to the perimeter edge. Follow the Tactile Warning Surface manufacturer's recommendations when applying the sealant in a cove type profile to blend and seal the SA Tile edge to the adjoining surfaces.

m. Do not allow foot traffic on installed SA Tile until the perimeter edge sealant has cured sufficiently to avoid tracking. If the SA Tile must be placed into immediate pedestrian service, apply baby powder to the sealant to minimize the possibility of tracking while the sealant cures. Foot imprints may appear in the fully cured sealant application

n. A Urethane Sealant such as Sikaflex 1a or BASF NP1 shall be applied to the edge treatment for a watertight Tactile Warning Surface Tile installation.

3. Cleaning and Protecting

a. Protect SA Tiles against damage during construction period to comply with SA Tiles manufacturer's Specifications.

b. As necessary, while the Project remains under construction, protect SA Tiles against damage from rolling loads following installation by covering with plywood or hardwood.

c. If requested by the Sewerage and Water Board Director, clean SA Tiles not more than four (4) days prior to date scheduled for inspection intended to establish date of substantial completion in each area of project. Clean SA Tile by method specified by Tactile Warning Surface Products manufacturer.

G. MEASURMENT AND PAYMENT

1. When the Surface Applied Tactile / Detectable Warning Surface Tiles pay item has been shown on the unit price proposal the final approved quantity for installation, measurement, and payment shall be determined by and subject to written approval of the Sewerage and Water Board Director and shall not be considered a material part of the work contemplated. Only locations specifically approved in writing by the Sewerage and Water Board Director during construction shall be measured and paid for at the unit price bid with no adjustment to the unit price for an increase or decrease in the final amount approved.

2. The unit price bid per square foot for Surface Applied Tactile / Detectable Warning Surface Tiles shall include all cost to prepare, furnish, install, clean, protect and warrant the tiles in accordance with the specifications and the manufacturer's recommendations.

3. Surface Applied Tactile / Detectable Warning Surface Tiles shall be measured based on approved actual square footage of installed final product in-place.

4. Surface Applied Tactile / Detectable Warning Surface Tiles, not shown on the Construction Drawings but included in the unit price proposal, shall only be measured and paid for at location approved in writing by the Sewerage and Water Board Director for Special Bid Item No. CF-14 SURFACE APPLIED TACTILE / DETECTABLE WARNING SURFACE TILES.

SECTION 3.13 - CONCRETE PAVEMENT (8" THICK)

A. This item shall be governed by the requirements General Specification Item C601 except as modified here-in.

B. The final finish and texture shall be obtained using a broom, or other acceptable methods approved by the Sewerage and Water Board Director, in accordance with the latest edition of LaDOTD Louisiana Standard Specifications for Roads and Bridges Section 601.

C. At all locations proposed concrete pavement abuts existing concrete pavement that is to remain in place:

All concrete pavement within the designated area is to be removed and the subgrade area prepared to receive an eight (8") inch compacted crushed stone base course as shown on the typical roadway cross sections contained in the Construction Drawings. Compacted pumped sand covered by a geotextile fabric as required shall be used to bring subgrade to the required elevation. It shall also be used to replace unsuitable subgrade or to fill voids as directed.

No. 5 (#5) dowels 24" long at 12" on center shall be drilled and epoxy grouted into the existing concrete to allow for a proper tie-in.

Just prior to placing the new concrete, the vertical faces of the old concrete pavement are to be coated with an approved concrete epoxy per ASTM C 881 Type II. The new roadway pavement shall consist of four thousand (4,000) psi P.C.C.P. reinforced with 6 X 12 - W 7.5 X W 6.5 welded wire fabric, seventy-seven (77) pounds per one hundred (100) square feet. The new mesh shall be tied to the existing mesh where possible. Full width sheets are to be used and overlapped a minimum of 12", no partial or scrap pieces are to be used.

Wherever a joint (any type) or a part thereof falls within the affected area, the same shall be reestablished in kind and shall be incidental to the work included as concrete pavement.

After all roadway pavement repairs have been completed at a location, Bituminous Wearing Course material, if required, shall be placed in a continuous operation.

D. Unit Price bid shall include all preparation work and drilling and dowelling between existing and proposed pavement in accordance with the CONCRETE PAVEMENT REPAIR detail shown on City of New Orleans Department of Public Works Standard Drawing STD5, except epoxy grout shall also be required.

E. Measurement and payment for concrete pavement shall be made at the unit price bid per square yard for Bid Item No. C601 (54) REINFORCED CONCRETE PAVEMENT (8" THICK) when listed on the Unit Price Form.

SECTION 3.14 - ROOT PRUNING, TREE PROTECTION, LANDSCAPING, AND SIDEWALK GRAVEL BED

Landscaping shall be in accordance with Section C719 of the General Specifications for Street Paving Department of Public Works 2015 Edition (Revised 11/05/2015), Department of Parks and Parkways Specifications Section 02480 *Landscape Protection During Construction,* 02481 *Installation of Plant Materials* and Section 02485 *Seeding and Sodding,* and amended as follows:

A. Root Pruning – All tree roots, of City owned trees, damaged during removal of curbs, sidewalks and driveways shall be root pruned. All tree roots damaged during any excavation operations; yard drains, collector lines, etc. shall be root pruned. Tunneling and boring shall be required when working within the critical root zone. Trenching is prohibited from this area. Air spading may be required in order to reveal the roots under circumstances where construction occurs within the critical root zone as directed by the Parks & Parkways Department (PPD) arborist.

1. Air spading requirement - When working within the critical root zone, air spading is required to expose the top seven to ten inches of the critical root zone to reveal root conflicts.
2. Aerial pruning requirement – When root pruning occurs, aerial pruning is required as per the direction of the Chief Urban Forester to mitigate damage by reducing the canopy in proportion to the root reduction.

3. Lac Balsam is prohibited from use to dress severed roots as a tree wound treatment.
4. A living root that will be buried below grade following pruning shall be treated with a rooting hormone approved by the Chief Urban Forester.
5. A root flare that must be cut and remain exposed shall be treated with a copper paste approved by the Chief Urban Forester.
6. All root pruning shall occur prior to excavation.
7. When circumstance require that roots be exposed for more than 48 hours, the roots shall be re-cut to living tissue, re-treated, buried and irrigated promptly.
8. Approved root cutting tools – Sharp instruments that make clean cuts, including hand saw, loppers, snips or hand pruners, chain saw or reciprocating saw with unpainted blades. Dull blades are prohibited. Trenchers and excavators are prohibited.

B. Fertilization – All trees' roots pruned due to construction shall be fertilized using a water-soluble fertilizer injected into the soil. The fertilization plan shall be based upon soil lab test reports furnished by the Contractor. The minimum acceptable N-P-K ratio shall be 30-5-5. The nutrient complex and ratio (gal. /sq. ft.) must be approved by the Urban Forester overseeing the project.

C. Mycorrhizal Fungal Inoculate – Treatment equal to or better than Mycor Tree Saver, Cambistat, and mulching shall be applied to all construction damaged tree root zones per manufacturer's directions. Cost shall be included in the bid price for root pruning.

D. Termite Treatment – All tree roots pruned due to construction shall be treated for termites. A termiticide equal to or better than Premise manufactured by Bayer Corporation shall be used per manufacturer's directions. Cost shall be included in the bid price for root pruning.

E. Tree Permit Requirements – When necessary, the Contractor will be required to obtain a Tree Permit from the Department of Parks and Parkways.

1. Pre-Permit: In order to obtain a tree permit, the Contractor must satisfy the following conditions:

- The Contractor will ensure that the tree permit application will be made by a Louisiana Licensed Arborist certified by the International Society of Arboriculture
- A signed contract and a written detailed plan are required for issuance of the permit. The plan shall include the location of the proposed excavation, measurements of depth, length, and proximity to the main trunk of the tree, tools and methodology and exact time when work will be performed.

2. Post-Permit: Once PPD approves the tree permit, the Contractor must ensure the following on-going requirements are met:

- The Contractor will ensure that the Arborist is present on the construction site for all excavation and/or root pruning within protected areas of the tree.
- The Contractor will ensure that the Arborist visits the construction site for a minimum of one hour per day during active construction that is near to or involves trees.
- The Contractor will ensure that the Arborist will submit a weekly log of hours to the Chief Urban Forester with each invoice.

F. Canopy Pruning – When aerial pruning occurs, the resulting canopy shall be symmetrical and balanced as per the direction of the Chief Urban Forester.

G. Tree Replacement – Trees determined by the Chief Urban Forester to no longer be viable due to damage inflicted by the Contractor shall be replaced as directed by the Department of Parks and Parkways. At a minimum, trees shall be replaced on the basis of inch caliper per inch diameter lost. In the event that there is

not sufficient space for planting, an alternative location may be designated off site, or the Contractor my donate a sum equal to the cost of replacement to the Department of Parks and Parkways Plant-A-Tree Trust Fund.

H. Tunneling and Boring Requirement – When work cannot be redirected away from the Critical Root Zone, tunneling and boring is required for the installation of lines. Trenching is prohibited within the critical root zone. Air spading may be required in order to reveal the roots under circumstances where construction occurs within the critical root zone as directed by the Chief Urban Forester.

I. Root Barrier – When work includes installation of root barrier, the barrier may not be constructed from wood.

J. Restricted Use Instruments – Permission must be obtained from the Chief Urban Forester in advance for use of any machines intended for trenching or mechanical digging. When stump grinders are employed, it must be followed by the use of an approved cutting instrument that will remove any torn or shredded tissue back to a clean, living cut.

F. These items shall be governed by the requirements of General Specification Item C719 except as modified here-in.

G. When Root Pruning has been shown on the unit price proposal the extent of root pruning allowable shall be determined by the Parks & Parkways Department (PPD) and require written approval by the Sewerage and Water Board Director. The Contractor shall consult directly with the PPD and provide a licensed arborist as needed to perform root pruning. Only root pruning locations specifically approved by the Sewerage and Water Board Director during construction will be eligible for payment. Root Pruning shall not be considered a material part of the work contemplated, and only Root Pruning locations specifically approved in writing from the Sewerage and Water Board Director shall be measured and paid for at the unit price bid with no adjustment to the unit price for an increase or decrease in the number of items approved. Measurement and payment for Root Pruning shall be made for each approved location at the unit price bid per each tree for Special Bid Item No. CF-10 ROOT PRUNING. When Root Pruning has not been shown on the unit price proposal then any required Root Pruning shall be at no direct payment.

H. There shall be no direct payment for Root Trenching. The Contractor is responsible for protecting existing trees in and adjacent to the work area and installing tree protection measures as required by Parks and Parkways and as directed by the engineer. All costs associated with Root Trenching shall be included in other major items of the proposal.

I. There shall be no direct payment for tree protection. The Contractor is responsible for protecting existing trees in and adjacent to the work area and installing tree protection measures as required by Parks and Parkways and as directed by the Sewerage and Water Board Director. All costs associated with tree protection shall be included in other major items of the proposal. Tree protection shall be in place and approved by the PPD arborist prior to commencement of any work on site, including clearing and grubbing.

J. There shall be no direct payment for Sidewalk Gravel Bed as required for ramping over tree roots that interfere with placement of sidewalk. The Contractor is responsible for protecting existing trees in and adjacent to the work area and installing tree protection measures as required by Parks and Parkways and as directed by the engineer. All costs associated with Gravel Bed and Filter Cloth over Tree Roots shall be included in other major items of the proposal.

K. There shall be no direct payment for Tree Trimming required to obtain needed clearance to perform the work. The Contractor is responsible for protecting existing trees in and adjacent to the work area and installing tree protection measures as required by Parks and Parkways and as directed by the engineer. All costs associated with Tree Trimming shall be included in other major items of the proposal. There shall be

no direct payment for air spading and tunnel and boring required to work within the critical root zone as directed by the PPD arborist.

SECTION 3.15 - GRANULAR MATERIAL AND FILL MATERIAL

A. Granular material shall be governed by the requirements of Standard Specification Item C723 except as modified here-in. The Contractor shall be responsible for importation and placement of granular fill material as required for placement of timber or concrete curb and structures. There shall be no direct payment for Granular Material or Batture Sand. Payment for Item C723 Granular Material item no. C723 (52) Batture Sand for Dressing, Granular Material for other Adjustments shall not be allowed. All costs for Batture Sand for Dressing, Granular Material for other Adjustments shall be included in the unit price bid for curbs, sidewalks, or driveways, roadways, or other major items of the proposal as applicable.

B. Fill material shall be required as fill, backfill or dressing material to ensure positive drainage within the limits of the area disturbed by construction, areas adjacent to sidewalk or driveway repairs, and between sidewalk repairs and the roadway to comply with the typical roadway cross sections shown on the plans or as directed. The fill material shall be suitable on-site excavated earth material, subject to approval of the Sewerage and Water Board Director, or borrow material compliant with the requirements Standard Specification Item C723 Granular Material with subsection 1003.07 referencing 2006 Edition LaDOTD Standard Specifications for Roads and Bridges. Fill and borrow materials shall be free from waste, rubbish, large rocks, or other unsuitable or foreign material.

Suitable excavated material is to be used if available as fill or dressing to comply with the typical roadway cross sections shown on the plans. In the absence of a sufficient amount of suitable on-site material the Contractor shall provide and import borrow material. There shall be no direct payment for Fill Material. All costs associated with furnishing, hauling, storing, placement and compaction of material used as fill, backfill, or dressing in accordance with the typical sections or as required to ensure positive drainage shall be included in the unit price bid for curbs, sidewalks, or driveways, roadways, or other major items of the proposal as applicable.

SECTION 3.16 - CATCH BASIN AND MANHOLE REPAIRS AND VERTICAL ADJUSTMENTS

A. This work consists of the replacement of components and repair or vertical adjustment of vertical catch basins, mountable catch basins, drop inlet catch basins, and drain manholes as described and in accordance with the details, dimensions, and grades shown on plans or as directed by the Sewerage and Water Board Director. These items shall be governed by the requirements of the latest addition of standard Sewerage and Water Board New Orleans (SWBNO) drawings for the type of structure described and Standard Specification Item C702 except as modified herein. When Catch Basin and Manhole Repairs and Adjustments pay items have been shown on the unit price proposal the final approved quantity for installation, measurement, and payment shall be determined by and subject to written approval of the Sewerage and Water Board Director and shall not be considered a material part of the work contemplated. Only locations specifically approved in writing by the Sewerage and Water Board Director during construction shall be measured and paid for at the unit price bid with no adjustment to the unit price for an increase or decrease in the number of items approved.

B. Measurement and payment for Catch Basin and Manhole Repairs and Vertical Adjustments items shall be made at the unit prices bid under Special Bid Item Numbers CF-301 through CF-378 for Vertical Catch Basin, Drop Inlet Catch Basin, Mountable Catch Basin, and Drain Manhole in conjunction with Cover or Grate; Frame; Front Grate; and Repair or Vertical Adjustment of Single or Double Basins or Manhole Reusing Existing Metal Castings or Repair or Vertical Adjustment of Single or Double Basins or Manhole Brick Work Only, for each type of Special Bid Item. Measurement shall be per each or per foot height, as specified for each type of repair or vertical adjustment item.

C. Unit prices bid for Catch Basin and Manhole Repairs and Vertical Adjustments items shall include any related preparation and finishing work, all excavation, soil and debris removal and proper disposal, sheeting, shoring, bracing, bedding material, granular backfill, backfill and compaction, cement, mortar, sealants, fabric, shagging, materials, castings, transitions to match adjacent improvements, protection and restoration of adjacent areas, labor and workmanship required to provide each individual repair or adjustment as described. All required removal and replacement of adjacent improvements and any damage caused by the contractor to the bordering roadway, adjacent non-paved area, sidewalk, driveway, ramp, curb, existing structure or components, or other existing assets shall be considered incidental to the unit price paid for the Catch Basin and Manhole Repairs and Adjustments items and the contractor shall be required to replace improvements or repair the damages to comply with SWBNO and DPW approved standards at no direct pay. Each Catch Basin and Manhole Repairs and Adjustments pay item may be required individually, or in combination with other Catch Basin and Manhole Repairs and Adjustments pay items, but the unit price bid shall prevail for each item individually.

D. Vertical Catch Basin items - At no time is a vertical catch basin is to be installed in a driveway, in the event that an existing vertical catch basin is located in the face of a drive apron within project limits and the scope of adjacent work includes full depth restoration, the catch basin will need to be converted to a mountable catch basin conforming SWBNO Std. Drawing No. D-3431-A. Curb inlet type vertical catch basins shall conform to the requirements shown on SWBNO Standard Drawings D-873 and D-873A for single or double vertical catch basins, except:

CF-301 Vertical Catch Basin Cover

Work to provide and install Catch Basin Cover shall include furnishing and installing a cover on the catch basin existing frame. Catch Basins shall receive new covers made of fiberglass material sized to properly to fit flush in the existing metal frame. Fiberglass covers for Catch Basins shall be Grate Glass “M” Solid Composite Plate by Road Masters International or approved equal and shall meet AASHTO M 306 or HS-20 loading requirements. This work will include removing the damaged/missing cover as identified by the Sewerage and Water Board Director, cleaning the existing frame, and to fit/retrofit a new cover in the existing frame, measured per each Vertical Catch Basin Cover.

CF-302 Vertical Catch Basin Frame

Catch Basin frames shall meet AASHTO M 306 loading requirements and shall be of the proper size and installed to meet the requirements of the SWBNO drawings for the type of catch basin repaired. This work will include removing the damaged/missing cover and frame and to fit/retrofit a new frame to the structure including incidental removal and replacement of the bordering roadway and cleaning and reinstallation of the existing salvaged cover or in conjunction with a new cover pay item(s) as directed by the Sewerage and Water Board Director. Work and materials for Catch Basin Frame includes the removal of the existing cover and frame as necessary and furnishing and installing a new frame including all components and any related preparation or finishing work to the basin for the new frame installation, measured per each Vertical Catch Basin Frame.

If no structural repair or vertical adjustment work is required, then Vertical Catch Basin Frame placement shall include any incidental brick and mortar work required for the installation of the frame. If structural repairs or vertical adjustment are required, then the Vertical Catch Basin Frame pay item may be used in conjunction with other pay item(s) for repair or vertical adjustments. The Sewerage and Water Board Director will have sole authority in determining whether structural repairs or vertical adjustments are required.

CF-303 Lockable Vertical Catch Basin Frame and Cover

Work to provide and install Lockable Catch Basin Frame and Cover shall include furnishing and installing the frame and cover on an existing Catch Basin. Lockable Catch Basin Frame and Cover shall conform to East Jordan Iron Works, INC. V-4300-7 or approved equal. Item installation requirements shall follow CF-302 description. CF-303 Lockable Vertical Catch Basin Frame and Cover will be measured per each.

CF-311 Vertical Catch Basin Front Grate No. 1,
CF-312 Vertical Catch Basin Front Grate No. 2, and
CF-313 Vertical Catch Basin Front Grate No. 3

No. 1, 2, or 3 Catch Basin Front Grate shall meet AASHTO M 306 or HS-20 loading requirements. This work will include removing the damaged/missing grate and to fit/retrofit a new grate to the structure including incidental removal and replacement of the bordering roadway and cleaning and reinstallation of the existing salvaged frame and cover, or in conjunction with a new frame and/or cover pay item(s) as directed by the Sewerage and Water Board Director. Work and materials for Catch Basin Front Grate includes the removal and reinstallation of the existing cover and frame if necessary, and removal of the existing front grate and furnishing and installing a new front grate including and all components and any related preparation or finishing work to the basin for the new grate installation, measured per each Vertical Catch Basin Front Grate No. 1, 2, or 3. If no structural repair or vertical adjustment work is required then Catch Basin Front Grate placement shall include any incidental brick and mortar work required for the installation of the grate. If structural repairs or vertical adjustments are required, then the Catch Basin Front Grate pay item may be used in conjunction with other pay item for repair or vertical adjustments. The Sewerage and Water Board Director will have sole authority in determining whether structural repairs or vertical adjustments are required.

CF-315 Single Vertical Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings, and
CF-316D Double Vertical Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings

Work to repair or provide vertical adjustment of catch basin reusing existing metal castings shall consist of: remove and salvage the existing frame and cover, or frame, cover and grate, remove all of the existing brick and mortar structure to the lowest elevation of brick area requiring repair or adjustment, furnish and install new brick and mortar courses matching the existing size and location of the original structure, and clean and reinstall the salvaged frame and cover, or frame, cover and grate, measured per each.

CF-317 Single Vertical Catch Basin Repair or Vertical Adjustment Brick Work Only, and
CF-318D Double Vertical Catch Basin Repair or Vertical Adjustment Brick Work Only

Work to repair or provide brick work only for vertical adjustment of Vertical Catch Basins shall consist of removing all or a portion of the existing brick and mortar structure down to the lowest brick course elevation requiring repair and furnishing and installing new brick and mortar courses matching the existing size and location of the original structure, measured per each. Vertical Catch Basin Repair or vertical Adjustment Brick Work only shall be used in conjunction with a pay item for installing a new frame and/or a pay item for installing a new front grate.

E. Drop Inlet Catch Basin items - Drop inlet type Catch basins shall conform to the requirements shown on SWBNO Standard Drawings D-3264 for Standard 24”x30” Clear Opening Drop Inlet Catch Basins, except:

CF-331 Drop Inlet Catch Basin Grate

Work to provide and install Drop Inlet Catch Basin Grate shall include furnishing and installing a grate on the drop inlet catch basin existing frame. Drop Inlet Catch Basins shall receive new grates made of fiberglass material sized to properly to fit flush in the existing metal frame. Fiberglass grate for Catch Basins shall be Grate Glass “M” Mesh Composite Drain by Road Masters International or approved equal and shall meet AASHTO M 306 or HS-20 loading requirements. This work will include removing the damaged/missing

grate as identified by the Sewerage and Water Board Director, cleaning the existing frame, and to fit/retrofit a new grate in the existing frame, measured per each Drop Inlet Catch Basin Grate.

CF-332 Drop Inlet Catch Basin Frame

Drop Inlet Catch Basin frames shall meet AASHTO M 306 loading requirements and shall be of the proper size and installed to meet the requirements of the SWBNO drawings for the type of catch basin repaired. This work will include removing the damaged/missing grate and frame and to fit/retrofit a new frame to the structure including incidental removal and replacement of the bordering roadway and cleaning and reinstallation of the existing salvaged grate, or in conjunction with a grate pay item(s) as directed by the Sewerage and Water Board Director. Work and materials for Drop Inlet Catch Basin Frame includes the removal of the existing grate and frame as necessary and furnishing and installing a new frame including all components and any related preparation or finishing work to the basin for the new frame installation, measured per each Drop Inlet Catch Basin Frame. If no structural repair or vertical adjustment work is required, then Drop Inlet Catch Basin Frame placement shall include any incidental brick and mortar work required for the installation of the frame. If structural repairs or vertical adjustments are required, then the Drop Inlet Catch Basin Frame pay item may be used in conjunction with other pay item(s) for repair or vertical adjustments. The Sewerage and Water Board Director will have sole authority in determining whether structural repairs or vertical adjustments are required.

CF-335 Drop Inlet Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings

Work to repair or provide vertical adjustment of drop inlet catch basin reusing existing metal castings shall consist of: remove and salvage the existing frame or frame and grate, remove all of the existing brick and mortar structure to the lowest elevation of brick area requiring repair or adjustment, furnish and install new brick and mortar courses matching the existing size and location of the original structure, and clean and reinstall the salvaged frame or frame and grate, measured per each.

CF-336 Drop Inlet Catch Basin Repair or Vertical Adjustment Brick Work Only

Work to repair or provide brick work only for vertical adjustment of Drop Inlet Catch Basins shall consist of removing all or a portion of the existing brick and mortar structure down to the lowest brick course elevation requiring repair and furnishing and installing new brick and mortar courses matching the existing size and location of the original structure. Drop Inlet Catch Basin Repair or vertical Adjustment Brick Work Only, measured per each, shall be used in conjunction with a pay item for installing a new drop inlet frame.

F. Mountable Catch Basin items - Mountable catch basin shall conform to the requirements shown on SWBNO Standard Drawings D-3431-A Standard Single Mountable Catch Basin and D-3431-B Standard Double Mountable Catch Basin, except:

CF-351 Mountable Catch Basin Grate

Work to provide and install Mountable Catch Basin Grate shall include furnishing and installing a grate in the mountable catch basin existing frame. Mountable Catch Basins shall receive new grates made of fiberglass material sized to properly to fit flush in the existing metal frame. Fiberglass grates for Catch Basins shall be Grate Glass “M” Mesh Composite Plate by Road Masters International or approved equal and shall meet AASHTO M 306 or HS-20 loading requirements. This work will include removing the damaged/missing grate as identified by the Sewerage and Water Board Director, cleaning the existing frame, and to fit/retrofit a new grate in the existing frame, measured per each Mountable Catch Basin Grate.

CF-352 Single or Double Mountable Catch Basin Frame

Mountable Catch Basin frames shall meet AASHTO M 306 loading requirements and shall be of the proper size and installed to meet the requirements of the SWBNO drawings for the type of catch basin repaired. This work will include removing the damaged/missing grate and frame and to fit/retrofit a new frame to the structure including incidental removal and replacement of the bordering roadway and curb, transition to match the adjacent roadway and curb, and cleaning and reinstallation of the existing salvaged grate, or in conjunction with a grate pay item(s) as directed by the Sewerage and Water Board Director. On rigid

pavement streets, after installation of mountable catch basin frame an isolation pad of 4,000 psi concrete shall be installed as per details shown on City of New Orleans Department of Public Works Standard Drawings and included in the unit price bid for this item. Work and materials for Single or Double Mountable Catch Basin Frame includes the removal of the existing grate and frame as necessary and furnishing and installing a new frame including all components and any related preparation or finishing work to the basin for the new frame installation, measured per each Single or Double Mountable Catch Basin Frame. If no structural repair or vertical adjustment work is required, then Mountable Catch Basin Frame placement shall include any incidental brick and mortar work required for the installation of the frame. If structural repairs or vertical adjustments are required, then the Single Mountable Catch Basin Frame or Double Mountable Catch Basin Frame pay item may be used in conjunction with other pay item(s) for repair or vertical adjustments. The Sewerage and Water Board Director will have sole authority in determining whether structural repairs or vertical adjustments are required.

CF-353 Lockable Mountable Catch Basin Grate

Work to provide and install Lockable Mountable Catch Basin Grate shall include furnishing and installing a grate in the mountable catch basin existing frame. Mountable Catch Basins shall receive new grates which shall conform to the requirements of East Jordan Iron Works, INC. V4510-1L or approved equal and shall be installed to properly fit flush in the existing metal frame. This work will include removing the damaged/missing grate as identified by the Sewerage and Water Board Director, cleaning the existing frame, and to fit/retrofit a new grate in the existing frame, measured per each Lockable Mountable Catch Basin Grate.

CF-355 Single Mountable Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings, and
CF-356D Double Mountable Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings

Work to repair or provide vertical adjustment of single or double mountable catch basin reusing existing metal castings shall consist of: remove and salvage the existing frame(s) or frame(s) and grate(s), remove all of the existing brick and mortar structure to the lowest elevation of brick area requiring repair or adjustment, furnish and install new brick and mortar courses matching the existing size and location of the original structure, and clean and reinstall the salvaged frame or frame and grate, measured per each. On rigid pavement streets, after adjustment of the mountable catch basin an isolation pad of 4,000 psi concrete shall be installed as per details shown on City of New Orleans Department of Public Works Standard Drawings STD9 and included in the unit price bid for this item.

CF-357 Single Mountable Catch Basin Repair or Vertical Adjustment Brick Work Only, and
CF-358 Double Mountable Catch Basin Repair or Vertical Adjustment Brick Work Only

Work to repair or provide brick work only for vertical adjustment of Single or Double Mountable Catch Basins shall consist of removing all or a portion of the existing brick and mortar structure down to the lowest brick course elevation requiring repair and furnishing and installing new brick and mortar courses matching the existing size and location of the original structure. Single or Double Mountable Catch Basin Repair or vertical Adjustment Brick Work Only, measured per each, shall be used in conjunction with a pay item for installing a new mountable catch basin frame.

G. Manhole items - Manhole items shall conform to the requirements shown on SWBNO Standard Drawings D-870 Standard Drain Brick Manhole and D-871 Drain Manhole Frame & Cover or 3143-E-1 Sewer and Water Manhole Castings to match the type utility repaired. Manholes that are approved as described here-in, shall be adjusted to match with the level of the new surface using brick and mortar. Only City of New Orleans Department of Public Works and Sewerage and Water Board manholes and structures shall be adjusted to grade under this contract. Other manholes and structures shall be adjusted to grade by the respective utility company.

CF-371 Manhole Cover

Work to provide and install Manhole Covers shall include furnishing and installing a cover on the manhole existing frame. The new manhole cover shall be sized and installed properly to fit flush in the existing metal frame and shall meet AASHTO M 306 or HS-20 loading requirements. This work will include removing the damaged/missing cover as identified by the Sewerage and Water Board Director, cleaning the existing frame, and to fit/retrofit a new cover to the existing frame, measured per each Manhole Cover.

CF-372 Manhole Frame

Manhole frames shall meet AASHTO M 306 loading requirements and shall be of the proper size and installed to meet the requirements of the SWBNO drawings for the type of manhole repaired. This work will include removing the damaged/missing cover and frame and to fit/retrofit a new frame to the structure including incidental removal and replacement of the bordering roadway and cleaning and reinstallation of the existing salvaged grate, or in conjunction with a grate pay item(s) as directed by the Sewerage and Water Board Director. Work and materials for Manhole Frame includes the removal of the existing cover and frame as necessary and furnishing and installing a new frame including all components and any related preparation or finishing work to the manhole for the new frame installation, measured per each Manhole Frame. On rigid pavement streets, after installation of the frame an isolation pad of 4,000 psi concrete shall be installed as per details shown on City of New Orleans Department of Public Works Standard Drawings and included in the unit price bid for this item.

Manhole Frame placement shall include any brick-and-mortar work required for the adjustment of the frame to the existing or new road pavement grade, inclusive of the requirements of item CF-377 at no additional compensation. The Sewerage and Water Board Director and the S&WB will have authority in determining whether structural repairs or vertical adjustments are required.

CF-375, Manhole Repair or Vertical Adjustment up to 6” Reusing Existing Metal Castings

Work to repair or provide a vertical adjustment of manholes up to 6” reusing existing metal castings shall consist of: remove and salvage the existing frame or frame and cover, excavation, remove all of the existing brick and mortar structure requiring repair or adjustment, furnish and install new brick and mortar courses matching the existing size and location of the original structure, sealing the exposed exterior surface, backfill, and clean and reinstall the salvaged frame or frame and cover, to repair or provide a vertical increase or decrease elevation adjustment to grade up to six inches (6”), measured per each (location). On rigid pavement streets, after adjustment of the manhole an isolation pad of 4,000 psi concrete shall be installed as per details shown on City of New Orleans Department of Public Works Standard Drawings and included in the unit price bid for this item.

CF-376, Manhole Repair or Vertical Adjustment over 6” Reusing Existing Metal Castings

Work to repair or provide vertical adjustment of manholes over 6” reusing existing metal castings shall consist of: remove and salvage the existing frame or frame and cover, excavation, remove all of the existing brick and mortar structure requiring repair or adjustment, furnish and install new brick and mortar courses matching the existing size and location of the original structure, sealing the exposed exterior surface, backfill, and clean and reinstall the salvaged frame or frame and cover, to repair or provide a vertical increase or decrease elevation adjustment to grade over six inches (6”),measured per foot height, or any fraction of a foot to the nearest 0.1’. On rigid pavement streets, after adjustment of the manhole an isolation pad of 4,000 psi concrete shall be installed as per details shown on City of New Orleans Department of Public Works Standard Drawings and included in the unit price bid for this item.

CF-377, Manhole Repair or Vertical Adjustment up to 6” Brick Work Only

Work to repair or provide brick work only for vertical adjustment up to 6” for manholes shall consist of excavation, removing all or a portion of the existing brick and mortar structure requiring repair or adjustment, and furnishing and installing new brick and mortar courses matching the existing size and location of the original structure, sealing the exposed exterior surface, and backfill to repair or provide a vertical increase or decrease elevation adjustment to grade up to six inches (6”). Manhole Repair or Vertical Adjustment up to

6” Brick Work Only, measured per each (location). This item shall be used in conjunction with the appropriate pay items for installing a new manhole frame and cover. On rigid pavement streets, after adjustment of the manhole an isolation pad of 4,000 psi concrete shall be installed as per details shown on City of New Orleans Department of Public Works Standard Drawings and included in the unit price bid for this item.

CF-378, Manhole Repair or Vertical Adjustment over 6” Brick Work Only

Work to repair or provide brick work only for vertical adjustment over 6” for manholes shall consist of excavation, removing all or a portion of the existing brick and mortar structure requiring repair, and furnishing and installing new brick and mortar courses matching the existing size and location of the original structure, sealing the exposed exterior surface, and backfill. Manhole Repair or Vertical Adjustment over 6” Brick Work Only, to repair or provide a vertical increase or decrease elevation adjustment to grade over six inches (6”), shall be measured per foot height or any fraction of a foot to the nearest 0.1’. This item shall be used in conjunction with the appropriate pay items for installing a new manhole frame and cover. On rigid pavement streets, after adjustment of the manhole an isolation pad of 4,000 psi concrete shall be installed as per details shown on City of New Orleans Department of Public Works Standard Drawings and included in the unit price bid for this item.

H. Measurement and payment of Special Bid Items for Catch Basin and Manhole Repairs and Vertical Adjustment:

ITEM NO. PAY ITEM PAY UNIT

CF-301, Vertical Catch Basin Cover, per each*
CF-302, Vertical Catch Basin Frame, per each*
CF-303, Lockable Vertical Catch Basin Frame and Cover, per each*
CF-311, Vertical Catch Basin Front Grate No. 1, per each*
CF-312, Vertical Catch Basin Front Grate No. 2, per each*
CF-313, Vertical Catch Basin Front Grate No. 3, per each*
CF-315, Single Vertical Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings, per each
CF-316D, Double Vertical Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings, per each
CF-317, Single Vertical Catch Basin Repair or Vertical Adjustment Brick Work Only, per each
CF-318D, Double Vertical Catch Basin Repair or Vertical Adjustment Brick Work Only, per each
CF-331, Drop Inlet Catch Basin Grate, per each
CF-332, Drop Inlet Catch Basin Frame, per each
CF-335, Drop Inlet Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings, per each
CF-336, Drop Inlet Catch Basin Repair or Vertical Adjustment Brick Work Only, per each
CF-351, Mountable Catch Basin Grate, per each*
CF-352, Single or Double Mountable Catch Basin Frame, per each
CF-353, Lockable Mountable Catch Basin Grate, per each*
CF-355, Single Mountable Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings, per each
CF-356D, Double Mountable Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings, per each
CF-357, Single Mountable Catch Basin Repair or Vertical Adjustment Brick Work Only, per each
CF-358D, Double Mountable Catch Basin Repair or Vertical Adjustment Brick Work Only, per each
CF-371, Manhole Cover, per each
CF-372, Manhole Frame, per each
CF-375, Manhole Repair or Vertical Adjustment up to 6” Reusing Existing Metal Castings, per each
CF-376, Manhole Repair or Vertical Adjustment over 6” Reusing Existing Metal Castings, per foot height

CF-377, Manhole Repair or Vertical Adjustment up to 6" Brick Work Only, per each
CF-378, Manhole Repair or Vertical Adjustment over 6" Brick Work Only, per foot height

*Note, double catch basins requiring two covers, frames, or grates each shall be paid for separately.

SECTION 3.17 - DRAIN LINE REPAIRS / REPLACEMENT

3.17.01 GENERAL

A. These items shall be governed by the requirements of the "General Specifications for Street Paving," the City of New Orleans, State of Louisiana, latest edition, Section C701 Storm Drains shall be the General Conditions for this Contract and shall govern except as modified here-in. All workmanship, material and tests shall conform to Section E of the General Specifications of the S&WB and the S&WB Standard Drawing No. 7260-S or 7260-D for the type of pipe material installed. When Culverts and Storm Drains replacement or repair items have been shown on the unit price proposal the final approved quantity for installation, measurement, and payment shall be determined by and subject to written approval of the Sewerage and Water Board Director and shall not be considered a material part of the work contemplated. Only locations specifically approved in writing by the Sewerage and Water Board Director before or during construction shall be measured and paid for at the unit price bid with no adjustment to the unit price for an increase or decrease in the bid quantity for approved work.

B. The Contractor shall conduct his operations in such manner as to cause the least possible interruption to service. The Contractor shall maintain drainage and driveway access at the end of the day's pipe laying. Open trenches shall only be as long as the length of pipe to be laid that day. At the end of the day's work, the end of the last length of pipe laid shall be blanked with a cover to prevent intrusion of trash. The Contractor shall provide bracing at power poles as per instructions from the utility owner where the trench excavation is adjacent to the poles (no direct pay). The Contractor shall exercise caution when placing and compacting backfill and bedding material as not to damage the pipe or cause joints to move out of place. The Contractor shall replace, at his own expense, any pipe, fittings, and other materials in existing installation which are damaged due to his operations. All pipe installations shall be inspected by the engineer's field representative before backfilling operations commence.

C. New pipe between two existing structures and pipe used for point repairs shall match the alignment and elevations of the existing pipe to be replaced unless otherwise shown in the plans or directed by the Sewerage and Water Board Director or the S&WB.

3.17.02 REPLACEMENT

A Pipe used for the replacement of the entire length of existing drain lines between manholes or structures shall be new reinforced concrete pipe conforming to Section E of the S&WB General Specifications installed as shown on SWBNO Standard Drawing No. D-3809, D-3810, D-3933, or D-3934.

B. New Class IV Reinforced Concrete Pipe shall be required when the cover over the pipe within the roadway between 2.0-2.5 ft. The installation of reinforced concrete pipe shall be installed as shown on SWBNO Standard Drawing No. D-3809, D-3810, D-3933 or D-3934.

3.17.03 DRAIN LINE REPAIRS

A. Pipe used for Point Repairs of Existing Drain Lines may be new reinforced concrete pipe conforming to Section E of the S&WB General Specifications or solid wall polyvinyl chloride (PVC) pipe at the Contractors option unless otherwise noted.

B. New Class IV Reinforced Concrete Pipe shall be required when the cover over the pipe within the roadway is less than 2.5 ft.

C. Solid wall PVC pipe less than 18-inches in diameter, unless otherwise noted, shall be SDR 26 (PS115) Polyvinyl Chloride (PVC) pipe manufactured in accordance with ASTM D3034, latest edition, and shall be U.L. listed. Solid wall PVC pipe sizes 18-inches through 30-inches in diameter, unless otherwise noted, shall be PS115 Polyvinyl Chloride (PVC) pipe manufactured in accordance with ASTM F679, latest edition, and shall be U.L. listed. The elastomeric gaskets and retainer rings shall be installed in accordance with ASTM D3212 and F477, or per latest Sewerage & Water Board requirements. The fittings for solid wall PVC pipe shall be SDR 35 and shall have the same inside diameter as the solid wall PVC.

D. PVC pipe used for drain point repairs up to 30" diameter shall be installed as shown on SWBNO Standard Drawing No. 4697-E5-A. PVC pipe connecting to brick manholes shall be installed as shown on SWBNO Standard Drawing No. 6178_B_6.

3.17.04 PAYMENT

A. Payment for drain line replacement or repairs shall conform to the "General Specifications for Street Paving," the City of New Orleans, State of Louisiana, latest edition, Section C701 Culverts and Storm Drains, C701.08 PAYMENT when listed on the Unit Price Form proposal.

SECTION 3.18 - TIMBER CURB

A. This item shall be governed by the requirements of Standard Specification Item C707 (64) Timber Curb except as modified here-in. The unit price bid per horizontal Linear Foot of finished timber curb for this item shall include removal and proper disposal of existing timber curb and posts, grading, furnishing, and installing all required timber posts and timber curb, and final grading.

B. Measurement and payment for Timber Curb, including posts, shall be made at the contract unit price per Linear Foot (LF) of timber curb under Special Bid Item No. CF - 15 TIMBER CURB when listed on the Unit Price Form.

SECTION 3.19 - TYPE-A DEAD END INSTALLATION

A. The Dead-End Installation shall be governed by the requirements of 2006 Edition LADOTD Standard Specifications for Roads and Bridges section 729.06 except as modified here-in. The Contractor shall be responsible for providing all materials including guard rail, u-channel signposts and required signs and construction of guard rail and installation of signs as required by standard plan HS-03. Payment for Item CF-16, when listed on the Unit Price Form, shall include all material, equipment, and labor necessary to complete installation including guard rail as noted.

B. Dead end road installations shall be as specified and located as shown on the project plans. Posts shall be vertical. Guard rail shall be constructed in accordance with 2006 Edition LaDOTD Standard Specifications for Roads and Bridges section 704. Contractor shall re-grade and ensure positive drainage within the limits of the area disturbed by construction. Any fill material shall be placed at no direct pay and shall meet all requirements for fill material of this project. Fill material shall be suitable on-site excavated earth material, subject to approval of the Sewerage and Water Board Director, or borrow material compliant with the requirements Standard Specification Item C723 Granular Material with subsection 1003.07

referencing 2006 Edition LaDOTD Standard Specifications for Roads and Bridges. Fill and borrow materials shall be free from waste, rubbish, large rocks, or other unsuitable or foreign material.

SECTION 3.20 - CONCRETE BARRIER OR MOUNTABLE CURB WITH LAYING STRIP

A. This item shall be governed by the requirements of Standard Specification Section C707 except as modified here-in.

B. See details for Concrete Barrier Curb and Laying Strip and for Concrete Mountable Curb and Laying Strip on the Construction Drawings Typical Roadway and Section Details sheets for additional concrete strip required to be placed between the concrete pavement and concrete curb for construction of composite roadways.

C. There shall be no direct measurement and payment for the laying strip portion of the concrete barrier curb or concrete mountable curb. All associated costs shall be included in other major items of the proposal.

SECTION 3.21 – PROJECT SIGN

A. This item shall be governed by the requirements of Standard Specification Section C729 except as modified here-in.

B. The CONTRACTOR shall provide one project identification sign in accordance with the Contract Documents at no direct pay.

PROJECT SIGN CONSTRUCTION

B. The sign shall be constructed of 1/2-inch exterior plywood with 4-inch by 4-inch supports and 2-inch by 4-inch cross bracing.

C. The sign face shall be 4-feet vertical by 8-feet horizontal.

C. The sign will be printed in color on 10-mil Coroplast®.

SIGN CONTENT

A. The sign shall include the following information and graphic elements:

1) The City of New Orleans Fleur De Lis Logo at Left as shown on the Sign Example.
2) New Day New Orleans at top center as shown on the Sign Example.
3) The project name or title underneath New Day New Orleans as shown on the Sign Example.
4) Underneath project name: City Agency: Department of Public Works as shown on the Sign Example.
5) Underneath City Agency: Project Engineer: (company name) as shown on the Sign Template.
6) Underneath Project Engineer: Contractor (company name) as shown on the Sign Template.
7) Underneath Contractor: Track our progress at nola.gov, as shown on the Sign Example.

8) The Mayor's name underneath City of New Orleans at right as shown on the Sign Example.
9) Underneath the Mayors name, the Councilmembers at Large as shown on the Sign Example.
10) Underneath the Councilmembers at Large, Council District members as shown on the Sign Example.

B. The S&WB PM shall provide the editable sign file (in full-size PDF format) to the Contractor at the Pre-Construction meeting. Sign template provided may require editing to reflect the Project Name and General Contractor. Contractor shall verify content of template and submit PROOF to the Sewerage and Water Board Director for approval of Copy & Placement.

SIGN LOCATION, MAINTENANCE, AND REMOVAL

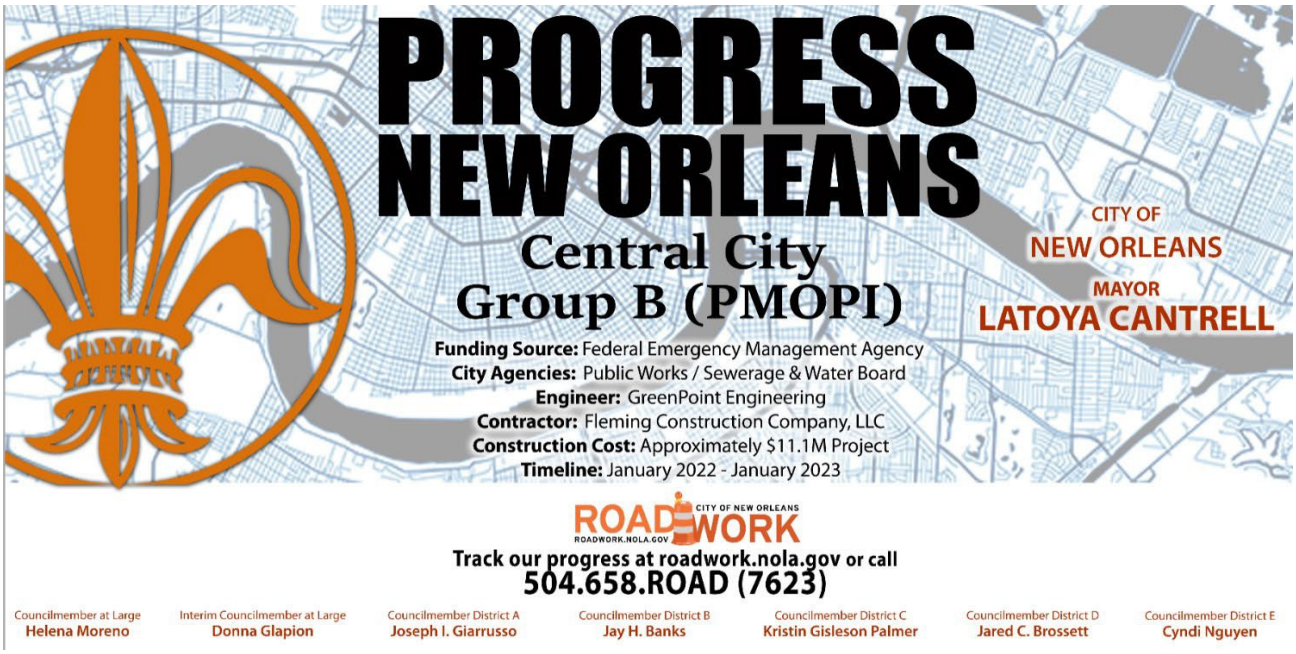
A. The project sign shall be located on the site as directed by the Sewerage and Water Board Director.

B. The sign shall be set 4 feet above the ground, measured from grade to the lower edge of the plywood sheet.

C. The CONTRACTOR shall maintain the sign in excellent condition throughout the duration of the project.

D. The CONTRACTOR shall remove the project sign and restore the area when directed by the owner upon preparation of the Notice of Completion.

SIGN EXAMPLE



SECTION 3.22 – NON-STANDARD SEWER REHABILITATION ITEMS

A. This section identifies special pay items applicable to the sewer rehabilitation work outlined in section 1.21 and 2.07 through 2.10 above.

B. Sanitary sewer rehabilitation including adjustment to sewer manhole covers shall be performed, measured, and paid for in accordance with the standard S&WB specifications section C702 or the Special Provisions (this section) paragraph 3.15 above, where the Special Provisions supersede the standard specifications.

C. Sanitary sewer rehabilitation including replacement of sanitary sewer manhole covers shall be performed, measured, and paid for in accordance with the standard S&WB specifications section C742 or the Special Provisions (this section) paragraph 3.15 above, where the Special Provisions supersede the standard specifications.

D. Sanitary sewer rehabilitation including the replacement of main line sanitary sewers, replacement of sanitary sewer lateral service connections and the lining of main line sanitary sewers, including the reinstatement of lateral service connections, shall be performed, measured, and paid for in accordance with the standard S&WB specifications section C742.

E. Sewer Line Replacement by Pipe Bursting. In cases where main line sanitary sewer lines cannot be fully replaced by conventional excavation (due to trees or obstructions), the S&WB may direct the contractor to perform sanitary sewer line replacement by means of pipe bursting. Replacement of the existing sewer house connections shall be performed in accordance with DPW standard specifications section C742.03.

1. CSS742(X1), Install Sewer Mains by Pipe Bursting (Size). Payment shall be made at the contract unit price per linear foot of the size specified for work including replacement of existing sewer main lines by pipe bursting as approved by the S&WB. Contractor shall include all labor materials and equipment to replace the main line sewer for the entire length from manhole to manhole. This work will be measured and paid for by the linear foot in the same manner as pay item C742(51) but without any provisions for depth.

2. CSS742(X2), Cut Pipe to Replace Existing Sewer House Connection from New Main to Back of Curb. Payment shall be made at the contract unit price per each for work including excavation and reinstatement of service connections disturbed from Install Sewer Mains by Pipe Bursting and the replacement of the service connection from the new main line to the back of the curb. Contractor shall include all labor materials and equipment to excavate, locate and expose each fitting, install a new fusible saddle, or tap for the appropriately sized main line sewer pipe, replace the sewer service lateral to the back of curb, including all required fittings and adjustments, and backfill and compact the excavation. With exception to the fusible saddle fitting, the work shall be performed as per DPW standard specification C742.03 and 742.05. This work will be measured and paid for by each in the same manner as pay item C742(60).

F. Sewer Line Point Repairs, Up to Twelve Feet. For the sewer rehabilitation work in this contract, sewer line point repairs shall be performed as specified in the DPW standard specification section C742.03 except that the length of the point repairs shall be twelve feet (12-ft).

1. CSS742(X3), Sewer Point Repair up to Twelve Feet (Size & Depth). Payment shall be made at the contract unit price per each of the size and depth specified for work including excavation, foundation lumber, bedding, drainage fabric, backfill, complete shoring, pumping as necessary and tie-ins. Contractor shall include all labor materials, equipment and appurtenances required to complete this work.

2. CSS742(X4), Sewer Point Repair beyond Twelve Feet (Size & Depth). Payment shall be made at the contract unit price per linear foot of the size and depth specified for work to including excavation, foundation lumber, bedding, drainage fabric, backfill, complete shoring, pumping as necessary and tie-ins. Contractor shall include all labor materials, equipment and appurtenances required to complete this work.

G. Find and Fix Lines. In some contracts the sewer rehabilitation work may include "Find and Fix" lines. These are line segments that were not locatable during inspection. The Contractor is responsible to locate the manholes for these line segments, perform sewer line cleaning and CCTV inspection. The manholes should then be secured to protect the safety of the public until the scope of rehabilitation has been determined. Manholes requiring vertical adjustment will be directed in the field and paid for under the respective bid unit item (Section 3.17.G above or Section C702). There is no direct payment for the coordination, locating or exposing of the manholes for lines identified as "Find and Fix" 2.09.E.

1. CSS742(X5), Sewer Main Line Cleaning (Size). Payment shall be made at the contract unit price per linear foot of the size specified for work including the cleaning of main line sewers in accordance with paragraph 2.09.E above in preparation for CCTV Inspection. Contractor shall include all labor materials, equipment and appurtenances required to complete this work.

2. CSS742(X6), Sewer Main Line CCTV Inspection (Size). Payment shall be made at the contract unit price per linear foot of the size specified for work including the CCTV inspection of main line sewers in accordance with paragraph 2.09.E above. Contractor shall include all labor materials, equipment and appurtenances required to complete this work.

H. Sewer Service Lateral CIPP Lining. In some cases, sanitary sewer lateral house connections will require replacement but not be accessible due to oak trees, construction, or other obstructions. In these cases, with authorization from the S&WB, the Contractor will perform rehabilitation on these house connections by means of lateral CIPP lining from the sanitary sewer main line. Work shall be performed in accordance with paragraph 2.09.D above.

1. CSS742(X7), Sewer Service Lateral CIPP Lining. Payment shall be made at the contract unit price per each lateral service house connection including cleaning, CCTV inspection prior to the lining, the CIPP lining and the CCTV inspection upon completion of the lining in accordance with paragraph 2.09.D above. Contractor shall include all labor materials, equipment and appurtenances required to complete this work.

I. Sewer Manhole Lining Rehabilitation. The sewer rehabilitation included in this contract will include the rehabilitation of manholes via a cementitious grout liner for either a partial depth or full depth. This work shall be performed in accordance with paragraph 2.09.F above.

1. CSS742(X8), Manhole Rehabilitation, Cementitious Liner, Partial Depth (2-feet). Payment shall be made at the contract unit price per each manhole and include the cleaning and cementitious liner application in the top 2 feet of the manhole in accordance with paragraph 2.09.F above. Contractor shall include all labor materials, equipment and appurtenances required to complete this work.

2. CSS742(X9), Manhole Rehabilitation, Cementitious Liner, Full Depth. Payment shall be made at the contract unit price per vertical foot height of interior manhole walls from the top of bench to the underside of the frame and include the cleaning and cementitious liner application for the full height of the manhole in accordance with paragraph 2.09.F above. Contractor shall include all labor materials, equipment and appurtenances required to complete this work.

3. CSS742(X13), Sewer Service Lateral CCTV Inspection. Payment shall be made at the contract unit price per each lateral service house connection including CCTV inspection prior to the lining and CCTV inspection upon completion of the lining in accordance with paragraph 2.10 above. Contractor shall include all labor materials equipment and appurtenances required to complete this work.

J. Measurement and payment of Special Bid Items for Sewer Rehabilitation include:

ITEM NO.	PAY ITEM	PAY UNIT
CSS742(X1)	Install Sewer Mains by Pipe Bursting (Size)	Linear Foot
CSS742(X2)	Fuse Service Tee and Drill Pipe to Replace Existing Sewer House Connection from New Main to Back of Curb	Each
CSS742(X3)	Sewer Point Repair up to Twelve Feet (Size & Depth)	Each
CSS742(X4)	Sewer Point Repair beyond Twelve Feet (Size & Depth)	Linear Foot
CSS742(X5)	Sewer Main Line Cleaning (Size)	Linear Foot
CSS742(X6)	Sewer Main Line CCTV Inspection (Size)	Linear Foot
CSS742(X7)	Sewer Service Lateral Lining (6" CIPP)	Each
CSS742(X8)	Manhole Rehabilitation, Cementitious Liner, Partial Depth (2-feet)	Each
CSS742(X9)	Manhole Rehabilitation, Cementitious Liner, Full Depth	Foot Height
CSS742(X10)	Removal of Cast Iron Flush Valve Apparatus from Sewer Manhole	Each
CSS742(X11)	Removal of water service line from sewer manhole	Each
CSS742(X12)	Locate and disconnect flush valve water service line from water main	Each
CSS742(X13)	Sewer Service Lateral CCTV Inspection	Each
CSS742(X14)	Well Point System	BLFT

K. Measurement and payment of for flush valve removal items CSS742(X10), CSS742(X11) and CSS742(X12) are specified in Section 2.10 above each item will be measured as a quantity of no more than one each per manhole containing a flush valve apparatus and/or water service connection.

SECTION 3.23 – NON-STANDARD WATER POINT REPAIR ITEMS

A. This section identifies special pay items applicable to the water point repairs work outlined in sections 1.22 and 2.12.

B. Payment for furnishing and installing water point repairs shall be made at the contract unit price including main line point repair installed as a complete system, including tie-ins, excavation, removal of existing pipe, pumping as necessary to prevent contaminating the existing system, bedding, complete shoring, backfilling material, hauling and disposal of excavation material, and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form.

C. Payment for furnishing and installing 1-inch through 2-inch Polyethylene Pipe for water house connections (LSL replacement) shall be made at the contract unit price per each, including excavation, backfilling, service saddles, corporation cock and removal of existing pipe and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other

items in the Uniform Bid Form. There shall be no direct payment for tie-ins to the main or meter.

D. Payment for furnishing and installing 2-inch Polyethylene Pipe watermain shall be made at the contract unit price per linear foot, including main line fittings (bends, tees, etc.), tie-ins, excavation, removal of existing pipe (if any), pumping as necessary to prevent contaminating the existing system, bedding, complete shoring, backfilling material, hauling and disposal of excavation material, and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for 2" valves as required per the plans.

E. The contractor may request reimbursement of monthly water hydrant meter fees paid to the Board that were used for SWBNO Testing and Flushing of new water mains. The Contractor shall record usage type and read meter on a daily basis. Contractor, Resident Inspector and Board Construction Manager will sign and certify each month's usage.

F. All other items of work necessary to the performance of the project, for which no specific unit price and/or lump sum pay item is established, shall be considered and designated part of the construction, and the existing pay items shall be full compensation. Items including but not limited to, trench safety, traffic control, contract closeout, shop drawings, submittals, and office support shall be merged into the prices bid.

G. There will be no direct payment for temporary water mains, temporary water service connections, and any related work including temporary tie-ins, removal of temporary work after installation of permanent work, and other incidentals. The cost of all work shall be included in the water point repair unit bid prices.

H. Measurement and payment of Special Bid Items for Water Point Repairs include:

ITEM NO.	PAY ITEM	PAY UNIT
CSW741-01	Repair Water Main with Full Circle Clamp (Pipe Size 4" – 8")	Each
CSW741-02	Repair Water Main with Full Circle Clamp (Pipe Size 12" – 16")	Each
CSW741-03	Repair Water Main with Bell Joint Clamp (Pipe Size 4" – 12")	Each
CSW741-04	Repair Water Main with Bell Joint Clamp (Pipe Size 16" – 24")	Each
CSW741-05	Repair Water Main by Remove and Replace – Minimum Length 4 FT, Maximum Length 10 FT (Pipe Size 4" – 12")	Each
CSW741-06	Repair Water Main by Remove and Replace – Minimum Length 4 FT, Maximum Length 10 FT (Pipe Size 16" – 24")	Each
CSW741-07	Repair Water Main by Remove and Replace – Beyond 10 FT, Maximum 18 FT (Pipe Size 4" – 12")	LF
CSW741-08	Repair Water Main by Remove and Replace – Beyond 10 FT, Maximum 18 FT (Pipe Size 16" – 24")	LF
CSW741-09	Replace 5/8" to 1" Lead Service Line Water House Connection with 1" Polyethylene Water House Connection (From Main to Meter)	LF
CSW741-10	Replace 1.5" Lead Service Line Water House Connection (From Main to Meter)	LF
CSW741-11	Replace 2" Lead Service Line Water House Connection (From Main to Meter)	
CSW741-12	2" New Water Main with Main Line Fittings	LF

SECTION 3.24 – <u>WELL POINT SYSTEM</u> (NOT USED)

SECTION 3.25 – PRE AND POST REHABILITATION CCTV INSPECTION AND CLEANING DRAIN STRUCTURE(S)

SECTION 3.25.A – VIDEO RECORDING

A. The Contractor shall furnish all labor, equipment, supplies, and supervision and shall perform all work required in accordance with these specifications. CCTV inspection shall be performed in the areas selected and approved by the Owner.

B. It shall be the responsibility of the Contractor to schedule and perform investigations to prevent system overflows. If flows are such that they interfere with the Contractor's ability to collect accurate data, then the Contractor shall be responsible to schedule his work during low flow periods or to request written permission to perform by-pass pumping around the site. The Contractor may provide by-pass pumping only with specific approval from the City.

C. Inspection of storm drain infrastructure by means of CCTV equipment shall be performed to determine the location and extent of any obstructions and defects such as offset joints, protruding tees, broken pipe, and other pipe defects. Logs shall note the existence of any significant defects. Cleaning by the Contractor shall be performed prior to each CCTV inspection on each pipeline to be inspected.

D. CCTV inspections shall be performed on one drainage structure-to-drainage structure pipe segment at a time. The inspection shall be performed by moving the CCTV camera through the line along the axis of the pipe at a rate not to exceed 30 feet per minute. Any means of propelling the camera through the pipe that would exceed this rate of speed or produce non-uniform or jerky movements shall not be acceptable. The camera shall be stopped for a minimum of 5 seconds at each identifiable defect to ensure proper documentation of the line's condition. In addition, the camera shall be stopped at each service connection, and the camera shall pan the service connection to video inside the service line. CCTV inspection is performed from the upstream manhole/catch basin to the downstream manhole/catch basin when the conditions allow. If conditions do not allow an upstream to downstream inspection, the inspection will be performed in reverse (from the downstream to the upstream drainage structure).

E. A header screen showing tape number, segment number, and manhole number shall be taped for 10 seconds at the beginning of each televised line segment. All header information shall be recorded on the log forms.

F. At the Contractor's discretion the camera shall be stopped or backed up to view and analyze conditions that appear to be unusual or uncommon for a sound storm drain line. At all times, the operating technician shall be able to move the camera through the line in either direction without loss of quality in the video presentation on the monitor. The picture shall be free of electrical interference and provide a clear, stable image of the specified resolutions at all times. The camera lens shall be cleaned, as required, to provide a clear image within the storm drain lines.

G. In the event that equipment becomes lodged in the line segment, the Contractor shall notify the City immediately. The City will remove the camera at no cost to the Contractor. Timely excavation is necessary to maintain project schedules and to eliminate the possibility of overflows resulting from the lodged equipment creating a blockage.

H. Continuous video recordings of the inspection view as it appears on the television monitor shall be taken. It is intended that a video recording will be made of the complete television inspection of all storm sewer lines as part of this project. The video recording shall be one on which both sound and video information can be reproduced with a video image equal to or better than the quality of the original picture on the television monitor.

A pan tilt zoom (PTZ) camera shall be used to conduct the inspection. The camera shall be waterproof and corrosion resistant and able to operate in temperatures between 0-50 degrees C (32-122F). The sensor shall be ¼" color CCD with minimum 1.5 lux sensitivity for resolution of minimum 460 NTSC TV lines. A full 360-degree axial pan is required with a variable pan speed not to exceed 25 degrees/second. The camera shall have a minimum 40:1 zoom lens capable of 10X optical and 4X digital, with auto or remote manual focuses. The adjustment of focus and iris shall allow optimum picture quality to be achieved and shall be remotely operated. The illumination shall be such as to allow an even distribution of light around the pipeline perimeter without the loss of contrast or flare out of picture shadowing.

The replay of the recorded video information, when reviewed on a monitor-receiver, shall be free of electrical interference and shall produce a clear, stable image with a horizontal resolution equal to that of the television monitor in the television inspection studio. The audio portion of the completed signal shall be sufficiently free of electrical interference and background noise to produce an oral report that is clear and complete, and easily discernible. The audio portion of the tape report shall include the location or identification of the section, the manhole-to-manhole direction of travel, and the distance traveled on the specific run encountered. The audio portion of the tape shall also identify all defects. The video equipment shall be continuously connected to the television inspection or monitoring equipment. The video and monitoring equipment shall have the built-in capability to allow the technician to instantly review both the audio and video quality of the video productions at all times during the television survey. Playback speed shall be continuously adjustable from one-third normal speed for slow motion viewing to normal playback speed.

A suitable distance-reading device which uses cable length to accurately measure the location of the camera in the pipe shall be provided. This device shall be accurate to +/- 1% of the length of the inspection.

I. Laser Equipment Inspection: If determined necessary by S&WB, 2-D Laser scanning shall be conducted continuously and simultaneously with other inspection technology for the entire length of the selected pipe segment. Laser equipment shall be moved through the pipe on a transport vehicle capable of supporting the laser inspection equipment above the water level. Tracked platforms must be capable of forward/stop/reverse mobility for detailed high-resolution scans to be collected at a specified interval.

The laser equipment shall be designed and manufactured to produce a high resolution of measurement resulting in 0.25% of internal diameter, with a laser sensor accuracy of 0.5% or greater (i.e., an accuracy of 0.5 inches at 100 inches in pipelines up to 30 inches in diameter and a repeatability of 0.10% or greater for pipelines from 15 inches to 30 inches in diameter). The laser equipment shall be properly calibrated per the manufacturer's documentation and the calibration shall be recorded for verification.

The laser equipment shall be capable of measuring the distances to objects and surfaces in drain lines and shall be capable of imaging drain lines less than 36" in diameter. The laser

shall support 75 Hz scan rates or higher and be Class 1: eye-safe for operator safety. The laser sensor resolution shall be at least 1mm.

The laser equipment shall be operated in a manner to minimize measurement error sources attributable to the effects of the following:

1. Horizontal displacement from off-axis meander or pipeline alignment curvature that distorts cross-section measurement;
2. Vertical displacement due to sediment, debris, offset joints or other physical environment conditions that distorts cross-section measurement; and
3. Vertical displacement due to flow condition or other hydraulic environment factors that distorts cross-section measurement.

An overview of data collected by laser equipment is to be presented in a color-coded format as 2-D cross sections conveying pipe condition above the laser's centerline over the length of the inspection segment. The report shall provide a 2-D representation of an integrated overview of pipe wall thickness loss or increase data revealed from laser scanning and shall be presented in a color-coded format as an unrolled illustration of the pipe condition above the waterline over the length of the inspection segment. The pipe interior is to be flattened into a graphic whose y-axis represents pipe diameter, whose x-axis represents pipe length and whose color represents deviation from expected values indicating a gradation and severity of corrosion or buildup. Measured pipe internal diameter (ID) that coincides with expected values must be coded in a color that positively identifies and differentiates the measurement of the expected values from pipe wall loss or increase. Measured pipe ID that coincides with expected values must be coded green. Outward deformations, as measured by increasing pipe ID, must be colored on a yellow/red color scale, advanced deformation. Material gain (buildup) or inward deformation, as measured by decreasing pipe ID, must be on a blue color scale.

If S&WB determines that Laser Inspection is necessary, it will negotiate a unit price for that inspection upon the first use of this type of inspection. The unit price developed will be entered into the contract and used for the duration of the contract at the fixed established unit price.

J. Video recordings shall be enclosed in plastic containers which shall clearly indicate the date the tape was recorded, the designated section(s) of storm sewer lines contained on the tape, and the referenced storm sewer inspection report covering the sections of the storm sewer lines so included. Two permanent labels are required. One label shall be placed on the spine and the other on the face of the video. Recording of a single segment shall not span more than one video. The recording of a segment between manholes shall be continuous and complete. The videos become the property of the City, once submitted. The Contractor shall maintain a master copy of all videos and associated Inspection Reports for one year after Contract completion. Additional copies of the videos, if requested, shall be made by the Contractor on professional duplication equipment. Two permanent labels are required. One label shall be placed on the spine and the other on the face of the video. Permanently label each tape with the following information:

Contract No. _____	Disc No. _____

Face of DVD Case

Start Manhole	Finish Manhole

Spine of DVD Case

K. +CCTV inspection footage of service laterals shall be included on separate videos. The Contractor may include as many service lateral inspections as possible on each video provided that all service lines from the same mainline are on the same video. The DVD spine label shall be identical to those for mainline inspection. The face label of the video shall include the following information: mainline information (upstream manhole to downstream manhole), service line location, survey start point, and survey finishing point.

SECTION 3.25.B – DRAIN LINE CLEANING

A. Standard line cleaning shall be performed to remove foreign material and restore pipe capacity to 95%. Standard cleaning shall be defined as three (3) complete passes of the storm drain line with the cleaning equipment. The term "complete passes" shall mean cleaning from the upstream manhole all the way to the downstream manhole. Cleaning shall be performed with combination cleaning / vacuum trucks.

B. Heavy line cleaning shall be performed, only if required and approved by the City, to remove foreign material and restore pipe capacity to 95%. Heavy line cleaning shall be defined as four (4) or more complete passes of the storm drain line with the cleaning equipment. The term "complete passes" shall mean cleaning from the upstream manhole all the way to the downstream manhole. Cleaning shall be performed with combination cleaning / vacuum trucks.

C. Conditions such as broken pipe and major blockages may prevent cleaning from being accomplished, especially where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered and the contractor is unable to clean the entire line from all

reasonable points of access and directions, the Contractor shall not be required to clean those specific pipe sections unless the Owner removes the apparent obstruction.

D. During cleaning operations, satisfactory precautions shall be taken by the Contractor in the use of cleaning equipment. Precautions shall be taken to ensure that damage to or flooding of public or private property does not occur during the cleaning procedure.

E. Selection of the equipment shall be the sole discretion of the Contractor and based on the conditions of lines at the time the work commences. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the storm drain lines and manholes. There shall be no change in cost for use of additional or different equipment utilized at the discretion of the contractor to perform work. Contractor shall notify project engineer and Owner of equipment to be used prior to use or initiation of any work.

F. All sludge, dirt, sand, rocks, grease, and other solid or semi-solid materials resulting from the cleaning operation shall be removed at the downstream manhole/catch basin of the section being cleaned. Passing materials from pipe segment to pipe segment, which could cause line stoppages, accumulations of debris in wet wells, interference with in-line permanent flow monitoring equipment or damage to pumping equipment will not be permitted.

G. If the CCTV inspection shows the cleaning to be unsatisfactory, the Contractor shall re-clean and re-inspect the pipe segment at his sole expense until the cleaning is shown to be satisfactory.

H. All sludge, dirt, sand, rocks, grease, and other solid or semisolid materials removed from the storm drain lines during the cleaning operation shall be drained of water and transported to an approved licensed landfill facility. All costs associated with debris disposal will be the responsibility of the Contractor or as otherwise specified herein.

SECTION 3.25.C – <u>LATERAL DRAIN LINE CLEANING</u>

A. Contractor will use a lateral launch inspection system, consisting of a robotic tractor and a lateral launch CCTV camera, to remotely deploy a pan & rotate camera into lateral pipes connected to a mainline storm drainpipe. Should Contractor encounter multiple laterals converging in a single tap, Contractor shall utilize a steerable lateral camera with guide pin to inspect the adjoining laterals separately. Each pipe shall be identified as an independent inspection for data submittal and invoicing purposes.

B. A mainline television camera is used to position the lateral camera launcher. The lateral camera is used to inspect each lateral from the mainline.

C. The television inspection of the lateral will be attempted from inside the mainline up into the lateral or attempted from the service manhole towards the mainline. Lateral lines inspected from the service manhole towards the mainline will be attempted by using a mini push camera if necessary.

D. In the event a lateral pipe segment cannot be fully inspected after reasonable attempts to remove obstructions or traverse because of poor structural condition is not successful, Contractor shall provide all the information to the City and the City will determine alternate possible solutions or whether enough information has been obtained to safely assess the proximity of uninspected portions of pipe.

E. Under no circumstances shall a lateral line be cleaned or inspected on private property or beyond public right-of-way of non-local City street (i.e., federal, federal-aid or state routes) limits. Any cleaning or inspection services performed outside the City approved scope of work, private property,

or otherwise specified herein will not reimbursable and all associated costs contractor responsibility. The connections points for all laterals at the mainline or connecting structure shall be inspected at no direct cost. The limits of lateral lines cleaning and inspection operations for lateral lines connecting a drainage structure to the mainline may end at the drainage structure; however, where feasible the contactor shall point and video record for a sufficient time to obtain a clear view of the lateral system on the private property side (side opposite the mainline) at no additional cost. For lateral lines not connected to a drainage structure the lateral line shall be cleaned and inspected from the connection point to the mainline to the extent feasible on the private property side (side opposite the mainline). If the contractor is unable to reasonably clean or inspection a lateral line beyond the connection to the mainline the contractor shall point and video record for a sufficient time to obtain a clear view of the lateral system on the private property side (side opposite the mainline) at no additional cost. Field reports and video logs shall clearly document distinguish whether the line cleaned or inspected is a mainline or lateral.

SECTION 3.25.D – <u>DRAINAGE STRUCTURE CLEANING</u>

A. The Contractor shall furnish all labor, equipment, supplies, and supervision and shall perform all work required in accordance with these specifications. Drainage structure cleaning, including catch basins, drop inlets, conflict boxes, manholes, etc. shall be performed in the areas selected and approved by the City. Only manholes / catch basins with large debris such as rocks, bricks, trash, tree limbs, etc. will require cleaning. Also, cleaning will be required if small deposits or water has accumulated at greater than or equal to 1/3 of the depth of the manhole / catch basin (measured from rim to invert of the lowest pipe).

B. Selection of the equipment shall be the sole discretion of the Contractor and based on the conditions of drainage structures at the time the work commences. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the drainage structures.

C. All sludge, dirt, sand, rocks, grease, and other solid or semisolid materials removed from the storm drainage structures during the cleaning operation shall be drained of water and transported to an approved licensed landfill facility. All costs associated with debris disposal will be the responsibility of the Contractor or as otherwise specified herein.

SECTION 3.25.E – <u>TELEVISION INSPECTION REPORTS</u>

A. Television Inspection Report: The Contractor shall complete a television inspection report covering the television inspection work and the information acquired. The television inspection report shall be completed by the Contractor.

B. A television inspection code sheet shall be used consistently throughout the contract. All electronic data files shall be submitted on CD-ROM, or flash drive, as directed and approved by the City.

C. Video Data Display: At the start of each storm sewer length being surveyed, the length of pipeline from zero up to the cable calibration point shall be recorded and reported in order to obtain a full record of the storm sewer length. The length reading entered on to the data display at the cable calibration point must allow for the distance from the start of the survey is zero. In the case of surveying through a manhole where a new header sheet is required, the distance shall be set at zero with the camera focused on the outgoing pipe entrance.

D. Television Inspection Record: AT the start of each manhole length a data generator shall electronically generate and clearly display on the viewing monitor and video recording a record of data in alphanumeric form containing the following minimum information:

a. Automatic update of the camera's position, in feet and tenths, in the storm sewer line from adjusted zero;
b. Size and Length of Line, Type of material line composed of, etc.;
c. Upstream manhole and downstream drainage structure reference numbers;
d. Date of inspection;
e. Road name/location;
f. Direction of inspection (upstream or downstream);
g. Starting time of the inspection;
h. Pipe ID references;

Once the survey of the pipeline is under way, specific data should be continuously displayed on the viewing monitor and video recording. The size and position of the data display shall be such as not to interfere with the main subject of the picture yet shall be easily readable when the recording is replayed. At minimum, the following data should be displayed:

Automatic update of the camera's position, in feet and tenths, in the storm sewer line from adjusted zero; \

Upstream manhole and downstream manhole reference numbers

Each storm sewer length, i.e., the length of the storm sewer between two consecutive drainage structures, shall be entered on a separate coding sheet. Thus, where a Contractor elects to "pull through" a manhole during a CCTV Survey, he shall start a new coding sheet at the manhole "pulled through" and shall re-set the distance to zero on the coding sheet.

All blind drainage structures and buried drainage structures shall be noted in the inspection report and logged on a separate log with the GPS location and type of structure. The log shall be provided to the City with each pay request.

The videos and corresponding reports shall be submitted to the City on a weekly basis for all work accomplished the previous week.

E. Laser Inspection Reporting: Laser scan final reporting shall include the pipe's true diameter, ovality (per ASTM FI216), x/y diameter, and maximum diameter. Segments or areas revealing deflection in horizontal alignment greater than 2% must be identified in the report. Where the presence of flow in the pipeline requires interpolation and estimation calculations to fill data gaps and complete the full circumference view, the method and calculations used to support these assumptions must be presented. Other data sources such as as-built data, if used for these calculations, must be identified in the report. To support identified radial localization of defects, individual ID measurements as computed from the axis of the inspected pipe must be presented in an illustrated ovality and deflection graphs covering the length of the inspection segment. Laser scan results identifying ovality and deflection must be presented in 2-D cross-sections. The color coding is to be identical to the aforementioned requirements. Where the presence of fluids in the pipe necessitates interpolation and estimation, calculations to fill gaps and complete the full circumference view will be performed. The method and calculations used to support these assumptions must be

presented. Any high-resolution scan obtained during the inspection are to be provided along with the report in a 3-D point cloud (VRML) format including software for viewing on a PC.

Precision Ovality Scans including but not limited to Sensor Error, Axis Alignment Error, and Processing Errors must be accurate to +/- 1%.

The report shall provide a 2-D representation of an integrated overview identifying concentricity, and deviation from concentricity resulting in ovality and eccentricity, presented in a color-coded format as an unrolled illustration of the pipe condition to include the entire pipe circumference (above the flow line) as well as a cross-section view. The pipe interior is to be flattened into a graphic whose y-axis represents pipe diameter, whose x-axis represents pipe length and whose color represents deviation from expected values indicating a gradation and severity of the deviation from concentricity. Measured pipe internal diameter (ID) that coincides with expected values must be coded in a color that positively identifies and differentiates the measurement of the expected values from actual concentricity measurements

The report shall provide a 3-D representation with variations in pipe wall shown in sharp relief for easy visual analysis for each of the aforementioned 2-D representations.

SECTION 3.25.F – SUBMITTALS

A. DATA: Data in CD-ROM, or flash drive, format shall be submitted to the City within ten (10) business days from time of inspection. Three (3) hard copies of the inspection report listed above shall be submitted.

B. CCTV Inspections: The Contractor shall provide videos with audio comments in DVD, or flash drive, format recorded at Standard Play (SP).
   a. Complete storm sewer line segments can be included on the same video (i.e., CCTV inspections for storm sewer line segments shall not be divided among videos).
   b. The video format shall be an MPEG-1 compressed video, and resolution video format shall be QSIF (Quarter-size Standard Image Format) of 176 x 112 pixels for NTSC video format.
   c. Two labels are required on each DVD. One label shall be placed on the spine of the DVD Cover and the other on the face of the DVD.

C. Other Required Submittals: The Contractor shall provide the following backup information to support and document each location that has been cleaned/inspected:
   a. Brief narrative describing scope of work for location and any findings after inspection.
   b. Maps/GIS Data of each location showing work completed
   c. Field logs and misc. information generated during field investigation. A log shall be made by the Contractor when each drainage structure-to- drainage structure pipe segment is televised. The log shall include at a minimum:
      a. Street name with municipal address hundred block number, and any intersecting street
      b. Location of each point of leakage
      c. Location of each service connection or other pipe entering the televised line
      d. Location and degree of offsets
      e. Location of any damaged sections, and nature of damage
      f. Location of buried structures or blind junctions

g. Location and amount of any deflection in alignment or grade of pipe; also, the total length of pipe sag
h. Pipe ID reference number, materials, diameter, and distance between pipe joints
i. Date, city, drainage structure-to- drainage structure segment, reference drainage structure ID number
j. Name of operator, and inspector
k. Direction of flow
l. If a reverse-set up
m. Video Filename

d. Confined space entry form (when required) per industry standards and any applicable federal or state requirements.
e. The Contractor shall prepare and submit a list of any encountered defects, obstructions, and blockage locations on a weekly basis. Any locations with defects which appear to require immediate corrective action based on their size and/or type on a daily and weekly basis.

D. Progress Reports: The Contractor will be required to provide a weekly progress report to the City showing, at a minimum, the status of all locations previously worked on in the prior week. The report shall include the location/address, size of drain line being inspected, date the notice to proceed was issued for the location, the status (complete, ongoing, etc.), and the anticipated completion date. A final overall project report shall also be provided upon completion of all work. A hard copy and CD with PDF copy of all reports within the billing period shall be provided with each invoice submitted and the final report submitted with or prior to the final retainage invoice.

SECTION 3.25.G – MEASUREMENT AND PAYMENT

A. CCTV Inspection of Main Lines (and/or Laterals). Drain line laterals shall be considered any drain line or pipe connecting stubbed or otherwise tied into the main drain line. Laterals may originate from drainage structures or other connecting features to facilitate the flow of stormwater into the primary drainage system. Under no circumstances shall a lateral line be cleaned or inspected on private property or beyond public right-of-way of non-local City street (i.e., federal, federal-aid or state routes) limits. Any cleaning or inspection services performed outside the City approved scope of work, private property, or otherwise specified herein will not reimbursable and all associated costs contractor responsibility. The connections points for all laterals at the mainline or connecting structure shall be inspected at no direct cost. The limits of lateral lines cleaning and inspection operations for lateral lines connecting a drainage structure to the mainline may end at the drainage structure; however, where feasible the contactor shall point and video record for a sufficient time to obtain a clear view of the lateral system on the private property side (side opposite the mainline) at no additional cost. For lateral lines not connected to a drainage structure the lateral line shall be cleaned and inspected from the connection point to the mainline to the extent feasible on the private property side (side opposite the mainline). If the contractor is unable to reasonably clean or inspection a lateral line beyond the connection to the mainline the contractor shall point and video record for a sufficient time to obtain a clear view of the lateral system on the private property side (side opposite the mainline) at no additional cost. Field reports and

video logs shall clearly document distinguish whether the line cleaned or inspected is a mainline or lateral.

a. *Measurement:* CCTV Inspection of existing storm sewer pipe including drainage structures will be measured in place on a linear foot basis to the nearest foot. Measurement will be along the horizontal centerline of the pipe with no deductions for drainage structures and will be from center of drainage structures to center of drainage structures for the actual storm sewer line televised. CCTV of mainlines will include a view of the upstream and downstream drainage structures where possible to indicate the relative condition of said drainage structures. Measurement will be made for a various range of pipeline diameters listed under this item on the Proposal Form.
    i. The pipe segment length, with respect to the referenced drainage structure, shall be determined with a meter device, accurate to within ±2%. Markings on the cable, instruments requiring observation inside a drainage structure, or correction of each reading for the depth of the referenced drainage structure shall not be allowed. Accuracy of the measurement meters shall be checked daily by use of a walking meter, roll-a-tape, or other suitable device.

b. *Payment:* Payment for CCTV inspection of the existing storm sewer pipe and drainage structures will be made for the respective quantities as determined above at the unit price bid in the Proposal Form. This price and payment shall be full compensation for all material, labor, and equipment, required for television set-up, including, storm sewer flow, camera retrieval, hard copy report, electronic report, video recording, measurement, etc.

B. Cleaning of Main Lines (and/or Catch Basin Laterals)

a. *Measurement:* Cleaning of existing storm sewer pipe including drainage structures will be measured in place on a linear foot basis to the nearest foot. Measurement will be along the horizontal centerline of the pipe with no deductions for drainage structures and will be from center of drainage structures to center of drainage structures for the actual storm sewer line televised. Cleaning of mainlines will include a view of the upstream and downstream drainage structures where possible to indicate the relative condition of said drainage structures. Measurement will be made for a various range of pipeline diameters listed under this item on the Proposal Form.
    i. If cleaning of an entire section cannot be successfully performed from one manhole/catch basin, the equipment shall be set up at the other manhole/catch basin and cleaning again attempted. If successful cleaning still cannot be performed or the equipment fails to traverse the entire manhole-to-manhole or catch basin to catch basin pipe segment, it will be assumed that a major blockage exists, and the cleaning operation will be abandoned. The cleaning operator will note these occurrences in his daily cleaning log. The Contractor will be compensated for cleaning for only the length associated with the portions thereof pipe successfully cleaned should this occur.

b. *Payment:* Payment for cleaning of the existing storm sewer pipe and drainage structures will be made for the respective quantities as determined above at the unit price bid in the Proposal Form. This price and payment shall be full compensation for all material, labor, and equipment, required for television set-up, including, storm

sewer flow, camera retrieval, hard copy report, electronic report, video recording, measurement, etc.

C. Heavy Cleaning of Main Lines (and/or Catch Basin Laterals)

a. *Measurement:* Heavy cleaning of existing storm sewer pipe including drainage structures will be measured in place on a linear foot basis to the nearest foot. Heavy cleaning is defined as making four or more complete passes in the specific line segment being cleaned. Measurement will be along the horizontal centerline of the pipe with no deductions for drainage structures and will be from center of manhole to center of drainage structures for the actual storm sewer line televised. Heavy cleaning of mainlines will include a view of the upstream and downstream drainage structures where possible to indicate the relative condition of said drainage structures. Measurement will be made for a various range of pipeline diameters listed under this item on the Proposal Form.

b. *Payment:* Payment for heavy cleaning of the existing storm sewer pipe and drainage structures will be made for the respective quantities as determined above at the unit price bid in the Proposal Form. This price and payment shall be full compensation for all material, labor, and equipment, required for television set-up, including, storm sewer flow, camera retrieval, hard copy report, electronic report, video recording, measurement, etc.

SECTION 3.25.H – OBSTRUCTIONS AND BLOCKAGES

A. The Contractor will notify the City of any obstructions and blockages preventing the Contractor from completing his/her work. The City shall be notified after an attempt for standard cleaning has taken place. The Contractor shall submit a partial inspection report as outlined above in Sections 3.25.E & 3.25.F. The City will review the submittal and provide further guidance to the Contractor on a case-by-case basis. City may authorize "Heavy Cleaning" as outlined herein or approve additional means, as requested by the contractor. Any additional costs associated with additional services to address obstructions and blockages shall be approved by the City prior to starting work, or incurring any mobilization or material, equipment, and labor costs. Contractor shall submit a request in writing for City approval complete with all necessary supporting backup and detailed estimate inclusive of all material, equipment, labor, and other incidental costs, in addition to any applicable taxes, fees, markup, profit, overhead, insurance, and bond, etc. costs in accordance with City requirements.

B. If a blockage or obstruction is encountered and conditions allow, the Contractor shall attempt to conduct the inspection and cleaning from the opposite end of the pipe and continue back towards the blockage or obstruction in order to ensure maximum data collection of the pipe segment. Any reverse set-up mobilization costs shall be at no direct pay.

a. If a reverse set-up is required because the cleaning or CCTV in the downstream direction could not be completed, a new coding sheet shall be prepared for the start of the reverse set-up cleaning or CCTV. In no instance shall the pipe ID be altered so that the downstream drainage structure reference number is listed first and upstream drainage structure reference number listed. All reverse set-ups shall be logged on a separate log.

C. It shall be the responsibility of the Contractor to schedule and perform investigations to prevent system overflows. If flows are such that they interfere with the Contractor's ability to collect accurate data, then the Contractor shall be responsible to schedule his work during low flow periods or to request written permission to perform by-pass pumping around the site. The Contractor may provide by-pass pumping only with specific approval from the City.

D. Inspection of storm drain infrastructure by means of CCTV equipment shall be performed to determine the location and extent of any obstructions and defects such as offset joints, protruding tees, broken pipe, and other pipe defects. Field logs / reports shall note the existence of any significant defects. Cleaning by the Contractor shall be performed prior to each CCTV inspection on each pipeline to be inspected.

E. Measurement and Payment Bid Items:

ITEM NO.	PAY ITEM	PAY UNIT
CSD701-01	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, under 15" diameter	Linear Feet
CSD701-02	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, 15" to 24" diameter	Linear Feet
CSD701-03	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, 27" to 30" diameter	Linear Feet
CSD701-04	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, 36" diameter and above	Linear Feet
CSD701-05	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, under 15" diameter	Linear Feet
CSD701-06	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 15" to 24" diameter	Linear Feet
CSD701-07	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 27" to 30" diameter	Linear Feet
CSD701-08	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 36" diameter and above	Linear Feet
CSD701-09	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, under 15" diameter	Linear Feet
CSD701-10	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 15" to 24" diameter	Linear Feet
CSD701-11	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 27" to 30" diameter	Linear Feet
CSD701-12	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 36" diameter and above	Linear Feet

SECTION 3.25.I – POST REHABILITATION CCTV AND INSPECTION

In accordance with Section C204 Environmental Protection and Stormwater Pollution Prevention Plan from the General Specifications, the Contractor is responsible for the long-term operation and maintenance of the related best management practices. Post rehabilitation CCTV and inspection is required, at no direct pay, to evaluate the storm sewer's capacity and ensure that the restored pipe is free from debris, obstructions, or foreign material which would have been caused by construction activities of the Contractor. Post rehabilitation CCTV and inspection shall follow the requirements of Sections 3.25.A through Section 3.25.F.

SECTION 3.26 – WATERLINE PIPE BURSTING (NOT USED)

SECTION 3.27 – NON-STANDARD BID ITEMS

ITEM NO	PAY ITEM	PAY UNIT
CF-3	Sidewalk, Driveway, and Curb Saw Cutting	LF
CF-4	Pavement Saw Cutting Adjacent to Existing Pavement and at Patches to Utility Trenches	LF
CF-5	Removal of Handicapped Ramps, Curb and Gutter, and Concrete Sidewalks at Intersections Including Saw Cutting	SY
CF-6	ADA-Accessible Curb Ramps, Curb and Gutter,, and Concrete Sidewalks at Intersections	SY
CF-7	4" Concrete Sidewalk (Special Finish)	SY
CF-8	6" Concrete Driveway (Special Finish)	SY
CF-9	6" Concrete Driveway (Special Finish) (Pea Gravel)	SY
CF-10	Root Pruning	EACH
CF-13	Sidewalk Transition Adjacent to Handicapped Ramps.	EACH
CF-14	Surface Applied Tactile / Detectable Warning Surface Tiles	EACH
CF-15	Timber Curb	LF
CF-16	Type-A Dead-End Installation	EACH
CF-301	Vertical Catch Basin Cover	EACH
CF-302	Vertical Catch Basin Frame	EACH
CF-303	Lockable Vertical Catch Basin Frame and Cover	EACH
CF-311	Vertical Catch Basin Front Grate No. 1	EACH
CF-312	Vertical Catch Basin Front Grate No. 2	EACH
CF-313	Vertical Catch Basin Front Grate No. 3	EACH
CF-315	Single Vertical Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings	EACH
CF-316D	Double Vertical Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings	EACH
CF-317	Single Vertical Catch Basin Repair or Vertical Adjustment Brick Work Only	EACH
CF-318D	Double Vertical Catch Basin Repair or Vertical Adjustment Brick Work Only	EACH
CF-331	Drop Inlet Catch Basin Grate	EACH
CF-332	Drop Inlet Catch Basin Frame	EACH
CF-335	Drop Inlet Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings	EACH
CF-336	Drop Inlet Catch Basin Repair or Vertical Adjustment	EACH

	Brick Work Only	
CF-501	Install Temporary Pavement, 2” Thick	SY
CF-351	Mountable Catch Basin Grate	EACH
CF-352	Single or Double Mountable Catch Basin Frame	EACH
CF-353	Lockable Mountable Catch Basin Grate,	EACH
CF-355	Single Mountable Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings	EACH
CF-356D	Double Mountable Catch Basin Repair or Vertical Adjustment Reusing Existing Metal Castings	EACH
CF-357	Single Mountable Catch Basin Repair or Vertical Adjustment Brick Work Only	EACH
CF-358D	Double Mountable Catch Basin Repair or Vertical Adjustment Brick Work Only	EACH
CF-371	Manhole Cover	EACH
CF-372	Manhole Frame	EACH
CF-375	Manhole Repair or Vertical Adjustment up to 6” Reusing Existing Metal Castings	EACH
CF-376	Manhole Repair or Vertical Adjustment over 6” Reusing Existing Metal Castings	Foot Height
CF-377	Manhole Repair or Vertical Adjustment up to 6” Brick Work Only	EACH
CF-378	Manhole Repair or Vertical Adjustment over 6” Brick Work Only	Foot Height
CSD701-01	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, under 15” diameter	LF
CSD701-02	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, 15” to 24” diameter	LF
CSD701-03	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, 27” to 30” diameter	LF
CSD701-04	CCTV Inspection of Main Storm Sewer Lines and Laterals, including Drainage Structures, 36” diameter and above	LF
CSD701-05	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, under 15” diameter	LF
CSD701-06	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 15” to 24” diameter	LF
CSD701-07	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 27” to 30” diameter	LF
CSD701-08	Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 36” diameter and above	LF
CSD701-09	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, under 15” diameter	LF
CSD701-10	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 15” to 24” diameter	LF
CSD701-11	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 27” to 30” diameter	LF
CSD701-12	Heavy Cleaning of Main Storm Sewer Lines and Laterals, including Drainage Structures, 36” diameter and above	LF

CSS742(X1)	Install Sewer Mains by Pipe Bursting (Size)	LF
CSS742(X2)	Fuse Service Tee and Drill Pipe to Replace Existing Sewer House Connection from New Main to Back of Curb	EACH
CSS742(X3)	Sewer Point Repair up to Twelve Feet (Size & Depth)	EACH
CSS742(X4)	Sewer Point Repair beyond Twelve Feet (Size & Depth)	LF
CSS742(X5)	Sewer Main Line Cleaning (Size)	LF
CSS742(X6)	Sewer Main Line CCTV Inspection (Size)	LF
CSS742(X7)	Sewer Service Lateral Lining (6" CIPP)	EACH
CSS742(X8)	Manhole Rehabilitation, Cementitious Liner, Partial Depth (2-feet)	EACH
CSS742(X9)	Manhole Rehabilitation, Cementitious Liner, Full Depth	Foot Height
CSS742(X10)	Removal of Cast Iron Flush Valve Apparatus from Sewer Manhole	EACH
CSS742(X11)	Removal of water service line from sewer manhole	EACH
CSS742(X12)	Locate and disconnect flush valve water service line from water main	EACH
CSS742(X13)	Sewer Service Lateral CCTV Inspection	EACH
CSS742(X14)	Well Point System	BLFT
CSW741-01	Repair Water Main with Full Circle Clamp (Pipe Size 4" – 8")	EACH
CSW741-02	Repair Water Main with Full Circle Clamp (Pipe Size 12" – 16")	EACH
CSW741-03	Repair Water Main with Bell Joint Clamp (Pipe Size 4" – 12")	EACH
CSW741-04	Repair Water Main with Bell Joint Clamp (Pipe Size 16" – 24")	EACH
CSW741-05	Repair Water Main by Remove and Replace – Minimum Length 4 FT, Maximum Length 10 FT (Pipe Size 4" – 12")	EACH
CSW741-06	Repair Water Main by Remove and Replace – Minimum Length 4 FT, Maximum Length 10 FT (Pipe Size 16" – 24")	EACH
CSW741-07	Repair Water Main by Remove and Replace – Beyond 10 FT, Maximum 18 FT (Pipe Size 4" – 12")	LF
CSW741-08	Repair Water Main by Remove and Replace – Beyond 10 FT, Maximum 18 FT (Pipe Size 16" – 24")	LF
CSW741-09	Replace 5/8" to 1" Lead Service Line Water House Connection with 1" Polyethylene Water House Connection (From Main to Meter)	EACH
CSW741-10	Replace 1.5" Lead Service Line Water House Connection (From Main to Meter)	EACH
CSW741-11	Replace 2" Lead Service Line Water House Connection (From Main to Meter)	EACH
CSW741-12	2" New Water Main with Main Line Fittings	LF
CSW741(51)(C)(4)	8" HDPE New Water Main with Main Line Fittings by Pipe Bursting	LF
CSW741(51)(E)(4)	12" HDPE New Water Main with Main Line Fittings by Pipe Bursting	LF

END OF SECTION 01200

SECTION 01 40 00

SWB SWPP & BMP REQUIREMENTS

SEWERAGE and WATER BOARD of NEW ORLEANS

Storm Water Pollution Prevention Plan (SWPPP)
And
Storm Water Best Management Practices (BMP) Requirements

GENERAL

1. The contractor shall prepare and maintain a Storm Water Pollution Prevention Plan (SWPPP), which describes in specific details the Contractor's program to prevent contamination of the storm water collection system for this project. A suggested SWPPP Templates and Sample Inspection Report, as well as other valuable information can be found at EPA's website http://cfpub.epa.gov/npdes/stormwater/swppp.cfm.

2. Contractor shall implement, maintain, inspect and remove all erosion and sediment controls identified in the SWPPP. The program shall address both common construction activities and extraordinary events.

3. Contractor shall include Water Pollution Control Drawings (WPCD) in the SWPPP to illustrate the locations, applications and deployment of Best Management Practices (BMPs) identified in the SWPPP. The WPCDs shall be included as an attachment to the SWPCP.

4. Best Management Practices (BMPs): A Best Management Practice is a technique, process, activity, or structure used to reduce the pollutant content of a storm water or non-storm water discharge. BMPs may include simple, non-structural methods such as good housekeeping, staff training, and preventive maintenance. Additionally, BMPs may include structural modifications such as the installation of berms, canopies or treatment control.

5. The Contractor shall comply with laws, rules, and regulations of the State of Louisiana and agencies of the United States Government prohibiting the pollution of lakes, wetlands, streams, or river waters from the dumping of contaminates, refuse, rubbish or debris.

6. The contractor shall submit copies of the SWPPP (as per requirement of Section 2, Paragraph 2-20) a minimum of 10 working days prior to beginning construction, to the Engineer. **Construction shall not begin until the SWPPP is approved**. Contractor shall update the SWPPP as necessary during the work to prevent contamination of the storm water collection system.

7. Before start of work, Contractor shall train all employees and subcontractors on the approved SWPPP and related WPCD and provide the Sewerage and Water Board with written documentation of said training.

8. Suggested BMPs can be obtained from Ella Barbe, LA DEQ Small Business Assistance Program, 201 Evans Rd. Bldg. 4, Suite 420 Harahan LA. Phone 504-736-7739.

CONSTRUCTION

The contractor shall keep a copy of the SWPPP on the job site. The contractor shall provide continuously at the jobsite all the tools, equipment, and materials necessary to implement the SWPPP at all times from project initiation through completion, including any punchlist or warranty work on the project. At a minimum the following requirements shall be met as applicable, to the maximum extent practicable, at construction sites:

1. **Storm Drain System Protection:** At the first order of work, the Contractor shall protect the existing storm drain system from entrance of construction debris and pollutants. Such protection shall include implementing the BMPs as outlined in the SWPPP. Protection shall prohibit the discharge of untreated runoff from temporary or permanent street maintenance/landscape maintenance material and waste storage areas from entering the storm drain system. Sediment that is generated on the project site shall be retained using structural drainage controls. In addition, the protection system shall have a minimum of three features: 1) a particulate filter of geosynthetic material securely fastened in place such that it cannot be bypassed without significant physical damage; 2) a prefilter for the particulate filter; and 3) on-hand materials to close off the inlet or opening in the case of a significant pollution spill. Contractor shall monitor and maintain all storm drain inlet protection devices during rain events to prevent flooding.

2. **Material Management & Storage:** No construction-related materials, wastes, spills or residues shall be discharged from the project site to streets, drainage facilities or adjacent properties by wind or runoff. All materials and/or equipment storage areas where liquid construction materials are placed shall be protected by a physical barrier capable of containing the entire volume of stored liquid materials. During active construction activities, portions of the barrier may be removed for access. However, the barrier materials must be readily accessible for replacement by onsite construction personnel. The barrier must be in place at all times during the absence of Contractor personnel at the storage site. Building materials shall be placed on pallets and covered in event of rain . Do not store materials in the street or gutter area.

3. **Equipment & Vehicle Maintenance:** Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site and shall not be allowed to discharge from the project site to streets, drainage facilities or adjacent properties by wind or runoff. The Contractor shall inspect vehicles and equipment on each day of use. Leaks shall be repaired off-site if possible. If necessary to repair on site, the runoff must be contained or the problem vehicle or equipment shall be removed from the project site until repaired. If necessary, drip pans shall be placed under the vehicles or equipment while not in use to catch and/or contain drips and leaks.

4. **BMP Inspection:** The contractor shall inspect all pollution control BMPs regularly. The Contractor shall also repair/replace any damaged or clogged element on a daily basis. During periods of precipitation where any runoff occurs, the system shall be checked twice a day, seven days a week, whether or not any work has been performed. The daily checks shall be between 6 a.m. and 9 a.m., and 4 p.m. to 8 p.m. The contractor shall keep a monitoring inspection log of each inspection.

5. **Spill Prevention & Cleanup Plan:** Contractor shall have a spill prevention plan and spill cleanup materials readily available and addressed in the SWPPP. Spills shall be cleaned

up immediately using dry methods if possible. Spill cleanup material shall be properly disposed off site. Contractor shall keep a record of any spills in the inspection log. In addition, at the end of the project, the Contractor must certify that all contaminated materials have been properly disposed in accordance with the SWPPP.

6. **Asphalt & Concrete Activities:** Asphalt and concrete activities shall be scheduled for dry weather. Contractor shall prohibit saw cutting during a storm event of 0.25 inches or greater. Store bags of cement away from gutters and storm drains, sealed and covered, protected from rainfall runoff and wind. Place tarp under cement mixer before operating to catch spills. Never dispose of cement washout or concrete dust onto driveways, streets, gutters or storm drains.

7. **Sidewak Washing:** The following methods should be utilized to prevent discharge of sidewalk cleaning wastewater into the storm drain system:

   a. Sweep and pick up all areas to be cleaned before using water.
   b. Manually scrape gum from sidewalks and other surfaces.
   c. Must use high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to berinsed.
   d. Use a wet/dry vacuum to collect wash water for disposal. Large volumes of wash water may require the use of a small sump pump to remove wash water from the job site.
   e. One or more of the following methods are recommended toprevent pollutants from entering the storm drain system:
      - Sandbags can be used to create a barrier around storm drains.*
      - Rubber mats or plugs can be used to seal drain openings. *
      - Temporary berms or containment pads help keep water on site.*
      - Use berms of sandbags to direct wash water to landscaping. *
      - Use large squeegees to accumulate sheet flow for collection.

      * Remember to remove plugs, berms, and sandbags or you may be liable for possible flooding.

   f. Wash water that may contain hazardous waste such as oil-saturated absorbents, water with lead or other heavy metals from oxidized paint, and solvent cleaners requires special treatment and must be disposed of through a hazardous waste facility.

8. **Employee BMP Training:** Contractor shall train employees and subcontractors on BMP implementation, general good housekeeping, and proper spill containment and cleanup. Before start of work, Contractor shall provide the Board with written documentation of training and keep all documentation in the SWPCP.

9. **Inspection:** Contractor shall inspect and repair or replace, as needed, all job site BMPs a minimum of
   - Biweekly
   - Before, during and after a major rain event. Contractor shall document the inspections in the SWPPP.

10. **Dewatering:** Avoid dewatering discharges where possible by using the water for dust control, infiltration, etc..

BEST MANAGEMENT PRACTICES FOR CONSTRUCTION SITES

It has been determined that nonpoint source pollution (pollution from diffuse sources) has a negative effect on water quality in the Lake Pontchartrain.
As a result, a study was conducted to identify the sources of this pollution in Orleans Parish. The study determined one contributing source to be the discharge of pollutants from construction sites during normal operations.

In an effort to exemplify and correct this problem, the following Best Management Practices for Construction Sites was compiled and are listed below:

1) All mechanical equipment intended for use at said construction site must be properly maintained. This reduces the chance of breakdown, which would require on site maintenance or fluid leaks. Automotive fluids from on-site maintenance and fluid leaks would endanger the storm water drainage system.

2) Erect barrier fencing around the construction site. This would reduce the amount of sediment being washed from the site by stormwater.

3) Cover all drain inlets in the immediate area of the construction site until all work is completed. This will prevent debris from the site from entering the stormwater drainage system while construction is underway.

4) Spread and compact all fill material within a short time after delivery. This will reduce the amount of sediment which could leave the site and enter the stormwater drainage system if loose dirt piles remained on site for long periods of time.

5) Drive creosote pilings soon after their delivery. This would reduce the risk of creosote being discharged to the stormwater drainage system.

6) Cover any loose piles of dirt or creosote pilings with plastic, if they will not be put into place in a short time. This will help prevent the material from being washed into the stormwater system during a storm event.

7) Clean all mortar and cement mixing equipment in such a manner that the discharge does not enter the stormwater system, but is removed as solid waste to a proper location. This will prevent the sediment involved with this material from entering the stormwater drainage system.

8) Cover all piles of sand used for mortar with plastic. This will help prevent the material from being blown or washed off site to the stormwater drainage system.

9) Don't store fuel, automotive fluids, paint, glue, solvents, plaster or other petroleum products on site. This will reduce the risk of accidental discharge to the stormwater drainage system.

10) Maintain proper absorbent and dirking material to guard against accidental spillage of automotive fluids and other liquid products used on site. Also have proper containers for the placement of materials contaminated by spilled fluids and proper containers for the disposal of solid waste generated on site. This will ensure that all spills and waste are disposed of quickly, preventing any run off from entering the stormwater drainage system.

11) Seed grass mulch and fertilize (taking care not to over-fertilize) the soil areas of the construction site after all work is completed. Also seed grass and mulch the perimeter of the site just after fill is installed, but preventing workers and equipment from treading on this area during construction. These measures aid in preventing soil erosion from filling stormwater drainage system.

12) Have all workers and equipment enter the construction area from a single stable entrance. This will reduce the amount of soil erosion to the stormwater drainage system since the rest of the perimeter will remain in an undisturbed state.

13) Have all work supervised and coordinated by a single contractor. This will reduce confusion and make implementation of a BMP more efficient.

Inspection Report

Instructions

This inspection report has been developed as a helpful tool to aid contractors in completing their site inspections. This sample inspection report was created consistent with EPA's Developing the Storm water Pollution Prevention Plan. Contractor can find both the guide and the sample inspection report (formatted in Microsoft Word) at www.epa.gov/npdes/swpppguide.

This inspection report is designed to be customized according to the BMPs and conditions at the site. For ease of use, contractor shall take a copy of the site plan and number all of the storm water BMPs and areas of the site that will be inspected. A brief description of the BMP or area shall then be listed in the site-specific section of the inspection report. For example, specific structural BMPs such as construction site entrances, sediment ponds , or specific areas with silt fence (e.g., silt fence along Main Street; silt fence along slope in NW corner, etc.) shall be numbered and listed. Contractor shall also number specific non-structural BMPs or areas that will be inspected (such as trash areas, material storage areas, temporary sanitary waste areas, etc.).

Contractor can complete the items in the "General Information" section that will remain constant, such as the project name, NPDES tracking number, and inspector (if only use one inspector is used). Print out multiple copies of this customized inspection report to use during the inspections.

When conducting the inspection, walk the site by following the site map and numbered BMPs/areas for inspection. Also note whether the overall site issues have been addressed (customize this list according to the conditions at your site). Note any required corrective actions and the date and responsible person for the correction in the Corrective Action Log.

Storm water Construction Site Inspection Report

General Information			
Project Name			
NPDES Tracking No.		Location	
Date of Inspection		Start/End Time	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection: ❑ Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? ❑Yes ❑No If yes, provide: Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:			
Have any discharges occurred since the last inspection? ❑Yes ❑No If yes, describe:			
Are there any discharges at the time of inspection? ❑Yes ❑No If yes, describe:			

Site-specific BMPs

- *Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.*

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		❑Yes ❑No	❑Yes ❑No	
2		❑Yes ❑No	❑Yes ❑No	
3		❑Yes ❑No	❑Yes ❑No	
4		❑Yes ❑No	❑Yes ❑No	
5		❑Yes ❑No	❑Yes ❑No	
6		❑Yes ❑No	❑Yes ❑No	
7		❑Yes ❑No	❑Yes ❑No	
8		❑Yes ❑No	❑Yes ❑No	
9		❑Yes ❑No	❑Yes ❑No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
10		❑Yes ❑No	❑Yes ❑No	
11		❑Yes ❑No	❑Yes ❑No	
12		❑Yes ❑No	❑Yes ❑No	
13		❑Yes ❑No	❑Yes ❑No	
14		❑Yes ❑No	❑Yes ❑No	
15		❑Yes ❑No	❑Yes ❑No	
16		❑Yes ❑No	❑Yes ❑No	
17		❑Yes ❑No	❑Yes ❑No	
18		❑Yes ❑No	❑Yes ❑No	
19		❑Yes ❑No	❑Yes ❑No	
20		❑Yes ❑No	❑Yes ❑No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No	
4	Are discharge points and receiving waters free of any sediment deposits?	❑Yes ❑No	❑Yes ❑No	
5	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No	
6	Is the construction exit preventing sediment from being tracked into the street?	❑Yes ❑No	❑Yes ❑No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No	❑Yes ❑No	
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No	❑Yes ❑No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No	
12	(Other)	❑Yes ❑No	❑Yes ❑No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature: _____ **Date:** _____

APPENDIX A

Letter of No Objection USACE
Letter of No Objection LADNR Office of Coastal Management

Dean Nicoladis

From: VAN HALA, Mark < mvanhala@swbno.org>
Sent: Thursday, October 05, 2023 4:36 PM
To: SCHEXNAYDER, Randall; HAMED, Ahmed; Robert Haydel
Cc: GIANG, Steven; MUNGER, Martin; Dean Nicoladis ; Fred Mortali; Katherine Ramon
Subject: FW : LNO 2023-0899 (SLFPA-E) - N-Y Associates OBO Sewerage & Water Board of New Orleans - P20230699
Attachments: P20230699 Application and Drawings.pdf

Er. Randall and Er. Ahmed,

SLFPA -E permit LNO 2023-0899 info.

Thank you,
Mark
504-930-7223
Cell: 352-661-7379

Click Report a SWBNO Concern or Call
504-52 - W ATER (92837)
311,or
504- 658-ROAD (7623)

ROA ORK
#RoadworkNOLA Projects on Twitter, Facebook and Inst agra m.
You may subscribe to monthly newsletter by clicking here or visiting roadwork.no/a.gov
To sign up to IIRoadworl<NOLA distribution list - text ROADWORK to 77295 or go to ready.no/a.gov/alerts to create profile and select the "roadwork" alert list.

From: Keck, Brandon E CIV USARMY CEMVN (USA) <Brandon . E. Keck@us ac e.arm y.m il>
Sent: Thursday, October 5, 2023 1:16 PM
To: perm it @fl oodaut horit y.org
Cc: VAN HALA, Mark <mvanhala@swbno.org>; Fred Mortali <fmortali@n-yassociates.com>; CPRArequest@la.gov; Keck, Brandon E CIV USARMY CEMVN (USA) <Brandon .E. Keck@u sac e.arm y.m il>; Powell, Amy E CIV USARMY CEMVN (USA) <Amy.E.Powell@usace.army.mil>
Subject: LNO 2023-0899 (SLFPA-E) - N-Y Associates OBO Sewerage & Water Board of New Orleans - P20230699

======== EXTERNAL EMAIL | USE CARE WITH LINKS AND ATTACHMENTS========

Southeast Louisiana Flood Protection Authority - East (SLFPA-E),

We have reviewed the attached permit request from N-Y Associates, on behalf of Sewerage & Water Board of New Orleans, concerning permission to replace waterlines, storm drainage, pavement, etc. on Decatur St. and St . Peter St., approximately 150-890ft landward of the left descending Mississippi River Levee floodwall centerline, vicinity of levee station 486+00, at New Orleans, LA, Orleans Parish.

Please take this email as our Letter of No Objection for the project. **No work shall commence until a permit is received from the SLFPA-E.**

We have no objection to the request provided:

a. The work is accomplished in accordance with the above referenced attached request, map, and drawing.

b. The excavation and subsurface work is performed and completed while the stage of the Mississippi River is below elevation +11 feet on the Carrollton gage, at New Orleans, Louisiana. If the excavation work is not completed and backfilled prior to the stage of the river exceeding +11 feet on the Carrollton gage, then the applicant must cease all excavation work and be prepared to either flood or backfill the excavation site at the direction of the Corps of Engineers. No river stage waiver will be granted due to sub-surface conditions and proximity to the flood protection. Information concerning current river stages may be obtained at Rivergages.com.

c. All excavation and subsurface work must be backfilled prior to 5-days of a named storm affecting the Louisiana or Mississippi coast.

d. All open excavations must be backfilled with material removed from the excavations and compacted to the same density of the adjacent in-situ material.

e. Please provide written notification to this office of the construction timeline to include the proposed start and end dates and completion of the work permitted herein.

This letter of no objection is based upon engineering criteria and potential impacts to the flood protection system only, and no interpretation or comments regarding local drainage or traffic issues, local laws, zoning, or ordinances concerning property rights, et c., have been made. Please be advised that the proposed project may require a Department of the Army (DA) permit under Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act. If a DA permit is required, it is the applicant's responsibility to obtain such permit from the New Orleans District Regulatory Division prior to the commencement of any work. The USACE point of contact in the New Orleans District Regulatory Division is Mr. Brad Laborde, at (504) 862-2225 or brad.laborde@usace .ar my.mil. This letter of no objection does not constitute a response to a Section 404/10 permit application, if required.

If you have any questions, please contact me. Additionally, future correspondence concerning this project should reference our Letter of No Objection number 2023-0899. This will allow us to more easily locate records of previous correspondence, and thus provide a quicker response .

Brandon Keck
U.S. Army Corps of Engineers
New Orleans District
Operations Division - Completed Works

From: Fred Mortali <fmort ali@n -yasso ciates.com>
Sent: Wednesday, September 20, 2023 4:07 PM
To: Keck, Brandon E CIV USARMY CEMVN (USA) <Brandon. E.Keck@usace.army.mil>
Cc: mvanhala@s wbno.org
Subject: [Non-DoD Source] RE: P20230699 - ORIGINAL- Parish(es):ORLEANS - COE Distribution - USACE 2023-0899

Brandon,

The new waterline will be offset below other utilities and therefore would have the maximum depth of excavation at that point.

1. On Decatur St. the new water line has a trench width of 4', length of 1125 lin. ft. and max. depth of 9.5'. The location of the max. depth is at the intersection of Decatur St. and Ursulines Ave.
2. On St. Peter St. the new water line has a trench width of 4', length of 400 lin. ft. and max. depth of 9.5'. The location of the max. depth is at the intersection of St. Peter St. and Royal St.

Thanks,

Fred Mortali, PE
Project Manager

N-Y Associates, Inc.
2750 Lake Villa Drive
Metairie, LA 70002
Phone: (504) 885-0500
Cell (985) 422-8331
Fax: (504) 885-0595
fmortali@n-yassociates.com
www.n-yassociates.com

ASSOCIATES INC
ENGINEERS, ARCHITECTS, PLANNERS
PROGRAM & PROJECT MANAGERS

From: Keck, Brandon E CIV USARMY CEMVN (USA) <Bran don.E.Keck@usace.army.mil>
Sent: Wednesday, September 20, 2023 8:24 AM
To: Fred Mortali <fmortali@n-yassociates.com>
Cc: mvanhala@swbno.org
Subject: RE: P20230699 - ORIGINAL - Paris h(es):ORLEA NS - COE Distribution - USACE 2023-0899

Hi Fred. Please provide the maximum excavation dimensions (Length x Width x Depth) for each project location included in the attached request. We need this clearly defined to complete our review.

Our tracking number for this request is 2023-0899 . Please include this in all future correspondence with us regarding this project .

Thanks,

Brandon Keck
U.S. Army Corps of Engineers
New Orleans District
Operations Division - Completed Works
CEMVN-ODS-W

Desk Phone: 504-862-2630
Work Cell: 504-460-2811

From: LaBorde, Brad P CIV USARMY CEMVN (USA) <Brad .Laborde@usace.ar my.mil>
Sent: Wednesday, August 30, 2023 9:33 PM
To: fmortali @n-yassociat es.com
Cc: MVNLeveePermits<MVNLeveePermits@usace.army .mil>
Subject: FW: P20230699 - ORIGINAL - Pa rish(es) :ORLEA NS - COE Distribution

The proposed work described in your attached application is located within non-jurisdictional areas and/or is considered a non-regulat ed activity by the Regulatory Division, provided the work is located and implemented as stipulated within your attached application and plans . There fo re, No Authorization or Further Action is required by this office unless the project requires additional work not presently defi ned.

Your project is located adjacent to a Federal Project which requires an additional review by the Corps Operations Manager for Completed Works (ODS-W). I' ve included their "Levee Pe rmit s" inbox to this e-mail so their staff is notified of your request. Please wait for ODS-W response before pro cee ding.

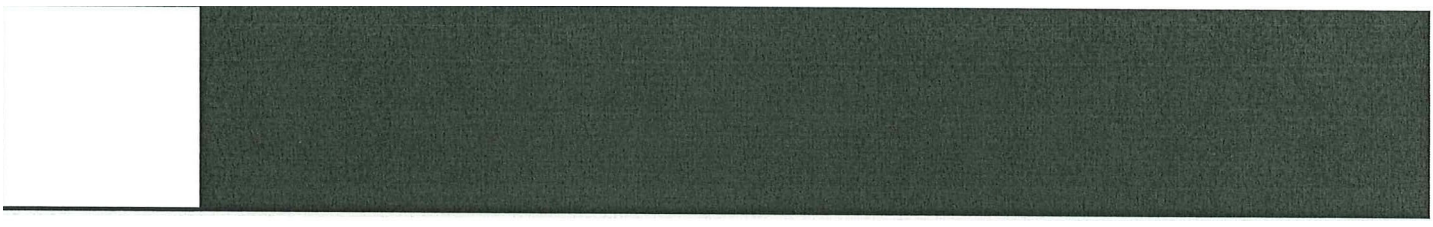
Be aware that this consent does not supersede any other required state or local approvals, including a State or Local Coastal Use Permit/Determination from the Louisiana Department of Natural Resources, Office of Coastal Management.

This notification hereby concludes Regulatory Division's coordination on the subject application/request. A copy of this correspondence should be save for your records and a copy retained at the site during construction to the greatest extent possible.

Sincerely,

Brad LaBorde
Eastern Evaluation Branch Chief
New Orleans District, Regulatory Division - CEMVN-RGE
U.S. Army Corps of Engineers
(504) 862-2225

From: Office of Coastal Management <bpel.mail@la.gov>
Sent: Tuesday, August 22, 2023 4:35 PM
To: DNR Permits MVN <DNRP ermit s@usace .ar my.mil>
Subject: [Non-DoD Source] P20230699 - ORIGINAL- Paris h(es):ORLEA NS - COE Distribution



If you would like to respond, provide comment or contact someone about this application please click the OCM Analyst name below to send an email to the permit analyst, use the "Make Comments" link below to post a comment to the administrative record or call the OCM Analyst at 225-342-7591 or 800-267-4019. Be sure to reference your P# as found in the subject of this email. Do not use the "reply" button to respond to this email as this account is not monitored for incoming messages.

Coastal Use Permit Application Information

Applicant:	Sewage & Water Board
Project:	24 inch Water Line Replacement Decatur St./ St. Peter St.
Project Parish(es):	ORLEANS
OCM Analyst:	Heather Evans (heather.evans@la.gov)
Preliminary Determination:	Exempt
Application Modification:	N/A

The Office of Coastal Management has reviewed the referenced application and found it to be complete. No Public Notice is required for this application. Please click on the link below to access the COE Transmittal Form . The application can be viewed by clicking on the P# highlighted in that form.

Acknowledgement Letter
COE Transmittal
GIS Report

Be advised that the COE response must be received within 5 days of this distribution in order to include the COE in processing this application.

*** *** CONFIDENTIALITY NOTICE - If you are not the intended recipient, any use, distribution, or copying of this communication is strictly prohibited. Please notify the sender immediately by replying to this message, then delete the email and any attachments from your system. Thank you.

APPENDIX B

South Louisiana Flood Protection Authority East Hold Harmless Agreement

PERMIT OL2023-00272

Southeast Louisiana Flood Protection Authority – East

Hold Harmless Agreement

Contractor shall defend, indemnify and hold harmless **SLFPA-E** and **the Orleans, East Jefferson, and St. Bernard Levee Districts** (collectively, "owner") from and against any and all claims, damages, losses and expenses, including attorney's fees, and all other claims of any kind or nature whatsoever, including claims for contribution, and/or indemnity arising out of or resulting from the performance, nonperformance or mal-performance of the work for which permission was granted provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease, death or property damage of whatsoever nature, including the loss of use resulting therefrom caused in whole or in part by any negligent or willful acts or omissions of contractor, its subcontractors or anyone employed by any of them or anyone from whose acts any of them may be liable and excluding any claims caused by the negligence of the owner and/or strict liability of the owner, its agents and employees, or third parties over whom Contractor does not have control.

Contractor: _____

By: _____

Printed Name: _____

Title: _____

Date: _____

APPENDIX C

Standard Drawings
Sewerage and Water Board of New Orleans

SECTION 01 410

SWB STANDARD DRAWINGS

Sewerage and Water Board

of

New Orleans

Standard Drawings

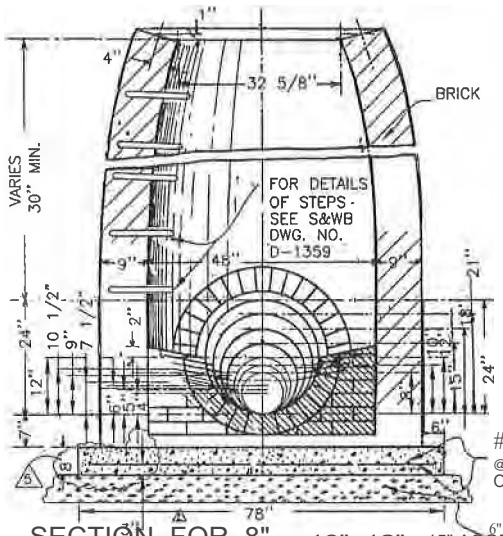
Revised October 25, 2018

INDEX OF STANDARD DRAWINGS

1. D-870 General section of standard drain brick manhole
2. D-871 General plan of drain manhole frame & cover
3. D-873 Detail of standard single vertical catch basin #1, 2 & 3
4. D-873A Detail of standard double vertical catch basin
5. D-1359 Detail of steps for concrete & brick manholes
6. 2445-F-2 Rectangular frame and cover for meter or valve
7. 3143-E-1 Detail of sewer and water manhole castings
8. D-3264 Detail of standard 24"x 30" clear opening drop inlet catch basin
9. D-3340 Detail of standard manhole for circular pipe larger than 36"
10. D-3431-A Detail of standard single mountable catch basin
11. D-3431-B Detail of standard double mountable catch basin
12. D-3809 Typical sections of concrete pipe bedding from 12" to 42" pipe
13. D-3810 Typical sections of concrete pipe bedding from 48" to 72" pipe
14. D-3933 Typical sections of reinforced concrete arch pipe bedding from 22"x13 1/2" to 65"x 40"
15. D-3934 Typical sections of reinforced concrete arch pipe bedding from 73"x 45" to 122"x 78"
16. D-3937 Detail of standard manholes for large concrete arch pipe
17. 4697-E5-A Typical standard and non-standard open trench sections for sewer pipe installation
18. 6178-B-6 Typical sewer brick manhole and drop manhole
19. 6178-B-6A Typical pre-cast concrete manhole
20. 6179-F-2 Hydrant setting, details of valve box and cover, and valve manhole

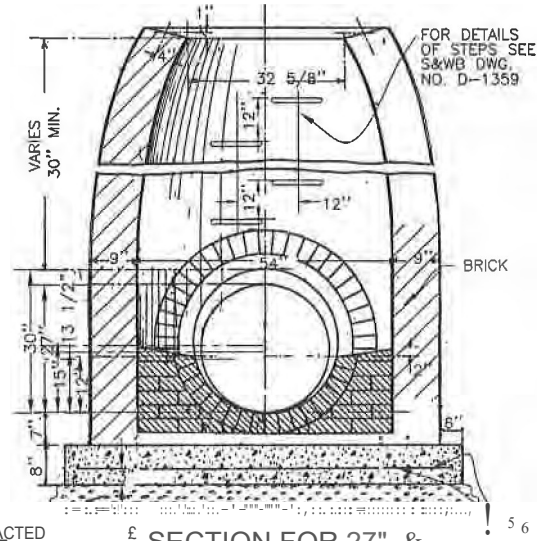
21. 6312-E5-A Typical sewer service connection for sewer main less than or equal to 8" deep
22. 6312-E5-B Typical sewer service connection for sewer main greater than 8' deep
23. 7004-W Test connection on new water mains (4" to 16") flushing and chlorination
24. 7005-W Pressure test connection on new water mains (18" and larger), flushing and chlorination
25. 7134A-W Typical water service connection
26. 7134-W Water meter service connection for 5/8" and I" fixed meter box
27. 7165-D Special fabricated steel cover for canal cleanout manhole
28. 7332-W 2" & 1 1/2" meter service connection
29. 8178-SD Typical sewer and drain siphon detail & pipe/wall connections
30. 8180-SD Manhole adjustment and rehabilitation
31. 8292-D Vertical catch basin two piece grate, frame and cover ductile iron
32. 8319-D Single combination catch basin - manhole structure
33. 8353-W1 Above ground assembly-fire and domestic
34. 8353-W2 Above ground assembly-fire only
35. 8353-W3 Above ground assembly-domestic only

N0.1 M.H.



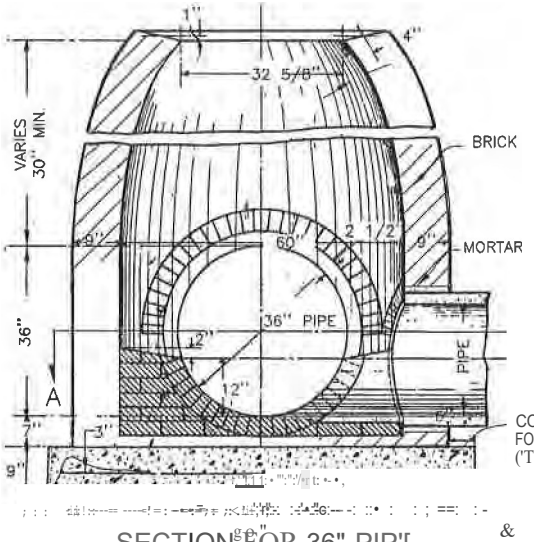
SECTION FOR 8", 10", 12", 15" 18", 21" & 24" PIPE

N0.2 M.H.

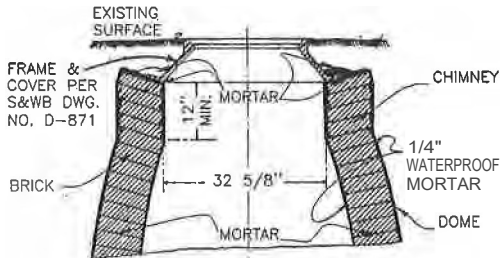


SECTION FOR 27" & 30" PIPE

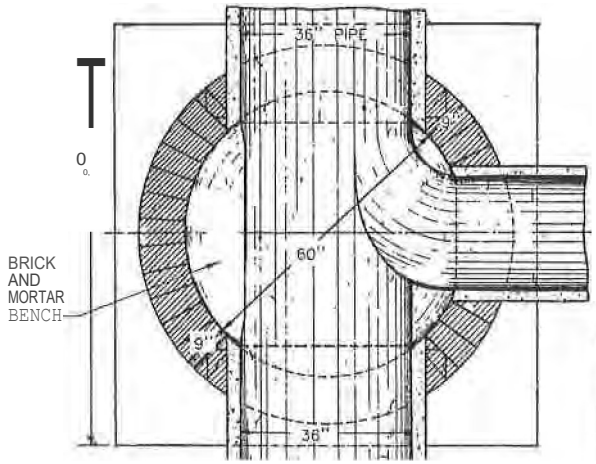
N0.3 M.H.



SECTION FOR 36" PIPE



TYPICAL UPPER MANHOLE SECTION



SECTION A-A

NO.3 M.H. - AS SHOWN
NO.1 & 2 M.H. - SIMILAR

NOTES:

1. ALL MANHOLES, FRAMES AND COVERS SHALL BE AS SHOWN ON S&WB DWG. NO, D-871, GENERAL PLAN OF MANHOLE FRAME AND COVER.
2. INSIDE & OUTSIDE BRICK WALLS, BENCHES, & INVERTS TO BE MORTARED WITH WATERPROOFING COMPOUND FOR THICKNESS OF 1/4" IN ACCORDANCE WITH SPECIFICATIONS.
3. CONCRETE TO HAVE A MIN, COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.
4. SEE S&WB DWG. NO. 6178-8-6 FOR PRE-CAST MANHOLES

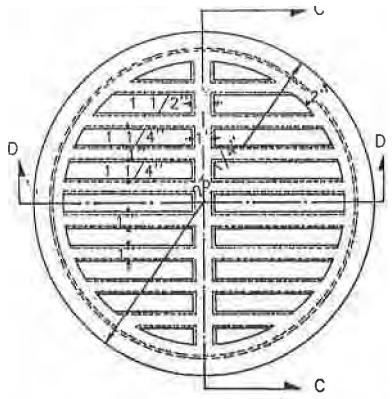
SCALE: N.T.S.

REV.	DATE	DESCRIPTION	BY
4	03-09-07	CHANGED COVERING AND CONCRETE FOUNDATION THICKNESS	D.MC.
3	03-08-07	DELETED, REVISED AND ADDED NOTES	D.MC.
2	7-11-88	GENERAL REVISION	M.L.L.
1	2-28-75	REPLACED TIMBER FOUNDATION WITH CONCRETE	P.C.B.
	11-5-65	NOTE FOR PLASTERING	R.P.D.

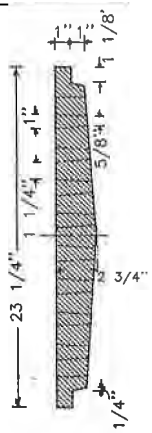
SEWERAGE AND WATER BOARD OF NEW ORLEANS

GENERAL SECTION OF STANDARD DRAIN BRICK MANHOLE

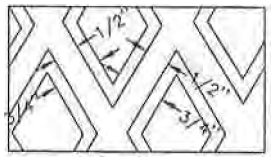
DR. DRAWN	
TRC.	
CK. P.H.Q.	GENERAL SUPERINTENDENT
APP.	
SCALE 1/4"=1'-0"	DWG. NO. D-870
DATE 7-1-88	SEC. NO. / SHEET NO.



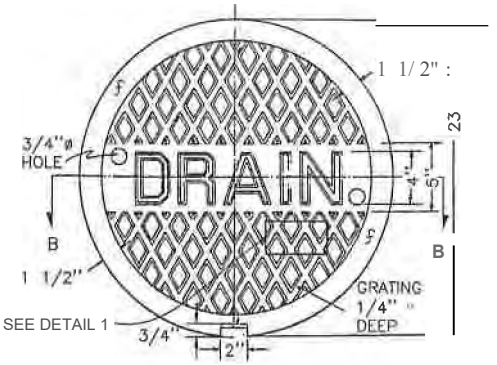
'·TOP VIEW OF OPEN GRATE MANHOLE COVER



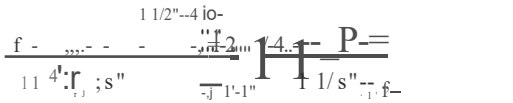
SECTION VIEW C-C



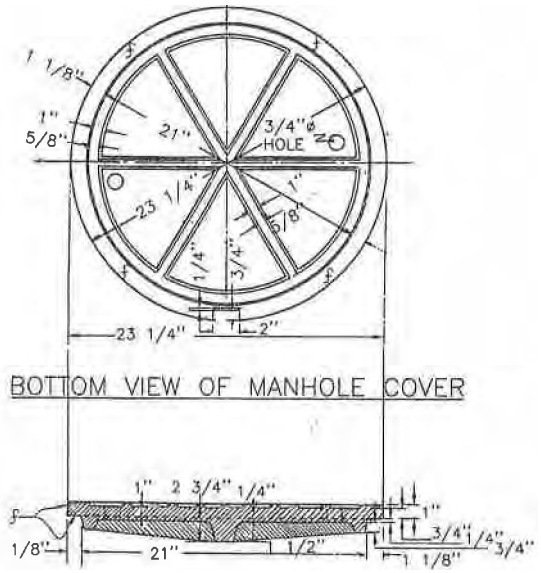
DETAIL



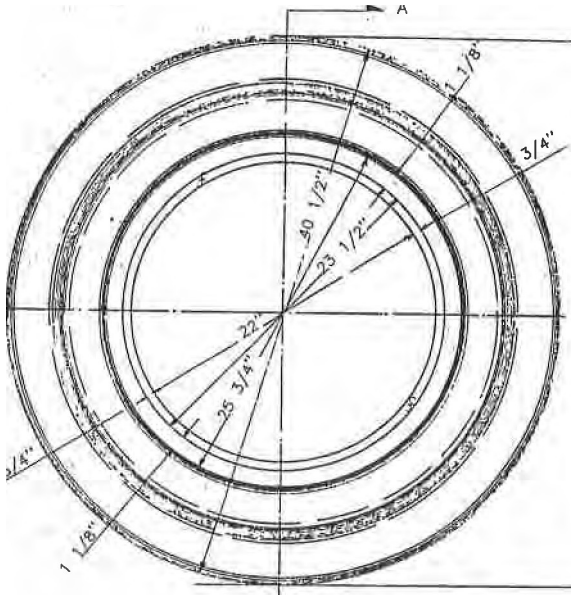
TOP VIEW OF MAN OLE COVER



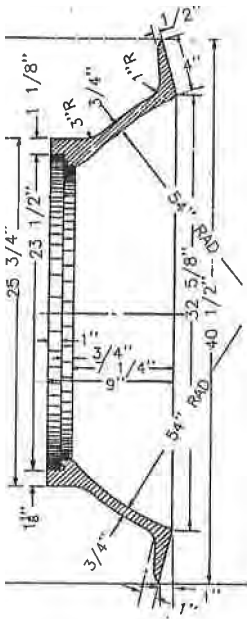
SECTION VIEW D-0



BOTTOM VIEW OF MANHOLE COVER



TOP VIEW OF MANHOLE FRAME



SECTION VIEW A-A

& NOTES:

1. f = MACHINED SURFACE.
2. FRAME & COVER SHALL CONFORM TO EAST JORDAN IRON WORK, INC. V-1501 FRAME & COVER OR APPROVED EQUAL.

SECTION VIEW B-B

SCALE: N.T.S.

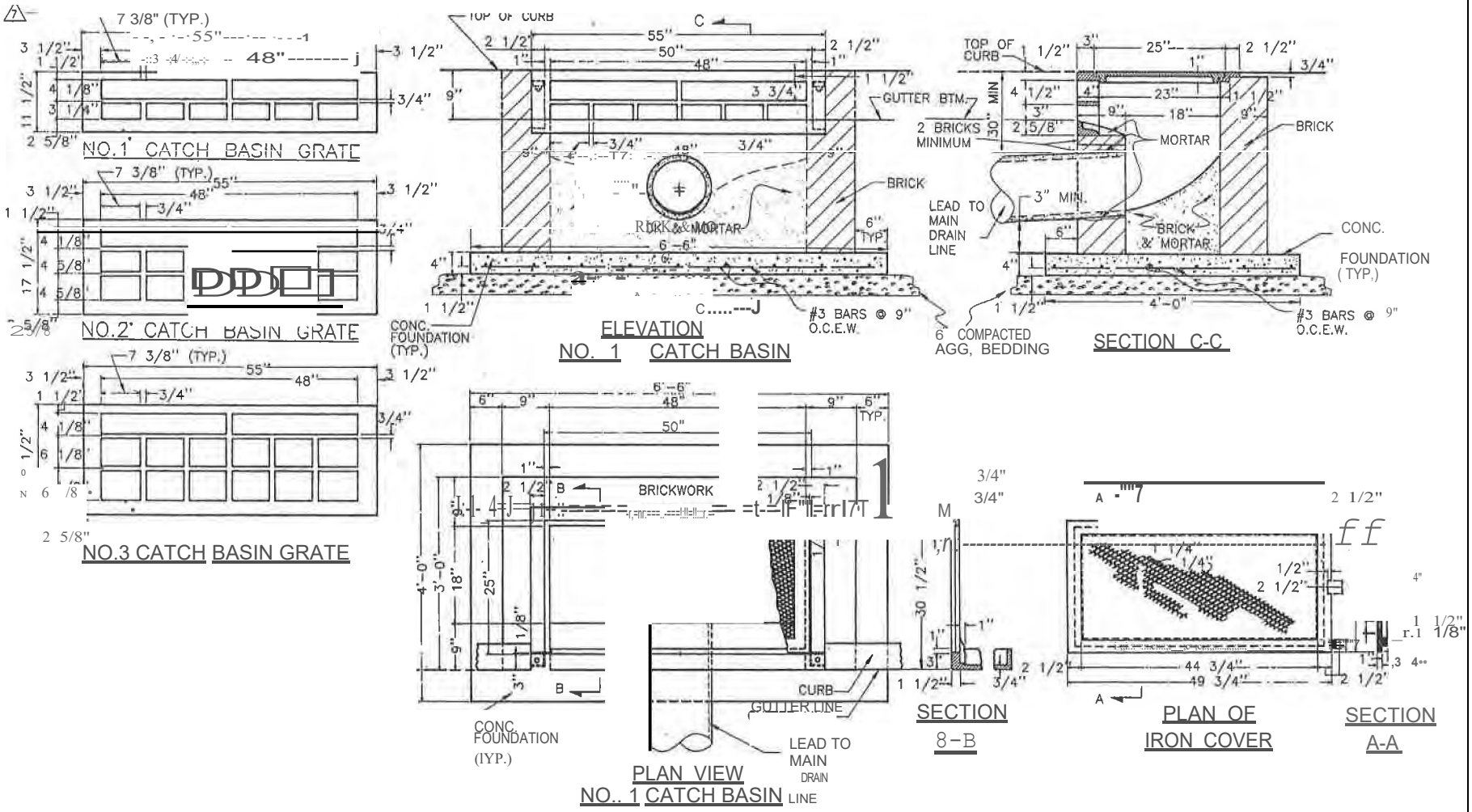
03-08-07	CHANGE COVER AND FRAME WEIGHTS	D.MC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

GENERAL PLAN
OF DRAIN
MANHOLE FRAME & COVER

DWG. NO. D-871

SCALE GRAPHIC | DATE 7-1-88 | SET NO. | SHEET NO.



NOTES:

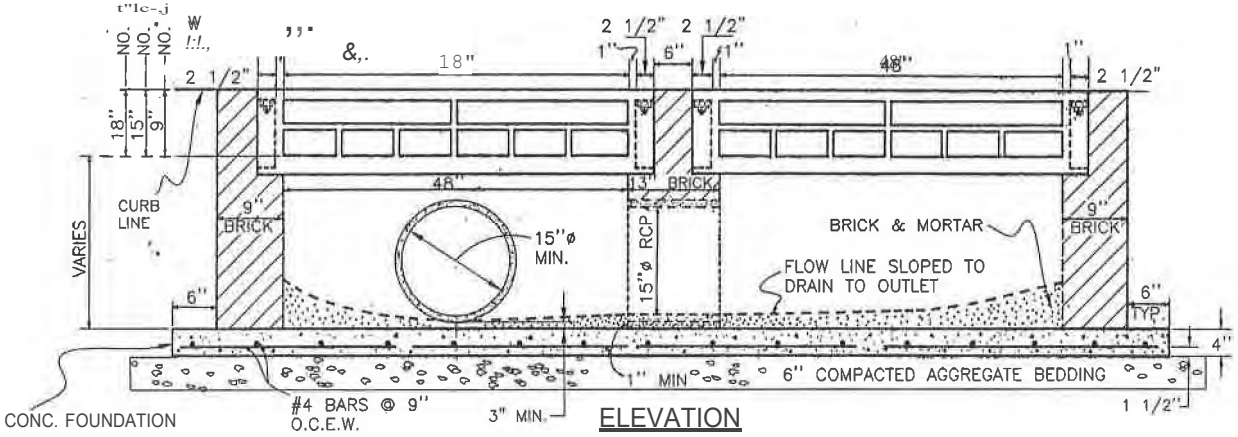
1. INSIDE & OUTSIDE OF BRICK WALLS, BENCHES & INVERTS, TO BE MORTARED WITH A WATERPROOFING COMPOUND FOR THICKNESS OF 1/4" IN ACCORDANCE WITH SPECIFICATIONS.
2. FRAME & COVER IS THE SAME FOR ALL CATCH BASINS.
3. FOR DOUBLE VERTICAL CATCH BASIN, SEE S&WB DWGS. NO. D-873A.
4. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.
5. SEE S&WB DWG. NO. D-3264 FOR DROP INLETS.
6. SEE S&WB DWG. NO. D-3431-A & D-3431-B FOR MOUNTABLE CATCH BASINS.
7. FRAME & GRATE SHALL CONFORM TO EAST JORDAN IRON WORKS, V-4310 CURB INLET SERIES
8. SEE S&WB DWG. NO. D-8292 FOR TWO PIECE GRATE, FRAME AND COVER.
9. **MAX**. DEPTH OF CATCH BASIN CANNOT EXCEED 5' UNLESS APPROVED BY S&WB ENGINEER.

SCALE: N.TS.

SEWERAGE AND WATERBOARD OF NEW ORLEANS

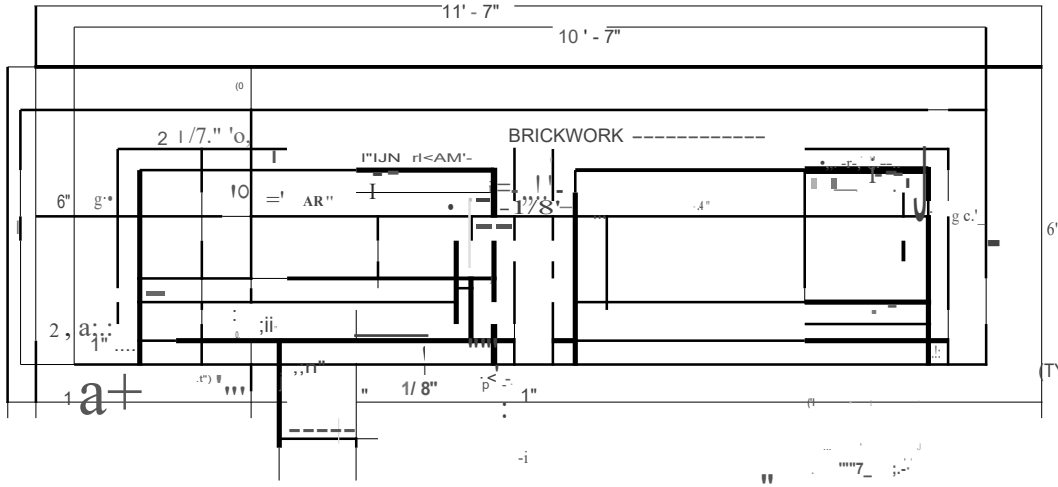
OCTAJL Of SIN-IOARO
SINGLE VERTICAL CATCH BASIN
NUMBERS 1, 2 & 3

DWG. NO. D-873 /B



ELEVATION

SEE NOTE NO. 1)



PLAN VIEW

15 " G!

'- coNc. FOUNDATION

LEAD SHALL BE CONNECTED TO MAIN DRAIN. THE LEAD CAN BE INSTALLED ON EITHER SIDE OF THE CATCH BASIN, THE BOTTOM OF CATCH BASIN MUST BE SLOPED TO DRAIN TOWARDS LEAD. CATCH BASIN LEAD MAY BE POSITIONED AT AN ANGLE AS REQUIRED TO ATTACH TO MAIN DRAIN LINE.

&, NOTES:

1. DOUBLE CATCH BASIN SHOWN. SEE S&WB DWG. NO. D-873 FOR SINGLE TYPE CATCH BASIN CASTINGS,
2. SEE S&WB DWG. NO. D-873 FOR SECTIONS & DETAILS OF CATCH BASINS 1, 2 & 3 AND METAL CASTING.
3. INSIDE & OUTSIDE OF BRICK WALLS, BENCHES, & INVERTS. TO BE MORTARED WITH A WATERPROOFING COMPOUND, THICKNESS OF 1/4" IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
4. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.
5. SEE S&WB DWG. NO. D-3264 FOR DROP INLETS.
6. SEE S&WB DWG. NO. D-3431-A & D-3431-B FOR MOUNTABLE CATCH BASINS.
7. SEE S&WB DWG. NO. D-8292 FOR TWO PIECE GRATE, FRAME AND COVER.
8. MAX. DEPTH OF CATCH BASIN CANNOT EXCEED 5' UNLESS APPROVED BY S&WB ENGINEER.
9. FRAME & GRATE SHALL CONFORM TO EASTJORDAN IRON WORKS, V-4310 CURB INLETS SERIES.

SCALE: N.T.S

DWG. NO. D-873A

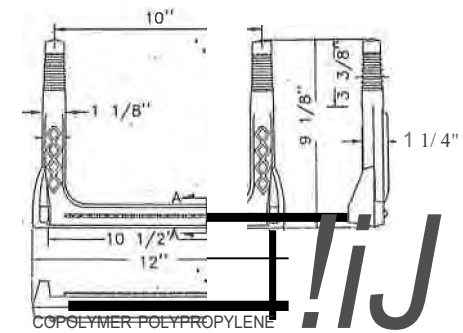
J-OL.(IJ

SEWERAGE AND WATER BOARD

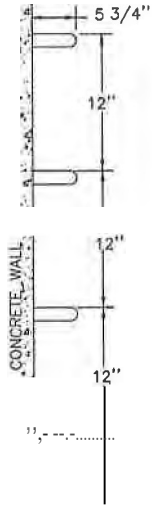
OF NEW ORLEANS

DETAIL OF' STD, DOUBLE

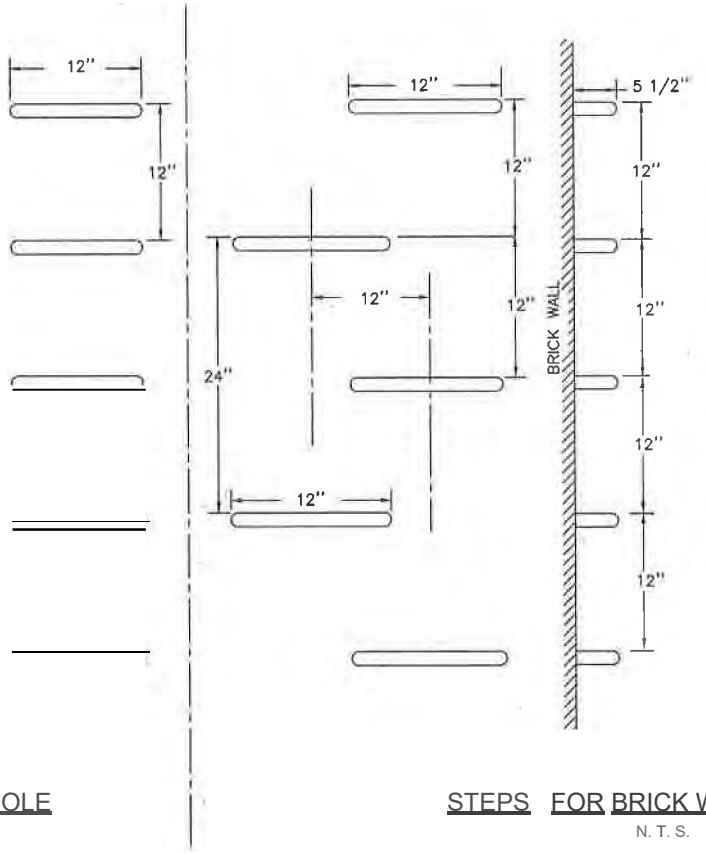
VERTICAL CATCH BASIN



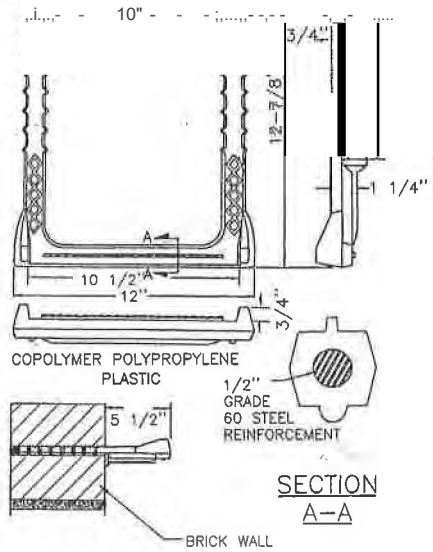
SECTION
6.=-8



STEPS FOR PRE-CAST CONCRETE MANHOLE
N. T. S.



STEPS FOR BRICK WALL MANHOLE
N. T. S.



SECTION
A–A

NOTES:

1. STEP IS A 1/2" GRADE 60 STEEL, REINFORCING ROD ENCAPSULATED WITH A COPOLYMER POLYPROPYLENE

   CONSIDERED BUT MUST BE APPROVED BY THE S&WB ENGINEER.

2: RELATED A.S.T.M, C-478, D- 4101. AND A-615.

3. STEPS ARE NOT PERMITTED IN CATCH BASINS.

4, STEPS ARE STAGGERED FOR CONCRETE BOX CANALS.

5 , FOR PRE-CAST STEPS, DRILL STEPS INTO BRICK AND SEAL WITH EPOXY.

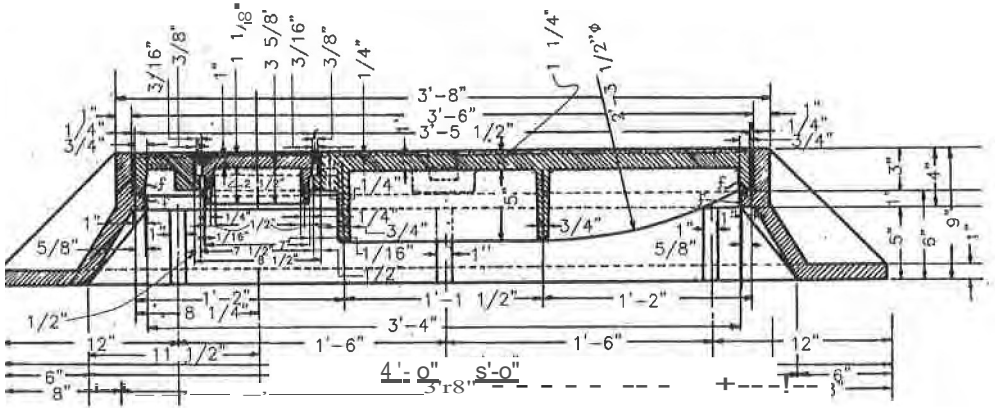
REV.	DATE	DESCRIPTION	BY
3	03-09-07	DELETED, REVISED AND ADDED NOTES	D.MC.
1	7/11/88	GENERAL REVISION	N.L.A.

SEWERAGE AND WATER BOARD
OF NEW ORLEANS

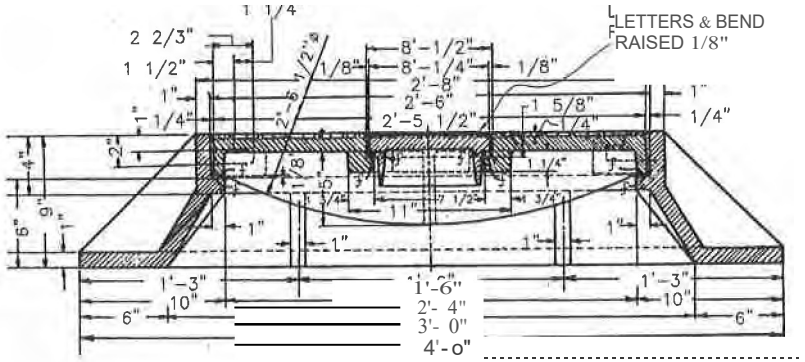
DETAIL OF STEPS FOR CONCRETE &

DR. APD. COMM.
ENG.
CK. DWG.
AP. CK'D.
SCALE
DATE 7-1-88

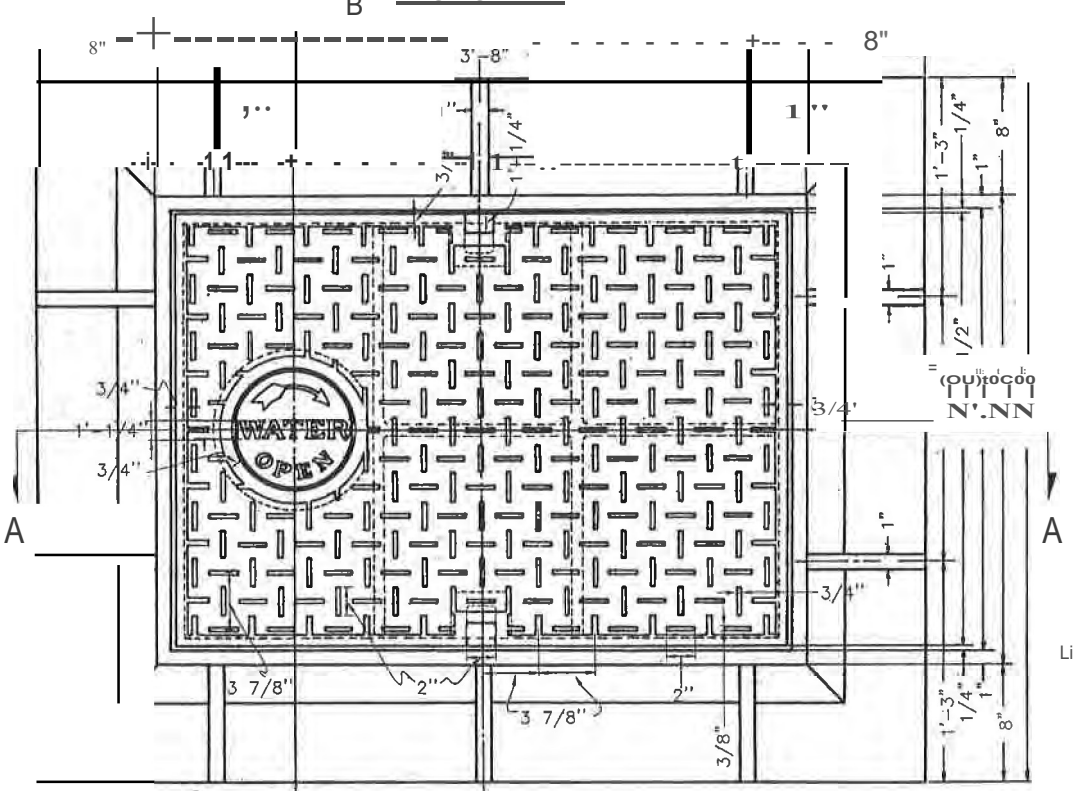
DWG. NO. D-1359
SET NO.
SHEET NO.



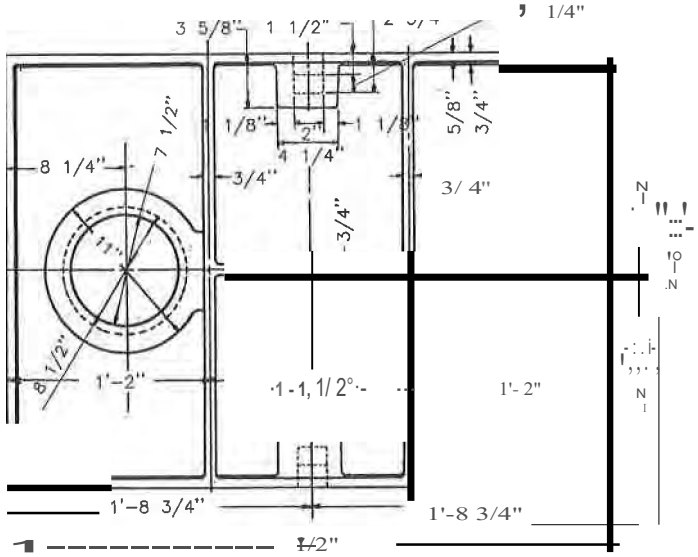
SECTION A-A



SECTION 8-8



PLAN OF COVER & FRAME



UNDER SIDE OF COVER

NOTES:

1, f = MACHINED SURFACE

Li,2. FRAME & COVER SHALL CONFORM TO EAST JORDAN IRON WORKS, V-63.99 FRAME & GRATE OR APPROVED EQUAL.

THIS COVER TO BE USED FOR SEWER MANHOLES 0

SCALE N.T.S.

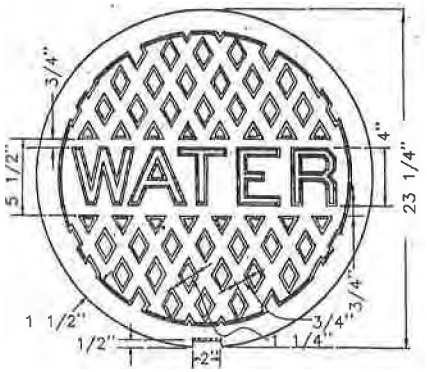
REV.	DATE	DESCRIPTION	BY
2	03-09-67	ADDED NOTE	D.MC.
1	1-15-64	Added Cover For Sewer Manhole	R.J.M.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

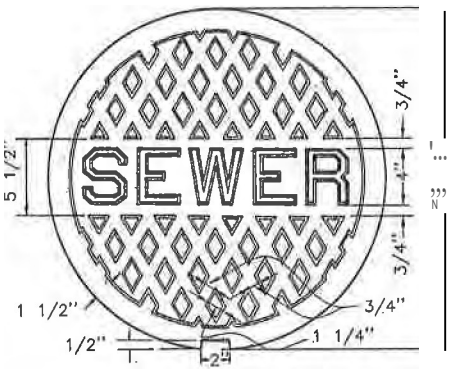
RECTANGULAR FRAME AND COVER FOR METER OR VALVE

DR.	O. HEMBY
TRC.	
CK.	
AP.	
SCALE	
DATE	7/1/63
SET NO.	
SHEET NO.	

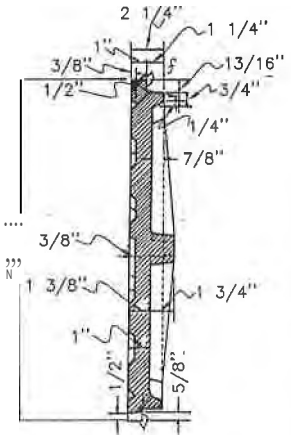
DWG. NO. 2445-F-2



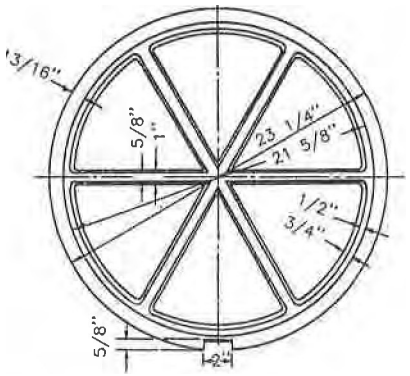
TOP VIEW OF WATER MANHOLE COVER



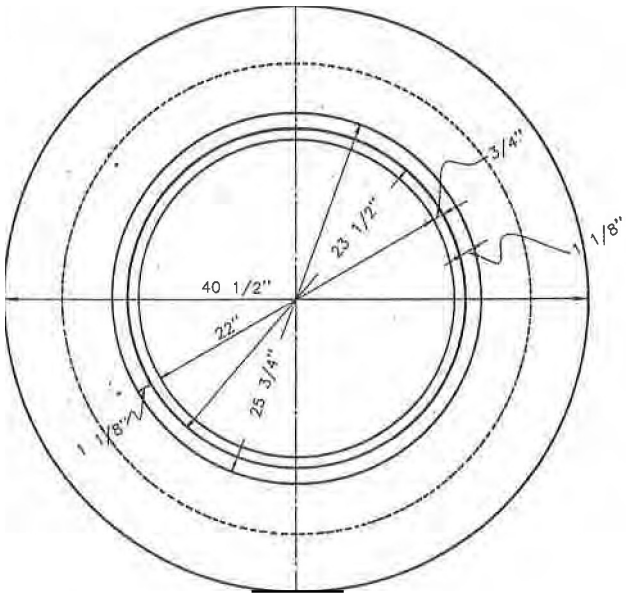
TOP VIEW OF SEWER MANHOLE COVER



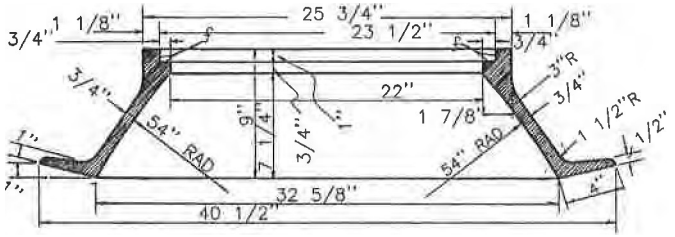
CROSS SECTION OF MANHOLE COVER
(SEWER & WATER)



BOTTOM VIEW OF MANHOLE COVER
(SEWER & WATER)



PLAN OF FLARING FRAME MANHOLE



CROSS SECTION OF FLARING MANHOLE FRAME
(SEWER & WATER)

NOTE:

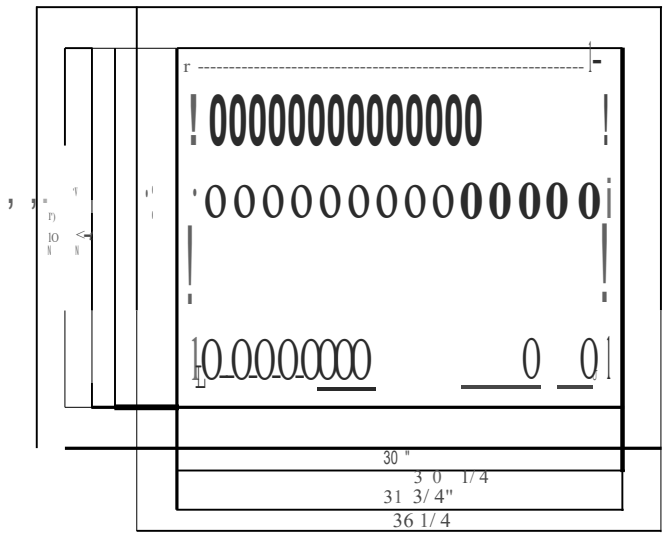
1. f = MACHINED SURFACE
2. FRAME & COVER SHALL CONFORM TO EAST JORDAN IRON WORKS, V-1501 FRAME AND COVER.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

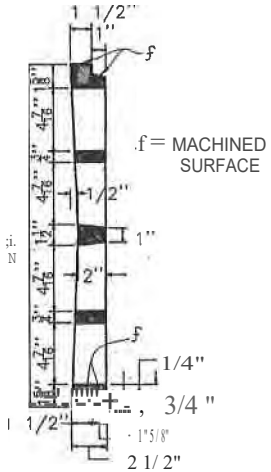
DETAILS OF SEWER ANO WATER MANHOLE CASTINGS

SCALE: N.T.S.

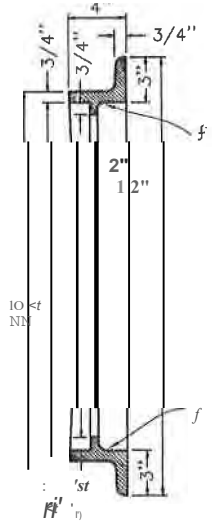
DWG. NO. 3143-E-1



PLAN OF FRAME AND GRATE



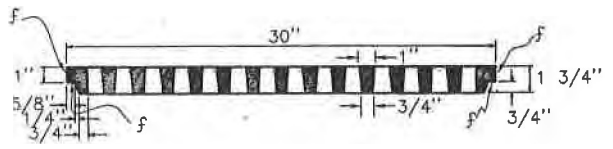
TRANSVERSE SECTION OF GRATE



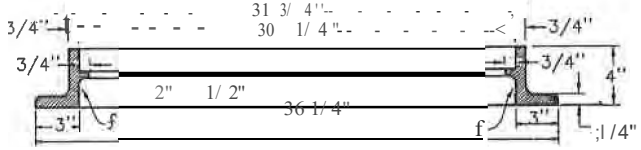
TRANSVERSE SECTION OF FRAME

& NOTES:

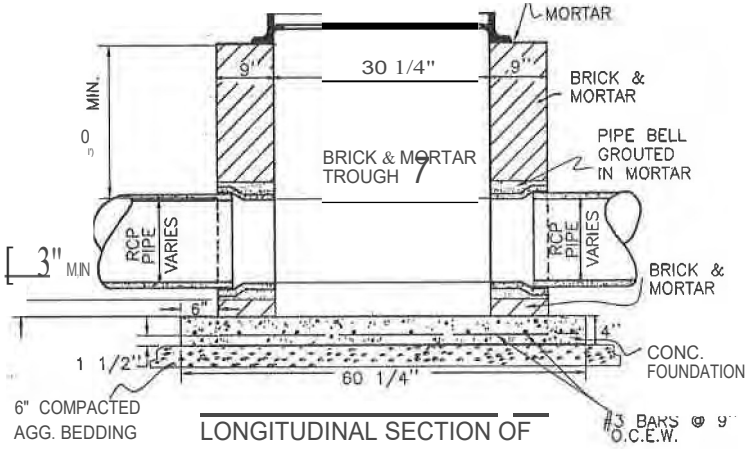
1. WEIGHT OF FRAME 154 LBS.
2. WEIGHT OF COVER 278 LBS.
3. f = MACHINED SURFACE
4. INSIDE & OUTSIDE OF BRICK WALLS, BENCHES, & INVERTS TO BE MORTARED WITH WATERPROOFING COMPOUND FOR THICKNESS OF 1/ 4" IN ACCORDANCE WITH SPECIFICATION.
5. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.
6. FRAME & GRATE SHALL CONFORM TO EAST JORDAN WORKS, INC. V-4430 GUTTER INLET OR APPROVED EQUAL.



LONGITUDINAL SECTION OF GRATE



LONGITUDINAL SECTION OF FRAME

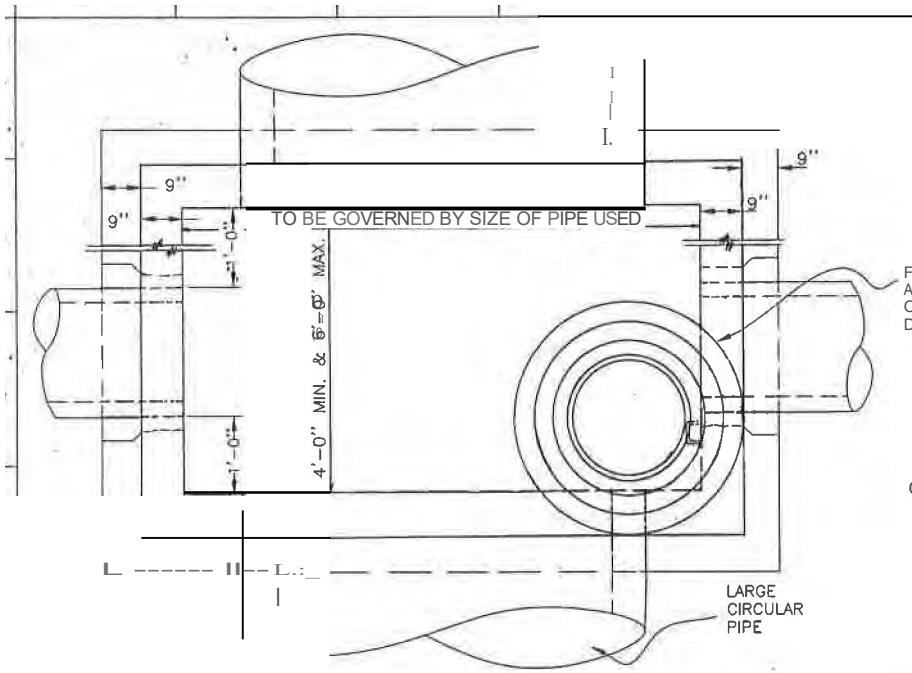


LONGITUDINAL SECTION OF DROP INLET MANHOLE

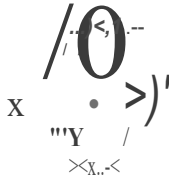
SEWERAGE AND WATER BOARD OF NEW ORLEANS

DETAIL OF STD. 24 " XJO" CLEAR OPENING DROP INLET CATCH BASIN

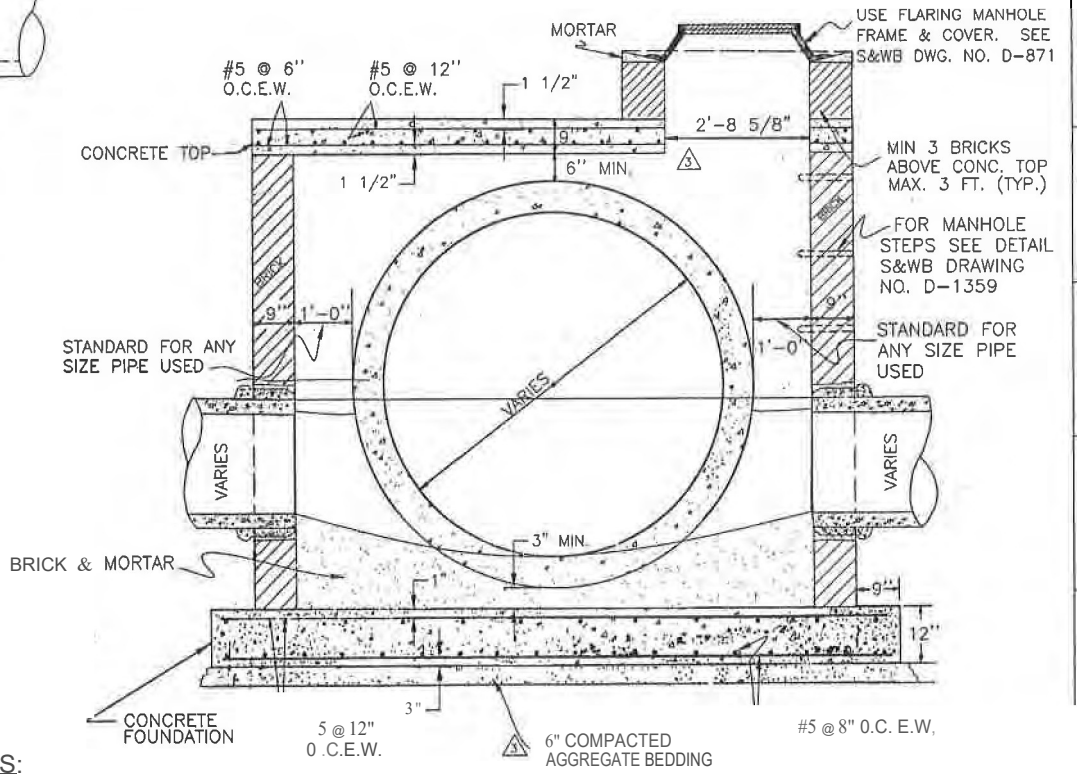
DWG. NO. D-3264



PLAN VIEW



DETAIL-1



SECTION VIEW

& NOTES:

1. INSIDE & OUTSIDE BRICK WALLS, BENCHES, & INVERTS TO BE MORTARED WITH WATERPROOFING COMPOUND FOR THICKNESS OF 1" IN ACCORDANCE WITH SPECIFICATIONS.
2. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.

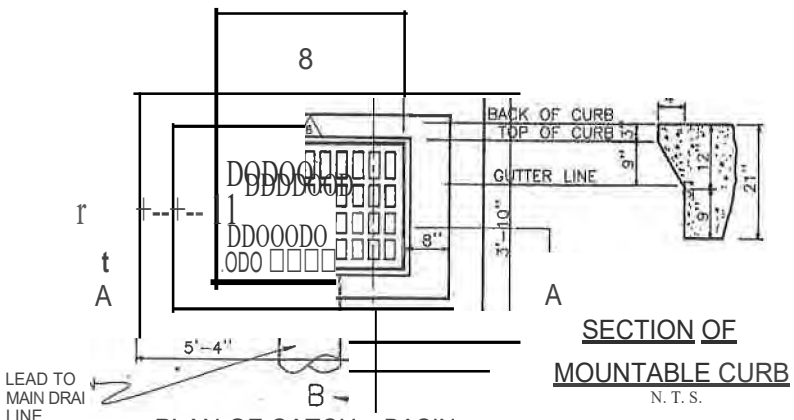
3	03-08-07 DELETED, REVISED AND ADDED NOTES	D.HC.
2	9-5-67 NEW BOTTOM & STEEL	A.M
1	11-8-65 NOTE FOR PLASTERING	R.P.D

SEWERAGE AND WATERBOARD OF NEW ,ORLEANS

DETAIL OF STANDARD MANHOLE FOR CIRCULAR PIPE GREATER THAN J6"

SCALE: N.T.S.

DWG. NO. D-3340

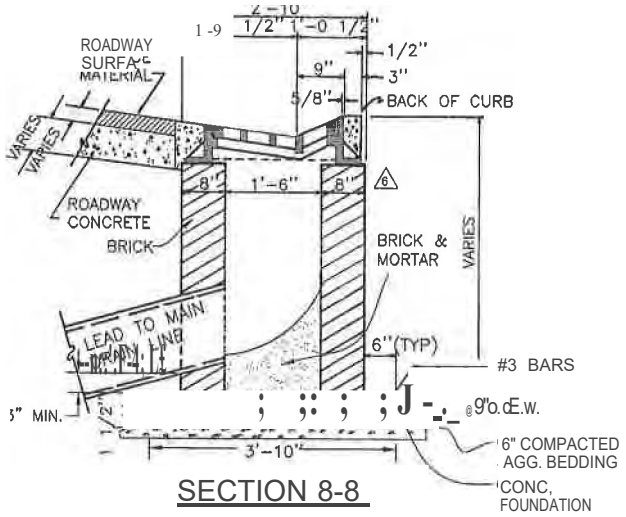


PLAN OF CATCH BASIN

N. T. S.

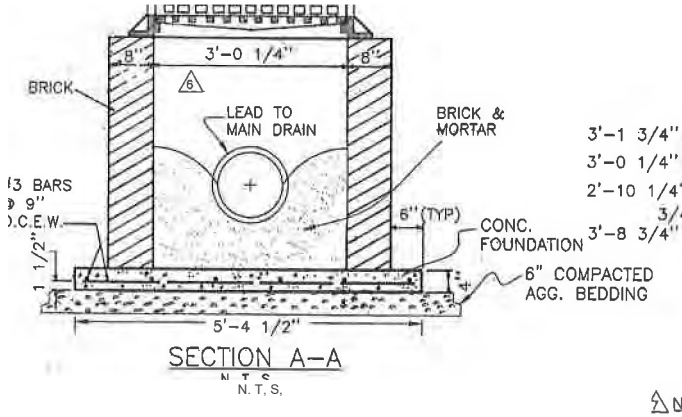
SECTION OF MOUNTABLE CURB

N. T. S.



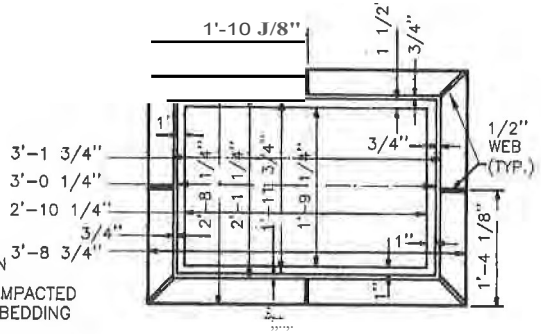
SECTION 8-8

N, T, S.



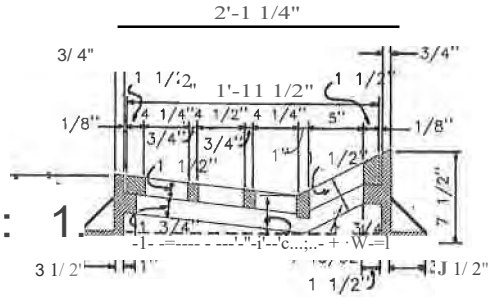
SECTION A–A

N. T. S.



PLAN OF FRAME

N, T, S,



CROSS SECTION OF GRATE FRAME

N. T. S.

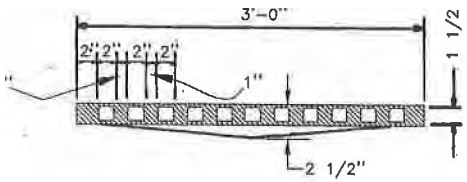
NOTES:

1. INSIDE & OUTSIDE BRIC.K WALLS, BENCHES, & INVERTS TO BE MORTARED WITH WATERPROOFING COMPOUND FOR THICKNESS OF 1/ 4 " IN ACCORDANCE WITH SPECIFICATION.

2, THIS GRATE IS THE SAME AS THE GRATES ON DOUBLE MOUNTABLE CATCH BASIN SHOWN ON OWG. NO. 0- 3431- B.

J . CONCRETE :ro HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.

4. FRAME & GRATE SHALL CONFORM TO EAST JORDAN IRON WORKS, INC. V-4510 GUTTER INLET OR APPROVED EQUAL.



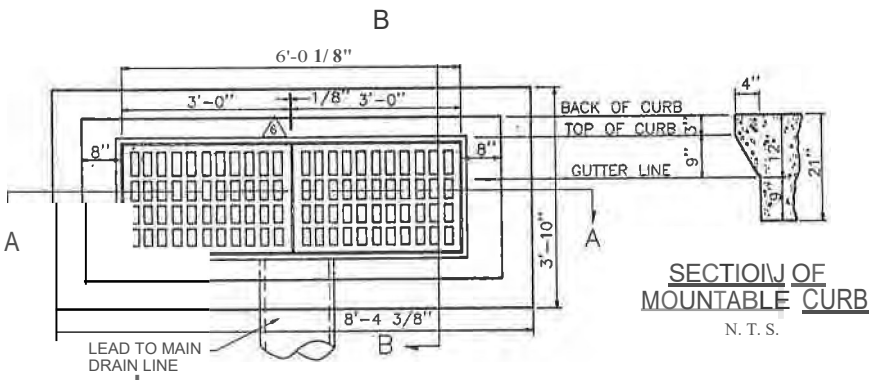
LONGITUDINAL SECTION OF GRATE

N. ,:. S,

SEWERAGE AND WATER BOARD OF NEW ORLEANS

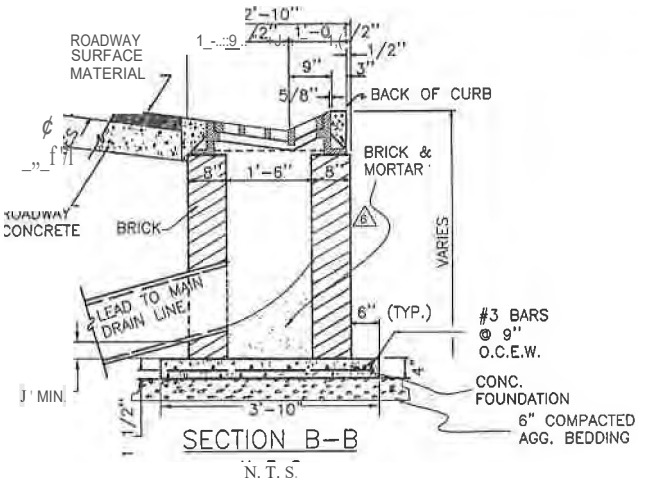
DETAIL OF STANDARD SINGLE MOUNTABLE CATCH BASIN

DWG. NO. D–3431–A

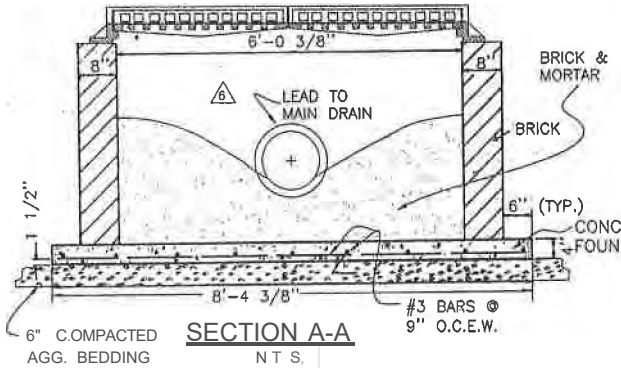


PLAN OF CATCH BASIN
N. T. S.

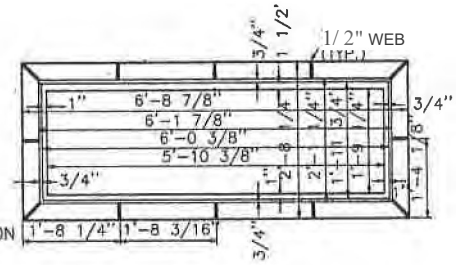
SECTIOIJ OF MOUNTABLE CURB
N. T. S.



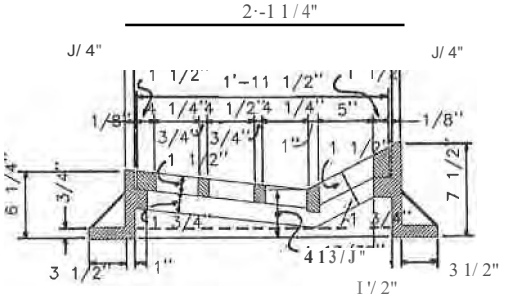
SECTION B–B
N. T. S.



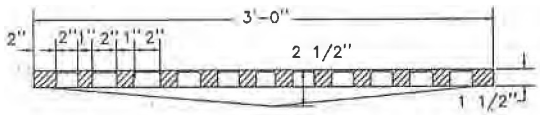
SECTION A-A
N T S,



PLAN OF FRAME
N. T. S.



CROSS SECTION OF GRATE FRAME
N. T. S.



LONGITUDINAL SECTION OF GRATE
N. T. S,

/A NOTES:

I , INSIDE & OUTSIDE OF BRICK WALLS, BENCHES, & INVERTS TO BE MORTARED WITH WATERPROOFING COMPOUND FOR THICKNESS OF 1/ 4" IN ACCORDANCE WITH SPECIFICATIONS.

2. BOTH GRATES ARE THE SAME AS THE GRATE FOR SINGLE MOUNTABLE CATCH BASIN SHOWN ON DWG. NO. D-3431-A.

J. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGH OF 3000 P.S.I. IN 28 DAYS.

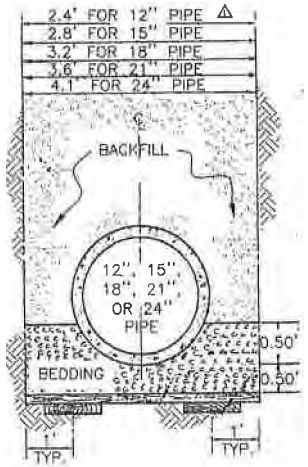
4 . FRAME & GRATE SHALL CONFORM TO EAST JORDAN IRON WORKS, INC, V-4510 GUTTER INLET OR APPROVED EQUAL.

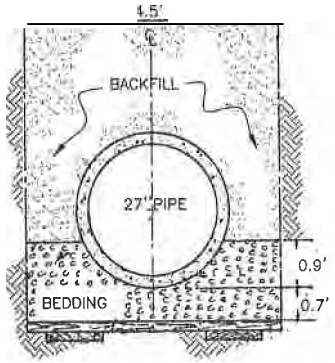
8EWERAI3E AND WATER BOARD
OF NEW OALEAN8

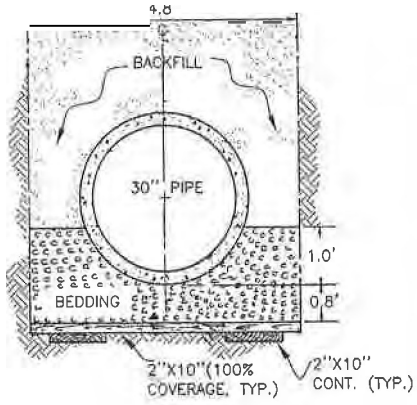
DETAIL OF STANDARD
DOUBLE MOUNTABLE
CATCH BASIN

DR.
TRC.
CK. J.P.
AP.
SCALE AS SHOWN
DATE 8-19-88 SET NO.

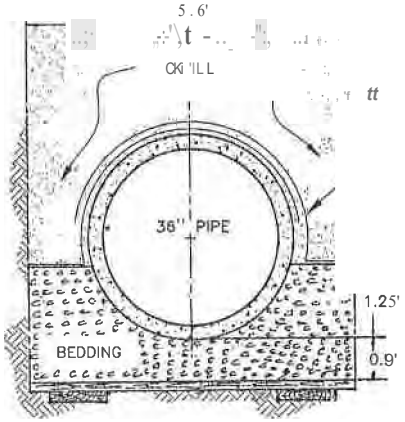
DWG. NO. D-3431-B/6
SHEET NO.



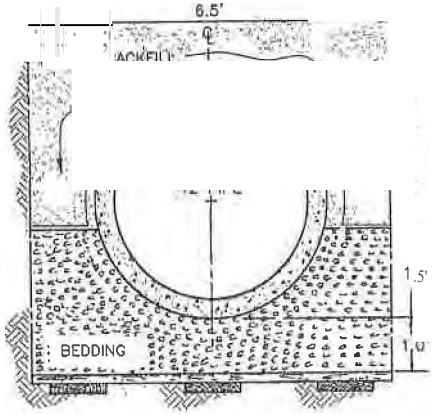




N



FILTER F'ABRIC (IYP.)



& NOTES:

1. SECTIONS TO BE APPLICABLE FOR SIZE PIPE BEING INSTALLED.
2. FOUNDATION LUMBER SHALL CONSIST OF A CONTINUOUS TRANSVERSE LAYER OF 2" BOARDS (MIN. 8" WIDE) ON 2"x1a" SILLS DRIVEN INTO SOIL.
3. BEDDING SHALL BE PUMPED SAND, INSTALLED IN 12" LIFTS AND COMPACTED TO 95% OF MAX. DENSIIY FOR PIPES .36' AND GREATER, BEDDING SHALL BE COMPACTED AGGREGATE.
4. BACKFILL MATERIAL TO BE PUMPED SAND INSTALLED IN 12" LIFTS AND COMPACTED TO 95% OF MAX. DENSIIY.
5. IF THE WORKING SURFACE OF SOIL BENEATH THE PIPE IS CONSIDERED UNACCEPTABLE BY THE S&WB INSPECTOR, THE: SOIL MUST BE REMOVED DOWN TO STABLE AND ACCEPTABLE MATERIAL, AND REPLACED WITH COMPACTED PUMPED SAND.
6. ALL PIPE JOINTS TO BE WRAPPED WITH 2' WIDE FILTER CLOTH WITH .3 FT. MIN. OVERLAP
7. ALL PIPE TO BE RCP CLASS 111 UNLESS OTHERWISE NOTED.

CONCRETE PIPE BEDDING SECTIONS FROM 1 2" TO 4?"

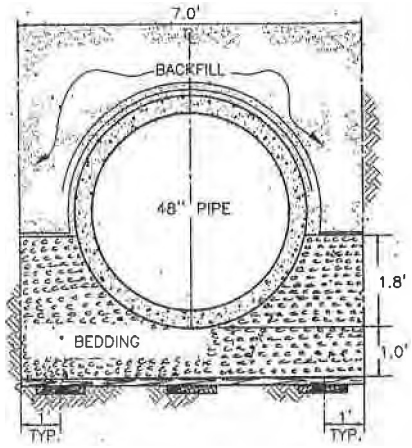
SCALE: N.T.S.

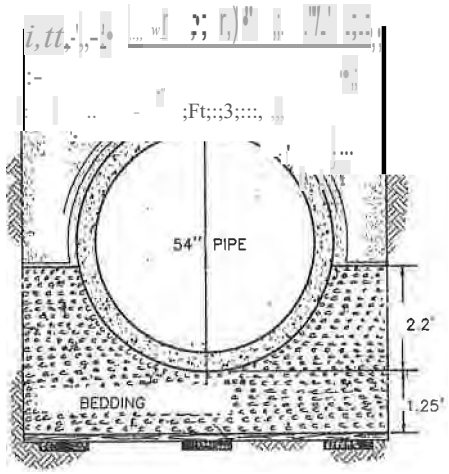
03-09-07	DELETED, REVISED AND ADDED NOTES	D.MC.

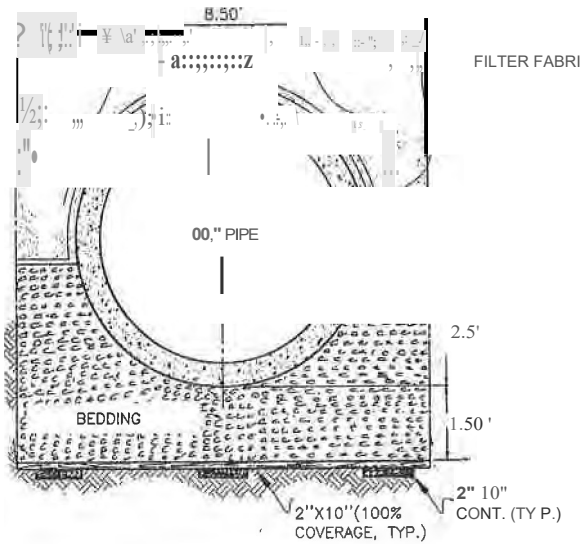
SEWERAGE AND WATER BOARD OF NEW ORLEANS

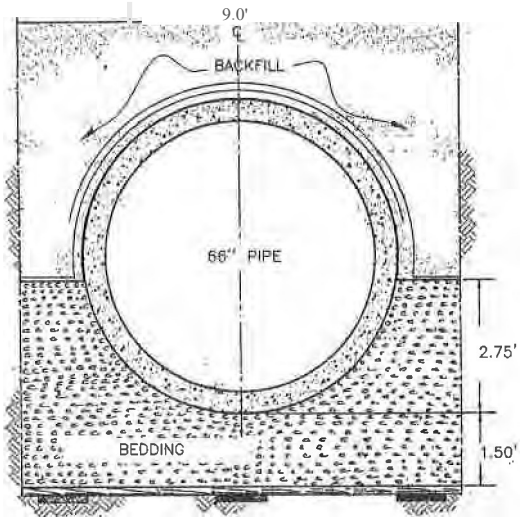
TYPICAL SECTIONS OF COHCRETE P1PE BEDDING fROM 12" TO -42" PIPE

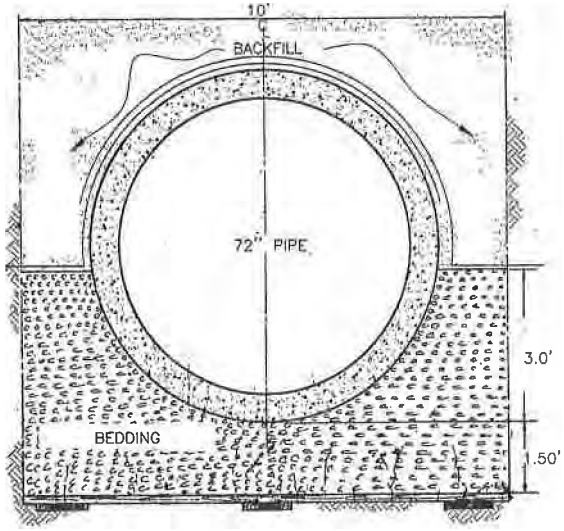
DR. R.P.D
TRC:
CK.
AP.
SCALE GRAPHIC
DATE 11-19-03
DWG. NO. D-3809
SHEET NO. 1 OF 2











£NOTE:

1. SECTIONS TO BE AP BEING INSTALLED. PLICABLE FOR SIZE PIPE
2. FOUNDATION LUMB OF A CONTINUOUS ER SHALL CONSIST. BOARDS (MIN 8" ,,.J; N)SVERSE LAYER OF 2" DRIVEN INTO 'soil. ON 2"x10" SILLS
3. BEDDING SHALL BE COMPACTED AGGREGATE
4. BACKFILL MATERIAL INSTALLED IN 12.. Lio BE PUMPED SANO TO 95% MAX. DENSI ANO COMPACTED
5. IF THE WORKING SUR THE PIPE IS CONSIDE E OF SOIL BENEATH THE S&WB INSPECTOR T UNACCEPTABLE BY REMOVED DOWN T ' HE SOIL MUST BE MAT ERAL, AND REiJ:6 gLEW AND ACCEPTABLE PUMPED SAND. 1TH COMPACTED
6. ALL PIPE JOINTS T WIDE FILTER CLOTHO WtAPPED WITH 2' FT. MIN. OVERLAP
7. ALL PIPE TO BE OTHERWISE NOTEDRCP CLASS III UNLESS

CONCRETE PIPE BEDDING SECTIONS FROM 48" TO 7 2"

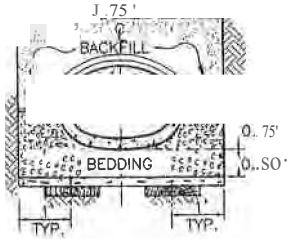
CALE· N.T.S.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

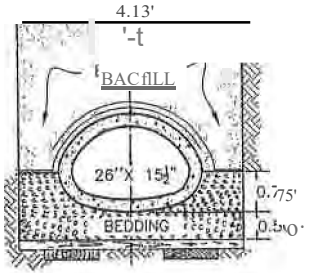
TYPICAL SECTIONS OF CONCRETE PIPE BEDDING FROM 48" TO 72"

DR. R.F.D
TRC.
CK.
AP.
SCALE GRAPHIC
DATE 1-10-84
SHT. NO.

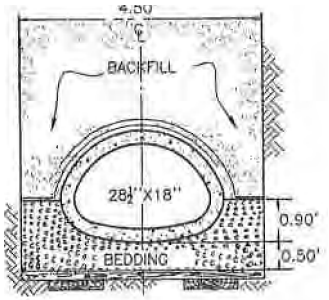
DWG. NO. D-381O



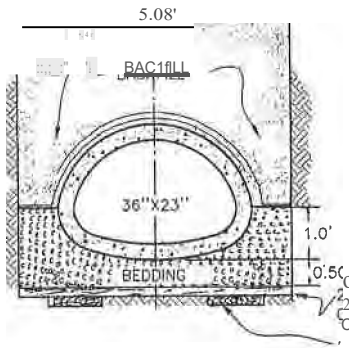
18" EQUIVALENT



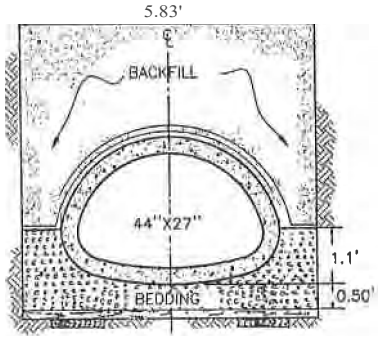
21" EQUIVALENT



24" EQUIVALENT



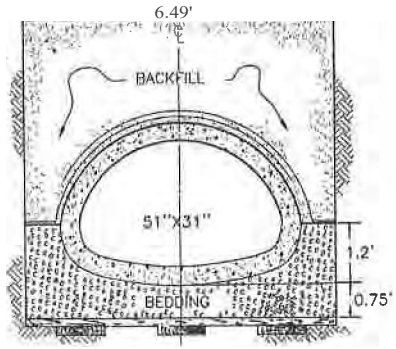
30" EQUIVALENT



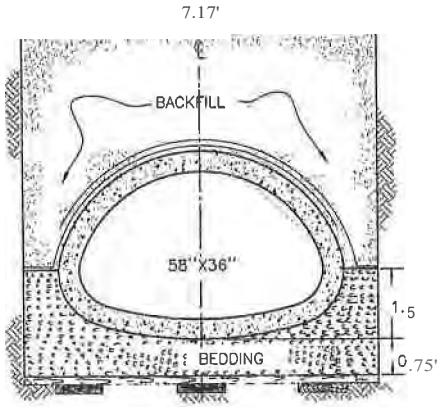
36" EQUIVALENT

&. NOTES:

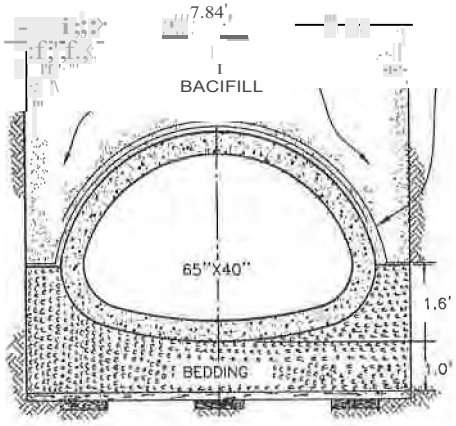
1. SECTIONS TO BE APPLICABLE FOR SIZE PIPE BEING INSTALLED.
2. FOUNDATION LUMBER SI;!ALL CONSIST OF A CONTINUOUS TRANSVERSE LAYER OF 2" BOARDS (MIN. 8" WIDE) ON 2"X1O" SILLS DRIVEN INTO SOIL.
3. BEDDING SHALL BE COMPACTED AGGREGATE.
4. BACKFILL MATERIAL TO BE PUMPED SAND INSTALLED IN 12" LIFTS AND COMPACTED TO 95% OF MAX. DENSITY.
5. IF THE WORKING SURFACE OF SOIL BENEATH THE PIPE IS CONSIDERED UNACCEPTABLE BY THE S&WB INSPECTOR, THE SOIL MUST BE REMOVED DOWN TO STABLE AND ACCEPTABLE MATERIAL, AND REPLACED WITH COMPACTED PUMPED SAND.
6. ALL PIPE JOINTS TO BE WRAPPED WITH 2' WIDE FILTER CLOTH WITH 3 FT. MIN OVERLAP.
7. ALL PIPE TO BE RCP CLASS III UNLESS OTHERWISE NOTED.



42" EQUIVALENT



48" EQUIVALENT



54" EQUIVALENT

FILTER FABRIC (TYP.)

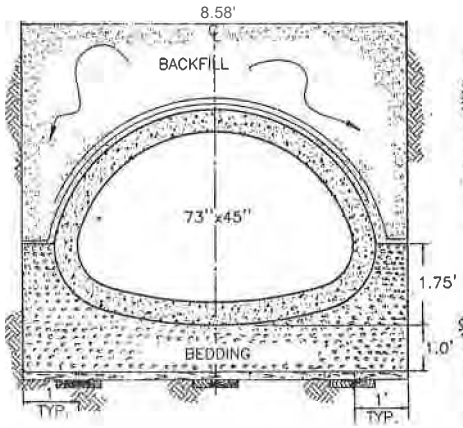
SCALE: N.T.S

SEWERAGE AND WATER BOARD OF NEW ORLEANS

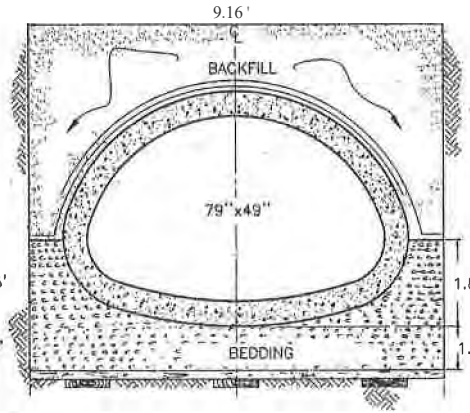
TYPICAL SECTIONS Of REINFORCEO CONCRETE ARCH PIPE BEOOINO fROI.4 22"X1J 1/2" TO 65"X40"

DWG. NO. D-3933

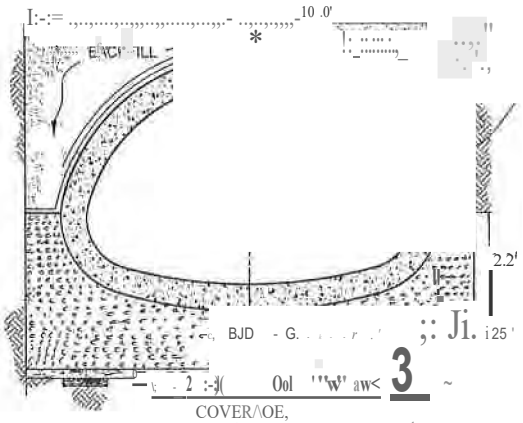
CONCRFTE PIPF BEDDING SECTIONS FROM ?2"X13 1/2" TO 65"X40"



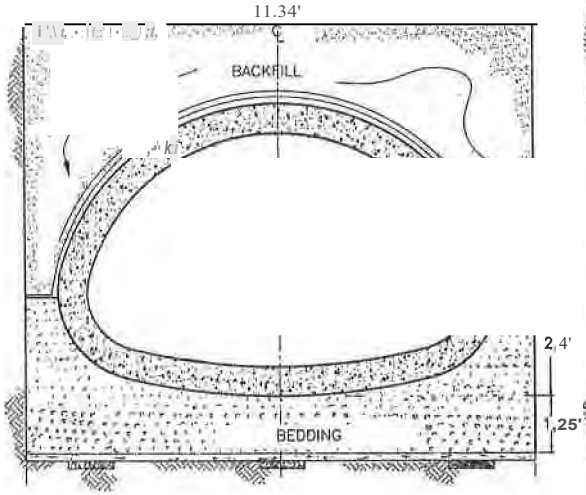
60" EQUIVALENT



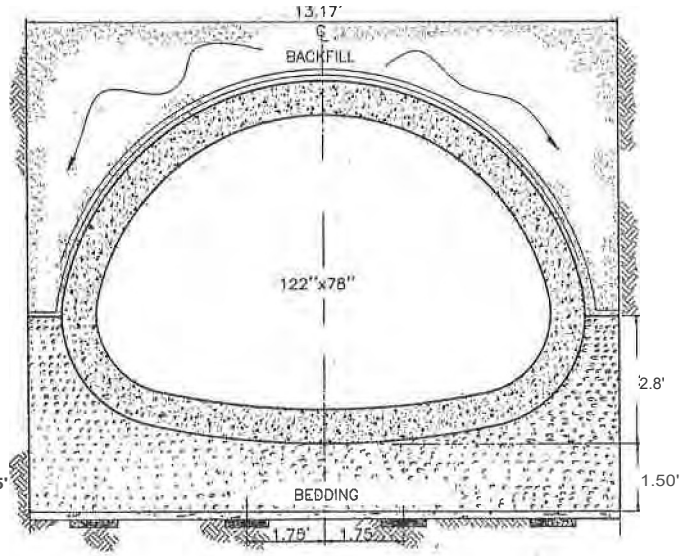
66" EQUIVALENT



72" EQUIVALENT CONT. (TYP.)



84" EQUIVALENT



96" EQUIVALENT

&NOTES:

1. SECTIONS TO BE APPLICABLE FOR SIZE PIPE BEING INSTALLED.
2. FOUNDATION LUMBER SHALL CONSIST OF A CONTINUOUS TRANSVERSE LAYER OF 2" BOARDS (MIN. 8" WIDE) ON 2"X10" SILLS DRIVEN INTO SOIL.
3. . BEDDING SHALL BE COMPACTED AGGREGATE.
4. BACKFILL MATERIAL TO BE PUMPED SAND INSTALLED IN 12" LIFTS AND COMPACTED TO 95% OF MAX. DENSITY.
5. IF THE WORKING SURFACE OF SOIL BENEATH THE PIPE IS CONSIDERED UNACCEPTABLE BY THE S&WB INSPECTOR, THE SOIL MUST BE REMOVED DOWN TO STABLE AND ACCEPTABLE MATERIAL, AND REPLACED WITH COMPACTED PUMPED SAND.
6. ALL PIPE JOINTS TO BE WRAPPED WITH 2' WIDE FILTER CLOTfj WITH 3 FT. MIN. OVERLAP.
7. ALL PIPE TO BE RCP CLASS III UNLESS OTHERWISE NOTED.

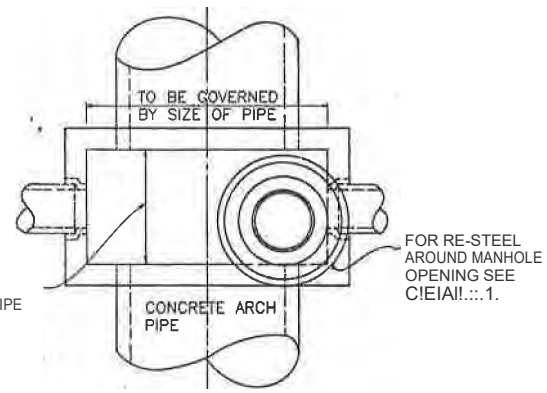
CONCRETE PIPE BEDDING SECTIONS FROM 73 " X45" TO 122" X78 "

SCALE: N.T.S.

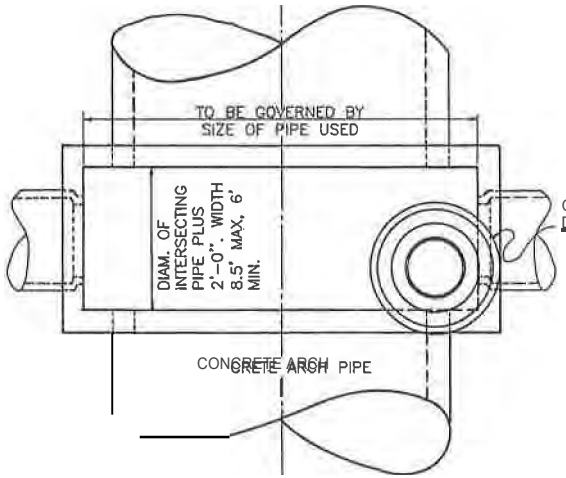
SEWERAGE AND WATER BOARD OF NEW ORLEANS

TYPICAL SECTIONS OF RONFORCED CONCRETE ARCH PIPE BEDDING (FROM 7J" X 45" TO 122" X 78")

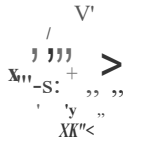
DWG. NO. D-3934



PLAN VtEW



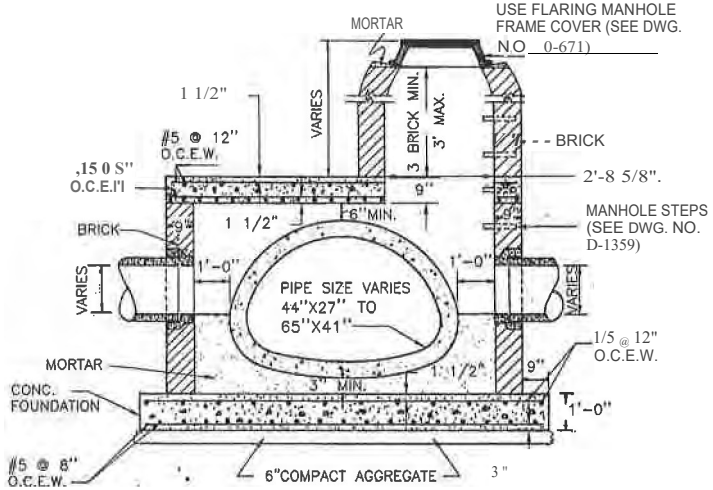
PLAN VIEW



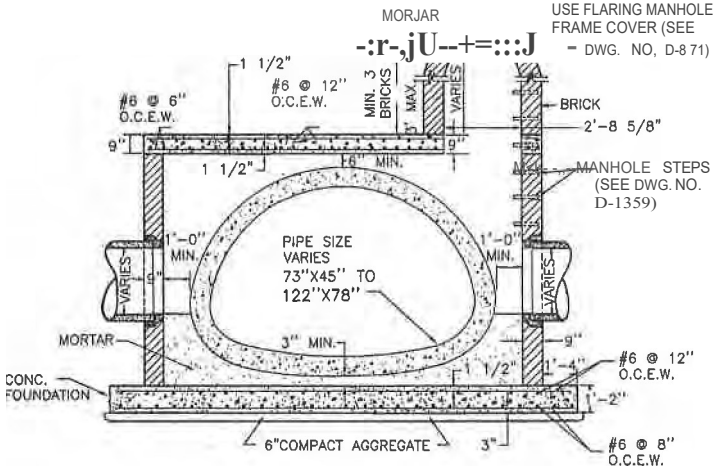
DETAIL-1

&NOTES:

1. FOR ARCH PIPE SIZES SMALLER THAN SHOWN ON THIS DRAWING, USE STANDARD ROUND MANHOLE AS INDICATED ON DWG. NO. D-870.
2. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.
3. INSIDE & OUTSIDE BRICK WALLS, BENCHES, & INVERTS TO BE MORTARED WITH WATERPROOFING COMPOUND FOR THICKNESS OF 1/ 4" IN ACCORDANCE WITH SPECIFICATIOJI



SECTION VIEW



SECTION VIEW

SCALE: N.T.S.

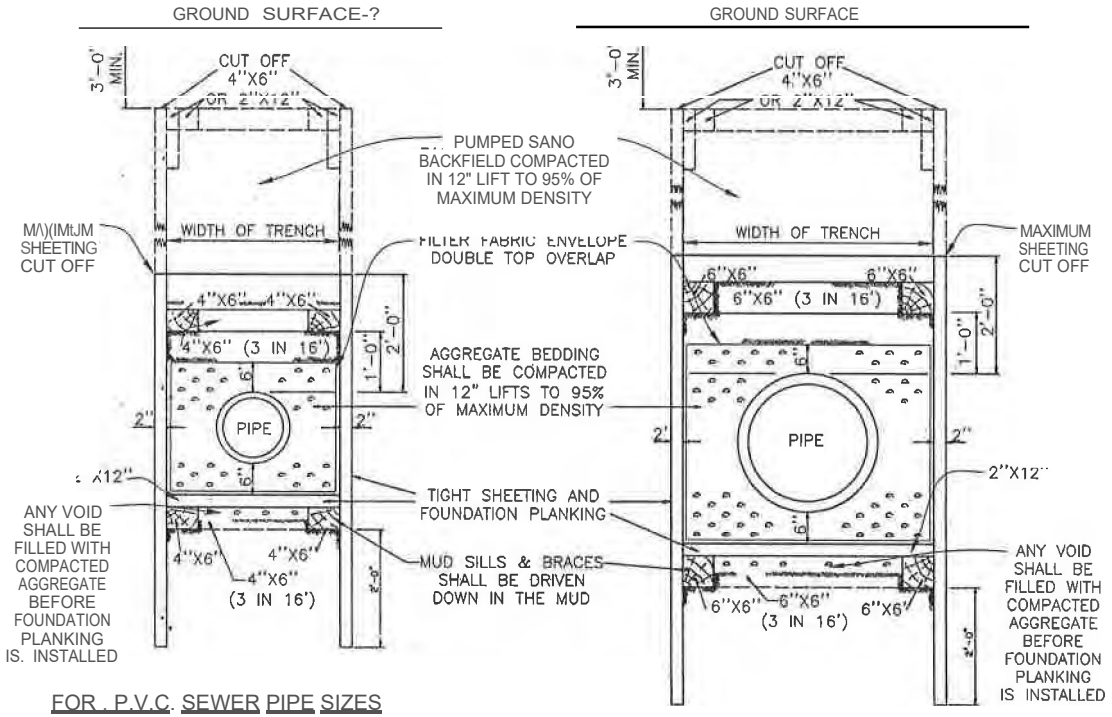
REV.	DATE	DESCRIPTION	BY
4	03-09-07	DELETED, REVISED AND ADDED NOTES	D.M.C.
3	7-11-80	GENERAL REVISION	R.L.L.
1	10-7-76	REV. DET. SMALLER M.H.	J.L.P.

SEWERAG OF NEW ORLEANS ARD

DETAIL OF STANDARD MANHOLES FOR LARGE CONCRETE ARCH PIPE

DR. R.P.D
THC.
CK.
APP.
SCALE GRAPHIC
DATE 11-10-66

DWG. NO. D-3937
SET NO.
SHEET NO.

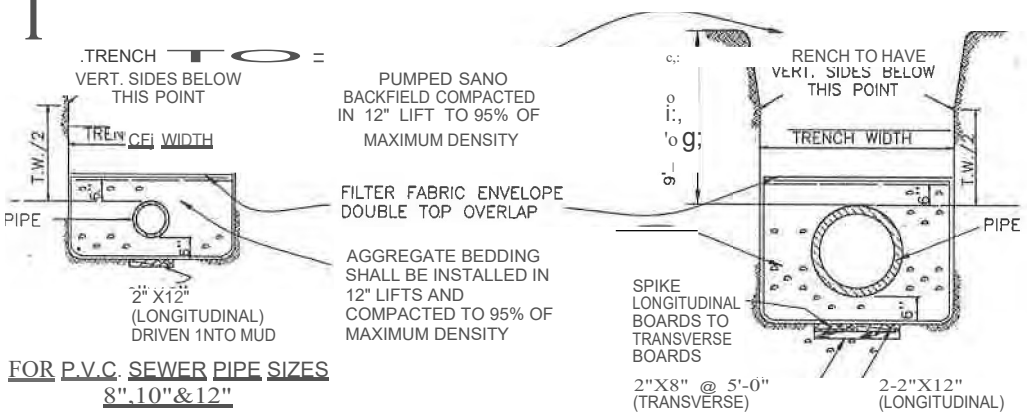


FOR P.V.C. SEWER PIPE SIZES 8".10".12".15"&18"

FOR P.V.C. SEWER PIPE SIZES 21".24"& 27"

TYPICAL STANDARD SHEETING TRENCH SECTION

N. T. S.



FOR P.V.C. SEWER PIPE SIZES 8",10"&12"

TYPICAL NON-STANDARD OPEN TRENCH SECTION

N. T. S.

FOR P.V.C. SEWER PIPE SIZES 15" .18".21 ".24"&27"

NOTES

1. CONTRACTOR SHALL USE STANDARD SHEETING, BRACING AND FOUNDATION LUMBER AS SHOWN ON THIS DRAWING FOR THE FOILOWING CONDITIONS:
   a. WHEN THE COVER OVER THE PIPE EXCEEDS NINE (9) FEET
   b. WHEN IN THE OPINION OF THE S&WB ENGINEER, TRENCH CONDITIONS DICTATE THAT STANDARD SHEETING BRACING AND FOUNDATION LUMBER ARE REQUIRED.
2. WHEN STANDARD SHEETING, BRACING AND FOUNDATION LUMBER ARE NOT REQUIRED, THE NONSTANDARD OPEN TRENCH SECTION SHOWN ON THIS DRAWING SHALL BE USED.
3. ANY SHEETING AND BRACING SHOWN ON THIS DRAWING IS INTENDED FOR PROTECTION OF THE PIPE, AFTER INSTALLATION IS COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN AND IMPLEMENTATION FOR ANY SHEETING AND/OR BRACING REQUIRED FOR THE SAFETY OF HIS EMPLOYEES AND TO PROTECT HIS OPERATIONS DURING CONSTRUCTION.
4. ANY ADDITIONAL SHEETING DRIVEN BELOW THE "MAXIMUM SHEETING CUTOFF" SHOWN ON THE DRAWING MUST BE LEFT IN PLACE.
5. . STANDARD SHEETING AND BRACING SHALL BE INSTALLED BY FIRST DRIVING THE WOOD SHEETING. THEN THE MUD SILLS SHALL BE DRIVEN INTO THE SOIL, PROPERLY BRACED, AND ALL VOIDS FILLED WITH COMPACTED AGGREGATE BEFORE FOUNDATION LUMBER PLANKING IS INSTALLED. THE STANDARD BOTTOM SHALL NOT BE INSTALLED AS A PREFABRICATED BOX.
6. MAXIMUM TRENCH WIDTH ALLOWED SHALL BE FOUR FEET FOR 8" AND 1O" PIPE. FOR LARGER DIAMETER PIPE, THE MAXIMUM TRENCH WIDTH ALLOWED SHALL BE THREE FEET PLUS THE OUTSIDE DIAMETER OF THE PIPE.
7. IF THE WORKING SURFACE OF SOIL BENEATH THE PIPE IS CONSIDERED UNACCEPTABLE, BY THE S&WB ENGINEER, THE SOIL MUST BE REMOVED DOWN TO STABLE AND ACCEPTABLE MATERIAL, AND REPLACED WITH COMPACTED PUMPED SAND.
8. THE CONTRACTOR SHALL NOT USE NAILS OR SPIKES TO HOLD SHEETING OR BRACING BELOW PIPE.

REV.	DATE	DESCRIPTION
A	03-09-07	GENERAL REVISIONS
B	5-18-84	DWG. UPDATED

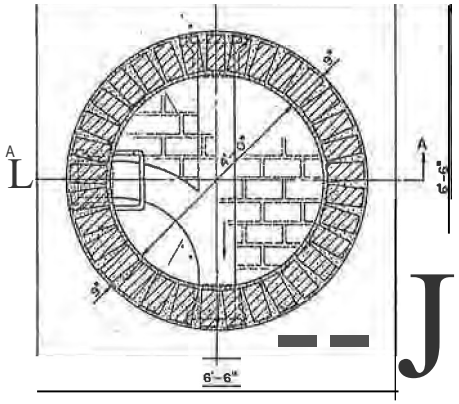
SEWERAGE D WATER BOARD OF NEW ORLEANS

TYPICAL STANDARD ANO NON STANDARD SHErTING AND OPEN TRENCH SECTIONS FOR SEWER PIPE INSTALLATION

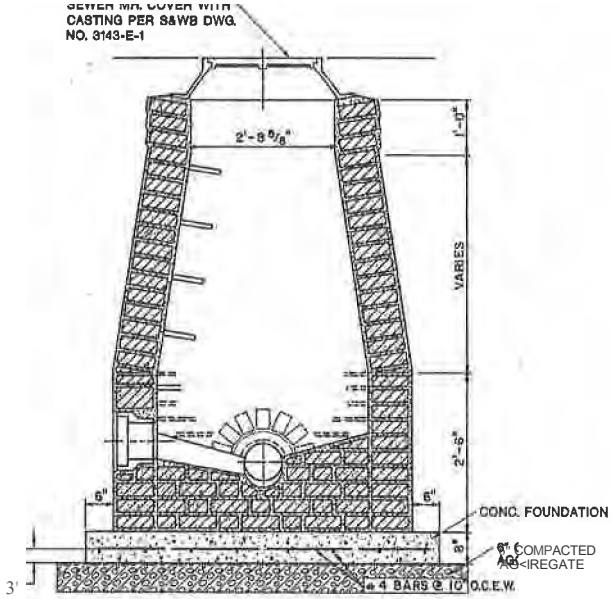
SCALE NONE

DWG. NO. 4697-E5-A

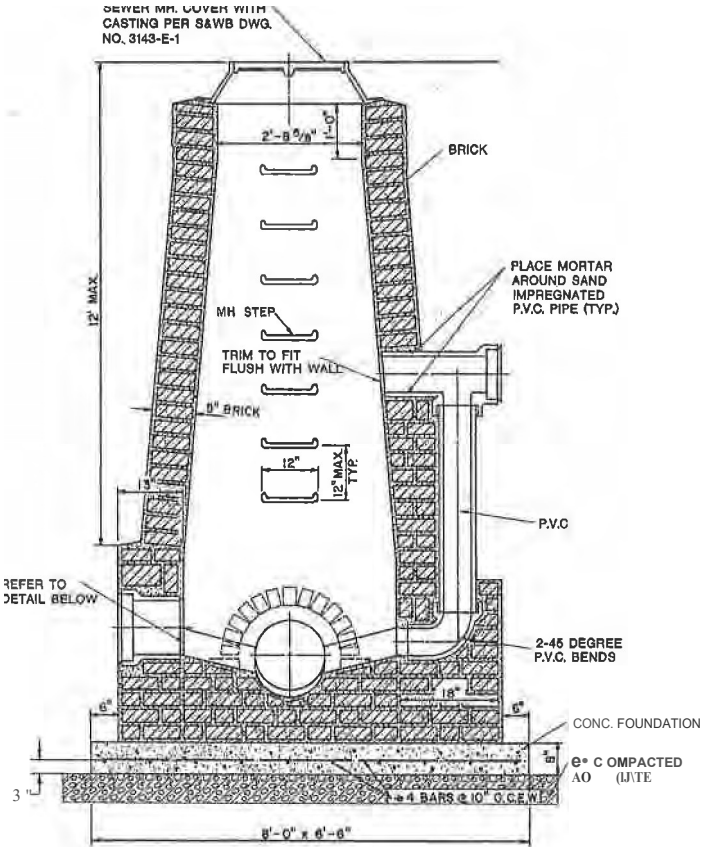
SHEET NO.



.llA.ti

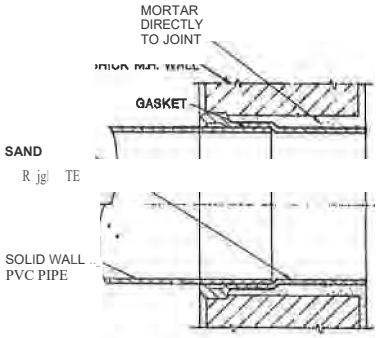


SECTION A-A
TYPICAL



SECTION OF SEWER DROP MANHOLE

N. T. S.



BRICK WALL DETAIL

N. T. S.

NOTES:

1, MANHOLE WALL TH.ICKNESS IS 9" TO A DEPTH OF 12' AND 13" THICK BELOW 12' DEPTH.

2. MANHOLES THAT EXCEED 17' IN DEPTH SHALL USE A 1O" CONCRETE SLAB IN LIEU OF AN 8" CONCRETE SLAB.

3. SEWER MANHOLE WALLS SHALL BE MADE ADEQUATELY RESISTANT TO HARSH AGGRESSIVE CHEMICALS BY EITHER AN APPROVED CONCRETE BATCH ADDITIVE OR PROTECTIVE WATERPROOFING COMPOUND.

4. , A DROP CONNECTION SHALL BE CONSTRUCTED WHERE THE INFLOW INVERTS ARE 18" OR MORE ABOVE THE OUTFLOW IN VERTS.

5. REFERENCE DWG. NO. D-1359 FOR STEPS.

6. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.

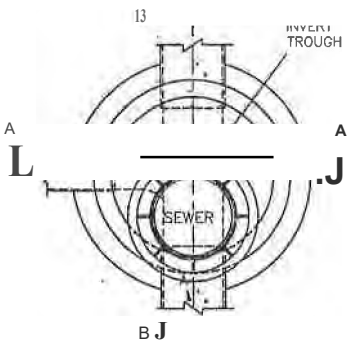
SCALE: N.T.S.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

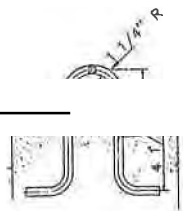
TYPICAL SEWER BRICK MANHOLE AND DROP MANHOLE

DR.	D. McCRAY
DES.	
CK.	M. JOHNSON
APP.	J. MECKER
SCALE	NONE
DATE	03-03-01

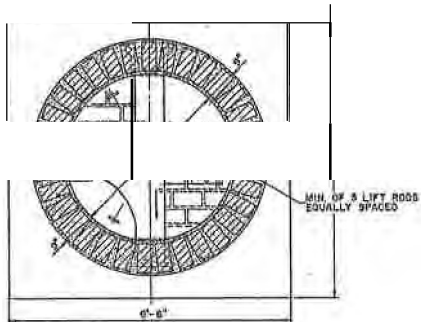
DWG. NO. 6178-B-6



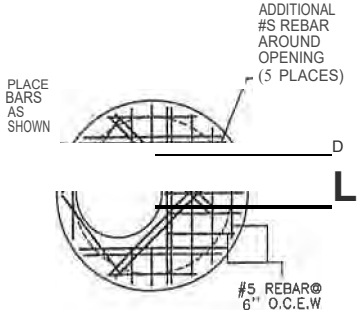
PL.AN VIEW



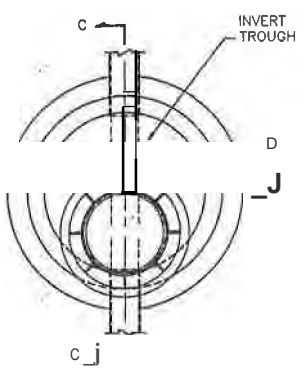
LIFTING EYE DETAIL



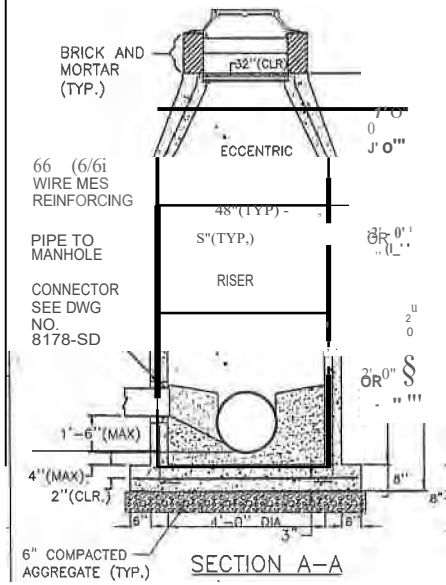
PL.AN OF MANHOLE TROUGH



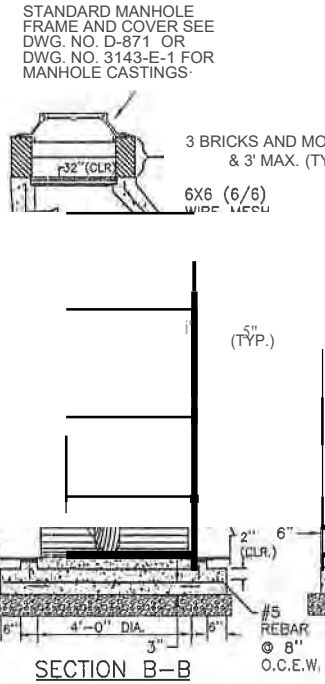
CONCRETE TOP SLAB PL.AN



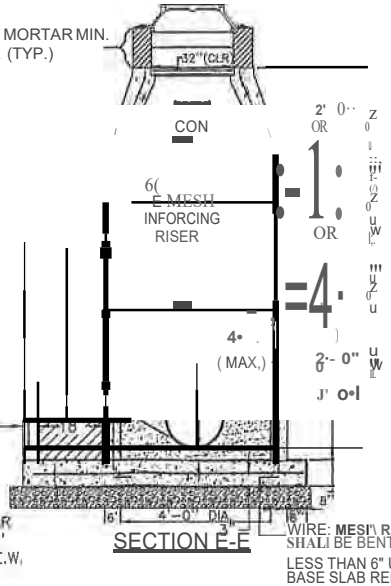
PL.AN VIEW



SECTION A–A



SECTION B–B



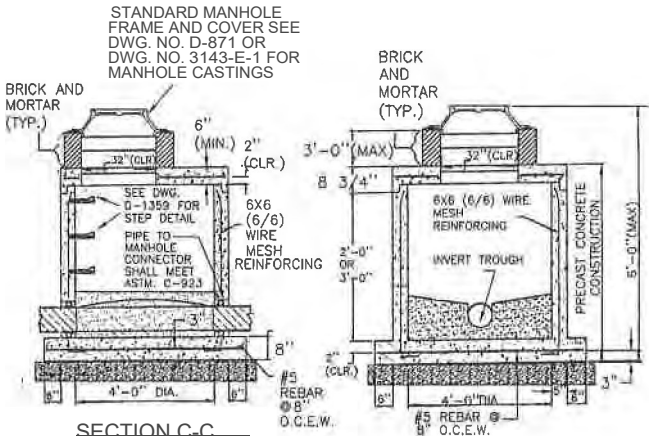
SECTION E-E

WIRE: MESH SHALL BE BENT NOT LESS THAN 6" UNDER BASE SLAB REINF.

STANDARD MANHOLE DETAIL

STANDARD DROP MANHOLE DFTAIL

SCALE· N.T.S.



SECTION C-C

SECTION D-D

NOTES:

1. REINFORCING STEEL TO MEET A.S.T.M. A-615 GRADE 60. CONCRETE TO BE 4000 P.S.I. IN 28 DAYS, TYPE II CEMENT, REINFORCING TO MEET A.A.S.H.O. HD-40.
2. JOINTS BETWEEN PRECAST UNITS WILL BE SEALED WITH A RUBBER GASKET TO MEET A.S.T.M. C-443.
3. PRECAST CONCRETE STRUCTURE TO MEET A.S.T.M. C-478.
4. 6" -15" PIPE, USE RESILIENT BOOT CONNECTOR
5. 16" OR LARGER PIPE, USE MIN. 2" NON-SHRINK GROUT.
6. MANHOLES THAT EXCEED 17' IN DEPTH SHALL USE A 1 O" THICK BASE IN LIEU OF AN 8" THICK BASE.
7. SEWER MANHOLE WALLS SHALL BE MADE ADEQUATELY RESISTANT TO HARSH AGGRESSIVE CHEMICALS BY EITHER AN APPROVED CONCRETE BATCH ADDITIVE OR PROTECTIVE WATERPROOFING COMPOUND.
8. A DROP CONNECTION SHALL BE CONSTRUCTED WHERE THE INFLOW INVERTS ARE 18" OR MORE ABOVE THE OUTFLOW INVERTS.
9. REFERENCE DWG. NO. D-1359 FOR STEPS.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

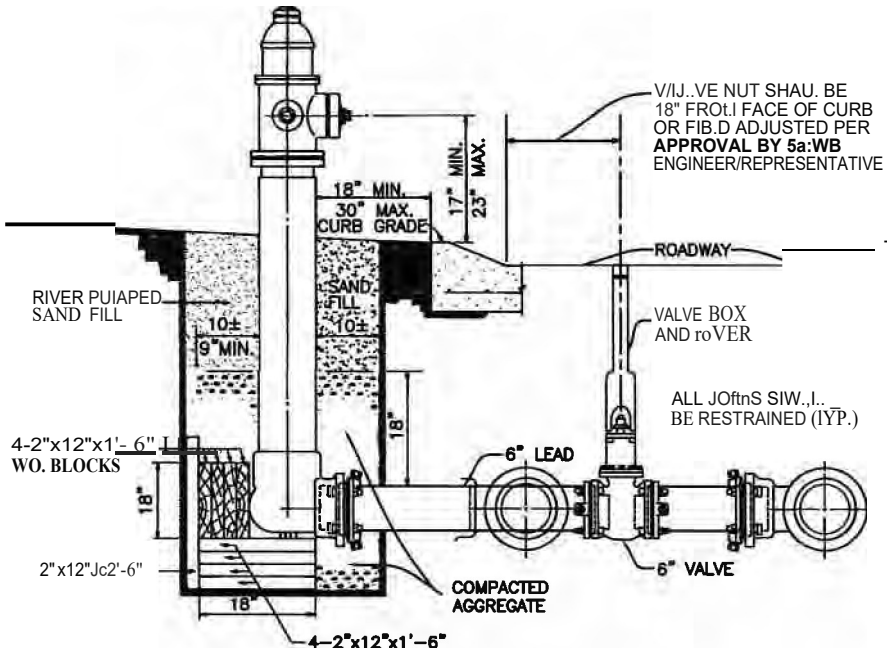
TYPICAL PRE-CAST CONCRETE MANHOLE

DES. R. D. McCRAY
TRC.
CK. M. JOHNSON
AP. J. BECKER
SCALE NONE
DATE 03-09-07

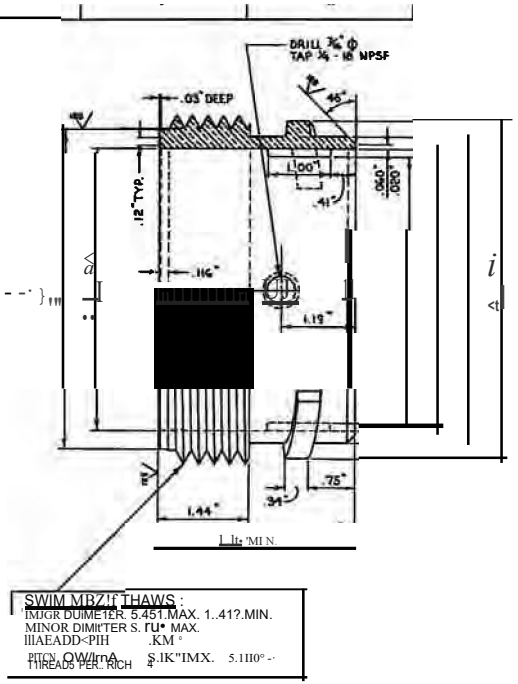
GENERAL SUPERINTENDENT

DWG. NO. 6178-B-6A

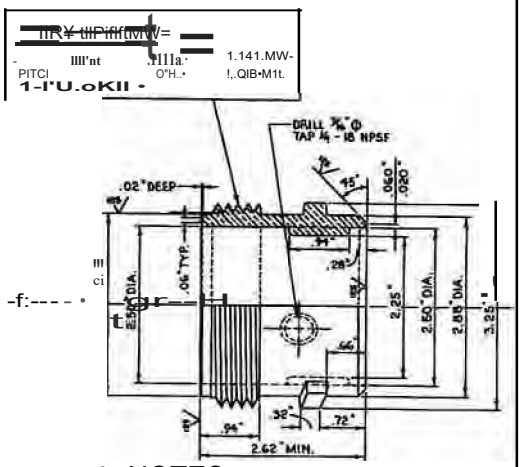
SET NO. SHEET NO.



lYPICAL HYDRANT SffilNG
N. T. S.

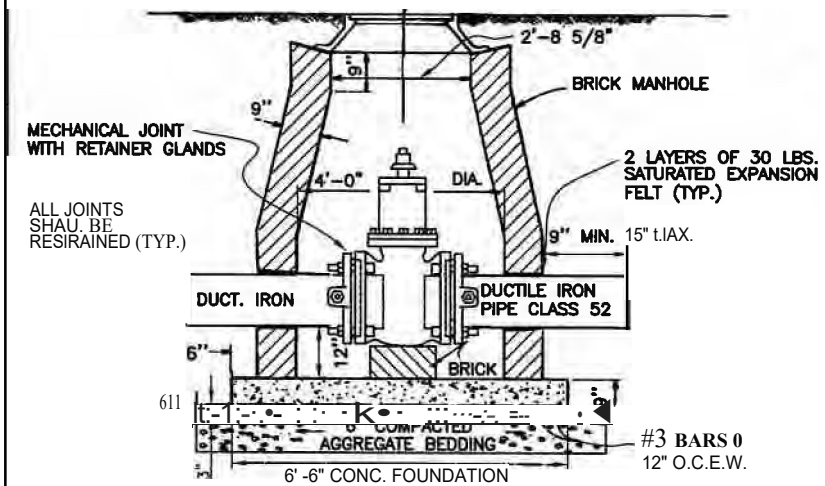


SWIM MBZlf THAWS :
IMJGR DUIMETER. 5.451.MAX. 1..41?.MIN.
MINOR DIMI"TER S. I'U• MAX.
lllAEADD<PIH .KM °
PITCN OW/lmA S.IK"IMX. 5.1II0° -·
THREADS PER. INCH

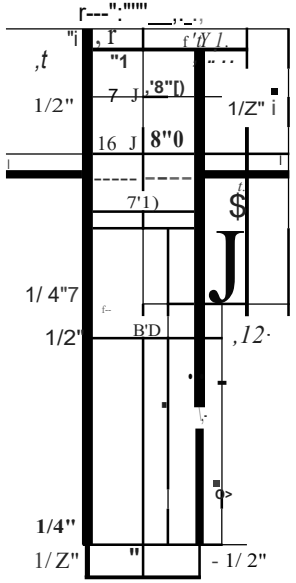


.&. NOTES:

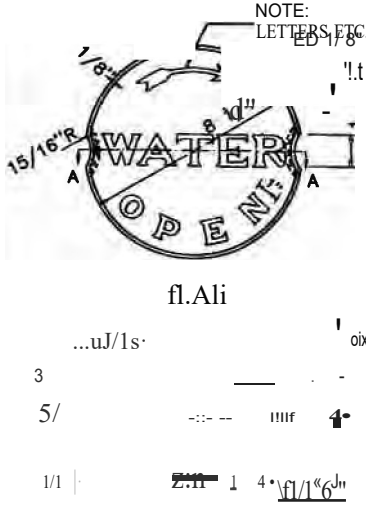
1. f - t.IACHINED SURFACE
2. INSIDE &: OUTSIDE OF BRICK WAI.LS, BENCHES & INIIERIS TO BE t.IORTARED WITH WATERPROOFING COMPOUND THICKNESS OF 1/4" IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
3. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.
4. VALVES 4" TO 12• SHAU. BE 5a:WB R.O. WOOO GATE VALVES (SEE 5a:WB DWG. NO. 11 897- W- 62) QR AMERICAN R.D. ROTATING GATE DISC VAL.Ve. C 500. VALVES 16" AND LARGER SHAU. BE AMERICAN R/D GATE VALVES.
5. HYDRANTS SHAU. BE 5" BREAKAWAY FIRE HYDRANT BRONZE TRIM (SEE S&WB DWG. NO. 11825-W-82), 5 1/4" AMERICAN DARLING FIRE HYDRANT 8-62-8, S&:WB MUELLER HYDRANT A473 OR K81D GUARDIAN HYDRANT: KENNEDY VALVE (DWG NO. 80783 NOLA).
6. ALL JOINTS SHAU. BE RESIRAINED.
7. VALVE BOX FRAME & COVER SHAU. CONFORM TO EAST JORDAN IRON WORKS, INC. V-8451 VALVE BOX FRAME AND COVER 08 EQUAL



£ WATER VALVE MANHOLE
(FOR SIZES 4" THRU 12")
N. T. S.



SECTION OF VALVE BOX
(FOR USE WITH METER VAULTS ONLY)
N. T. S.



SECTION A-A
VALVE BOX COVER
N. T. S.

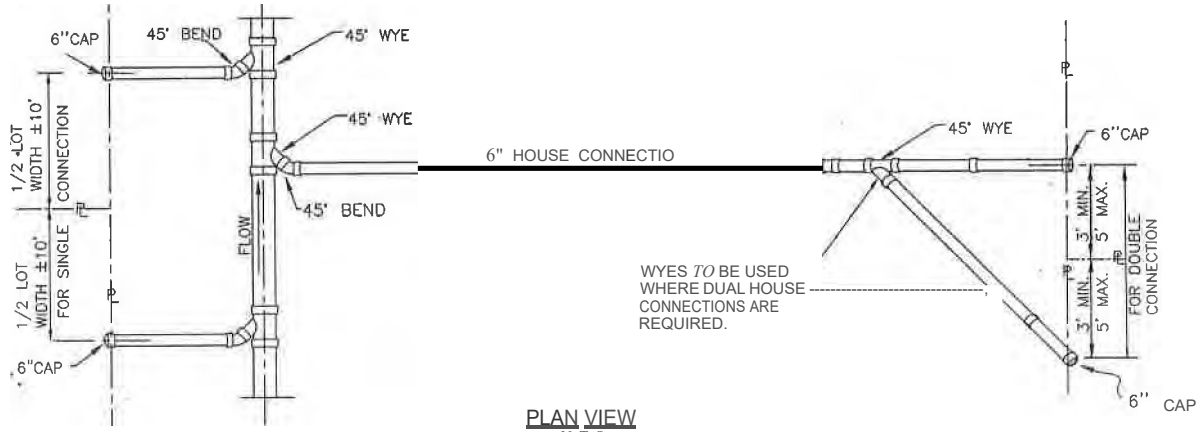
SOERAGE NO WATER BOARD
OF NEW ORLEANS

H'IIIWITSEJIIIO.CDM.SOFW.W:

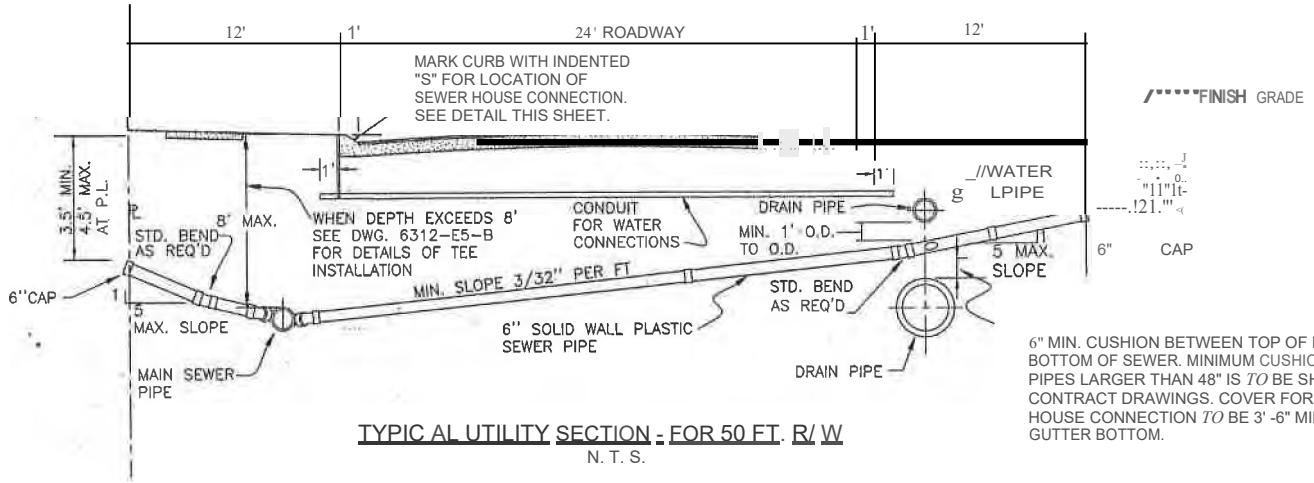
DWG. NO. 6179-F-2

NOTES:

1. THE LOCATION OF THE SEWER SERVICE CONNECTIONS SHALL BE IMPRINTED IN THE CURB WITH AN "S". (SEE DETAIL)
2. THE USE OF DOUBLE WYES ARE NOT ALLOWED.



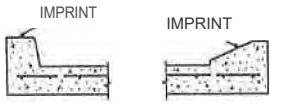
PLAN VIEW
N. T. S.



TYPIC AL UTILITY SECTION - FOR 50 FT. R/ W
N. T. S.

6" MIN. CUSHION BETWEEN TOP OF DRAIN AND BOTTOM OF SEWER. MINIMUM CUSHION FOR DRAIN PIPES LARGER THAN 48" IS *TO* BE SHOWN ON CONTRACT DRAWINGS. COVER FOR 6" SEWER HOUSE CONNECTION *TO* BE 3' -6" MIN. AT GUTTER BOTTOM.

LETTER "S" *TO* BE 1/4" DEEP



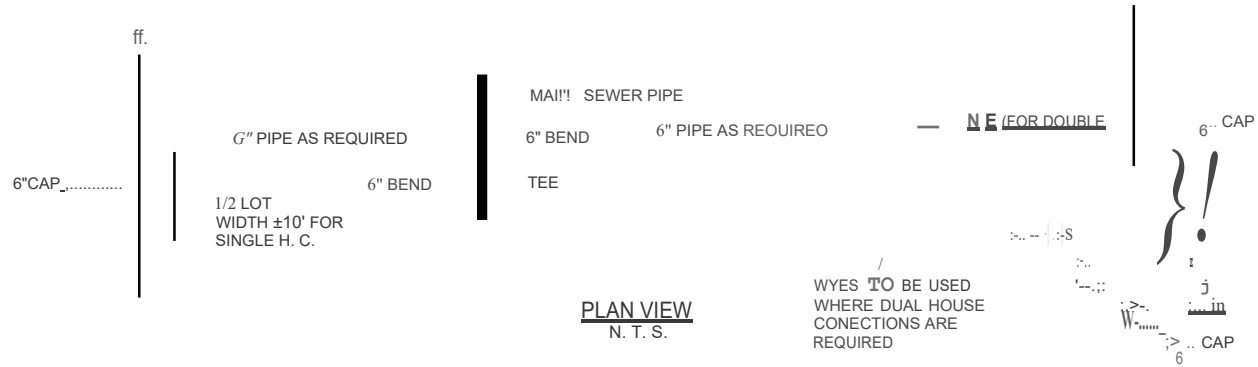
DETAIL OF SEWER LETTERS TO BE IMPRINTED IN CURB
N. T. S.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

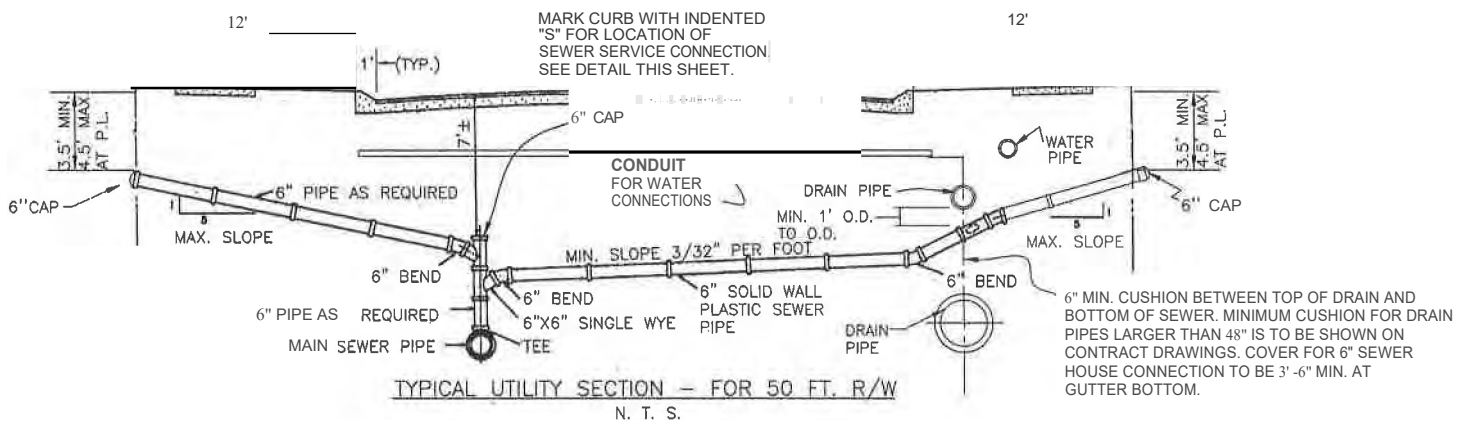
TYPICAL SEWER SERVICE CONNECTION FOR SEWER MAIN LESS THAN OR EQUAL TO 8' OECP

DR. D. McCRAY
CH. M. JOHNSON
AP. J. RECKER
SCALE NONE
DATE 03-09-07

DWG. NO. 6312- ES- A

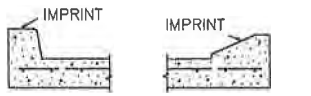


PLAN VIEW
N. T. S.



TYPICAL UTILITY SECTION – FOR 50 FT. R/W
N. T. S.

LETTER "S" TO BE 1/4" DEEP



DETAIL OF SEWER LETTERS
TO BE IMPRINTED IN CURB
N. T. S.

NOTES:

1. THE LOCATION OF THE SEWER SERVICE CONNECTIONS SHALL BE IMPRINTED IN THE CURB WITH AN "S". (SEE DETAIL)
2. FOR SEWER MAIN INSTALLATION SEE S&WB DWG. NO. 4697-E-5-A.
3. THE USE OF DOUBLE WYES ARE NOT ALLOWED.

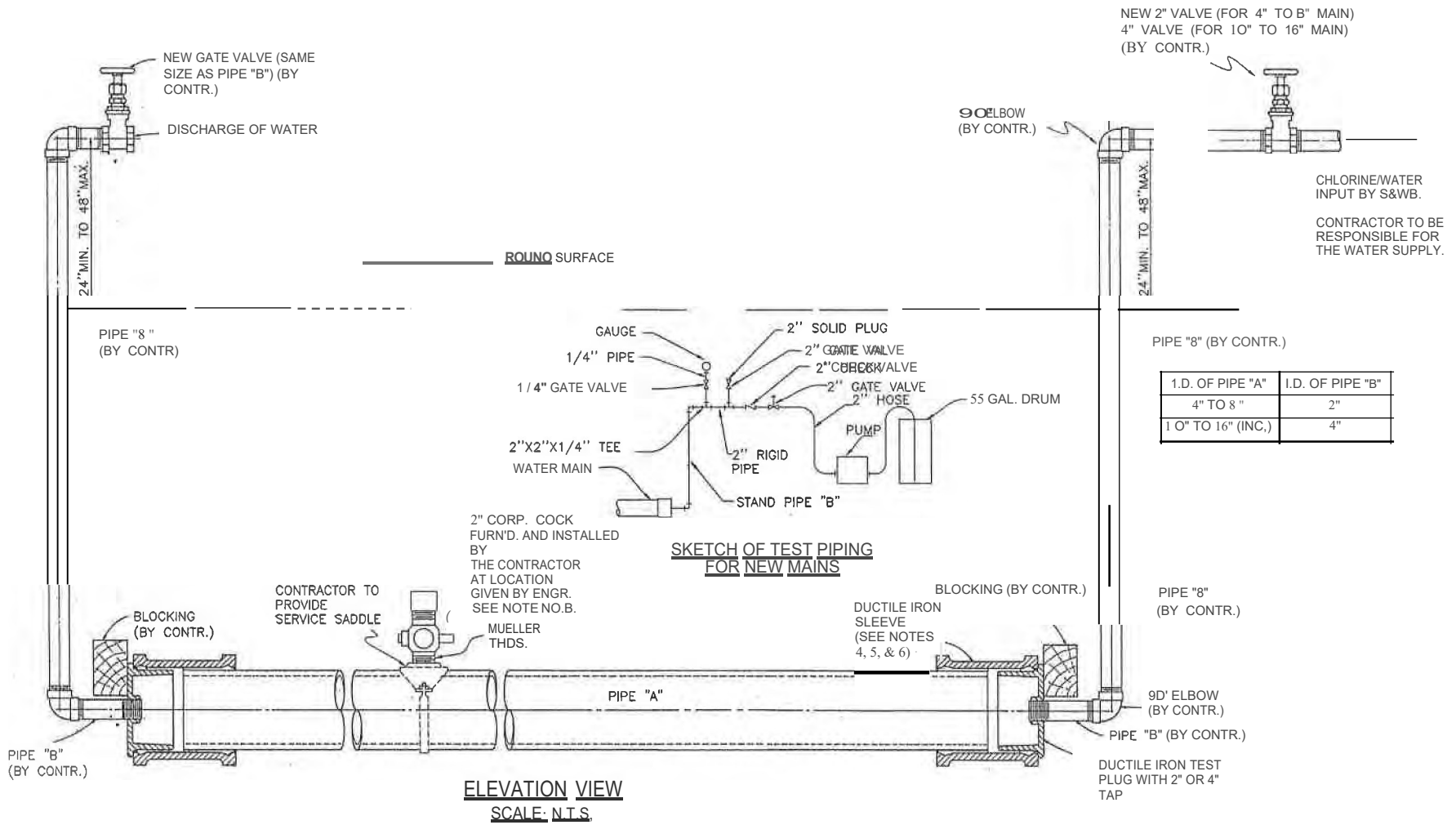
SEWERAGE AND WATER BOARD OF NEW ORLEANS

TYPICAL SEWER SERVICE
CONNECTION F'OR SEWER MAIN GREATER
THAN 8' DEEP

DR.	D. McCRAY
TRC.	
CK.	M. JOHNSON
AP.	J. BECKER
SCALE	NONE
DATE	03-09-07

Mr.-

DWG. NO. 6312-E5-B



I.D. OF PIPE "A"	I.D. OF PIPE "B"
4" TO 8 "	2"
1 O" TO 16" (INC.)	4"

NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING:
   a. 2" MIN. TEMPORARY WATER SUPPLY, (4" SUPPLY ON 10" TO 16")
   b. ALL PIPE, VALVES, AND FITTINGS TO THE TEST PLUG AT THE MAIN AS SHOWN,
   c. 2" CORP. COCK FOR INJECTION OF CHLORINE IN 16" MAINS ONLY.
   d. TEMPORARY STAND PIPES ON ALL VENT COCKS IN THE SYSTEM EXTENDING 2' TO 4' ABOVE GRADE AND TERMINATING WITH AN ELBOW AND VALVE.

2 PIPE "8" AND ALL FITTINGS CONNECTING TO PIPE "8" SHALL BE STAINLESS STEEL OR NEW GALV. IRON.

3. THE CONTRACTOR SHALL OPEN AND CLOSE ALL VALVES TOEXPEL THE AIR AND SHALL REMOVE THE VENT PIPES AND CLOSE THE COCKS WHEN NOTIFIED BY THE S&WB ENGINEER.

4. FOR DUCTILE IRON PIPE, USE DUCTILE IRON SLEEVE AND TAP PLUG (2" OR 4" AS SHOWN) OR FITTINGS AS SPECIFIED FOR P.V.C. PIPE.

5. FOR P.V.C. PIPE USE A DUCTILE IRON CAP WITH RUBBER RING GASKET, FOLLOWER GLAND, NUTS, AND BOLTS.

6, ALL MATERIALS AND LABOR REQUIRED FOR PRESSURE TEST, TO BE FURNISHED BY CONTRACTOR.

7. THE CONTRACTOR SHALL USE 2" MUELLER H-10003 CORPORATION COCK OR APPROVED EQUAL.

8. ON COMPLETION OF THE CHLORINATION PROCESS AND AT MAKING OF TIE-INS, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY PIPING, DISHED HEADS, SLEEVES, PLUGS, VALVES, ETC. WHICH SHALL REMAIN THE CONTRACTOR'S PROPERTY EXCEPT WHERE NOTED ON CONTRACT DRAWINGS.

3	03-06-07	REVISED NOTES AND DRAWING
2	6-27-96	NOTE NO. 8 - REDUCER
1	4-3-87	ALTERNATE TEST PIPING

SEWERAGE AND WATER BOARD OF NEW ORLEANS

TEST CONNECTION ON NEW WATER MAINS (4" TO 16"), FLUSHING AND CHLORINATION

DR. BHP
TRC
CH.
AP.
SCALE - NONE
DATE 7-15-83

DWG. NO. 7004-W

SET NO. | SHEET NO.

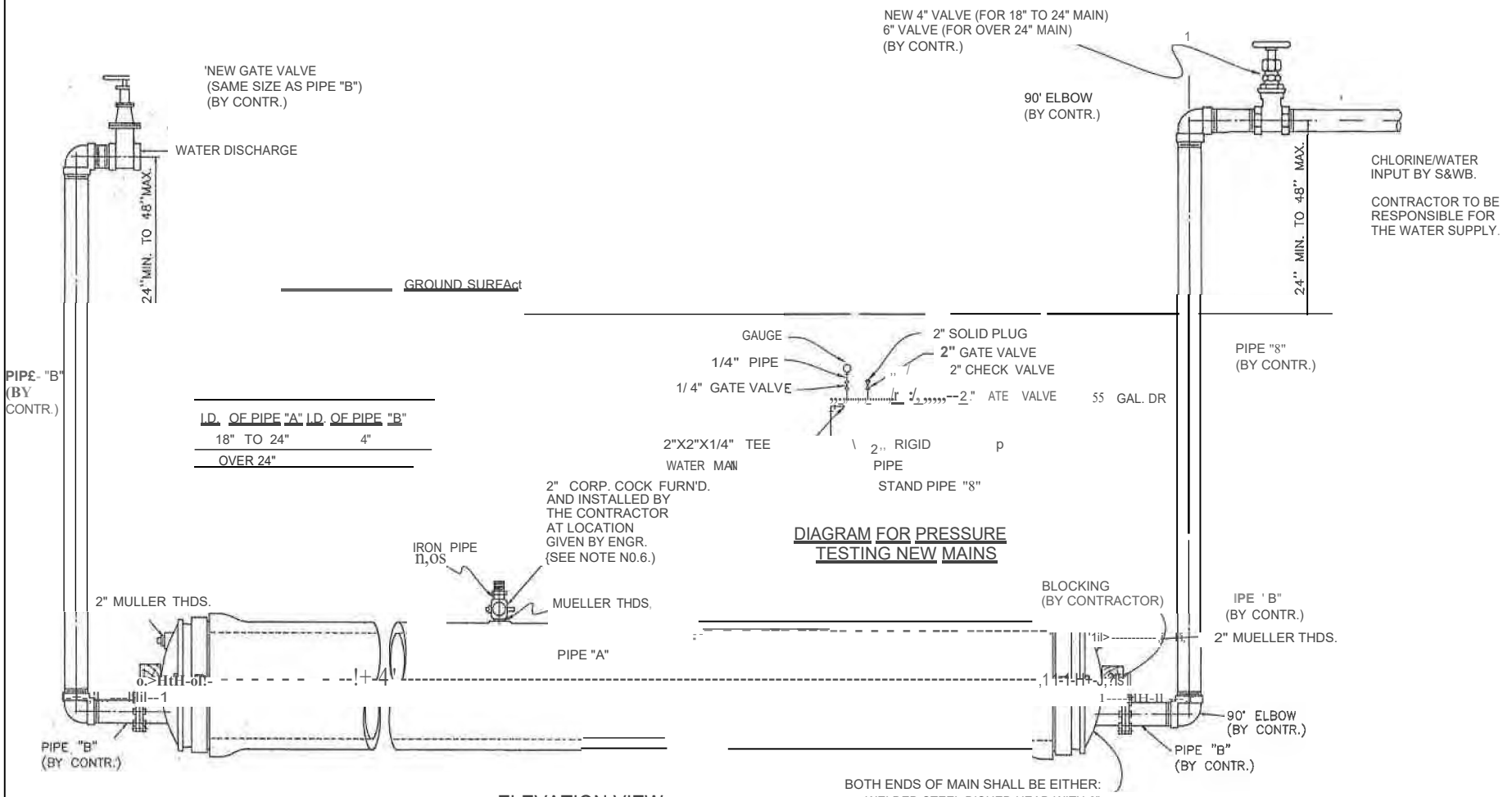


DIAGRAM FOR PRESSURE TESTING NEW MAINS

ELEVATION VIEW

SCALE: N.T.s.

BOTH ENDS OF MAIN SHALL BE EITHER:

a. WELDED STEEL DISHED HEAD WITH 6" FLANGED OUTLET FOR STEEL PIPE.

b. DUCTILE IRON SLEEVE AND PLUG WITH 6" TAP FOR DUCTILE IRON PIP.E.

NOTES:

1. THE CONTRACTOR' SHALL PROVIDE AND INSTALL THE FOLLOWING:
   a. 4" MIN. TEMPORARY WATER SUPPLY. (DISCHARGE PIPE SHOULD BE ACCORDING TO SIZE OF LINE, 4" UP TO 24", AND 6" OVER 24'.".
   b. ALL PIPE, VALVES, AND FITTINGS TO THE FLANGED OUTLET AT THE MAIN AS SHOWN.
   c. PIPE, FITTINGS, AND VALVES AT DISCHARGE END OF THE MAIN.
   d. TEMPORARY STAND PIPES ON ALL VENT COCKS IN THE SYSTEM EXTENDING 2" TO 4" ABOVE GRADE AND TERMINATING WITH AN ELBOW AND VALVE.
2. PIPE "B" AND ALL FITTINGS CONNECTING TO PIPE "B" SHALL BE STAINLESS STEEL OR NEW GALV. IRON.
3. THE CONTRACTOR SHALL OPEN AND CLOSE ALL VALVES TO EXPEL THE AIR AND SHALL REMOVE THE VENT PIPES AND CLOSE THE COCKS WHEN NOTIFIED BY THE S&WB ENGINEER.
4. ON COMPLETION OF THE CHLORINATION PROCESS AND AT MAKING OF TIE-INS, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY PIPING, DISHED HEADS, SLEEVES, PLUGS, VALVES, ETC. WHICH SHALL REMAIN THE CONTRACTOR'S PROPERTY EXCEPT WHERE NOTED ON CONTRACT DRAWINGS.
5. ALL MATERIALS AND LABOR REQUIRED FOR PRESSURE TEST TO BE FURNISHED BY CONTRACTOR.
6. THE CONTRACTOR SHALL USE 2" MUELLER H-10003 CORPORATION COCK OR APPROVED EQUAL.

REV.	DATE	DESCRIPTION	BY
3	03-09-07	REVISED NOTES AND DRAWING	D.MC.
2	6-27-88	NOTE NO. 5 - REDUCER	BHP
1	4-1-87	ALTERNATE TEST PIPING	BHP
3	6-25-85	TEST CONN. REVISED	BHP

SEWERAGE AND WATER BOARD OF NEW ORLEANB

PRESSURE TEST CONNECTION ON NEW WATER MAINS (18" AND LARGER), FLUSHING AND CHLORINATION

DR.	BHP
TRC.	
CH.	
AP.	
SCALE	NONE
DATE	7-15-88

DWG. NO. 7005-W

SET NO. | SHEET NO.

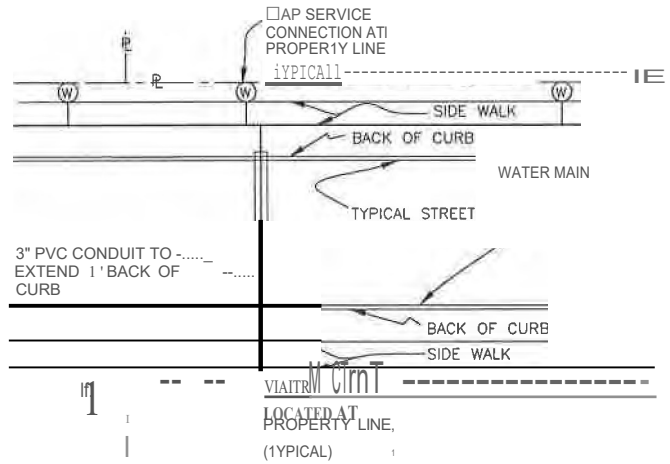
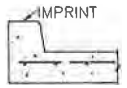


DIAGRAM OF **WATER METER SERVICE CONNECTION**

1-W

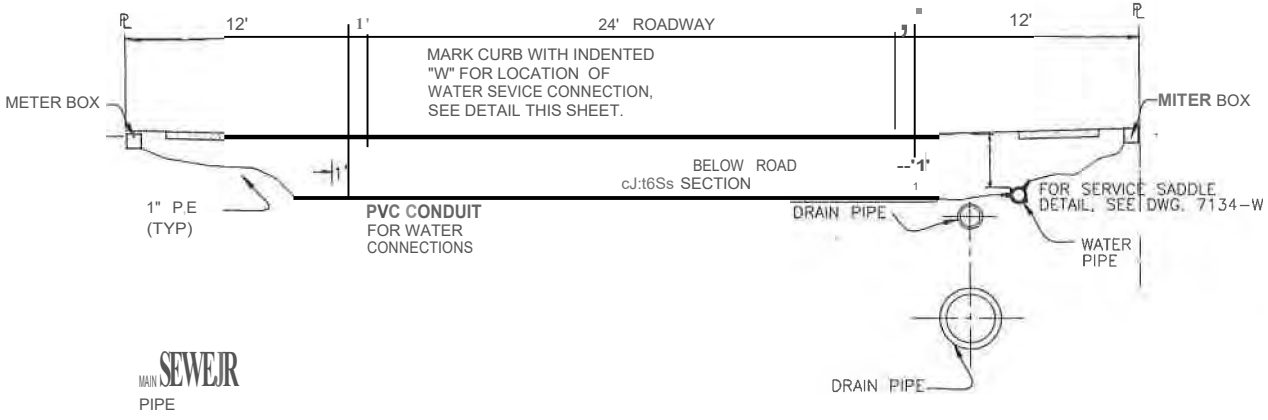
LETTER "W" TO BE 1/ 4" DEEP



VERTICAL CURB

ROLL-OVER CURB

DETAIL OF WATER LETTERS
TO BE IMPRINTED IN CURB
N. T S.



MAIN SEWEJR
PIPE

TYPICA L UTIUTI' **SECTION - FOR 50 FT**, R/W
N. T. S.

NOTE:

1. TUBING MATERIAL SHALL BE 1YPE "K" COPPER OR POLYETHYLENE PE 3406 AND SHALL CONFORM TO THE LATEST ISSUE OF ASTM D-2737 AND D-1248 FOR 1YPE 3 OR 4 GRADE P-34 CLASS "C"
2. WATER SERVICE CONNECTION TO BE NEAR CENTERLINE OF LOT, MIN. OF 5' HORIZONTALLY FROM SEWER H.C.
3. THE LOCATION OF THE WATER SERVICE CONNECTIONS SHALL BE IMPRINTED IN THE CURB WITH AN "W". (SEE DETAIL)
4. ALL BRONZE/BRASS FITTINGS, CONNECTORS, CORPORATION STOPS AND APPURTENANCES SHALL BE OF DOMESTIC MANUFACTURE, SHALL BE MADE OF LEAD FREE BRONZE/BRASS, AND MEET ALL REQUIREMENTS OF AWWA, ASTM AND ANSI FOR USE IN THE POTABLE WATER DISTRIBUTION SYSTEMS.

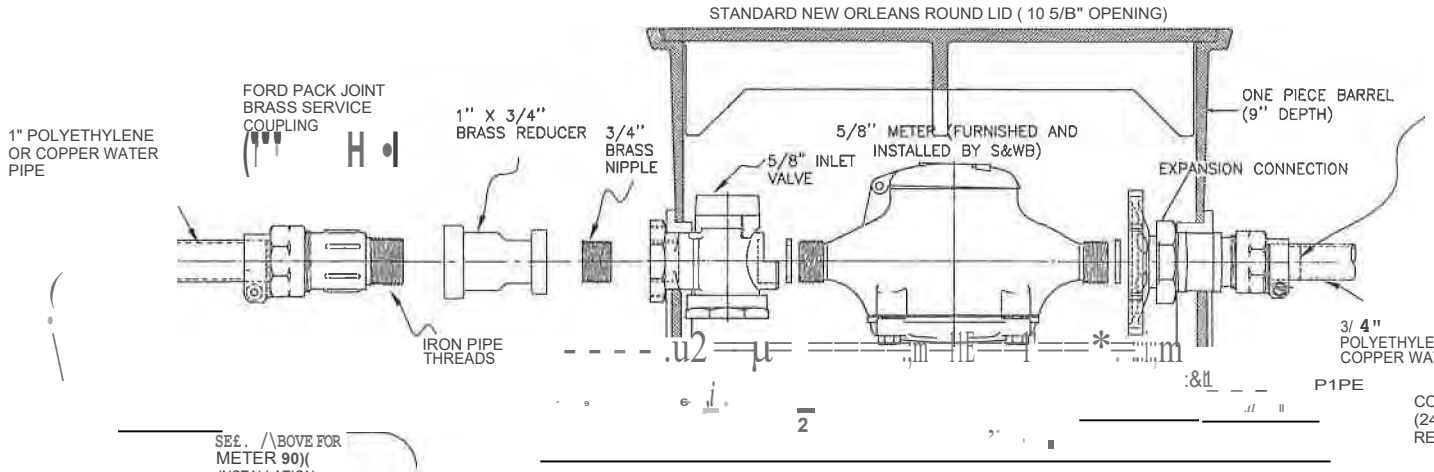
SCALE: N.T.S.

04.18.13	ADDITIONAL NOTE	DWG
10.05.12	GENERAL REVISIONS	DWG

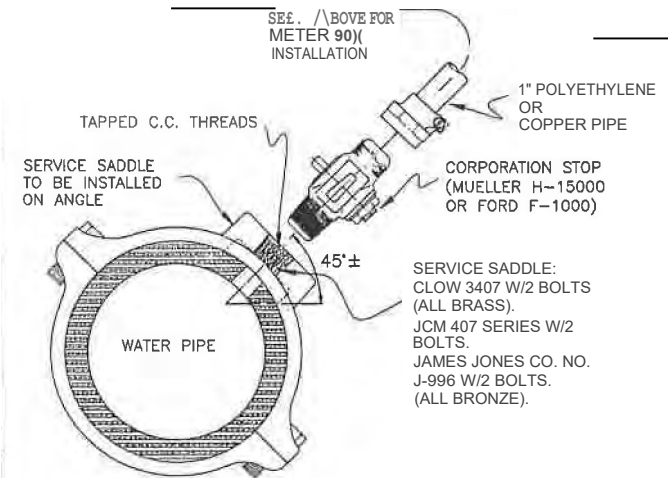
SEWERAGE AND WATER BOARD
OF NEW ORLEANS

TYPICAL WATER SERVICE CONNECTION

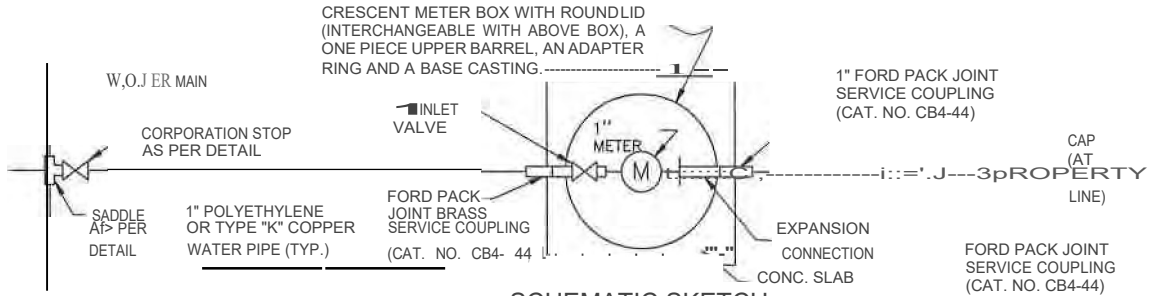
DWG. NO. 7134A-W



5/8" METER BOX INSTALLATION



SERVICE SADDLE



SCHEMATIC SKETCH
1" WATER METER SERVICE CONNECTION

NOTE:

1. TUBING MATERIAL SHALL BE TYPE "K" COPPER OR POLYETHYLENE PE 3406 AND SHALL CONFORM TO THE LATEST ISSUE OF ASTM D-2737 AND D-124B FOR TYPE 3 OR 4 GRADE P-34 CLASS "C"
2. WATER SERVICE CONNECTION TO BE NEAR CENTERLINE OF LOT, MIN. OF 5' HORIZONTALLY FROM SEWER H.C.
3. ALL BRONZE/BRASS FITTINGS, CONNECTORS, CORPORATION STOPS AND APPURTENANCES SHALL BE OF DOMESTIC MANUFACTURE, SHALL BE MADE OF LEAD FREE BRONZE/BRASS, AND MEET ALL REQUIREMENTS OF AWWA, ASTM AND ANSI FOR USE IN THE POTABLE WATER DISiWB UTION SYSTEMS,

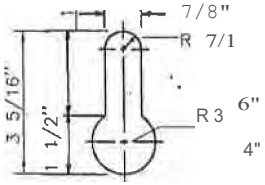
SCALE: NIS

REV.	DATE	DESCRIPTION
A	04.18.13	ADDITIONAL NOTE.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

WATER METER SERVICE CONNECTION FOR 5/8" AND 1" FIXED METER BOX

DR. D. McCRAY	
TRC.	
CK. M. JOHNSON	GENERAL SUPERINTENDENT
AP. J. BECKER	DW G. NO 7134-W
SCALE NONE	
DATE 03-09-07	SHT. NO



DETAIL - A

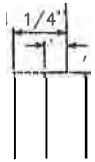
(4 REQ'D)

B

8'-5 1/4"

A

/DETAIL B



DETAIL A

DETAIL - B

(4 REQ'D)

3/4"

SECTION C-C

N, T. S.

B

8'-5 1 4"

PLAN

N

- 14'

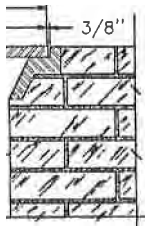
8'- 5 1/4"

2-2 1 2

3/8"

3/8" '-1 1 4

2-1 1 4
4"X4"X3/4"



-...J

':-- CASTING SHALL

B

A

T IRON

E

C

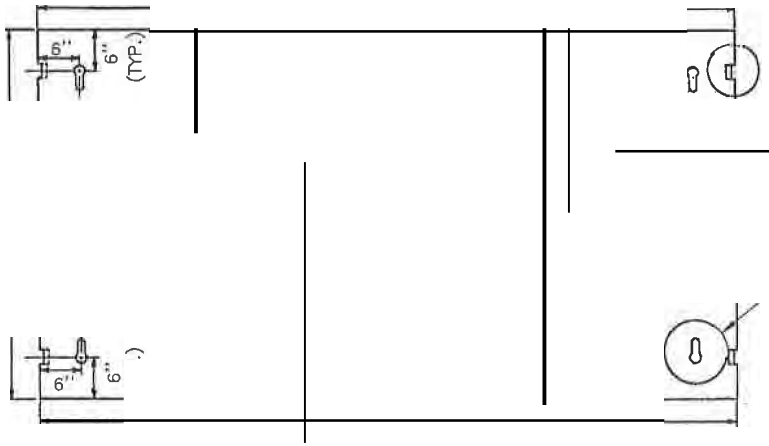
S

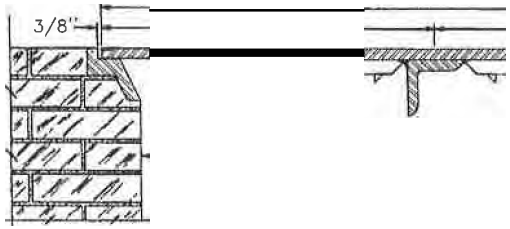
•·•-OR GALVANIZED

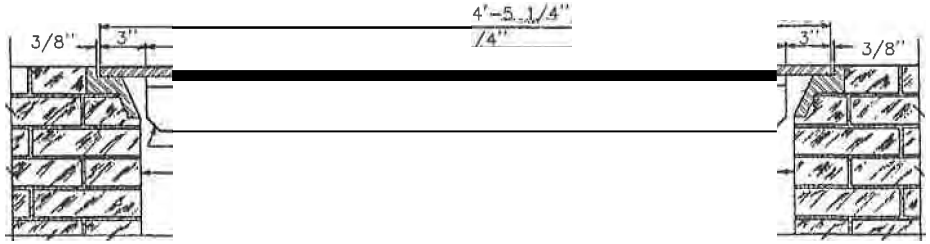
1" X 1" (TYP.)

SCALE: N.T.S.

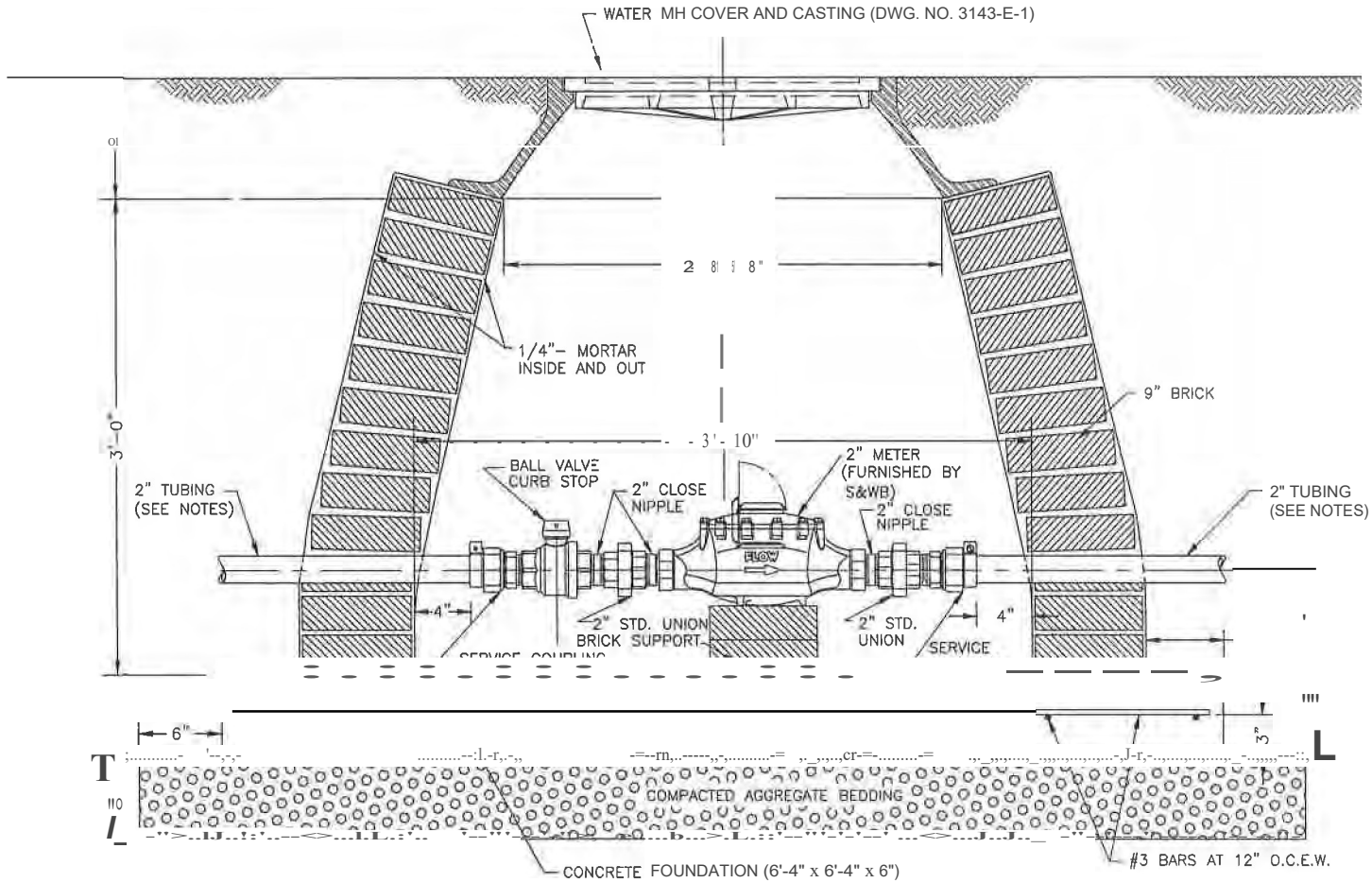
4' - 0''

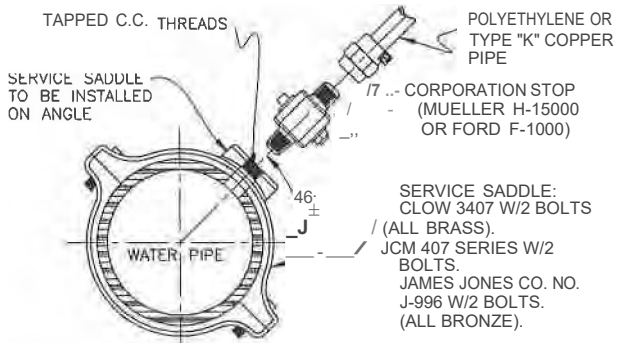






DR.	D. McCRAY
TRC.	
CK.	M. JOHNSON
AP.	J. BECKER
SCALE	NONE
DATE	03-29-07





TAP AND SERVICE SADDLE

2" AND 1 1/2" DOMESTIC METER SERVICE

SCALE: NTS

NOTES:

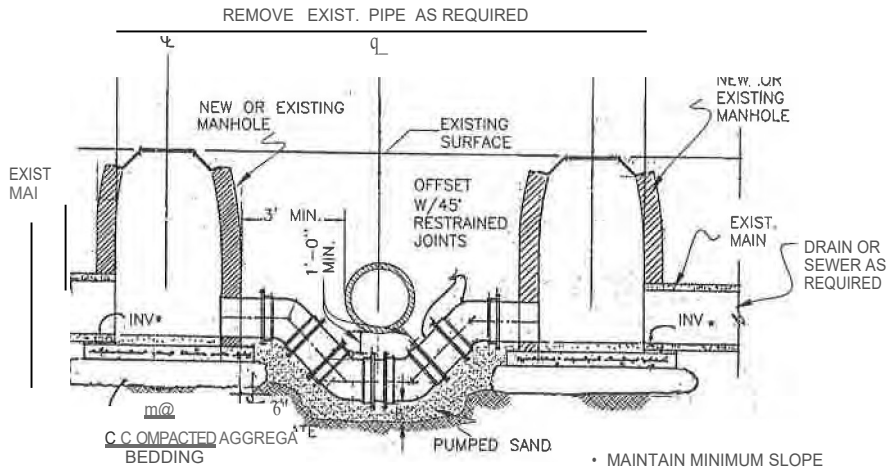
1. TUBING MATERIAL SHALL BE POYLETHYLENE PE 3406 OR PE 3408, TYPE "K" COPPER PIPE AND CONFORM TO THE LATEST ISSUE OF ASTM D-2737 AND D-1248 FOR TYPE III OR IV GRADE P-34 CLASS C.
2. WHERE A 1 1/2" METER IS REQUIRED, ALL TUBING, COUPLINGS, FITTINGS, ETC. SHALL BE THE SAME AS FOR A 2" CONNECTION, EXCEPT THEY SHALL BE 1 1/2" SIZE.
3. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I IN 28 DAYS.
4. ALL BRONZE/BRASS FITTINGS, CONNECTORS, CORPORATION STOPS AND APPURTENANCES SHALL BE OF DOMESTIC MANUFACTURE, SHALL BE MADE OF LEAD FREE BRONZE/ BRASS, AND MEET ALL REQUIREMENTS OF AWWA, ASTM AND ANSI FOR USE IN THE POTABLE WATER DISTRIBUTION SYSTEMS.

REV.	DATE	DESCRIPTION	BY
5	04-18-13	[illegible]	DMC
4	03-08-07	[illegible]	D.MC.
3	02-20-03	COMPLETELY REVISED AND REDRAWN	DF
2	02/20/03	ADDED OPT. SERVICE CONNECTION	DV
1	10/29/98	REMOVED 4" TO 10" METER DETAILS	WD
-	04/03/98	ADD TYPE II AND III METER DETAILS	DF
-	01/05/94	INITIAL RELEASE	SHP

SEWERAGE & WATER BOARD OF NEW ORLEANS

2" & 1 1/2" METER SERVICE CONNECTION

DR. G. PEYRO	
TRD.	GENERAL SUPERINTENDENT
CK. B. JONES	
AP. J. BECKER	DWG. NO. 7332-W
SCALE AS NOTED	
DATE 02-20-03	SET NO. / SHEET NO.

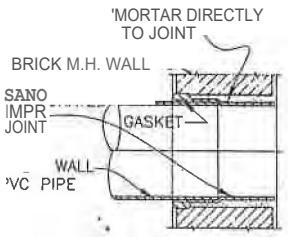


TYPICAL DRAIN & SEWER SIPHON DETAIL

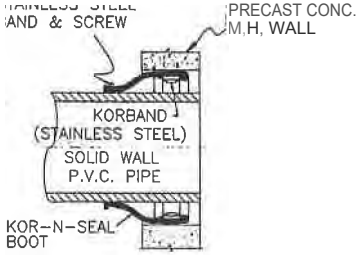
N. T. S.

NOTES:

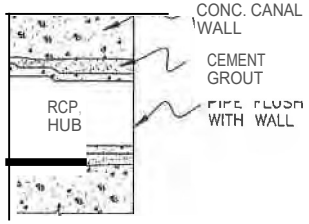
1. ALL FITTINGS ANO PIPE TO BE APPROVED BY S&WB ENGINEER.
2. SIPHON AND LOCATION OF MANHOLESMUST BE APPROVED BY THE S&WB ENGINEER.
3. INSIDE & OUTSIDE OF BRICK WALLS, BENCHES, & INVERTS TO BE MORTARED WITH A WATERPROOFING COMPOUND, THICKNESS OF 1/4" IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
4. REFER TO S&WB DWG. NO. D-870 FOR NEW DRAIN MANHOLE OR DWG. NO. 6178-8-6 FOR NEW SEWER MANHOLE.



BRICK WALL



PRECAST CONC. WALL



CONCRETE CANAL WALL

MANHOLE CONNECTORS

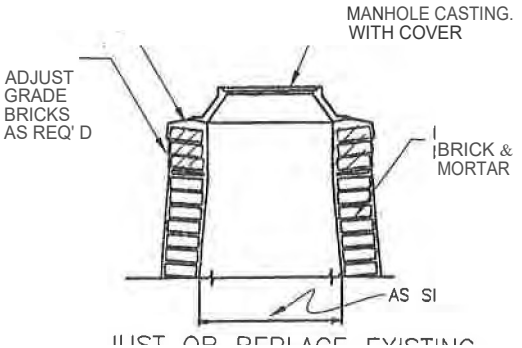
SEWERAGE AND WATER BOARD OF NEW ORLEANS

TYPICAL SEWER AND DRAIN SIPHON & PIPE/WALL CONNECTORS

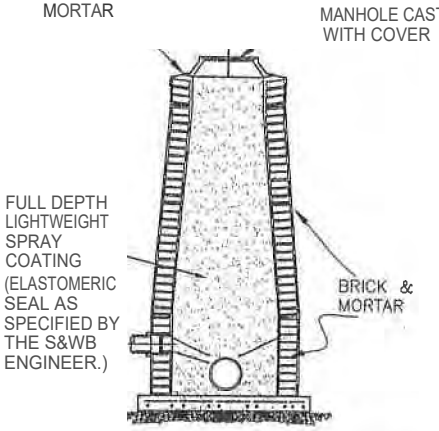
DR. D. McCRAY
CH.
DES. M. JOHNSON
SUP. J. BECHTEL
SCALE NONE
DATE 03-08-07

CHIEF ENGINEER & GENERAL SUPERINTENDENT

DWG. NO. 6178-SD



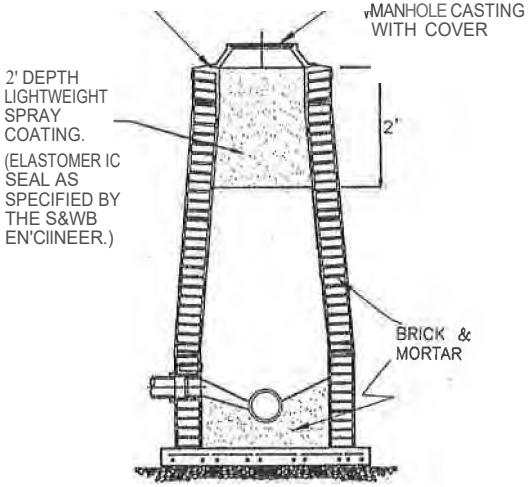
ADJUST OR REPLACE EXISTING MANHOLE FRAME AND COVER



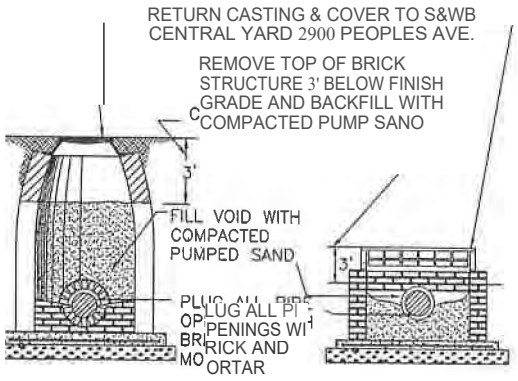
MANHOLE REHABILITATION FULL DEPTH WITH SPRAY APPLIED STRUCTURAL CEMENTITIOUS LIIVJER

NOTES:

1. LOCATION OF LINER MAY VARY AS SPECIFIED BY THE S&WB ENGINEER.



MANHOLE REHABILITATION 2' .DEPTH WITH SPRAY AP PLED STRUCTURAL CEMENTITIOUS LINER



TYPICAL ABANDON MANHOLE AND CATCH BASIN DETAIL

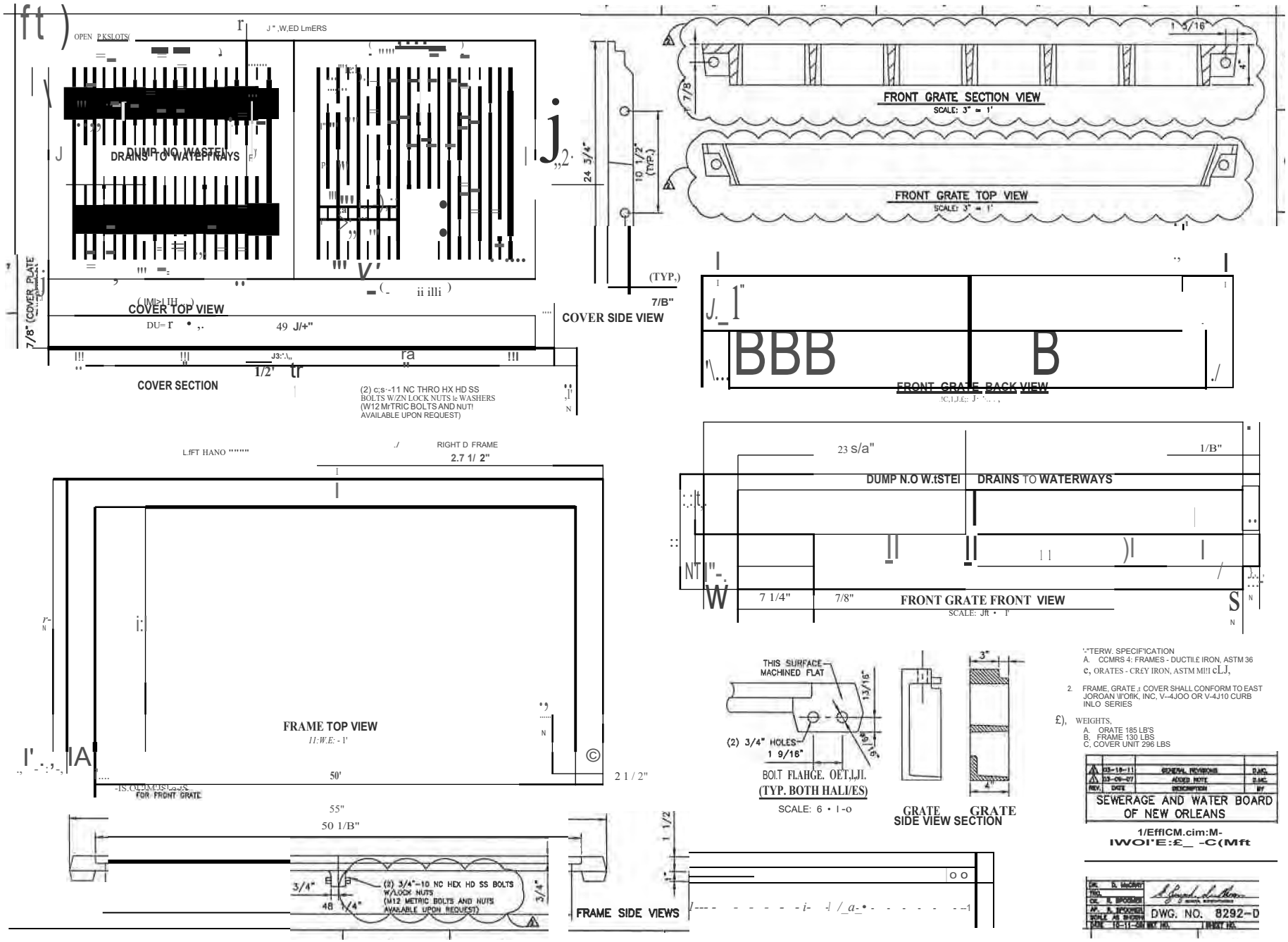
SCALE: NT.S.

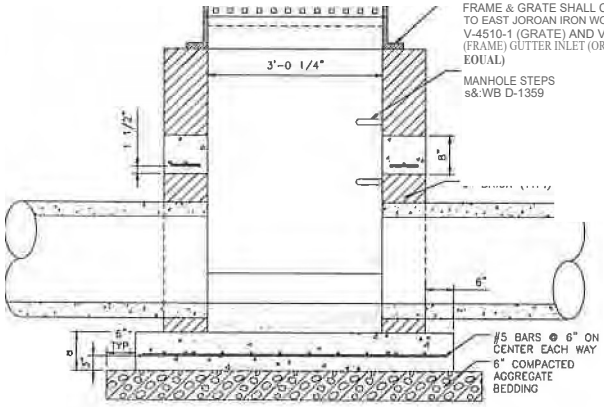
SEWERAGE AND WATER BOARD OF NEW ORLEANS

MANHOLE ADJUSTMENT AND REHABILITATION

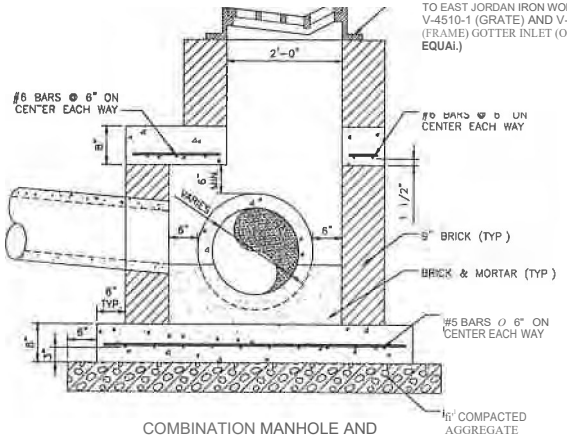
D. McCRAY
M. JOHNSON
J. BECKER
DATE 03-09-07

DWG. NO. 8180-SD

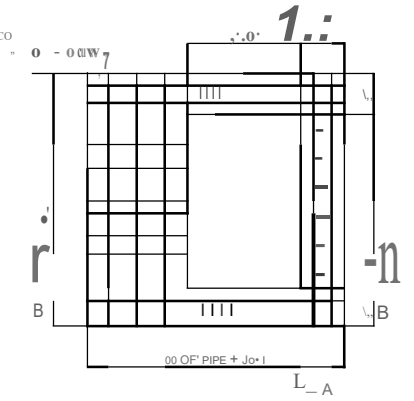

OPEN P.KSLOTS(
J " .W,ED LmERS
DUMP NO WASTE!
DRAINS TO WATEFTNAYS
COVER TOP VIEW
COVER SECTION
COVER SIDE VIEW
7/8" (COVER PLATE
(2) c:s·-11 NC THRO HX HD SS
BOLTS W/ZN LOCK NUTS lc WASHERS
(W12 MrTRIC BOLTS AND NUT!
AVAILABLE UPON REQUEST)
FRONT GRATE SECTION VIEW
SCALE: 3" = 1'
FRONT GRATE TOP VIEW
SCALE: 3" = 1'
FRONT GRATE BACK VIEW
L.fFT HANO """"
RIGHT D FRAME
2.7 1/ 2"
FRAME TOP VIEW
11:W.E: - 1'
50'
2 1 / 2"
55"
50 1/B"
(2) 3/4"-10 NC HEX HD SS BOLTS
W/LOCK NUTS
(M12 METRIC BOLTS AND NUTS
AVAILABLE UPON REQUEST)
48 1/4"
FRAME SIDE VIEWS
DUMP N.O W.tSTEI
DRAINS TO WATERWAYS
FRONT GRATE FRONT VIEW
SCALE: Jft • I'
7 1/4"
7/8"
THIS SURFACE
MACHINED FLAT
(2) 3/4" HOLES
1 9/16"
BOLT FLAHGE. OET,I,JI.
(TYP. BOTH HALI/ES)
SCALE: 6 • I -o
GRATE SIDE VIEW SECTION
GRATE SECTION
'-"TERW. SPECIFICATION
A. CCMRS 4: FRAMES - DUCTILE IRON, ASTM 36
e, ORATES - CREY IRON, ASTM MI!I CLJ,
2. FRAME, GRATE ,t COVER SHALL CONFORM TO EAST JORDAN IRON WORK, INC, V-4JOO OR V-4J10 CURB INLO SERIES
£), WEIGHTS,
A. ORATE 185 LB'S
B. FRAME 130 LBS
C, COVER UNIT 296 LBS
SEWERAGE AND WATER BOARD OF NEW ORLEANS
1/EffICM.cim:M-
IWOI'E:£_ -C(Mft
DWG. NO. 8292-D



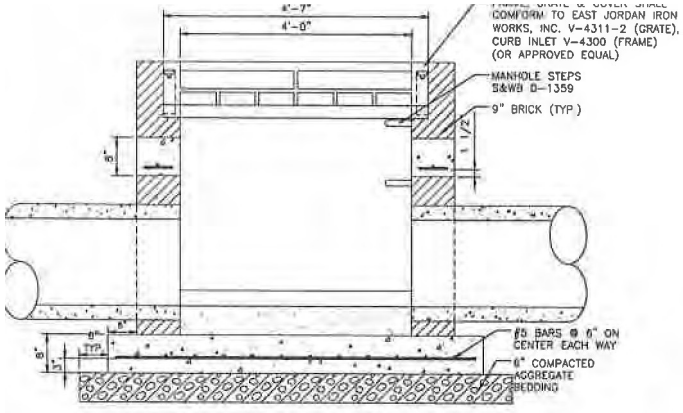
COMBINATION MANHOLE AND
MOUNTABLE CATCH BASIN - SECTION A-A
SCALE: 1• • 1•-0•



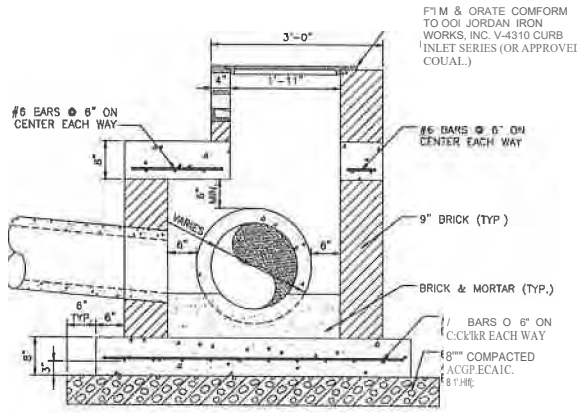
COMBINATION MANHOLE AND
MOIJNTABLE CATCH BASIN - SECTION B- $
SC 1· • 1•- 0"



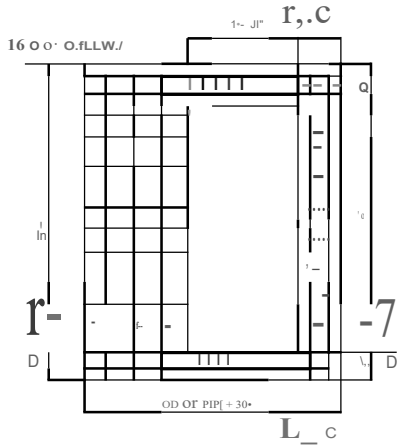
PLAN VIEW OF CONCRETE TOP SLAB (MOUNTABLE)
SCAL(: I" • 1•-0·



COMBINATION MANHOLE AND
VERTICAL CATCH BASIN - SECTION C-C
SCALE: 1" • 1'-0"



COMBINATION MANHOLE AND
VERTICAL CATCH BASIN - SECTION 0-D
SCALE: 1" • 1'-0"



PLAN VIEW OF CONCRETE TOP SLAB (VERTICAL)
SCALE: 1" .. t'-0"

NOTES:

1, INSIDE & OUTSIDE Of BRICK WALLS, BENCHES & INVERTS, TO BE MORTARED WITH A WATERPROOF'ING COMPOUND fOR THICKNESS Of 1/ 4" IN ACCORDANCE WITH SPECIF'ICATIONS,

2 COI-CRETE TO HAVE A MIN COMPRESSM STRENGTH Of 3,000 P S.I IN '26 OAYS.

J. SEE S&WB DWG, NO, D-3431-A fOR DETAILED t.!EASUREMENTS Of MOUNTABLE CATCH BASIN

4 SEE S&WB OWG NO D-87J FOR DETAILED MEASUREMENTS OF VERTICAL CATCH BASIN

nv, 1i.11r coO"I,,. 11

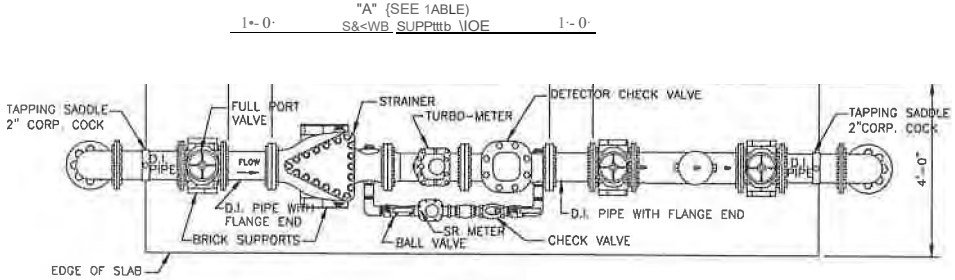
SEWERAGE AND WATER BOARD OF NEW ORLEANS

SINGLE COMBINATION CATCH BASIN - MANHOLE STRUCTURE

DR	D. McCRAY
ENG	
CK	B. JONES
AP	R. SPOONER
SCALE	1"=1'
DATE	08-05-08

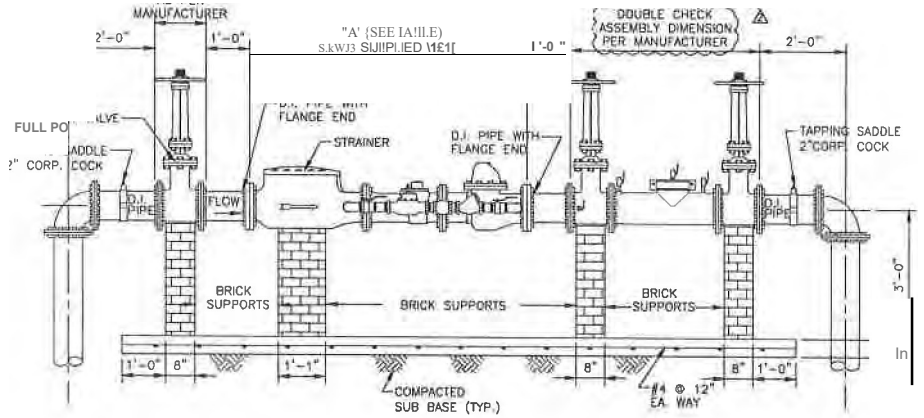
GENERAL SUPERINTENDENT

DWG. NO. 8319-D



PLAN VIEW

SCALE: J / 4" • 1'- o'



LONGITUDINAL SECTION

SCALE: J/4" • 1 -0"

NOTES:

1. **THE METER SHALL BE INSTALLED AS RE:CEIVED** FROM THE S&WB METER DEPARTMENT AND MAY NOT BE MODIFIED IN ANY MANNER,
2. THE METER LOCATION SHALL NOT EXCEED 15' **INSIDE THE PROPERTY LINE.**

J, BACKFLOW PREVENTERS MUST BE LISTED AND CERTIFIED IN ACCORDANCE WITH THE UNIVERSITY OF SOUTHERN CALIFDRNeo. (USC) FOUNDATION **FOR CROSS-CONNECTION CONTROL ANO** HYDRAULIC RESEARCH,

4. CONTRACTOR TO VERIFY WHICH TYPE OF ME:IER **WILL SE SUPPLIED BY THE S&WB METEf-1** DEPARTMENT,

rlA

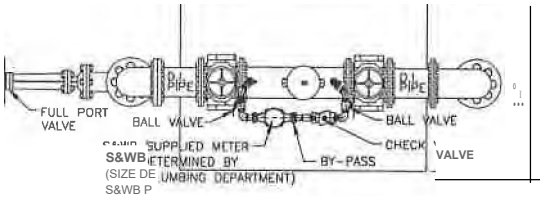
	"A" DIMENSION IN INCHES	
S&WB SUPPLIED TURBO METER	SENSUS	BADGERMETER INC.
4"	52"	33"
6"	68"	45"
8"	77 "	53•
10"	90"	68"

SEWERAGE AND WATER BOARD OF NEW ORLEANS

FIRE AND DOMESTIC

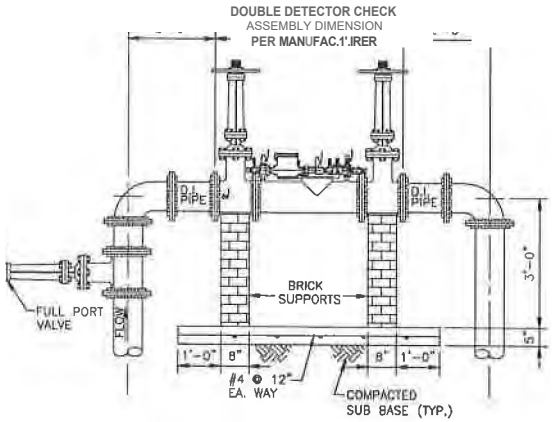
ABOVE GROUND ASSEMBLY DETAIL

DWG. NO. 8353-W1



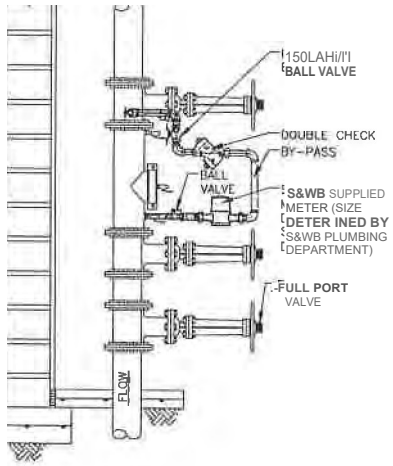
PLAN VIEW

SCALE: 3/4" • 1'-0"



DOUBLE DETECTOR CHECK ASSEMBLY
BACKFLOW PREVENTER DETAIL
HORIZONTAL INSTALLATION

SCALE: 3/4" = 1'-0"



DOUBLE DETECTOR CHECK ASSEMBLY
BACKFLOW PREVENTER DETAIL
VERTICAL INSTALLATION

SCALE: 3/4" 1'-0"

NOTES:

1. THE METER SHALL BE INSTALLED AS RECEIVED
   Ms?6o fff'b ,Pf I6 I¾ENT AND MAY
2. THE METER LOCATION SHALL NOT EXCEED 15' **INSIDE THE PROPERTY LINE.**
3. DOMESTIC SERVICE CAN BE TAPPED BEFORE **FULL PORT VALVE.**
4. ERTIFIED IN ACCORDANCE WITH THE UNIVERSITY F SOUTHERN CALIFORNIA (USC) FOUNDATION OR CROSS-CONNECTION CONTROL AND YDRAULIC RESEARCH.

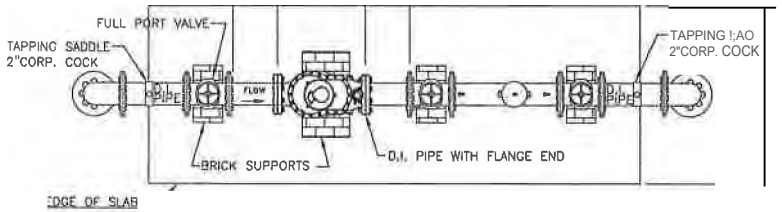
SEWERAGE AND WATER BOARD
OF NEW ORLEANS

FIRE ONLY

ABOVE GROUND ASSEMBLY DETAIL

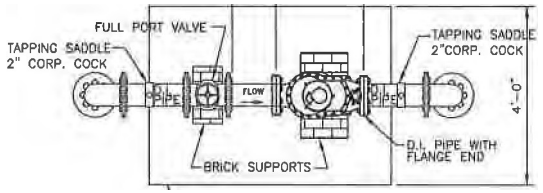
D. McCRAY	
M. JONES	GENERAL SUPERINTENDENT
J. ARNOLD	
AS NOTED	DWG. NO 8353-W2
08-14-03	

"A• (S!:E 1AfIII:)
SM\'18 SI.JPI'\1el)
• •-a· MErR 1'-o"



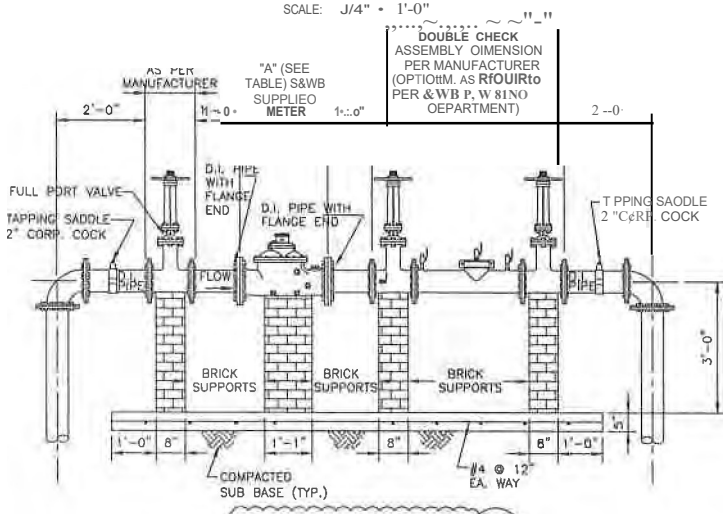
PI.AN VIEW
SCALE: J/4" • 1'-0"

"A" tSLE. TM!Lf.)
S&WO SUPPUED
rt-0• METER

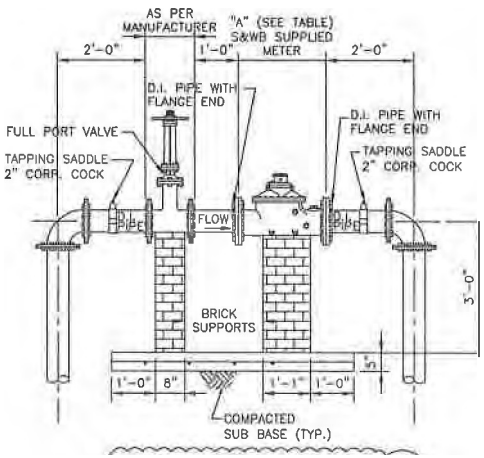


PI.AN VIEW
SCALE: J/4" • 1'-O"

DOMESTIC ONLY	
S&WB SUPPLIED OMPO UND METER	" A" DIMENSION I N INCHES
4"	20"
6"	24"



LONGITUDINAL SECTION WITH DOUBLE CHECK ASSEMBLY
SCALI:: 3/ 4" • 1 '--0"



LONGITUDINAL SECTION WITHOUT DOUBLE CHECK ASSEMBLY
SCALE: J / 4" = 1'- 0"

NOTES:

I . THE METER SHALL BE INSTALLED AS RECEIVED FROM THE S&WB METER OEPARTMENT AND MAY NOT BE MODIFIED IN ANY MANNER.

2 THE METER LOCATION SHALL NOT EXCEED 15' **INSIDE THE PROPERTY LINE.**

J. BACKFLOW PREVENTERS MUST BE LISTED AND CERTIFIED IN ACCORDANCE WITH THE UNIVERSITY bRsg b f;':ia [c°T c\1 A c(g f o[0 8AT I ON HYDRAULIC RESEARCH,

12/20/12	GENERAL REVISIONS		
DATE (LIII)			BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

DOMESTIC ONLY

ABOVE GROUND ASSEMBLY DETAIL

DR.	D. McCRAY	
ENG.		
CK.	D. JONES	
APP.	J. ARNOLD	DWG. NO. 8353-W3
SCALE	AS NOTED	
DATE	08-14-09	SHT. NO. / SHEET NO.

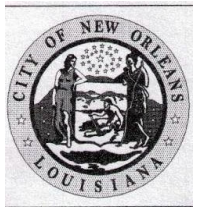
APPENDIX D

Standard Drawings
City of New Orleans Dept. of Public Works

SECTION 01 300
DPW STANDARD DRAWINGS

SLOPE 2%
1.5% MIN.
1.5% MIN.
EX STING SIDEWALK
SE
NE
(TYP.)
INTEGRAL/ DOWELED CONG.
CRUSHED STONE BASE 8
GEOTt XTILE FABRIC
L. 12" (TYP.)
CURB 4" MOUNTABLE OR
MIN. OR APPROVED EQUAL
COMPACTED SUBGRADE
6" BARRIER

TYPICAL ROADWAY SECTION - 26'-0" R DWY .


CITY OF NEW ORLEANS
LOUISIANA

SERVICE
EFFICIENCY
DEPARTMENT OF
PUBLIC WORKS
COURTESY

PROFILE	HOT MIX ASPHALT ı	/	HOT MIX ASPHALT(*)	/CONC.	CURB & GU TTERB O TTOM
GRADE	WEARING SURFACE		BINDER COURSE		4" MOUNTABLE OR 5" BARRIER

GEO
cXISTING SIDEWALK

NEW SIDEWALK

TYP ICA L HALF SECTION 32'-0" ROADWAY P. C. C. P. (REI NFORC

NT.S.

Cf. OF MEDIAN

20·-o·

7" FOR BARR

ETWEEN ASPHALT LAYER(S)

11	1 1/2	18	12	5/8	30	24	3-1/2	4	2-1/2	1-1/4
12	1-1/2	18	12	5/8	30	24	4	4-1/2	3	1-1/2
13	1 1/2	18	12	5/8	30	24	4	4-1/2	3	1-1/2
14	1 1/2	18	12	5/8	30	24	4 1/2	5	3	1-172

@ FOR CONC. SHOULDERS, " T " IS THE THICKNESS AT PAVEMENT EDGE.

SURFACE OF PAVEMENT 1/8" R

SPRAY WITH HEAW COAT OF CURING COMPOU ND

1'-3"

A/2

25%

B

A

25:;:

DEF. TIE BARS (SEE TABLE I)

@ KEYWAYY

METAL SUPPORT PIN --

WHEN DOWEL BASKET IS USED ON SAND BASE, SUPPORT WITH 9 SQ. IN. (MIN.) SQUARE OR ROUND PLATE

FOR KEYWAY DIMENSIONS A & B SEE TABLE 1. @

KEYWAY UTILIZATION SHALL NOT BE ALLOWED FOR PAVEMENT THICKNESS LESS THAN 8".

IN LIEU OF THE KEYWAY, ONE OF THE FOLLOWING OPTIONS WILL BE ALLOWED (FOR ALL CASES):

A. INSTALL TIE BARS OF THE SIZE SHOWN IN TABLE 1 AT 1/2 OF THE SPACING.

B. INSTALL TIE BARS HAVING DIAMETERS 1/4" LARGER THAN THE DIAMETERS SHOWN IN TABLE 1, AT THE SAME SPACING).

TYPE LCJ

(LONGITUDINAL CONSTRUCTION JOINT)

N.T.S.

DOWEL BARS, (SECTION A-A).

1YPE EJ JOINTS SHALL BE SEALED WITH PREFORMED ELASTOMERIC COMPRESSION JOINT SEALS CONFORMING TO SUBSECTION 1005.03 OF DOTO "LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES" LATEST EDITION. THE SEALS SHALL HAVE A NOMINAL WIDTH OF 1-1/4" BEFORE COMPRESSION. JOINTS SHALL BE CLEANED PRIOR TO SEALING.

FOR DESIGN SPEEDS OF 45 MPH OR GREATER,

A. 1YPE LJ JOINTS SHALL BE SAW CUT AND CONSTRUCTED AS IN DETAIL "F" DRAWING RW3 . THE JOINT SHALL BE SAW CUT AND CLEANED PRIOR TO SEALING WITH A JOINT SEALANT CONFORM ING TO SUBSECTION 1005.02(b) DR (c) OF THE AFOREMENTIONED DOTO SPECIFICATIONS.

B. 1YPE TCJ OR CJ **SHALL** BE SAW CUT AS SHOWN IN DETAIL "C" OR "D" DRAWING RW3 AND TO THE DEPTH SHOWN IN TABLE 1. THE JOINT SHALL BE SAND BLASTED AND CLEANED IMMEDIATELY PRIOR TO SEALING. THE INITIAL CUT SHALL BE MADE WITH 1 /8" MINIMUM BLADE THE SEALANT SHALL BE A PREFORMED ELASTOMERIC SEAL IN ACCORDANCE WITH SUBSECTION 1005.03 OR A SILICONE SEALANT IN ACCORDANCE WITH SUBSECTION 1005.D2(c) OF THE AFOREMENT IONED DOTO SPECIFICATIONS.

FOR DESIGN SPEEDS OF LESS THAN 45 MPH,

A. 1YPE LJ JOINTS SHALL BE SAW CUT AS DESCRIBED IN 7(A).

B. 1YPE TCJ OR CJ SHALL BE CONSTRUCTED AS FOLLOWS,

(1) CONSTRUCTED AS DESCRIBED IN 7(8).

(2) WITH A REMOVABLE FORMING DEVICE AS SHOWN IN DETAILS "A" AND "B" DRAWING RW3. THE JOINT SHALL BE SAND BLASTED AND CLEANED IMMEDIATELY PRIOR TO SEALING AND MAY REQUIRE SAWING TO ACHIEVE PROPER RESERVOIR DIMENSIONS.

(3) WITH A COMBINATION JOINT FORMER/SEALER AS SHOWN IN DETAIL "E" DRAWING RW3. THE SEALER SHALL CONFORM TO SUBSECTION 10 0 5 . 0 4 AND BE INSTALLED IN ACCORDANCE WITH SUBSECTION 601.09(c)(3) OF THE AFOREMENTIONED DOTO SPECIFICATIONS AND NO ADDITIONAL SEALANT IS REQUIRED.

EXCEPT AS NOTED BELOW, DOWEL BARS & TIE BARS SHALL BE HELD IN PLACE BY SUPPORTS SIMILAR TO THE ONES SHOWN, OR APPROVED EQUALS. APPROVED MECHANICAL PLACEMENT OF DOWEL BARS AND TIE BARS WILL BE ALLOWED WITH ALL PAVING METHODS. WHEN DOWEL BAR BASKETS ARE USED, APPROXIMATELY THE CENTER 7" OF SPACER WIRES, THAT SPANS ACROSS THE JOINT, SHALL BE CLIPPED AND REMOVED AFTER STAKING BASKETS IN PLACE.

@ INSTALL GEOTEXTILE FABRIC UNDER ALL TCJ, CJ, AND EJ JOINTS WHEN CONCRETE PAVEMENT IS PLACED ON UNSTABILIZED OR UNTREATED BASE COURSES OR SUBBASES. WHEN DOWEL BARS ARE MECHANICALLY IMPLANTED, THE GEOTEXTILE FABR IC SHALL BE ANCHORED TO THE BASE COURSE WITH PINS.

@ WHEN CONSTRUCT ING CONCRETE CURB AND GUTTER ADJACENT TO NEW P.C.C. PAVEMENT, USE 1YPE LCJ JOINT. WHEN ADJACENT TO EXISTING P.C.C. PAVEMENT, USE 1YPE LBJ JOINT. THE FIRST LOAD TRANSFER DEVICE SHALL BE INSTALLED 18 " FROM THE PAVEMENT EDGE.

@ TRANSVERSE EXPANSION JOINTS SHALL NOT BE USED FOR CONSTRUCTION JOINTS.

@ CONCRETE SHOULDERS,

A. CONSTRUCT TCJ JOINTS IN ACCORDANCE WITH SECTION 8-B.

B. CONSTRUCT LCJ JOINTS IN ACCORDANCE WITH 1YPE LCJ DETAIL ON THIS SHEET AND LJ JOINTS IN ACCORDANCE WITH SECTION 0-0.

C. USE THE MAXIMUM SHOULDER THICKNESS WHEN DETERMINING DOWEL BAR AND TIE BAR SIZES IN TABLE 1.

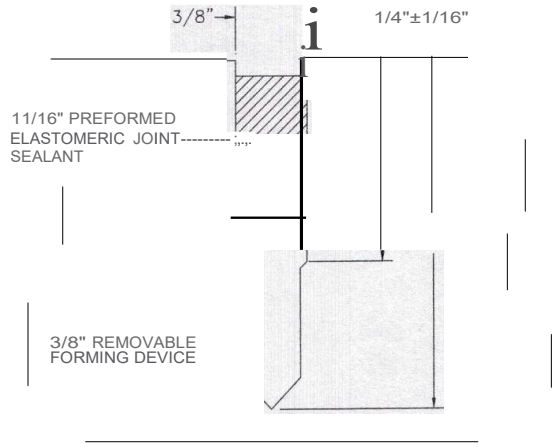
D. WHEN SKEWED JOINTS ARE USED ON MAINLINE PAVING THE SHOULDER TCJ JOINTS MAY BE SKEWED OR CONSTRUCTED AT 90' .

E. SHOULDER JOINTS AND JOINT MATERIALS WILL MATCH THE MAINLINE.

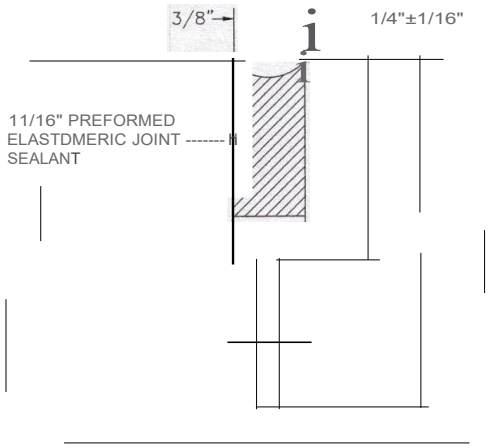
F. HEIGHT OF DOWEL BASKETS WILL BE BASED ON THE SHOULDER THICKNESS. ALSO VARYING HEIGH T DOWEL BASKETS WILL BE ALLOWED.

8 TIE BARS SHALL NOT BE PLACED WITHIN 18" OF CONTRACTION OR EXPANS ION JOINTS.

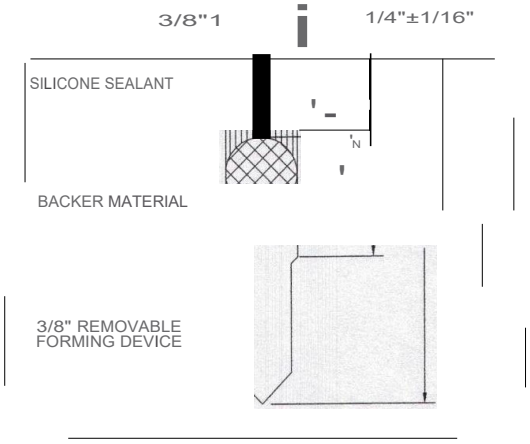
@ FOR REINFORCED STEEL, SEE DOTO SPECIFICATIONS SECTION 1009



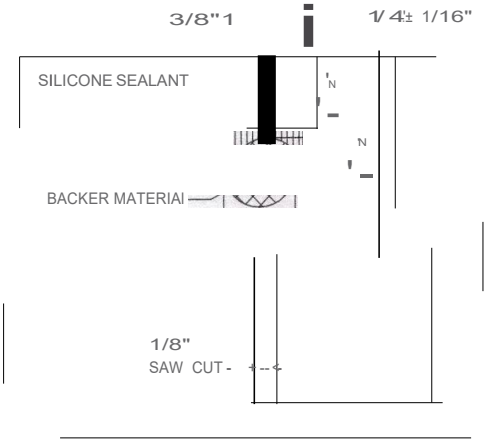
DETAI L "A"



DETAIL "c"



DETAIL "B"



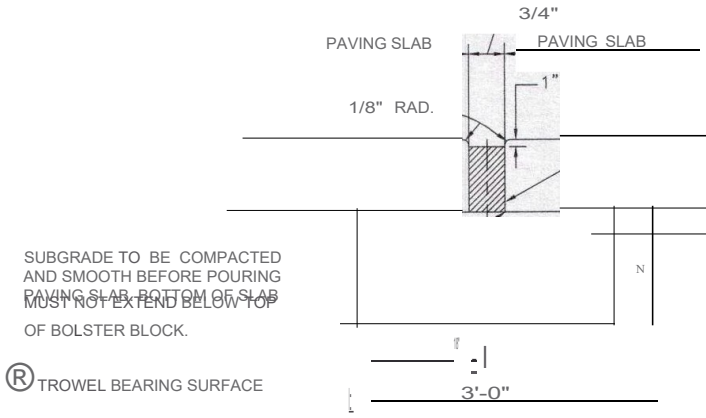
DETAI L "D"

NOTES:

1. USE DETAILS "A" THRU "E" IN CONJUNCTION WITH TYPE TCJ AND CJ JOINTS (SECTION B- B) ; TYP E BJ JOINTS (SECTION J-J); AND NOTES (j) AND@ ON DWG. RW2.
2. SEE TABLE I ON DWG. RW2

DETAILS "A" THRU "F"

N.T.S.



SECTION C-C
(DWG. RW2)
TYPE EJ MODIFIED

N.T.S.

@ NOTES:

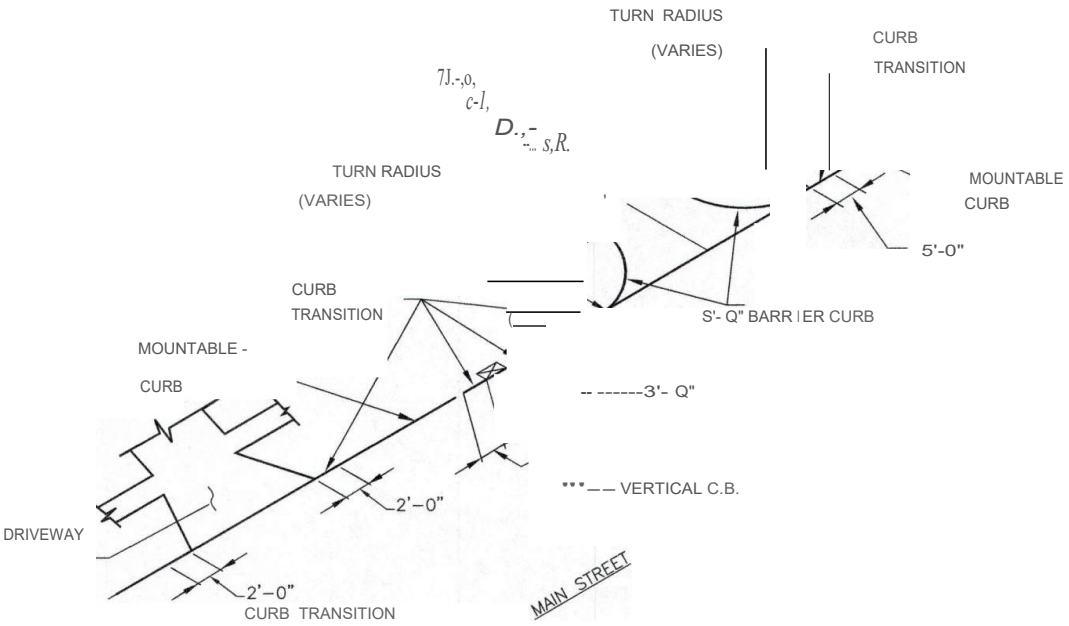
JOINT SHALL BE FILLED WITH A PRE-FORMED POLYURETHANE FOAM TYPE FILLER OR A POURED-IN-PLACE POLYURETHANE FOAM. WITH PREFORMED FILLER, USE A SUITABLE LUBRICANT/ADHESIVE THAT IS INSENSITIVE TO MOISTURE

® ONE LAYER OF 55-LB. TAR PAPER SHALL BE PLACED BETWEEN THE BOLSTER BLOCK AND THE PAVING SLABS.

® BOLSTER BLOCK SHALL BE CONSTRUCTED OF CLASS "A" OR PAVEMENT TYPE CONCRETE AT NO DIRECT PAY.

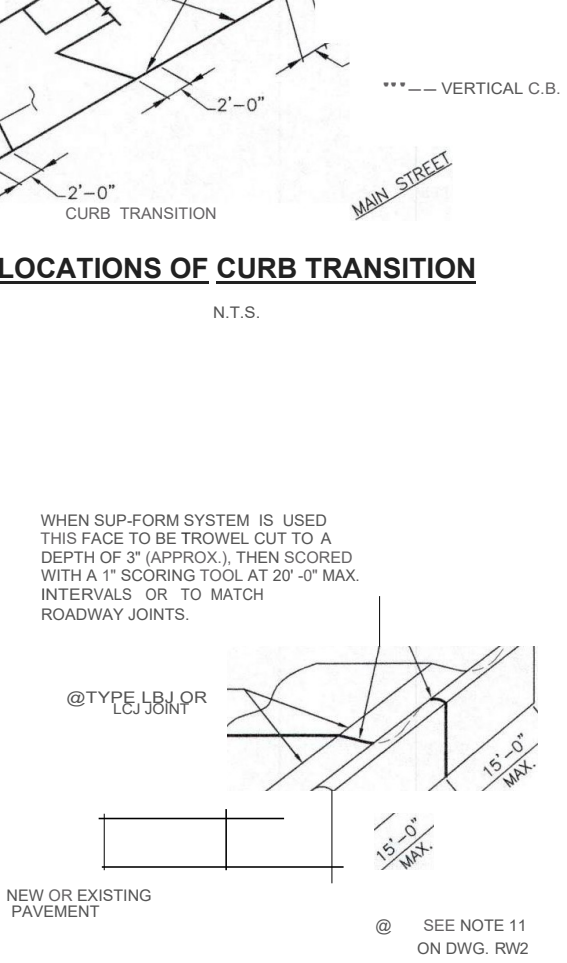
CHAIRS WELDED TO TOP
AND BOTTOM SPACER
(DIA. 0.306")

SURFACE OF PAVEMENT



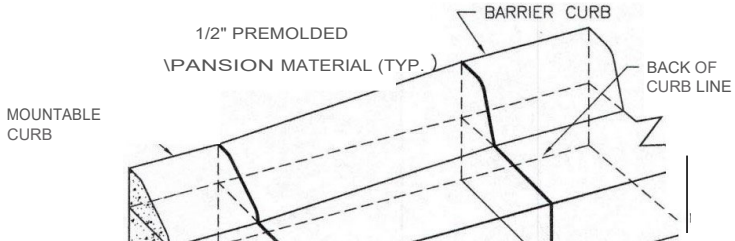
LOCATIONS OF CURB TRANSITION

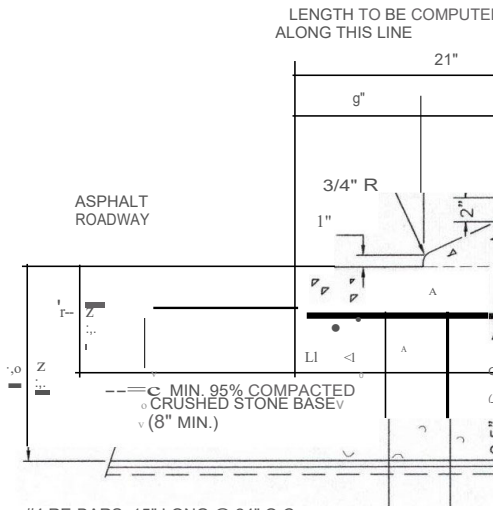
N.T.S.



DETAIL SHOWING JOINTS IN CONCRETE CURB AND GUTTER

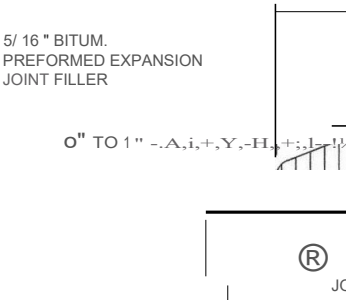
N.T.S.

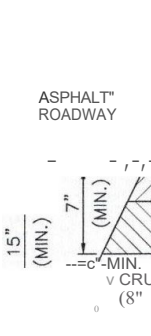




MOUNTABLE CURB &

N.T.S.





CURB RAMPS AT MEDIAN ISLANDS

Curb for Type 8.

Planting or other non- wal king surface if dropoff is not protected

ITYPE 12

NOTES:

1. See General Notes on sheet ADA2 for m or e information.
2. Cross slope not to exceed 2% on any portion of ramp or transition to street.

Curb Romp 2' min. run at 8.3% See Oetectoble Warnings

Planting or other non-walking sur face

TYPE 9

FLUSH LAND ING

ITYPE 13

GUTTER-BOTTOM

RAMP

6 ' Sidewalk

Londing

2% Max/----

Planting or other non-walking surface if dropoff is not protected

RAMP CUR

STREET CURB

GUTTER LINE

Ramp

S' Min Shared Landing

Side Flare

10

CURB RADIUS DETAIL

N.T.S.

8_3%Max

Shared Landing

Ro 4' Min rr,p Width

Perpendicular /lateral grade break.

DIRECTIONAL RAMP WITHIN RADIUS (Sidewalk adjacent to curb)

Denotes planting or non-walking surface.

Min. 2' taper to existing or proposed sidewalk

5' Min

2%+

4' Ramp Width

PERPENDICULAR SIDEWALK RAMP WITH SINGLE FLARE DETAIL

Curb ---> Max

Sidewalk

Ramp

Sidewalk

Romp

5' Min

10% Flore

8.3% Mox Ramp

TYPE 11

7. The desirable landing dimensions are 5' x 5' with a maximum 2% slope in any direction. If a level landing of at least 3' width cannot be provided, perpendicular curb ramps should not be used.

8. Curb ramps with returned curbs may only be used where pedestrians would not normally walk across the ramp. Otherwise, flared sides shall be provided.

9. All concrete surfaces shall receive a light broom finish unless noted otherwise in the plans.

10. Separate curb ramps and landings from adjacent sidewalk and any other elements with premolded or board joint of 3/4" unless otherwise directed by the Project Engineer.

11. Tooled joints are required at all sidewalk ramp or driveway slope break lines.

12. Provide a smooth transition where the curb romps connect to the street.

13. Ramp textures must include truncated domed surfaces. Textures are required to be detectable underfoot. Surfaces that would allow water to accumulate are prohibited. Shaded areas indicate locations of detectable warnings. (Color: light reflective value and texture contrast)

14. Note that where sidewalks intersect with streets, detectable warning systems ore required at all street crossings.

15. Ramps providing access to buildings shall follow the applicable requirements of the Public Right of Way Accessibility Guidelines (PROWAG).

16. To serve as a pedestrian refuge area, raised medians should be a minimum of 6' wide, 1 O' desirable. Medians should be designed to provide accessible passage over or through them.

17. Small channelization islands, which cannot provide a minimum 5' x 5' landing at the top of romps, shall be cut through level with the surface of the street.

18. On street parking will not be allowed within 20' of any crosswalks.

19. Drainage structures in close proximity to curb romps should be located on the upstream side of the ramp.

20. Traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items shall be placed so as not to obstruct the accessible route.

21. Street grades and cross-slopes shall be as shown elsewhere In the plans; however, parabolic crowns may require adjustment in crosswalk areas to limit crosswalk grade to 5%.

22. Where existing driveway is In good condition and meets slope requirements, construct only as much as required for satisfactory connection with new work.

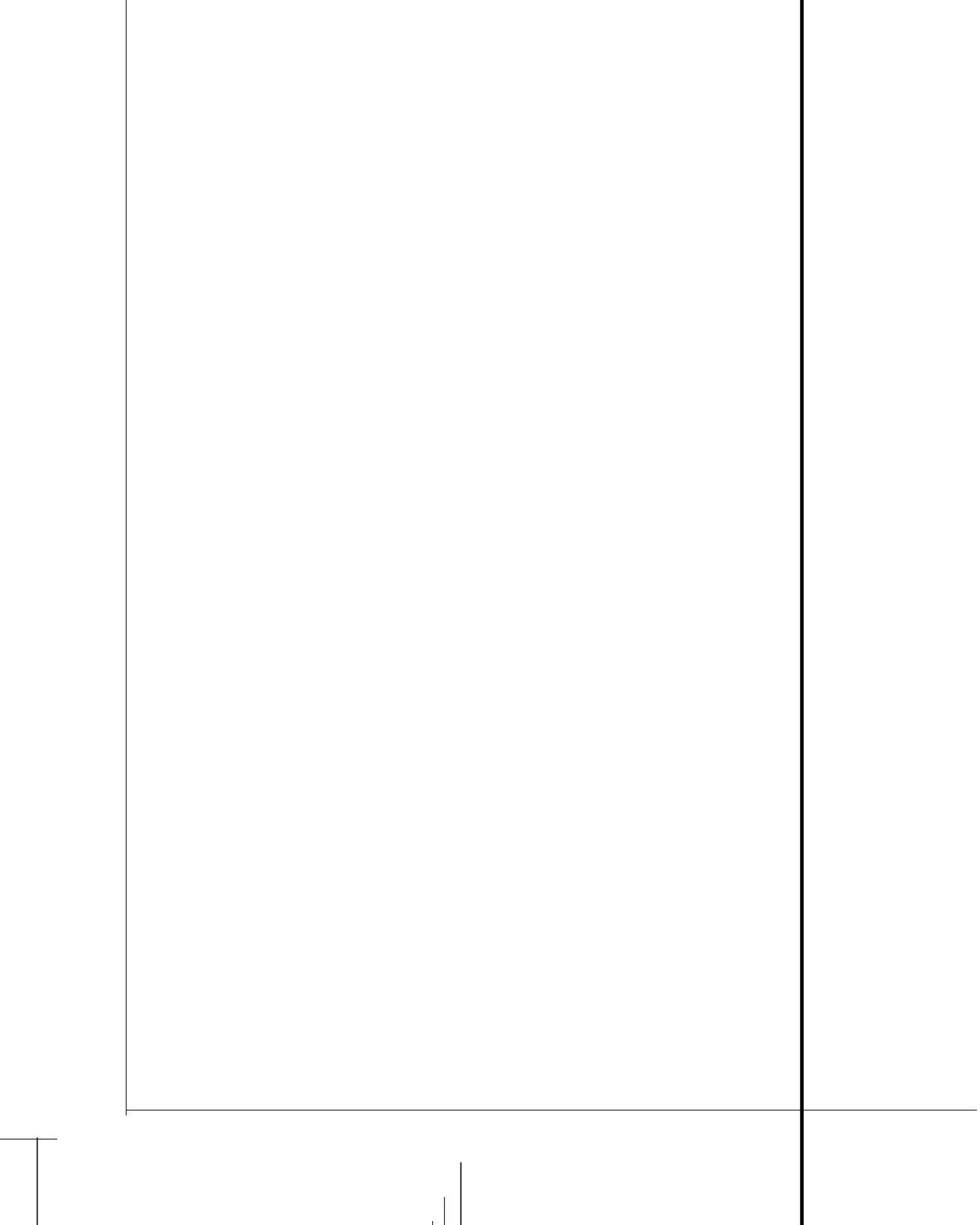
23. Where gravel driveways occur, at least 10' of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.

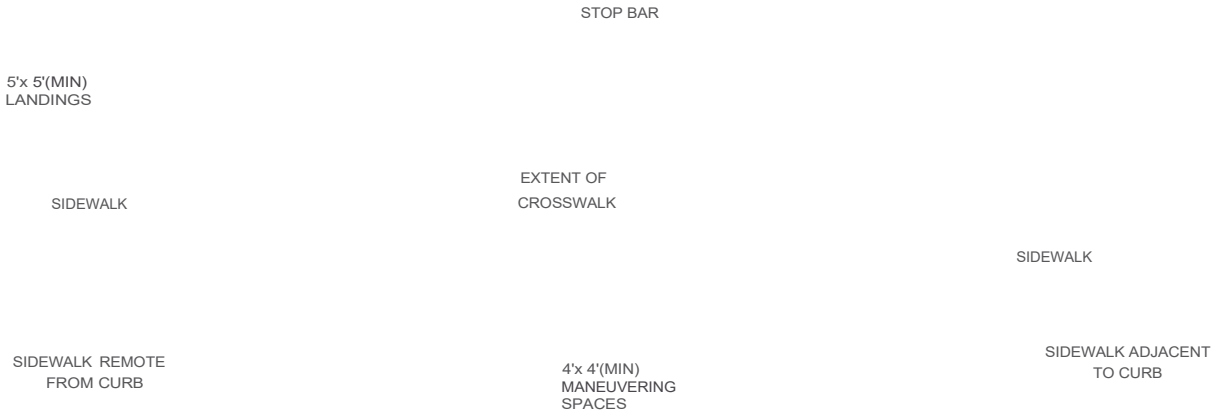
24. Sidewalk dimensions and crosswalk markings shall be as shown elsewhere in the plans. At intersections where cross walk markings ore not required, romps shall be aligned with theoretical crosswalks or as directed by the Project Engineer.

25. Where crosswalks occur, a 24" solid white line shall be placed across all approach lanes to indicate the point behind which vehicles are to stop. Stop bars shall be placed at a minimum 4' in advance of a crosswalk.

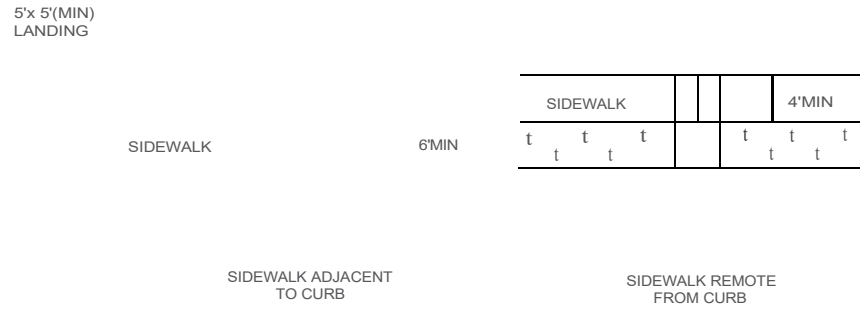
Standard warning system,

27. Though the least possible grade should be used to maximize accessibility, where it is structurally impractical to achieve ADA compliance, the running slope of sidewalks and crosswalks within the public right-of-way, may follow the grade of the parallel roadway without invoking variances or landings or handrails. Where a continuous grade greater than 5% must be provided, handrails may be desirable on one or





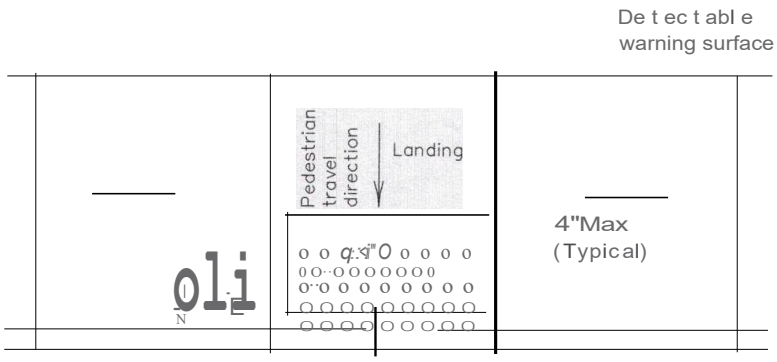
NORMAL INTERSECTION



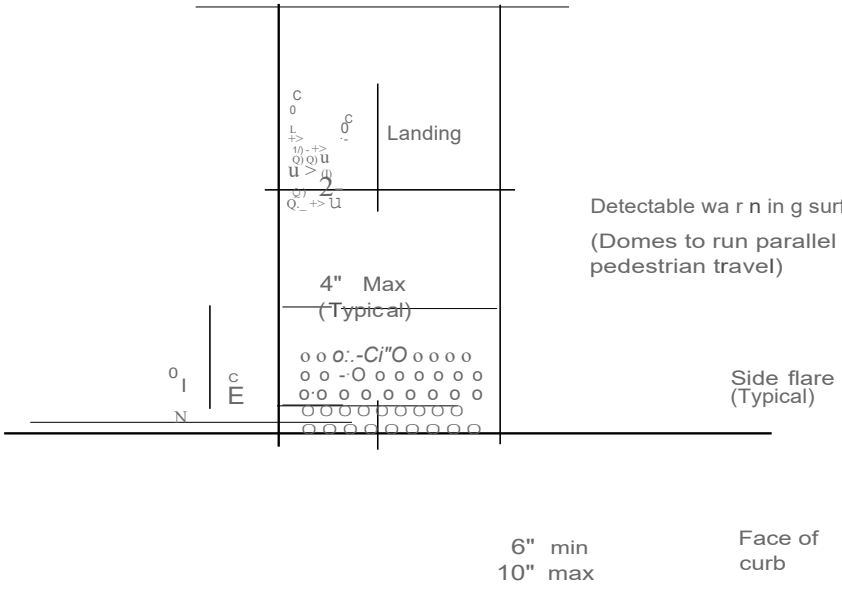
MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

warnings for
ed at the locations
with the details

n for r ef erenc e



Typ ic al placement of detectable wa rn in g sur face on lan din g at street edge.



Typ ic al placement of detectable warning surface on sloping ramp run.

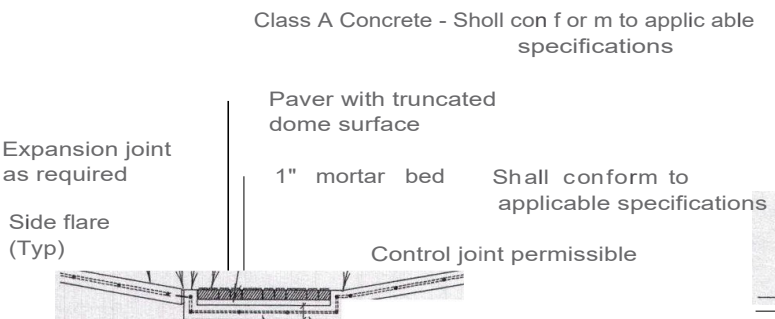
TRUNCATE
DET

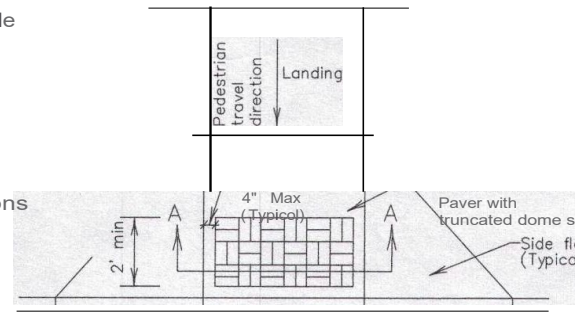
Note: Plac e t
of throat
intersecti
in-line pa

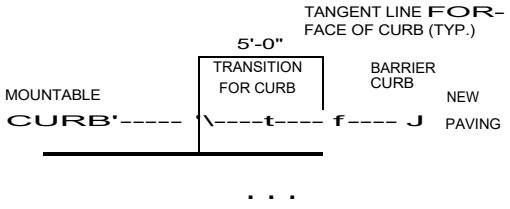
* Note: Retrofit applicati
of existing ramp wit
and epoxied bolts.
surface area per ma
recommendations.
See General Note

Pavement or
gutter

Expansion
Pavemen
gutter







VARIES

DENOTES LIMITS OF
WHEELCHAIR (TYP.)

SIDEWALK

R=6"

RAMP

GUTTER-
BOTTOM

SEE NOTE (☆)

N.T.S.

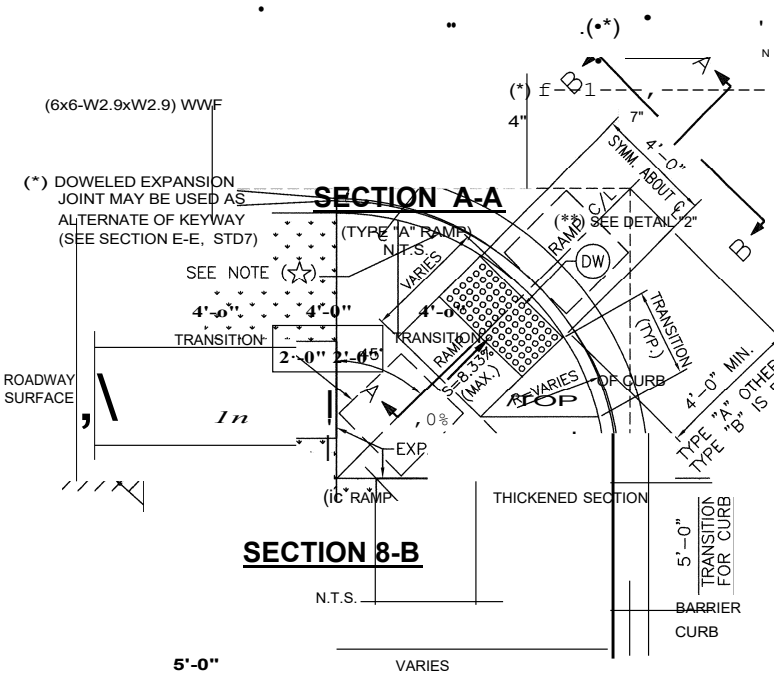
GUTTER BOTTOM 5% MAX SLOPE

6" MIN.*

CONCRETE HANDICAPPED RAMP TYPE "8"

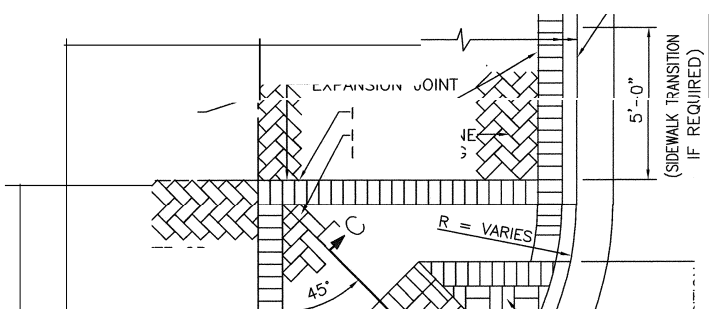
4'-0"

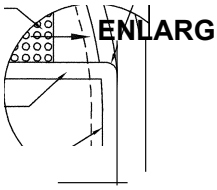
6" MIN.*



BRICK HANDICAPPED RAMP TYPE "A"

N.T.S.





ENLARGED V

CURB

DEPTH

SEE PL

5" C W/

(*) DOWELED EXPANSION JOINT MAY BE USED AS ALTERNATE OF KEYWAY (SEE SECTION E-E, STD7)

(**) SEE DETAIL "2"

BE APPROVED BY THE D.P.W. BE FORE THE CONTRACTOR ORDERS
HIS MATERIALS.

(7) MAINTAIN SIDEWALK ELEVATION THRU DRIVEWAYS.

Q DETECTABLE WARNINGS (DARK GREY)

(ADA) TRUNCATED DOME TILE (TYP.)
AS PER APPROVAL OF D. P.W.
SEE NOTES **(4)** THRU (6).

2"

VAR IES

2 '- 8 3 3% SLOPE DR 1/12 @>

MAX. AT RAMP

6 '

(6x6- V2,9xV2 9) \\If -

SECTION C-C

N. T.S.

1/2" PREMOLDED JT. MATERIAL (TYP.)

2" 1---

1/4
(TYP.)

SEALER (EPOXY)
(TYP.)

TWISTED PAIR
TO JUNCTION BOX

LOOP SAW-CUT CONFIGURATION

Fill AROUND SLEEVE
WITH EPOXY PASTE

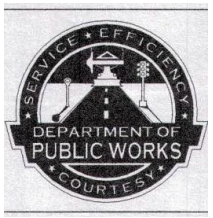
LEAVE WIRE SLACK
INSIDE OF SLEEVE

Li$_{t,}$ $_{t,}$ LI

<1 ' "

<1

(T Y P.)


SERVICE ★ EFFICIENCY
DEPARTMENT OF
PUBLIC WORKS
★ COURTESY ★

SINGLE LANE

2 EXPANSION

ON C-C SECTION D-D

VEHICLE LOOP INSTALLATION

WATERPROOF SPLICE

SIDEWALK

SECTION OF PLASTIC SLEEVING

,;r

t, ·

<1

LI

.. <1

..

A ..

SECTI

AT PAVEMENT JOINTS AND CRACKS

'

<1

ONE- INCH RIGID CONDU IT

INSTALLED IN A BORED HOLE

TYPICAL LOOP LEAD-IN INSTALLATION

(1" OH)

1/2" --l '-'+

./

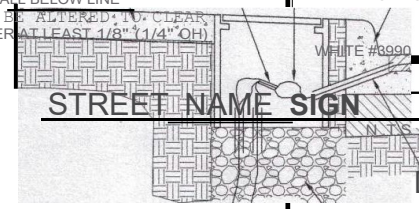
ALL LOWER CASE LETTERS THAT FALL BELOW LINE MUST BE ALTERED TO CLEAR BORDER (AT LEAST 1/8" (1/4" OH)

LEGEND & BORDER IS SCOTCH-LITE DIAMOND GRADE VIP , WHITE #3990

BACKGROUND IS SCOTCHLITE ELECTRONIC CUTTABLE FILM, BLUE #1175

1 1/8" (2 1/4" OH)

* OH = OVERHEAD MOUNTED STREET NAME SIGN



STREET NAME SIGN LEGEND & BORDER

N.T.S.

GENERAL NOTES:

(1) IF STREET NAME SUFFIX IS "STREET", SUFFIX IS OMITTED FROM SIGN.

(2) REPLACEMENT STREET NAME TILES SHALL BE SET IN A 1/4"-1/2" MORTAR BED WITH A 1/4" (MAX. SPACING) BETWEEN LETTERS.

CITY OF NEW ORLEANS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

THE SELECTION AND USE OF THESE DETAILS. WHILE DESIGNED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRINCIPLES AND PRACTICES, IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A LOUISIANA REGISTERED PROFESSIONAL ENGINEER.

MISCELLANEOUS DETAILS FOR STREET CONSTRUCTION

DRAWING No.
MC 1

DRAWN BY: N. SCHNEIDER

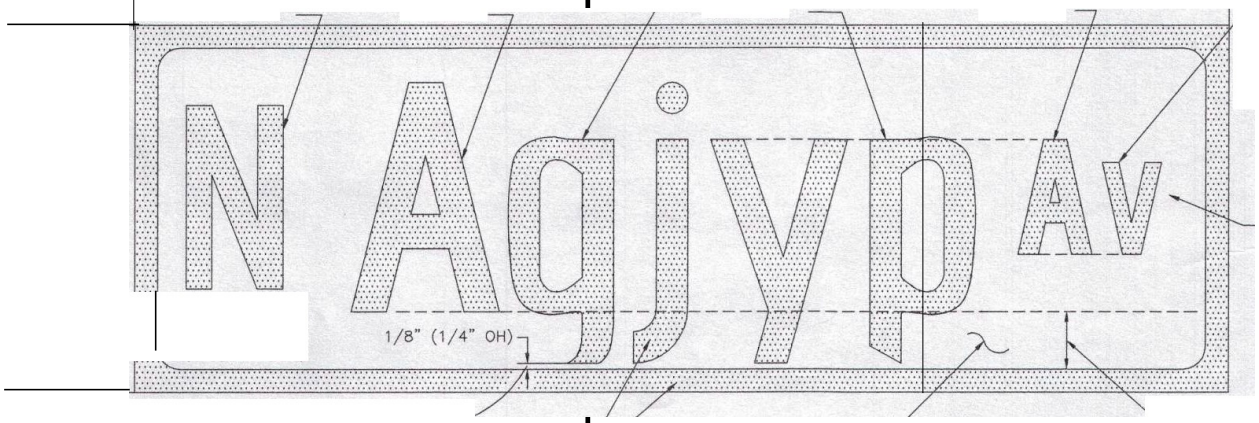
REVIWED BY: M.T. B.V. R.S. A.Y. L.H,

RECOMMENDED BY:

SCALE
AS NOTED

APPROVED

OR



APPENDIX E

Water Service House Connections

Hcid	Address	Street Name	Secondary Addresses	House Connection Number	Meter Size	Service Size	Tap Location	Meter Box Location
45775	900	DECATUR		93251	1	1	6 ft. from ST PHILIP	NOPSI TRANSF 15' FROM PL ST PHILIP 59' OUTSIDE PL 47' INSIDE CUR. OPPOSITE FLAG POLE ON NEUTRAL GROU
45776	901	DECATUR		12764	5/8	3/4	64 ft. from DECATUR	CIGAR STORE 5TH METER ON DUMAINE 56' P.L. DECATUR
45777	905	DECATUR		61102	5/8	5/8	57 ft. from DECATUR	4TH METER SIDE ST ON DUMAINE 55' P.L. DECATUR
45778	907	DECATUR		52864	5/8	5/8	64 ft. from DUMAINE	ON DECATUR 64FT FROM DUMAINE
45780	911	DECATUR		178166	5/8	5/8	94 ft. from DUMAINE	ON DECATUR 103' FROM P.L. DUMAINE 13'OUTSIDE P.L.
45779	911	DECATUR		30580	2	2	64 ft. from DUMAINE	BAR/METER ON DECATUR 67 FT FROM PL DUMAINE
45782	913	DECATUR		120091	1	1	112 ft. from DUMAINE	ON DECATUR 112' FROM PL DUMAINE 4' OUTSIDE PL 4' I NSIDE CURB
45781	913	DECATUR		12765	5/8	3/4	106 ft. from DUMAINE	RES AND STORE 106' P.L. DUMAINE
45783	915	DECATUR		12762	5/8	3/4	106 ft. from DUMAINE	FRONT 913 - 107' P.L. DUMAINE
45784	917	DECATUR		1646	3/4	3/4	161 ft. from ST PHILIP	ON DECATUR,161' FROM U.S.P.L. ST. PHILIP
45785	921	DECATUR	923 DECATUR	32774	5/8	5/8	161 ft. from ST PHILIP	BAKERY 151.5' PL. ST. PHILIP
45786	925	DECATUR	925 DECATUR	955	5/8	3/4	113 ft. from ST PHILIP	ON DECATUR,113' FROM S.P.L. ST. PHILIP
45788	929	DECATUR		122417	1	1	90 ft. from ST PHILIP	GROCERY 90' P/L ST PHILIP 6' OUTSIDE 4' INSIDE CURB
45787	929	DECATUR		3134	5/8	3/4	113 ft. from ST PHILIP	GROCERY, ON DECATUR, 113'FROM PL. ST. PHILIP
45789	933	DECATUR		954	3/4	3/4	65 ft. from ST PHILIP	ON DECATUR,65' FROM U.P.L. ST. PHILIP
45790	937	DECATUR		13400	5/8	5/8	46 ft. from ST PHILIP	FRONT 46' P.L. ST PHILIP
45791	941	DECATUR		6630	3/4	3/4	71 ft. from DECATUR USPL	ON ST. PHILIP,71'FROM URPL DECATUR
45792	1000	DECATUR		155869	4	8	63 ft. from ST PHILIP	ON DECATUR BET ST. PHILLIP 69FT. FROM PL ST. PHILI P 5FT. INSIDE CURB 2ND MH FROM CURB
45793	1000	DECATUR		155870	6	8	67 ft. from DECATUR	ON DECATUR, 69FT. PL ST. PHILIP,2' INSIDE CURB, 1ST METER ST CURB IN SW OPP. 1011,FIRE SPRINKLER
45794	1000	DECATUR		178388	2	2	30 ft. from ST PHILIP	ON DECATUR, 30FT. FROM PL ST. PHILIP, 4' OUTSIDE CURB, SERVE MARKET CAFE
45795	1000	DECATUR		178389	2	2	30 ft. from ST PHILIP	ON DECATUR, 30FT. FROM PL ST. PHILIP, 4' OUTSIDE CURB, SERVE BATHROOM & LAWN SPRINKLER SYSTEM
45796	1000	DECATUR		178390	2	2	63 ft. from ST PHILIP	ON DECATUR 63FT FROM ST PHILIP 4FT OUTSIDE CURB. SERVE VIEUX CARRE RESTURANT
45797	1001	DECATUR	1001 DECATUR	14438	5/8	3/4	67 ft. from DECATUR	1ST METER SIDE ST 61FT PL DECATUR
45798	1001	DECATUR		162888	2	2	84 ft. from DECATUR	ON ST PHILIP 88FT FROM PL DECATUR 5FT OUTSD PL 5' INSIDE CURB
45799	1005	DECATUR	1009 DECATUR	107730	1	1	42 ft. from ST PHILIP	1ST METER 42FT FROM PL ST PHILIP 6' OUTSIDE 2' IN SIDE CURB
45800	1007	DECATUR		8076	1	1	42 ft. from ST PHILIP	ON DECATUR 40FT FROM PL OF ST PHILIP 6FT OUTSIDE 4.5FT INSIDE CURB
45801	1011	DECATUR		31625	5/8	5/8	72 ft. from ST PHILIP	72FT FROM LSPL ST PHILIP

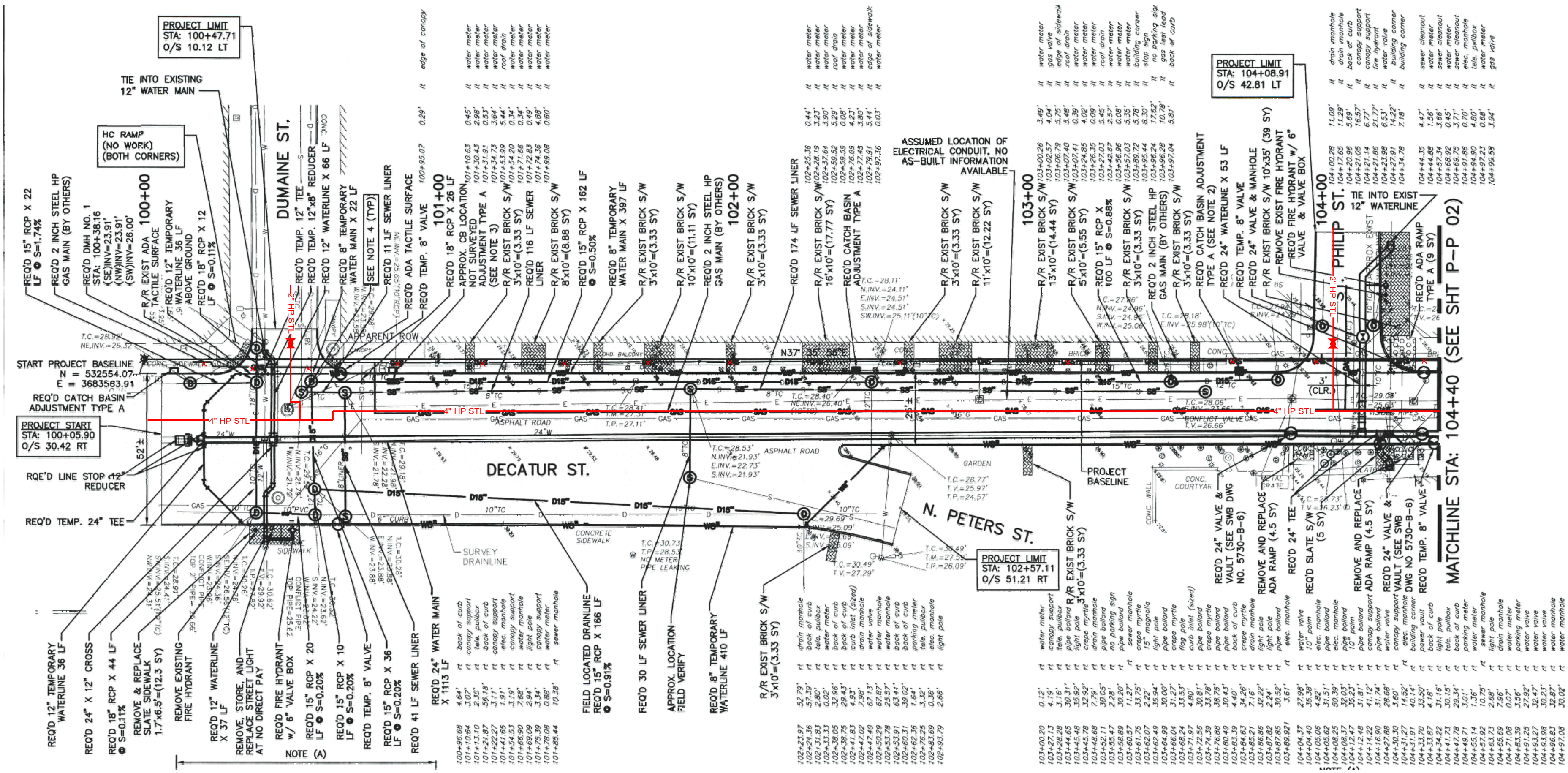
Hcid	Address	Street Name	Secondary Addresses	House Connection Number	Meter Size	Service Size	Tap Location	Meter Box Location
45802	1011	DECATUR		161652	1	1	81 ft. from ST PHILIP	ON DECATUR, 81' FROM P.L. ST. PHILIP, 9' OUTSIDE, 2' INSIDE CURB
45803	1011	DECATUR		177985	4	4	83 ft. from ST PHILIP	ON DECATUR BET URSULINES & ST. PHILLIP 91FT. FROM PL ST. PHILLIP AND 3FT. OUTSIDE PL
45804	1015	DECATUR		13408	5/8	5/8	125 ft. from ST PHILIP	POULTRY STORE 125' FROM ISPL ST PHILIP ON DECATUR
45805	1017	DECATUR		9584	5/8	5/8	115 ft. from URSULINES AVE	POOL ROOMS
45806	1017	DECATUR		183632	1 1/2	1 1/2	60 ft. from STPHILIP	ON DECATUR 60FT FROM ST PHILIP 19FT OUTSIDE (METER IN STREET)
45807	1021	DECATUR		36077	5/8	5/8	152 ft. from URSULINES AVE	ON DECATUR 155' FROM USPL URSULINES AVE
45808	1025	DECATUR	1025 DECATUR	12485	1	1	183 ft. from ST PHILIP	ON DECATUR,183.3' FROM P.L. ST. PHILLIP,7.5' OUT- SIDE P.L. & 3' INSIDE CURB
45809	1031	DECATUR		82022	5/8	3/4	206 ft. from ST PHILIP	ON DECATUR 226.5' FROM PL ST PHILIP
45810	1035	DECATUR		13447	5/8	3/4	44 ft. from URSULINES AVE	ON DECATUR ST 44' FROM URPSL URSULINES AVE
45811	1035	DECATUR		153874	2	2	50 ft. from URSULINES AVE	ON DECATUR BET ST. PHILLIP & URSULINES CURB COCK & METER IN MH ON DECATUR 44FT. FROM PL URSULINES
45812	1035	DECATUR		154215	4	4	44 ft. from URSULINES AVE	ON DECATUR 46FT FROM UPL URSULINE AVE 20.6FT OUT-SIDE CURB METER IN MANHOLE
45813	1037	DECATUR		30812	5/8	5/8	64 ft. from DECATUR	ON URSULINES 63FT FROM DECATUR
45814	1101	DECATUR		32035	5/8	5/8	32 ft. from URSULINES AVE	ON URSULINES 32FT FROM DECATUR (2ND MTR BOX)
45815	1101	DECATUR		189240	4	4	46 ft. from DECATUR	ON URSULINES 46FT FROM DECATUR INSIDE PROPERTY FIRE SERVICE
45816	1101	DECATUR		189241	2	4	46 ft. from DECATUR	ON URSULINE 46FT FROM DECATUR INSIDE OF PROPERTY DOMESTIC SERVICE
45817	1104	DECATUR		181504	4	4	45 ft. from URSULINES	ON FRENCHMARKET 45FT FROM URSULINES 13.3FT OUTSIDE FIRE ONLY(METER IN STREET ON FRENCHMARKET).
45818	1104	DECATUR		183294	2	2	24 ft. from URSULINES	ON FRENCH MARKET 24FT FROM URSULINES 12FT OUTSIDE
45819	1107	DECATUR		12960	5/8	5/8	54 ft. from URSULINES AVE	REST 54' P.L. URSULINES AV
45820	1109	DECATUR		13109	5/8	5/8	82 ft. from URSULINES AVE	REST AND BAR 82FT INSIDE PL URSULINE
45821	1113	DECATUR		10730	5/8	5/8	103 ft. from URSULINES AVE	OFFICE ON DECATUR 107' FROM P LINE URSULINES AVE
45822	1113	DECATUR		182875	1 1/2	1 1/2	116 ft. from URSULINES	ON DECATUR 112FT FROM URSULINES 15FT OUTSIDE METER IN STREET
45823	1117	DECATUR		12775	5/8	5/8	133 ft. from URSULINES AVE	APT AND STORE 133' P.L. URSULINES AV

Hcid	Address	Street Name	Secondary Addresses	House Connection Number	Meter Size	Service Size	Tap Location	Meter Box Location
45824	1117	DECATUR		175065	1	1	109 ft. from URSULINES	ON DECATUR 122' FROM PL URSULINES AVE 2.5' OUTSIDE PL 7' INSIDE CURB
45825	1117	DECATUR		175066	2	2	109 ft. from URSULINES	ON DECATUR 120' FROM PL URSULINES AVE
45826	1117	DECATUR		175068	4	4	109 ft. from URSULINES	ON DECATUR 116' FROM P.L. URSULINES 22'OUTSIDE P.L
45827	1118	DECATUR		79568	2	1	155 ft. from URSULINES AVE	ON FRENCH MARKET PL., 158.6' FROM L.S.P.L. URSULINES AVE.(IN SIDEWALK)
45828	1118	DECATUR		176847	4	4	38 ft. from URSULINES	ON DECATUR 145' FROM URSULINES 19'OUTSIDE P.L.
45829	1119	DECATUR		12777	5/8	5/8	152 ft. from URSULINES AVE	RES 152' P.L. URSULINES AV
45830	1122	DECATUR		33981	5/8	5/8	150 ft. from GOV NICHOLLS	ON FRENCH MARKET 149.2' FROM SPL GOV NICHOLLS ST
45831	1123	DECATUR		12778	5/8	5/8	177 ft. from URSULINES AVE	2 APTS AND BAR 177' P.L. URSULINES AVE
45832	1124	DECATUR	1123 GALLATIN	14960	5/8	5/8	104 ft. from GOV NICHOLLS	REAR ST AT 35 AND 37 104' FROM USPL GOV NICHOLLS
45833	1127	DECATUR		12781	5/8	5/8	110 ft. from GOV NICHOLLS	STORE AND RES 110' P.L. GOV NICHOLLS
45834	1129	DECATUR	1131 DECATUR	12780	5/8	5/8	84 ft. from GOV NICHOLLS	BAR 84' P.L. GOV NICHOLLS
45835	1130	DECATUR		12776	5/8	5/8	71 ft. from GOV NICHOLLS	REAR ST 6FT INSIDE CURB 71' P.L. GOV NICHOLLS
45836	1130	DECATUR		182006	4	4	66 ft. from GOV NICHOLLS	ON FRENCH MARKET 66FT FROM DIV P/L GOV NICHOLLS 19FT OUTSIDE 10FT INSIDE CURB FIRE SERVICE
45837	1133	DECATUR		12763	5/8	5/8	60 ft. from GOV NICHOLLS	60FT FROM USPL GOV NICHOLLS
45838	1135	DECATUR		12779	5/8	5/8	35 ft. from GOV NICHOLLS	BAR AND REST FRONT 35' P.L. GOV NICHOLLS
45839	1139	DECATUR	1141 DECATUR	91425	5/8	5/8	64 ft. from DECATUR	GHLL 61' P.L. DECATUR
45840	1140	DECATUR	1147 FRENCH MA	6631	5/8	5/8	25 ft. from GOV NICHOLLS US	REAR ST FRONT 47-49 FRUIT STAND AND WHSE
45841	1140	DECATUR		181198	2	2	8 ft. from GOV NICHOLLS	ON GOV NICHOLLS 8FT FROM FRENCH MARKET 6FT OUTSIDE
45842	1140	DECATUR		181322	4	4	9 ft. from DECATUR	ON GOV NICHOLLS 9FT FROM DECATUR FIRE
157258	600	ST PETER	602 ST PETER	947	5/8	3/4	131 ft. from CHARTRES	ON ST. PETER,131' FROM L.P.L. CHARTRES
157259	600	ST PETER	H99776		2	2	ft. from	METER IS LOCATED NEAR CABILDO ALLEY
157260	615	ST PETER		162607	1 1/2	1 1/2	112 ft. from CHARTRES	ON PIRATES ALLEY 109FT FROM PL CHARTRES 4'OUTSD
157266	616	ST PETER	H97388		2	2	ft. from	
157263	616	ST PETER		140725	1 1/2	1 1/2	66 ft. from ST PETER	ON CHARTRES 65FT FROM PL ST PETER
157264	616	ST PETER		188366	2	2	43 ft. from ST PETERS	ON CHARTRES 43FT FROM ST PETERS 2FT OUTSIDE P/L
157265	616	ST PETER		93383	2	1 1/2	128 ft. from CHARTRES	ON ST. PETER,127' FROM P.L. CHARTRES,IN ST. 7.5TOU TSIDE PL 3FT. INSIDE CURB
157261	616	ST PETER		945	5/8	3/4	78 ft. from CHARTRES	ON ST. PETER,78' FROM L.P.L. CHARTRES
157262	616	ST PETER		63467	6	6	173 ft. from ROYAL	ON ST PETER 197.4' FROM URPL ROYAL UN-METERED FIRE SERVICE
157267	620	ST PETER		10526	5/8	3/4	156 ft. from CHARTRES	2 APTS AND 1 BUS ON ST.PETER,156'FROM PL CHARTRES

Hcid	Address	Street Name	Secondary Addresses	House Connection Number	Meter Size	Service Size	Tap Location	Meter Box Location
157269	621	ST PETER		113359	1 1/2	1 1/2	156 ft. from ROYAL	ON ST. PETER, 155.5' FROM P.L. ROYAL, 5' OUTSIDE P.L.,3' INSIDE CURB
157270	621	ST PETER		167345	1	1	3 ft. from CHARTRES (DIV PL)	ON ST PETER 3FT FROM PL CHARTRES 8FT OUTSD PL 4' INSIDE CURB
157268	621	ST PETER		13274	5/8	5/8	154 ft. from ROYAL	154' P.L. ROYAL
157271	622	ST PETER		81091	1	1	180 ft. from CHARTRES	180FT FR PL CHARTRES 1ST METER INSIDE CURB
157272	623	ST PETER		34844	5/8	5/8	37 ft. from ST PETER	ON ST PETER ST 37' FROM LRPL COURT ALLEY
157273	627	ST PETER		13276	1	1	97 ft. from ROYAL	5 APTS AND STORE 98' P.L. ROYAL
157274	627	ST PETER		185427	4	4	110 ft. from ROYAL	ON ST PETER 110FT FROM ROYAL INSIDE BLDG FIRE SERVICE
157275	628	ST PETER		13275	5/8	5/8	122 ft. from ROYAL	RES 122' P.L. ROYAL
157276	629	ST PETER		13277	5/8	5/8	80 ft. from ROYAL	ART GALLERY 81' P.L. ROYAL
157277	630	ST PETER		168290	2	2	119 ft. from ROYAL	IN FRONT OF GUMBO SHOP MH IN ST. ST PETERS 119FT. FROM PL ROYAL 11FT. OUTSIDE PL IN STREET
157278	631	ST PETER	633 ST PETER	13272	5/8	5/8	57 ft. from ROYAL	56' P.L. ROYAL
157279	631	ST PETER		175131	5/8	3/4	59 ft. from ROYAL	ON ST. PETER 23FT. FROM DIV. PL ROYAL IN SIDEWALK 3FT. FRM CURB
157280	631	ST PETER		175132	5/8	3/4	62 ft. from ROYAL	ON ST. PETER 24FT. FROM DIV. PL ROYAL 3FT. FRM CUR B
157281	631	ST PETER		175133	5/8	1	61 ft. from ROYAL	ON ST. PETER 25FT. FROM DIV. PL ROYAL 3FT. FROM CURB
157283	632	ST PETER		69502	5/8	3/4	66 ft. from ROYAL	ON ST. PETER, 65' FROM R.P.L. ROYAL
157282	632	ST PETER		879	5/8	3/4	66 ft. from ROYAL	ART GALLERY ON ST PETER 66' FROM R.P.L. ROYAL
157284	633	ST PETER		175141	5/8	3/4	59 ft. from ROYAL	ON ST. PETER 14FT. FROM DIV. PL ROYAL 3FT. FROM CU RB
157285	633	ST PETER		175142	5/8	3/4	59 ft. from ROYAL	ON ST. PETER 15FT. FROM PL ROYAL 3FT. OUTSIDE
157286	633	ST PETER		175143	5/8	3/4	59 ft. from ROYAL	ST. PETER 16FT. FROM PL DIV. ROYAL 3FT. FROM CURB
157287	633	ST PETER		175144	5/8	3/4	59 ft. from ROYAL	ON ST. PETER 17FT. FROM DIV. PL ROYAL 3FT. FRM CU RB
157288	634	ST PETER		97498	1	1	38 ft. from ST. PETER	ON ROYAL, 39' FROM P.L. ST. PETER,4.5'OUTSIDE P.L. 2.5' INSIDE CURB
157289	635	ST PETER	637 ST PETER	15432	5/8	5/8	22 ft. from ROYAL	RES AND SHOP ON ST PETER 22' FROM LRPL ROYAL

APPENDIX F

Proposed Entergy Gas Mains



0 20' 40'

SCALE: 1" = 20'

NOTES:

WORK TO BE PREFORMED: REQ'D 24" WATER MAIN, REQ'D SUB-SURFACE GRAVITY DRAINAGE, FULL DEPTH, FULL WIDTH PAVEMENT AND GRAVITY SEWER LINING

SEWER MANHOLE LOCATION IS APPROXIMATE. FIELD VERIFY.

NOTE (A):

REQ'D PAVEMENT ELEVATIONS AT INTERSECTIONS SHALL BE ADJUSTED BY THE CONTRACTOR TO BE COMPATIBLE WITH EXISTING GRADES AND TO PROVIDE POSITIVE DRAINAGE TO NEAREST CATCH BASINS MIN. 1.5% CROSS SLOPE FROM CENTERLINE OF EACH ROADWAY IS REQUIRED IN ALL DIRECTIONS.

NOTE 1. VERTICAL CURVE LENGTHS SHALL BE ADJUSTED IN THE FIELD TO REMOVE CONFLICTS WITH ADJACENT PAVEMENT AND EXISTING CATCH BASIN LOCATIONS.

NOTE 2. ALL GAS MAINS WILL BE INSTALLED BY OTHERS.

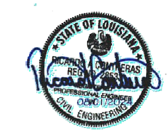
NOTE 3. AT ALL CATCH BASIN LOCATIONS CONTRACTOR SHALL INSTALL DRAINAGE WYE (ITEM C701(59)) AND ASSOCIATED LATERAL (ITEM C701(53)(E)).

NOTE 4. ALL MANHOLES SHALL BE ADJUSTED AS NECESSARY (ITEM C702(54)(A)(1)). CONTRACTOR SHALL REHABILITATE ALL DRAIN MANHOLES (ITEM C702(54)(I), AND ALL SEWER MANHOLES (ITEM CSS742(X9)).

NOTE 5. BRICK SIDEWALK SHALL BE REMOVED 8" WIDE FOR THE LENGTH OF CURB REPLACEMENT AT NO DIRECT COST. STONE SIDEWALK SHALL BE REMOVED 15" WIDE FOR THE LENGTH OF THE CURB REPLACEMENT AT NO DIRECT COST.

FULL WIDTH FULL DEPTH PAVEMENT

SCALE 1" = 20'-0" HORIZ.



Infinity Engineering Consultants, LLC — IEC Project No 20-103
Civil–Structural–Mechanical–Electrical–Marine–Transportation
Metairie, LA www.infinityec.com 504-304-0548

P–P 01

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

900 DECATUR ST.

CONTRACT NO. 2154

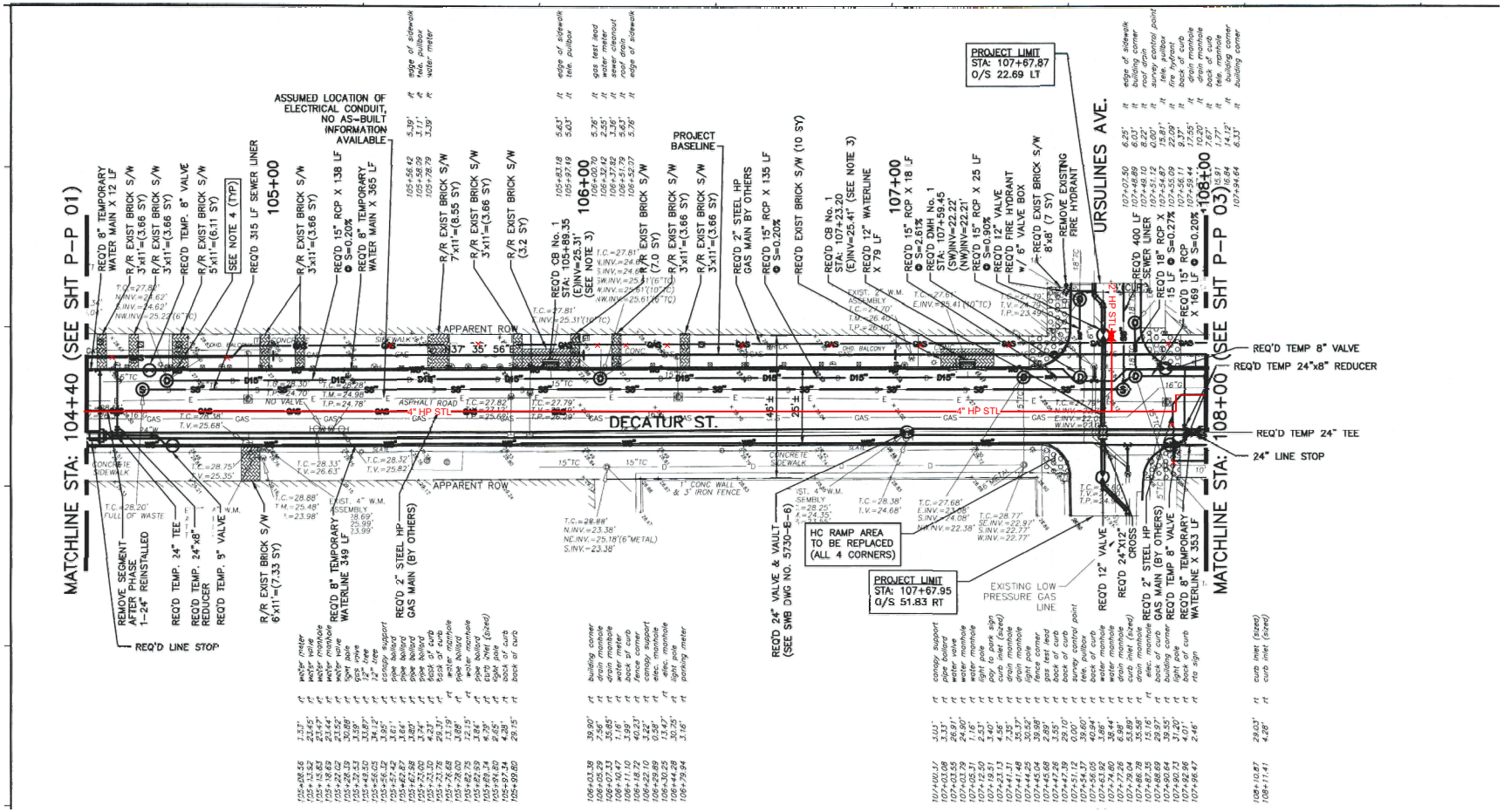
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958–W

SET NO.

SHEET NO. 9 OF 32



NOTES:

WORK TO BE PREFORMED: REQ'D 24" WATER MAIN, REQ'D SUB-SURFACE GRAVITY DRAINAGE, FULL DEPTH, FULL WIDTH PAVEMENT AND GRAVITY SEWER LINING

SEWER MANHOLE LOCATION IS APPROXIMATE. FIELD VERIFY.

NOTE (A):

REQ'D PAVEMENT ELEVATIONS AT INTERSECTIONS SHALL BE ADJUSTED BY THE CONTRACTOR TO BE COMPATIBLE WITH EXISTING GRADES AND TO PROVIDE POSITIVE DRAINAGE TO NEAREST CATCH BASINS MIN. 1.5% CROSS SLOPE FROM CENTERLINE OF EACH ROADWAY IS REQUIRED IN ALL DIRECTIONS.

NOTE 1. VERTICAL CURVE LENGTHS SHALL BE ADJUSTED IN THE FIELD TO REMOVE CONFLICTS WITH ADJACENT PAVEMENT AND EXISTING CATCH BASIN LOCATIONS.

NOTE 2. ALL GAS MAINS WILL BE INSTALLED BY OTHERS.

NOTE 3. AT ALL CATCH BASIN LOCATIONS CONTRACTOR SHALL INSTALL DRAINAGE WYE (ITEM C701(59)) AND ASSOCIATED LATERAL (ITEM C701(53)(E)).

NOTE 4. ALL MANHOLES SHALL BE ADJUSTED AS NECESSARY (ITEM C702(54)(A)(1)). CONTRACTOR SHALL REHABILITATE ALL DRAIN MANHOLES (ITEM C702(54)(I), AND ALL SEWER MANHOLES (ITEM CSS742(X9)).

NOTE 5. BRICK SIDEWALK SHALL BE REMOVED 8" WIDE FOR THE LENGTH OF CURB REPLACEMENT AT NO DIRECT COST. STONE SIDEWALK SHALL BE REMOVED 15" WIDE FOR THE LENGTH OF THE CURB REPLACEMENT AT NO DIRECT COST.

FULL WIDTH FULL DEPTH PAVEMENT

SCALE 1" = 20'-0" HORIZ.

1"=20' HORIZ.

0 20' 40'

SCALE: 1" = 20'

STATE OF LOUISIANA — RICARDO CONTRERAS — REGISTERED PROFESSIONAL ENGINEER — CIVIL ENGINEERING

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

1000 DECATUR ST.

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC (EC Project No. 20-103)
Civil-Structural-Mechanical-Electrical-Marine-Transportation
Metairie, LA www.infinityec.com 504.304.0548

P-P 02

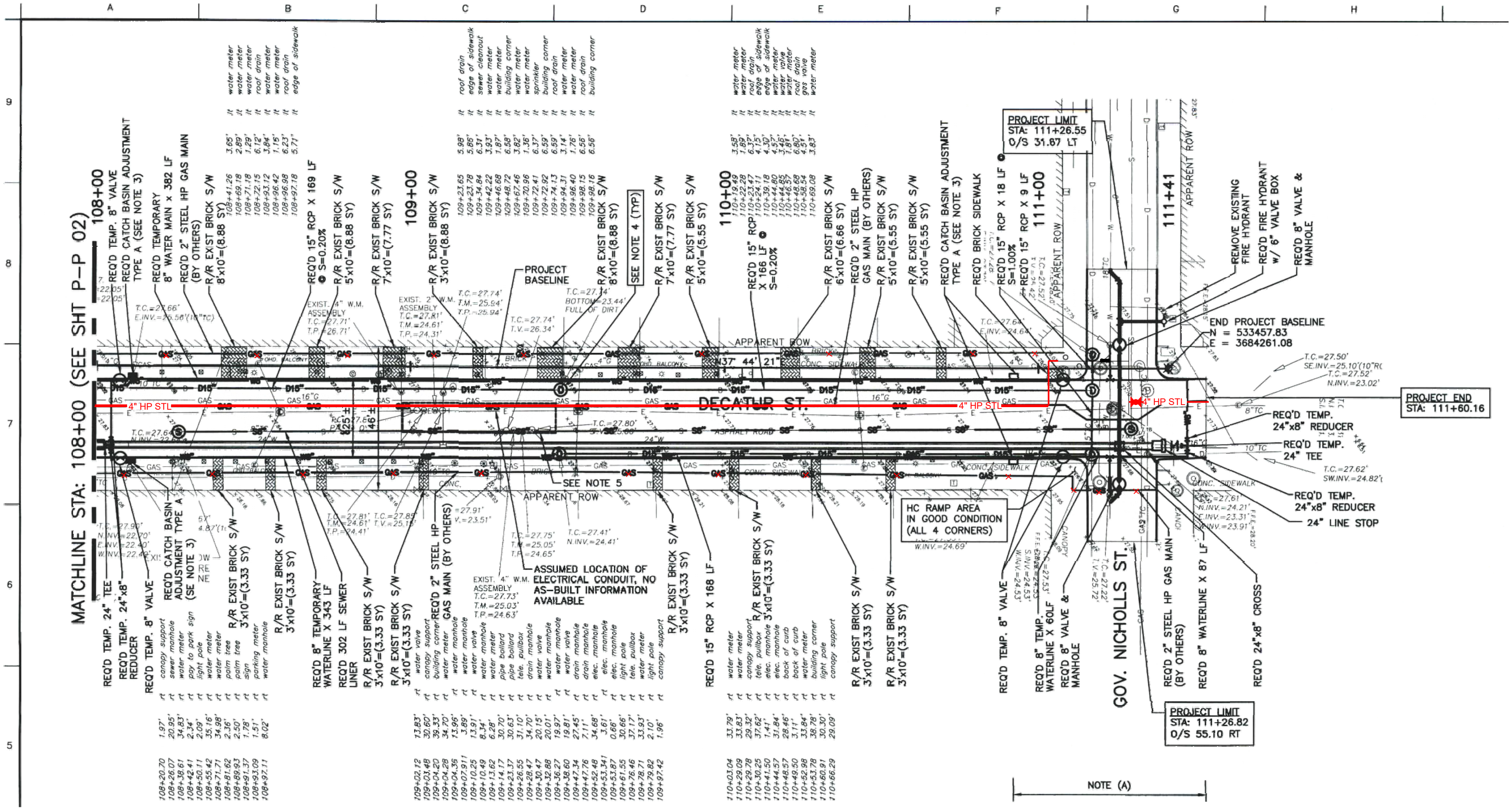
DR: Q. VU
TRC: —
CK: R. HAYDEL
AP: R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

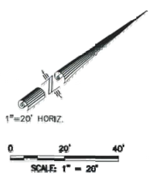
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.

SHEET NO. 10 OF 32





NOTES:

WORK TO BE PREFORMED: REQ'D 24" WATER MAIN, REQ'D SUB-SURFACE GRAVITY DRAINAGE, FULL DEPTH, FULL WIDTH PAVEMENT AND GRAVITY SEWER LINING

SEWER MANHOLE LOCATION IS APPROXIMATE. FIELD VERIFY.

NOTE (A):

REQ'D PAVEMENT ELEVATIONS AT INTERSECTIONS SHALL BE ADJUSTED BY THE CONTRACTOR TO BE COMPATIBLE WITH EXISTING GRADES AND TO PROVIDE POSITIVE DRAINAGE TO NEAREST CATCH BASINS MIN. 1.5% CROSS SLOPE FROM CENTERLINE OF EACH ROADWAY IS REQUIRED IN ALL DIRECTIONS.

NOTE 1. VERTICAL CURVE LENGTHS SHALL BE ADJUSTED IN THE FIELD TO REMOVE CONFLICTS WITH ADJACENT PAVEMENT AND EXISTING CATCH BASIN LOCATIONS.

NOTE 2. ALL GAS MAINS WILL BE INSTALLED BY OTHERS.

NOTE 3. AT ALL CATCH BASIN LOCATIONS CONTRACTOR SHALL INSTALL DRAINAGE WYE (ITEM C701(59)) AND ASSOCIATED LATERAL (ITEM C701(53)(E)).

NOTE 4. ALL MANHOLES SHALL BE ADJUSTED AS NECESSARY (ITEM C702(54)(A)(1)). CONTRACTOR SHALL REHABILITATE ALL DRAIN MANHOLES (ITEM C702(54)(I), AND ALL SEWER MANHOLES (ITEM CSS742(X9)).

NOTE 5. BRICK SIDEWALK SHALL BE REMOVED 8" WIDE FOR THE LENGTH OF CURB REPLACEMENT AT NO DIRECT COST. STONE SIDEWALK SHALL BE REMOVED 15" WIDE FOR THE LENGTH OF THE CURB REPLACEMENT AT NO DIRECT COST.

FULL WIDTH FULL DEPTH PAVEMENT

SCALE 1" = 20'-0" HORIZ.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

1100 DECATUR ST.

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil~Structural~Mechanical~Electrical~Marine~Transportation
Metairie, LA www.infinityec.com 504-304-0548

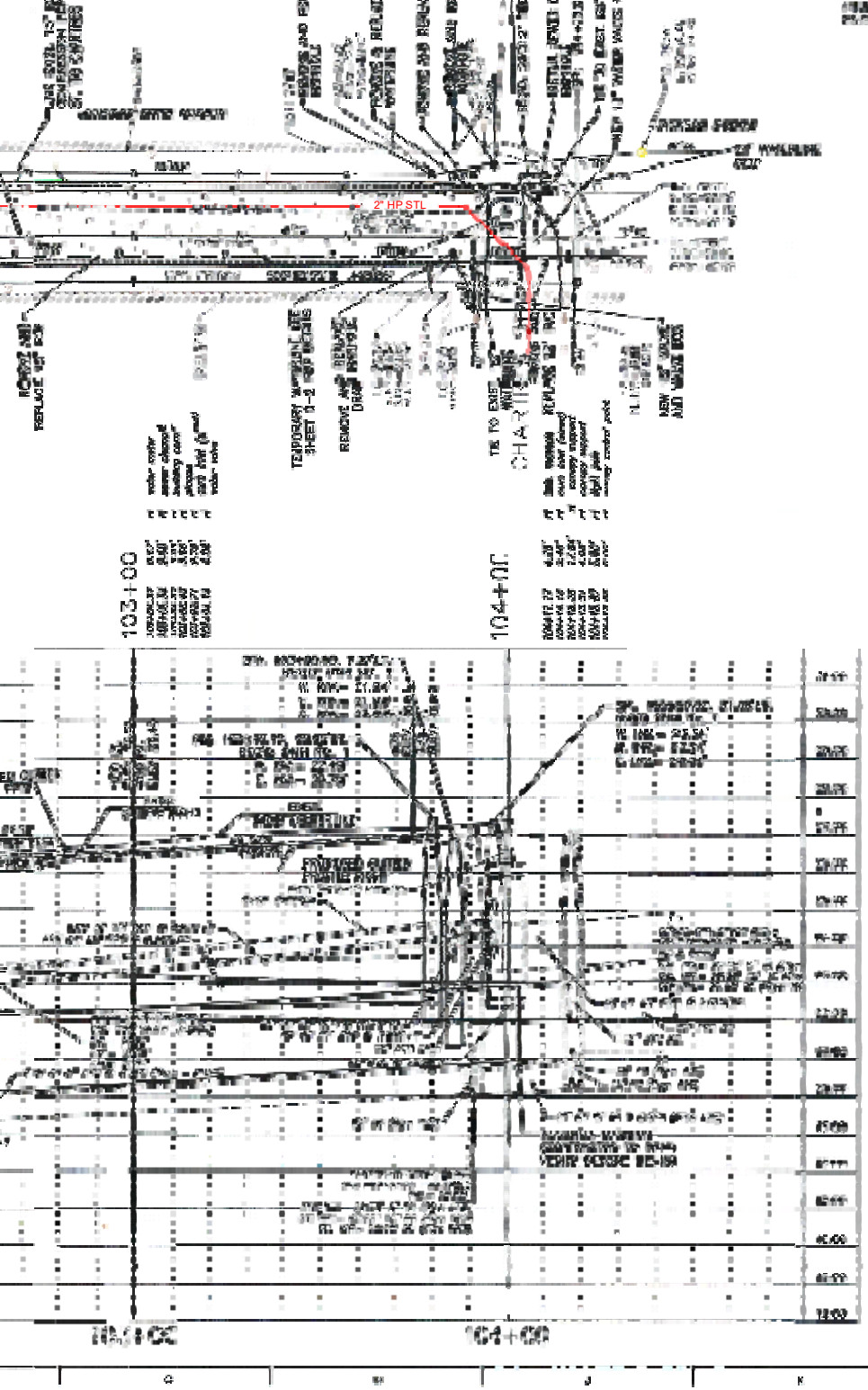
P-P 03

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO. SHEET NO. 11 OF 32



NY ASSOCIATES, INC.
ENGINEERS · ARCHITECTS · PLANNERS
PROGRAM & PROJECT MANAGERS

NO.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD
OF NEW ORLEANS

PLAN AND PROFILE
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

DWG NO. 5958-W

P-5
64

APPENDIX G

General Specifications for Street Paving, 2015 Edition, Department of Public Works, City of New Orleans, Louisiana

GENERAL SPECIFICATIONS

FOR

STREET PAVING

2015 EDITION

DEPARTMENT OF PUBLIC WORKS

CITY OF NEW ORLEANS

LOUISIANA

Adopted by the Commission Council on November 5, 2015 by Ordinance No. 026696 MCS

INTENTIONALLY LEFT BLANK

OFFICIALS

Of The

CITY OF NEW ORLEANS

MITCHELL J. LANDRIEU
Mayor

Councilmembers at Large:

JASON WILLIAMS
President

STACY HEAD
Vice President

District Councilmembers:

SUSAN G. GUIDRY
District A

LATOYA CANTRELL
District B

NADINE RAMSEY
District C

JARED BROSSETT
District D

JAMES AUSTIN GRAY II
District E

MARK D. JERNIGAN
Director of Public Works

NGUYEN D. PHAN
Chief Engineer, Department of Public Works

SHARONDA WILLIAMS
City Attorney

COPIES OF THIS BOOK MAY BE OBTAINED FROM:

City of New Orleans
Department of Public Works
1300 Perdido Street - Room 6W02
New Orleans, Louisiana, 70112

Price: $100.00 per printed copy or downloaded at no cost at http://www.nola.gov/dpw/

DEPARTMENT PERSONNEL MAY OBTAIN COPIES OF THIS BOOK FROM:

City of New Orleans
Department of Public Works
Engineering Division
1300 Perdido Street - Room 6W03
New Orleans, Louisiana, 70112

Title VI Notice: The Department of Public Works (DPW) fully complies with Title VI of the Civil Rights Act of 1964 and related statutes, executive orders, and regulations in all programs and activities. DPW operates without regard to race, color, national origin, income, gender, age, and disability. Any person who believes him/herself or any specific class of persons, to be subjected to discrimination prohibited by Title VI may by him/herself or by representative file a written complaint with the Louisiana Department of Transportation (LaDOTD). The LaDOTD Title VI Program Manager may be reached via phone at 225-379-1361. A complaint must be filed no later than 180 days after the date of the alleged discrimination.

DPW meetings are conducted in accessible locations and materials can be provided in accessible formats and in languages other than English. If you would like accessibility or language accommodation, please contact the Title VI Community Outreach Specialist at DPW at 504-658-8000.

Table of Contents

PART I - GENERAL PROVISIONS 1
SECTION C101 DEFINITIONS OF TERMS 1

BIDDING REQUIREMENTS (CONTACT BUREAU OF PURCHASING FOR FULL REQUIREMENTS) 5
SECTION C106 CONTRACT PLANS AND SPECIFICATIONS FOR THE WORK 5

CONTRACT 6
SECTION C121 ASSIGNMENT AND SUB-LETTING 6
SECTION C122 RIGHTS OF VARIOUS INTERESTS 6
SECTION C123 ANNULMENT OF CONTRACT BY CITY 6
SECTION C124 CONTRACTORS RIGHT TO STOP WORK OR TERMINATE CONTRACT 7

PROSECUTING THE WORK 8
SECTION C125 PUBLIC CONVENIENCE 8
SECTION C126 PERFORMANCE OF WORK 10
SECTION C127 PREPARATION AND RESPONSE FOR TROPICAL EVENTS AND OTHER WEATHER-RELATED EMERGENCIES 14
SECTION C128 PERMITS AND REGULATIONS 14
SECTION C129 TEMPORARY SIGNS, BARRICADES PAVEMENT MARKINGS, CONSTRUCTION SIGNING, TRAFFIC MAINTENANCE AND PUBLIC SAFETY 15
SECTION C130 MATERIALS, EQUIPMENT, EMPLOYEES CONTRACTOR QUALITY CONTROL 17
SECTION C131 REMOVAL OF IMPROPER MATERIAL 17
SECTION C132 REMOVAL OF EQUIPMENT 18
SECTION C133 SUSPENSION OF WORK 18
SECTION C134 WARRANTY REQUIREMENTS 18

CHANGES, ACCEPTANCE, AND PAYMENT 20
SECTION C135 CHANGES IN THE WORK 20
SECTION C136 EXTRA WORK 20
SECTION C137 MANNER OF ACCEPTANCE 22
SECTION C138 METHOD OF ACCEPTANCE & PAYMENT 22
SECTION C139 PAYMENT WITHHELD 25

SUPERINTENDENCE AND INSPECTION 26
SECTION C140 DIRECTOR OF PUBLIC WORKS' AUTHORITY 26

SECTION C141 SUPERINTENDENCE 26
SECTION C142 INSPECTION 27
SECTION C143 PLANT INSPECTION 28
SECTION C144 FINAL AUTHORITY 28

INJURY AND DAMAGES 29
SECTION C145 INJURY TO WORK 29
SECTION C146 INJURIES TO PERSONS AND PROPERTY 29
SECTION C147 DAMAGES 30
SECTION C148 OTHER STATUTES 30

PART II - EARTH WORK 31
SECTION C201 CLEARING AND GRUBBING 31
SECTION C202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS 32
SECTION C203 PREPARATION OF ROADWAY PAVEMENT SUBGRADE 34
SECTION C204 ENVIRONMENTAL PROTECTION AND STORMWATER POLLUTION PREVENTION PLAN 39

PART III - BASE AND SUBBASE COURSE 51
SECTION C302 BASE AND SUBBASE COURSE 51
SECTION C306 SCARIFYING AND COMPACTING ROADBED 54

PART IV - SURFACE COURSE 55
SECTION C402 TRAFFIC MAINTENANCE AGGREGATE 55

PART V - ASPHALTIC CONCRETE PAVEMENTS 56
SECTION C501 ASPHALTIC CONCRETE MIXTURES 56
SECTION C502 SUPERPAVE ASPHALTIC CONCRETE MIXTURES 73
SECTION C503 ASPHALTIC CONCRETE EQUIPMENT AND PROCESSES 79
SECTION C504 ASPHALTIC TACK COAT 91
SECTION C505 ASPHALTIC PRIME COAT 93
SECTION C506 POROUS ASPHALTIC CONCRETE PAVEMENT 95
SECTION C507 ASPHALTIC BINDERS 104
SECTION C509 COLD PLANING ASPHALTIC PAVEMENT 111

PART VI - PORTLAND CEMENT CONCRETE PAVEMENT 113
SECTION C601 PORTLAND CEMENT CONCRETE PAVEMENT 113
SECTION C604 PERVIOUS PORTLAND CEMENT CONCRETE PAVEMENT 126

PART VII - INCIDENTAL CONSTRUCTION 135
SECTION C701 CULVERTS AND STORM DRAINS 135

SECTION C702 MANHOLES, CATCH BASINS, DROP INLETS, AND CLEAN-OUTS140
SECTION C706 DRIVEWAYS AND SIDEWALKS....143
SECTION C707 CURBS AND GUTTERS....150
SECTION C713 TEMPORARY SIGNS, BARRICADES AND PAVEMENT MARKINGS156

HORTICULTURAL REQUIREMENTS.... 158
SECTION C714 SODDING....158
SECTION C717 SEEDING....160
SECTION C719 LANDSCAPING....162

INCIDENTAL CONSTRUCTION II.... 166
SECTION C723 GRANULAR MATERIAL....166
SECTION C724 PAVEMENT REPAIR, JOINT REPAIR, AND CRACK REPAIR....167
SECTION C727 MOBILIZATION....174
SECTION C728 JACKED OR BORED PIPE....175
SECTION C729 TRAFFIC SIGNS AND DEVICES....177
SECTION C731 RAISED PAVEMENT MARKERS....182
SECTION C732 PLASTIC PAVEMENT MARKINGS....184
SECTION C736 RESTORATION OF TRAFFIC SIGNAL LOOP DETECTORS IN CONNECTION WITH ROADWAY REHABILITATION....187
SECTION C740 CONSTRUCTION LAYOUT....190
SECTION C741 WATER MAINS....192
SECTION C742 SEWER LINES....205
SECTION C743 TESTING LABORATORY SERVICES....212
SECTION C744 STREETLIGHTS....219

PART VIII - STRUCTURES 222
This part shall conform to Part VIII of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, latest edition. In case of conflict, the City Specifications shall govern. 222

PART IX - PORTLAND CEMENT CONCRETE.... 223
This part shall conform to Part IX of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, latest edition. In case of conflict, the City Specifications shall govern. 223

PART X - MATERIALS 224
Unless otherwise stated and covered in previous sections and the following sections C1002, C1003 and C1018 of the Department of Public Works, City of New Orleans

specifications, this part shall conform to Part X of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, latest edition. In case of conflict, the City

specifications shall govern. 224
SECTION C1002 ASPHALTIC MATERIALS AND ADDITIVES 225
SECTION C1003 AGGREGATES 226
SECTION C1018 MISCELLANEOUS MATERIALS 230

PART XI - SYSTEMS OF MEASUREMENT (FOR FUTURE USE) 231

PART XII - STANDARD BID ITEMS 232

INTENTIONALLY LEFT BLANK

PART I - GENERAL PROVISIONS

SECTION C101
DEFINITIONS OF TERMS

Whenever in these specifications and contract, the following terms or pronouns in place of them, are used, the intent and meaning shall be interpreted as follows, unless such interpretations shall be inconsistent with or repugnant to the manifest intent and context of the said specifications and contract.

C101.01 AGENT: Person or persons authorized to act on behalf of the Director (See "Director").

C101.02 BIDDER: Any individual, partnership, firm or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

C101.03 CALENDAR DAY: Any day of the week including Saturday, Sunday and Holiday, regardless of weather conditions, beginning and ending at midnight.

C101.04 CHIEF PROCUREMENT OFFICER: The duly authorized representative of the Director of Finance through whom proposals are issued and received in completed form from bidders.

C101.05 CITY OF NEW ORLEANS OR **CITY:** The incorporated municipality or City of New Orleans in the State of Louisiana.

C101.06 CONTRACT: The written agreement between the City of New Orleans and the Contractor setting forth obligations of the parties thereunder for performance of the prescribed work. The contract documents consist of the proposal, the General Specifications for Street Paving, the Special Specifications, the contract bond and the plans, including all modifications thereof incorporated in the documents before their execution; as well as any and all drawings and supplemental agreements which reasonably could be required to complete the construction in an acceptable manner.

C101.07 CONTRACT BOND: The security designated in the Uniform Bid Form to be furnished by the bidder as surety for the faithful performance of the contract and the specifications in all their details, except that said contract bond shall not cover maintenance after acceptance of the work.

C101.08 CONTRACT TIME: The number of working days or calendar days allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is shown in the contract, in lieu of a number of working or calendar days, such work shall be completed by that date.

C101.09 CONTRACTOR: The individual, partnership, firm or corporation to whom the contract is awarded.

C101.10 COUNCIL: The duly constituted and authorized governing body of the City of New Orleans.

C101.11 DEPARTMENT: The Department of Public Works of the City of New Orleans.

C101.12 DIRECTOR OF FINANCE: The authorized head of the subdivision of the City Government charged with receiving, expending and accounting of public money.

C101.13 DIRECTOR OR **DIRECTOR OF PUBLIC WORKS:** The authorized head of the subdivision of the City Government having jurisdiction over public streets, public alleys, bridges and related structures. Whenever the word "Director" appears herein, it is understood that an appointed agent may act for the Director.

C101.14 FIELD CHANGE AUTHORIZATION: A document outlining agreements reached in the field which authorizes changes necessary in the work. This document shall become a part of a plan change.

C101.15 FORCE ACCOUNT: A method of payment for extra work based on expenses incurred, including the actual cost of labor, material and equipment required to do the work.

C101.16 LaDOTD: Louisiana Department of Transportation and Development

C101.17 MAJOR ITEM: An item included in the contract as awarded, that has a total cost equal to or greater than ten (10%) percent of the original contract amount.

C101.18 MUTCD: Manual on Uniform Traffic Control Devices.

C101.19 PLAN CHANGE: An approved document issued to the Contractor covering changes in the plans or quantities, or both, and establishing the basis of payment and time adjustments for the work affected by the changes.

C101.20 PLANS: The contract drawings which show the location, type, dimensions and other details of the prescribed work consisting of, but not limited to, general and detail Drawings including such working drawings as may be furnished or approved by the Director.

C101.21 PROJECT: A specific undertaking of construction as described by the contract.

C101.22 PROPOSAL: The offer of a Bidder, on the prescribed form, to perform the stated work and to furnish the labor and materials at the prices quoted on the bid form.

C101.23 PROPOSAL GUARANTY: The security, commonly known as the bid bond, designated in the Uniform Bid Form to be furnished by the bidder as a guaranty of good faith to enter into a contract with the City of New Orleans if the contract is awarded to him.

C101.24 QUALIFIED PRODUCTS LIST (QPL): Lists maintained by the LaDOTD's Materials and Testing Section for products that do not lend themselves to the preparation of meaningful specifications, or for which repetitive full testing is too time consuming or expensive to be practical

for routine project control.

C101.25 SPECIAL SPECIFICATIONS: The contract specifications which include project specific details as well as additions and revisions to the General Specifications.

C101.26 SUBSTANTIAL COMPLETION: When the Contractor considers the Work ready for full occupancy or utilization by City, Contractor shall declare in writing to the Director that the Work is substantially complete and request that the Director issue a notice of substantial completion.

The date, upon which the Director agrees to issue the certificate of substantial completion, shall govern in regard to assessment of any liquidated damages, as described elsewhere in these specifications.

C101.27 SURETY COMPANY: The corporate body which is bound with and for the Contractor, who is primarily liable, and which engages to be responsible for his payment of all debts pertaining to and for his acceptable performance of the work for which he had contracted.

C101.28 TESTING LABORATORY: An independent testing laboratory retained by the City for the purpose of testing materials entering into the project.

C101.29 THEORETICAL SECTION: Theoretical Section shall be the measurement of the volume based upon horizontal distances and average end areas taken from the plans and the end areas will be bounded by the original ground line and the theoretical pay line as shown on the plans.

C101.30 TRUCK MEASURE: Truck Measure is based upon the capacity of hauling vehicles. Truck Measure is the volumetric measurement of a specific truck used for the hauling of material. Computation of truck volume shall be made in accordance with LaDOTD's EDSM III, 1.1.12. Contractor shall have hauling vehicles certified in accordance with these specifications as well as State and other local agency requirements.

C101.31 UNIFORM BID FORM: The approved or prepared form on which the bidder is to submit or has submitted his proposal for the work contemplated.

C101.32 WORK: The furnishing of labor, material, equipment, transportation supervision and tools or other facilities necessary to complete the contract.

C101.33 WORKING DAY: A calendar day, with exceptions stated herein, on which weather and other conditions not under control of the Contractor will permit construction operations to proceed for at least five (5) continuous hours of the day with the normal working force engaged in performing the controlling items of work.

No working days will be charged for the following days:

(1) Saturdays and Sundays.
(2) City recognized holidays or non-working days that are defined as regular legal holidays or special holidays that are proclaimed by the Mayor or fixed by the City Council.

(3) Days on which delays are attributable to the direct effect of strikes, riots or civil commotions.

Should the Contractor elect to work on the afore-stated days, and is so authorized by the Director to do so, these days will be charged as working days. The Contractor shall be charged for these days and shall reimburse the City for any overtime expenses required for services rendered on the above referenced days.

BIDDING REQUIREMENTS (CONTACT BUREAU OF PURCHASING FOR FULL REQUIREMENTS)

SECTION C106
CONTRACT PLANS AND SPECIFICATIONS FOR THE WORK

C106.01 The Contractor shall keep one copy of all plans and specifications on the work site, in good order, available to the Director.

C106.02 In the event of discrepancy or conflict in provisions of the various contract documents, precedence shall be given to the provisions as contained in the document which appears first in the following list: Proposal/bid, Special Specifications, Construction Plans, General Specifications and Standard Plans for Street Paving, Sewerage & Water Board General Specifications and Standard Drawings, the latest edition of LaDOTD Louisiana Standard Specifications for Roads and Bridges. The conflicting provision in the document appearing later in the above list is declared "null and void".

CONTRACT

SECTION C121
ASSIGNMENT AND SUB-LETTING

C121.01 A contract cannot be assigned without the prior written consent and approval of the Director.

C121.02 Any supplemental contract or agreement which the Contractor may propose to enter into with a sub-Contractor for the construction or execution of a portion of the contract shall not create any contractual relationship between any sub-Contractor and the City, and, the employment of a sub-Contractor shall in no way be construed to mean that the Contractor and his sureties are released from any of their responsibilities under the contract.

SECTION C122
RIGHTS OF VARIOUS INTERESTS

Whenever work being done by the City's forces or by other contractors is contiguous to work covered by this contract, the respective rights of the various interests involved shall be established by the Director.

The Contractor shall cooperate with officials of utility companies to avoid delays in completion of work due to non-removal or non-adjustment of utilities.

Some utility facilities will be removed, relocated, or adjusted in accordance with agreements between the City and utility companies. Such work may be underway concurrently with the Contractor's work and within construction limits covered by this contract.

The Contractor shall consider in his bid all permanent and temporary utilities, lines and appurtenances in their present or relocated positions and that no additional compensation will be allowed for delays, inconvenience or damage sustained by him due to interference from the said utility lines and appurtenances or the operation of moving them.

SECTION C123
ANNULMENT OF CONTRACT BY CITY

If at any time the Director shall be of the opinion that the Contractor is unnecessarily delaying any part of the work or is willfully violating any of the provisions of the specifications or is executing the same in bad faith, or if the Contractor shall become insolvent or declared bankrupt, or shall commit any act of insolvency or bankruptcy, or shall make any assignment for the benefit of creditors, or for any cause whatsoever shall fail to carry on the work in an acceptable manner, the Director shall, in writing, advise the Contractor wherein he believes the contract is being violated and at the same time demand immediate correction. Should the Contractor fail on receipt of such notification to immediately comply with the specifications, it shall then be the duty of the Director to at once, in writing, notify the bondsman of the Contractor of the Contractor's dereliction and at the same time

request a compliance with the specifications by the bondsman. Should the bondsman in turn fail to effect a compliance with the specifications within five (5) days, it shall then be the duty of the Director to promptly report the fact to the Mayor and the Mayor shall be privileged to annul the contract, which annulment shall carry with it forfeiture of all monies then due the Contractor or that may become due the Contractor, together with the full amount of the bond described in Section C119 of these specifications such forfeiture operating not as a penalty, but as acknowledgement of liquidated damages. The Director shall then have the power to place on any work such labor as he may deem advisable, by contract or otherwise, and to complete the work, or any part thereof, and to use such materials, equipment, and or property of the Contractor, as he may find at the site, or to procure other materials for the completion of the contract and to charge the cost of said labor and additional materials to the contract.

SECTION C124
CONTRACTORS RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work should be stopped under an order of any court or other public authority, for a period of ninety (90) or more calendar days through no act or fault of the Contractor or of anyone employed by him, or if the City should fail to pay the Contractor in accordance with Section C138 any sum not in dispute and certified by the Director, then the Contractor may upon seven (7) days written notice to the City and the Director, stop or terminate this contract and recover from the City payment for all work executed and accepted and any loss sustained upon any plant or materials and reasonable profit and damages. Such written notice shall be made certified U.S. Mail.

PROSECUTING THE WORK

SECTION C125
PUBLIC CONVENIENCE

C125.01 During the progress of the work the safety of the public, transit users, pedestrians, and residents in the actual and immediate vicinity of the project area must be provided. Convenient access to driveways, houses and buildings along the street must be maintained wherever possible. Temporary approaches to and crossings of intersecting streets and sidewalks must be provided for and kept in good condition wherever practicable. Detour or warning signs shall be provided and placed in advance of the actual project site. The size and information included on such signage will be dictated by the Director of Public Works, Chief Traffic Engineer, or his/her appointee. Sidewalks shall be kept in a clean and passable condition, free of debris and hazardous conditions.

C125.02 Garbage Collection and Mail Service: The Contractor shall ensure that garbage collection and mail service shall have an access provided for on a continuous basis during construction of the project.

C125.03 Noise Control: Contractor shall comply with the city code - Article IV "Noise" to avoid excessive noise. Such measure shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound muffling devices, and operated in a manner to cause the least noise, consistent with efficient performance of the work.

C125.04 Dust Control: The Contractor is responsible to comply with federal, state and local laws and regulations controlling pollution of the environment, including air, water and noise. The following are dust control methods that are required by the City to control fugitive dust from LAND CLEARING ACTIVITIES, EARTH MOVING ACTIVITIES, STORAGE PILES, DISTURBED SURFACE AREAS OR INACTIVE CONSTRUCTION SITES, UNPAVED ROADS AND SHOULDERS, PAVED ROAD TRACK-OUT. *Use of these control methods **DOES NOT** automatically assure compliance with the Federal and State regulations.* ***Use of more than one method may be necessary.***

CONTROL METHOD	DESCRIPTIONS
Watering	1. Application of water by means of water trucks, hoses, and/or sprinklers at sufficient frequency and quantity prior to conducting, during, and after construction activities. 2. Need sufficient quantities to keep the surface moist. 3. Pre-application of water to the depth of the proposed cuts or equipment penetration. 4. Apply at sufficient frequency and quantity to develop a surface crust. 5. Required application frequency will vary according to soil type, site-specific conditions, weather conditions, and amount of vehicle traffic.

Coverings	1. Tarps, plastic, or other materials can be used as a temporary covering. 2. When used, coverings must be anchored to prevent wind from removing them.
Wind fencing	1. Three to five foot barriers with 50% or less porosity, adjacent to roadways or urban areas. 2. Normally used in conjunction with watering or chemical stabilization.
Cover haul vehicles	Entire surface should be covered with water or tarps once vehicle is fully loaded.
Wheel washers	1. Should be placed where vehicles exit unpaved areas onto paved areas. 2. May be adjusted to spray entire vehicle including bulk-stored material in haul vehicles.
Sweep/Clean roadways	Either sweeping or water flushing may be used. Requires routine street sweeping if subject to material accumulation.
Site access improvements	1. Install a gravel pad or grizzly at the access point to your site. 2. Designate a single site entrance and exit. 3. Stay on established routes. 4. Reduce speed may need to be used with watering or chemical stabilization. 5. Maintained Gravel/Recycled Asphalt to a size and depth effective in controlling dust.
Restrict Access	1. Install fencing around the perimeter of property. 2. Install “No Trespassing” signs. 3. Eliminate Unnecessary travel, Restrict access or redirect traffic to reduce vehicle trips.
Altering loading and unloading procedures	1. Confine loading and unloading procedures to the downwind side of storage piles. 2. May need to be used in conjunction with wind sheltering.
Location	Locate haul roads as far from existing housing as possible.
Pre-grading planning	1. Grade each phase separately and time to coincide with the construction phase. 2. Grade entire project but apply chemical stabilizers or ground cover to graded areas where construction is scheduled to begin more than 60 days after grading is complete.
Operate off-road haul vehicles appropriately	1. Mix material with water prior to loading, and/or to entire surface of material after loading. 2. Empty loader slowly and keep bucket close to the truck while dumping. 3. Apply water as necessary during loading operation.
Alternative haul vehicles	Use bottom-dumping haul vehicles.
Chemical Stabilizers	1. Most effective in areas that are not subject to daily disturbances or on areas where active operations have ceased. 2. Apply per manufacturer’s recommendations. 3. Best for use on storage piles subject to infrequent disturbances. 4. Not recommended for high volume or heavy equipment traffic use.
Vegetation	Establish as quickly as possible when active operations have ceased.

During periods of high winds	1. Apply chemical stabilizers per manufacturer's directions, and prior to expected wind events. 2. Apply water as necessary, and prior to expected wind events. 3. Install temporary covers and Cover all haul vehicles. 4. Stop work and vehicle activity temporarily. 5. Clean streets with water flushing.

SECTION C126
PERFORMANCE OF WORK

C126.01 Construction Progress Schedule: Prior to beginning the work the Contractor shall submit to the Director a Construction Progress Schedule giving a satisfactory schedule of operations that provides for completion of the work within the contract time. This schedule shall be on the prescribed bar graph form and shall allocate the entire contract time. The Contractor shall have copies of the schedule available at the preconstruction conference.

If the Contractor's operations are affected by changes in the plans or the amount of work, or if the Contractor has failed to comply with the approved schedule, or if requested by the Director, the Contractor shall submit a revised Construction Progress Schedule for approval. This revised schedule shall show how the Contractor proposes to prosecute the balance of the work. The Contractor shall submit the revised schedule monthly or within 14 calendar days after the date of request or by the Director.

The approved Construction Progress Schedule will be used as the basis of establishing the controlling item of work, charging contract time and as a check on the progress of the work. The Construction Progress Schedule shall show only one controlling item of work for each contract day. If the Construction Progress Schedule has not been approved prior to the issuance of the Notice to Proceed, the Director will establish the controlling work item and charge contract time accordingly.

The most recent approved Construction Progress Schedule shall be maintained on-site by the Contractor at all times during the course of the contract.

C126.02 Work shall be commenced within ten (10) days after receipt of written Notice to Proceed from the Director. The entire project shall be completed within the time stipulated in the contract. If the Contractor is delayed at any time in the progress of the work by any act or neglect of the City, or by changes ordered in the work, or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties or any causes beyond the Contractor's control, or by any causes which the Director shall decide to justify the delay, then the time of completion shall be extended for such a reasonable time as the Director may decide. Written claims for time extensions shall be made within thirty (30) days of the first date of claim. But neither the extension of time for any reason beyond the date herein fixed for the completion of the work, nor the acceptance of any part of the work shall constitute a waiver by the City of the right to abrogate the contract for abandonment or delay in the manner provided by Section C124 of these specifications. Upon completion of the work, and before acceptance and final payment, the Contractor shall clean up the work and adjacent property and remove therefrom all surplus and discarded materials, rubbish and temporary structures, and shall leave the street or streets and the median (if any), upon which he

has been engaged in a neat and clean condition throughout the entire length of the improvement. For Working Day projects, work shall automatically be suspended on Saturdays, Sundays, all legal holidays, and after five-thirty (5:30) P.M. until seven (7:00) A.M. of the following day, unless permitted in writing by the Director. Said permission will not be unreasonably withheld. If the Contractor is delayed at any time in the progress of the work by any act or neglect of the City, the Contractor may be compensated for such delay at the discretion of the Director.

C126.03 The number of days allowed for completion of the work will be stated in the contract.

The Director will furnish the Contractor a monthly statement showing the number of days charged to the contract for the preceding month and the number of days specified for completion of the contract. The specified days for completion will not include additional days to be added for plan changes. The Contractor will be allowed thirty (30) days in which to file a written protest setting forth in what respect said monthly statement is incorrect; otherwise, the statement shall be deemed to have been accepted by the Contractor as correct.

If a protest is filed by the Contractor, the Director will conduct such reviews and investigations as required to rule on the protest within thirty (30) days from the date the statement is furnished by the Contractor. The number of days charged as listed, or revised within the allotted time, shall become final at the end of this thirty (30) day period, subject to change only through legal action.

When the contract time is on a calendar daily basis, it shall consist of the number of calendar days stated in the contract beginning with the date stipulated in the Notice to Proceed, including Saturdays, Sundays, holidays and non-work days. All calendar days elapsing between the effective dates of written orders by the Director to suspend work and to resume work for suspensions not the fault of the Contractor will be excluded.

When the contract time is a fixed calendar date, it shall be the date on which all work on the project shall be completed.

The contract time only for the work as awarded is based on the original quantities and includes the time necessary to procure material, equipment and an adequate labor force to complete the work in quantities set forth in the proposal. The contract time will be increased for performance of extra work commensurate with the following:

(1) Mathematical Increase: Upon completion and acceptance of the project, the original contract time will be adjusted proportionally to the amount of the final estimate divided by the original contract amount, except that, in the case of total project cost underrun, the original contract time will not be decreased.

(2) Increase for Difficulty: When the contract is altered and the Contractor requests additional contract days, the document authorizing or ordering alterations will show (a) the number of additional days justified, (b) the number of days added by anticipated overrun in costs (if any) due to alterations and (c) the difference between these two numbers. The difference between the two numbers will be added to the contract time.

(3) In no event shall the total contract time exceed the amount of contract time actually

expended.

If the Contractor finds it impossible, for reasons beyond his control, to complete the work within the contract time as specified or as extended in accordance with the provisions of this Subsection, the Contractor may, at any time prior to the expiration of the contract time as extended, make timely written request to the Director for an extension of time setting forth therein the reasons which the Contractor believes justify granting his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Director finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Director may extend the contract time in such amount as conditions justify.

Apart from extension of time for unavoidable delays and the waiving of any applicable liquidated damages, in no event shall the City or Engineer be liable to the Contractor, any Subcontractor, supplier, or any other person or organization, or any surety, and no payment or allowance of any kind shall be made to the Contractor as compensation for damages because of hindrance or delay for any cause in the progress of work, whether such delay be avoidable or unavoidable.

When substantial completion has been certified by the Director, daily time charges will cease. Daily time charges will recommence after a punch list has been prepared and given to the Contractor. Daily time charges will continue to accrue until all punch list items have been completed to the satisfaction of the Director.

C126.04 Should the Contractor fail to complete the work within the time specified in the Uniform Bid Form and allowed by the Director as provided for in these specifications, the Contractor shall pay to the City, not as a penalty, but as acknowledged liquidated damages, the sum per day stipulated in the Uniform Bid Form for each working day that he is delinquent. This amount shall be reported to the Director of Finance, who will deduct the same from any balance then due or which may become due the Contractor. The City will not ask the Contractor to waive "notice of default".

C126.05 Construction Progress Photographs: Construction photographs are a mandatory requirement of this contract. Contractor shall be responsible for the production of construction photographs as provided herein. The Director shall designate the subject of each photograph.

Notwithstanding any other provisions of these specifications, the Contractor shall take a minimum of 24 photographs at a minimum of eight (8) different locations per pay period. The intent of the photographs is to record the work in progress and show general views of the project as well as interesting items of the work. Photographs of each work item shall be taken before work begins, and after completion of work, as evidence of work performed.

Additionally, for each pay request the Contractor shall provide before, during, and after photographs of each work item that is being invoiced. The photographs should be taken from the same vantage point for each work item. The photographs shall be taken in sufficient frequency to clearly document the damaged area and all stages of the repair work performed. The intent of these photographs is to the document the construction has been performed in order to facilitate the City with requesting reimbursement for the work.

All photographs shall be produced by a competent photographer, and shall be color photographs of commercial quality. Digital Photography: Use 2.1 megapixel density or greater for photographs. Submit digital photographic files in JPEG file format. Photos shall be identified with description of view, date photographed, photographer's name, project number and name, and name of Contractor.

Photographic files become the property of the City. Do not publish photographs without written consent by the City. Submit one set of Progress Photographs with each Application for Payment at the times established for submittal of Applications for Payment. Monthly Applications for Payment shall be deemed incomplete if not accompanied by the required Progress Photographs. Contractor's failure or election to not submit a monthly Application for Payment shall not affect the requirement for monthly Progress Photographs.

No direct payment will be made for construction photographs.

C126.06 Field Office: For each major street project or as directed by the Director, the Contractor shall provide a field office (or an office trailer) on an approved site in close proximity to the work in accordance with the following requirements.

The field office shall be weather tight and constructed of wood, metal, masonry or other approved material for the purpose of housing the personnel, plans, records and reports as necessary. The field office shall have a minimum floor space of 160 square feet (15 sq m), or other approved size, that provides sufficient space with a minimum ceiling height of 7 feet (2.1 m). The field office shall have at least one outside door and have sufficient windows. The field office shall have electric lighting and power outlets as directed. The building and contents shall be secured by suitable locks and catches. The Director shall be afforded access to the field office at all times and shall be provided with a set of keys as necessary. The Contractor shall provide suitable desks, chairs and file cabinets for personnel using these facilities. The field office shall be heated and air conditioned, and have approved sanitary facilities. The field office shall be furnished, equipped, satisfactorily maintained, moved as directed, and subsequently removed from the project upon completion of construction.

The cost shall be included in Bid Item C727 (51) – Mobilization.

C126.06 Red-line drawings: Contractor shall provide manually marked-up "red line" drawings to the owner. The original contract drawings shall be modified to show all additions, deletions, and other changes made during construction to pavement, water, sewer, and drainage facilities. Drawing modifications shall include both a markup of the graphics and a brief written explanation describing any changes. Wherever applicable, revisions shall include updates to details, sections, index, notes, drawing call-outs, plan, and plan & profile views.

Each Sheet of the red line drawings shall include a stamp showing: RED-LINE DRAWINGS, name of Contractor, Superintendent's signature, and Date. Drawings shall also include: All field changes, any change in line or grade from the original drawings, location of mains and house service connections, and the limits of pavement removal and replacement.

To promote accuracy; during construction red line drawings shall be updated on a bi-weekly basis

with copies provided to the project engineer as work is completed for each block. Redlines shall be jointly reviewed/developed by the Contractor and Resident Inspector and discussed at each construction progress meeting. The Contractor shall furnish a final set of redline drawings prior to final inspection. The Contractor shall furnish redline drawings at no direct payment.

SECTION C127
PREPARATION AND RESPONSE FOR TROPICAL EVENTS AND OTHER WEATHER-RELATED EMERGENCIES

If there is an emergency declared by the federal, state, or city government in Orleans Parish, or in any portion thereof, or in any surrounding parish which affects the ability of the project to continue on schedule, then all work on this project shall cease until such time as the Contractor is instructed to resume work by the Department of Public Works, which has jurisdiction over this project.

If there is any type of work which must proceed to prevent harm to persons or property, or damage to the project itself, then Contractor should immediately contact the Department of Public Works for necessary instructions. If Contractor is unable to contact the Department of Public Works, the Contractor may perform the work necessary to prevent such harm in accordance with industry safety standards.

Contractor shall be entitled to an extension of time for the period of the stoppage, but shall not be entitled to any additional compensation by reason thereof.

SECTION C128
PERMITS AND REGULATIONS

C128.01 Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor.

C128.02 The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as planned and specified. The Contractor is required to observe all laws and ordinances relating to the obstructing of streets, maintaining signals, keeping open passageways and protecting them where exposed to danger, and all general ordinances affecting him or his employees or his work hereunder in his relations to the City, or any persons, and to obey all laws and ordinances controlling or limiting the Contractor while engaged in the prosecution of the work under this contract. If the Contractor observes that the plans and specifications, or either, are at variance with laws and regulations, he shall promptly notify the Director in writing, and of any necessary changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules or regulations, and without such notice to the Director he shall bear all costs arising therefrom.

C128.03 Required Safety Provisions: It shall be the duty and responsibility of the Contractor to provide all reasonable measures necessary to insure safety of the public. Types and placement of barriers, warning signs, lights, etc. shall be reviewed by the Director and be in conformance with the MUTCD.

C128.04 Required Traffic Provisions. The Contractor shall take appropriate measures to assure that traffic conditions as near normal as possible shall be maintained at all times so as to minimize inconvenience to the occupants of the adjoining property and to the general public. The Director may permit the Contractor to close streets and alleys to all traffic for a prescribed period of time.

Warning signs shall be placed far enough in advance of the construction operations to alert traffic within a public street, and cones or other approved devices shall be placed to channel traffic in accordance with instructions of the Director. Fire hydrants, fire stations, fire escapes, driveways and any other vital facilities as designated by the Director shall not be blocked or interfered with in connection with the work required for the approved work. The Contractor shall maintain safe crossings for vehicular traffic at all street intersections unless exception is made by the Director and the Contractor shall maintain safe crossings for pedestrians at intervals of not more than approximately one block of street. Subject to the foregoing exception, the work shall be so arranged that at least one-half of the street shall be open for traffic at all times unless otherwise approved by the Director.

The Contractor shall employ the services of a Professional Engineer, licensed by the State of Louisiana, who has background in traffic flow and control, to prepare and submit a detailed traffic control plan on behalf of the Contractor for review and approval by the Director. Such services will be paid under item C713(51).

The detailed traffic control plan is required on all streets and sidewalks where access will be impeded by work, except as designated by the Director.

C128.05 Notifications Required: The Contractor shall give 48 hours advanced notification of work and street impairment to the police, fire and other city departments and to the general public. The Contractor shall designate person(s) who can be contacted and shall be available on a 24 hour, seven days per week basis throughout the life of the project. The name and telephone number of the designated individual(s) shall be furnished to the Director prior to starting construction. The individual contacted shall be able to respond to emergencies occurring along the project area during normal, after work and holiday hours.

SECTION C129
TEMPORARY SIGNS, BARRICADES PAVEMENT MARKINGS, CONSTRUCTION SIGNING, TRAFFIC MAINTENANCE AND PUBLIC SAFETY

C129.01 Description: With reference to Section 713 of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, Latest Edition, Contractor shall be required to furnish, install and maintain temporary construction barricades, lights, signals, pavement markings and signs; provide flagmen; and comply with all other requirements regarding the protection of the work, workmen and safety of the public. Signs, barricades, temporary pavement markings, etc., shall conform to the details shown on the plans, the MUTCD and these specifications.

C129.02 Liability: Signs and barricades, and arrangements thereof, as shown on the plans, are minimum requirements and shall not be construed as negating requirements for additional proper and special signs and barricades, etc., as may be required by the Director. Appropriate signs for special conditions shall be furnished and installed as directed. Requirements as to proper signs, barricades or other safety precautions promulgated by the Contractor's insurers are not negated by these specifications.

These specifications shall not be construed as relieving the Contractor of any of his responsibilities for the safety of the traveling public, for any liability in connection therewith, or compliance with City and State laws or ordinances.

C129.03 Construction Requirements: Signs, barricades and related devices will be required when the Contractor's work is in progress on portions of the work covered by the Notice to Proceed, or when operations are suspended but the traveled portion of the road or sidewalk is not in a safe condition for the traveling public. During such times that barricades are not in place, appropriate regulatory signs shall be erected and maintained by the Contractor.

If partial Notice to Proceed is issued, the Contractor shall immediately begin erection of signs and barricades over the affected portions of the project to the extent necessary to comply with the requirements herein. When the full Notice to Proceed is issued, barricades will be erected at the beginning and end of the project, and signing throughout the remainder of the project shall be completed.

In no event shall construction work under the contract begin until signs, barricades and other traffic control devices, as provided above, have been erected and approved.

C129.04 The Contractor shall cooperate with the Director in placing of signs, as well as the City's forces responsible for maintenance of City signs, so that appropriate signs are in place at all times.

Signing shall remain in place and be maintained by the Contractor, supplemented by additional signs as required, throughout the life of the contract. Signs placed by the Contractor shall not be removed, unless required by the Director, until the project is completed and can be removed only upon final acceptance of the work.

Signs, barricades and related devices furnished and placed by the Contractor shall, upon removal, remain his property.

C129.05 Pavement Markings, color, width, type and material requirements of markings shall be in accordance with the MUTCD, and plan requirements. Temporary centerline and/or lane line markings shall be placed on each lift of asphaltic concrete surfacing subjected to traffic during construction. Temporary markings shall be in place at the end of each day's asphaltic concrete surfacing or cold planing operations on all lanes that are open to traffic.

Roadway centerlines and/or lane lines shall be marked with four (4') foot long stripes placed on approximate forty (40') foot centers. On the final surface, temporary markings shall be placed with sufficient accuracy to avoid conflict with permanent striping. The Contractor shall satisfactorily remove all temporary pavement markings by approved methods after completion of permanent

striping.

A pay item for this section is included in Section C713.

SECTION C130
MATERIALS, EQUIPMENT, EMPLOYEES
CONTRACTOR QUALITY CONTROL

C130.01 The Contractor shall provide and maintain an adequate quality control system along with personnel, equipment, supplies, and facilities necessary to obtain samples, perform tests and provide quality control of work.

The Contractor shall perform quality control sampling, testing and inspection during the work at a rate sufficient to ensure that the work conforms to the project specifications.

C130.02 Unless otherwise specified, all materials shall be new and workmanship, materials, appliances and equipment shall be of good quality and suitable for the character of work for which they are required.

C130.03 Disorderly, intemperate, or incompetent persons shall not be allowed upon the work. The Contractor's superintendent who neglects or refuses to comply with the instructions of the Director, shall, at the request of the Director, be promptly removed from the project.

All Contractors' employee personnel shall be qualified and capable of performing the necessary work in a competent and workmanlike manner as to assure the City that the quality of the work is in accordance with the general acceptance of the trade for such work. Any representative of the Contractor or Subcontractor who, in the opinion of the Director, does not perform in a skillful manner or is disorderly shall be, upon written request, immediately removed by the Contractor or Subcontractor. A person removed shall not return to the work site without written approval. If the Contractor fails to remove such a person or fails to furnish suitable and sufficient personnel to properly prosecute the work, the Director may suspend the work by written notice.

C130.04 All materials must be submitted in accordance with the instructions of the Director not less than ten (10) days in advance of commencing work. Materials furnished which do not fully comply with the requirements of the specifications shall be immediately removed from the work upon order of the Director.

SECTION C131
REMOVAL OF IMPROPER MATERIAL

All materials to be provided by the Contractor shall be of the best quality, and if the Contractor shall bring or cause to be brought on the work materials which do not conform to the requirements of the contract, the Director shall order the same to be removed at the expense of the Contractor. Should the Contractor refuse to remove the improper material, the Director may have the material removed at the expense of the Contractor.

SECTION C132
REMOVAL OF EQUIPMENT

In the case of annulment of this contract before completion from any cause whatever, the Contractor, if notified to do so by the City, shall promptly remove any part or all of his equipment and supplies from the property of the City, failing which, the City shall have the right to remove such equipment and supplies at the expense of the Contractor.

SECTION C133
SUSPENSION OF WORK

C133.01 The Director will have the authority to suspend the work wholly or in part due to the failure of the Contractor to correct conditions unsafe for the workmen or the general public; for failure to carry out provisions of the contract; for failure to carry out orders; for such period as he may deem necessary due to unsuitable weather; for conditions under the control of the Contractor considered unsuitable for the prosecution of the work or for any other condition or reason affecting the public welfare, health and safety. No allowance shall be made to the Contractor for damages sustained or alleged to have been sustained by him on account of such suspension of work. The period of such suspension, to be determined bythe Director and recorded in writing shall be added to the time specified in the proposal for the completion of the work.

C133.02 If the work is suspended, all materials delivered at the work but not yet placed therein shall be neatly piled so as not to constitute an obstruction or hazard and shall remain the responsibility of the Contractor. Contractor shall have the prerogative to remove materials, tools, etc. to protect same during such time of work suspension.

SECTION C134
WARRANTY REQUIREMENTS

The Contractor guarantees, by his signing of the contract, all materials and workmanship provided under the contract to be free of defects for a period of one year after the date substantial completion is recorded in the Mortgage Office. This guarantee will include all electrical and mechanical equipment and apparatus.

The Contractor guarantees by his execution of the contract, that for a period of one year after the date of substantial completion of the project or a portion thereof as established by the Director all necessary repairs to or replacement of said defective warranted equipment, apparatus, or material and workmanship shall be made by the Contractor at no cost to the City.

All instruction sheets that are required to be furnished by the manufacturer for materials and supplies and for operation shall be delivered by the Contractor to the Director prior to substantial completion of the project, and shall include the manufacturer's standard written warranty for each piece of mechanical and electrical equipment or apparatus furnished under the contract.

When the contract includes landscaping or maintenance of any form of plant life, unless otherwise provided, the warranty period for this portion of the contract shall be one year or two consecutive

planting seasons, whichever is longer, commencing after the date substantial completion is recorded in the Mortgage Office.

CHANGES, ACCEPTANCE, AND PAYMENT

SECTION C135
CHANGES IN THE WORK

The Director shall have the right to make alterations in the line, grade, plan, form or dimensions of the work herein contemplated, either before or after the commencement of the work and without notice to the sureties. If such alterations diminish the quantity of work to be done, they shall not constitute a claim for damages for anticipated profits for the work deleted.

But when the reduction in quantity of work is a material part of the work contemplated, the Contractor may be entitled to compensation, except for anticipated profits, as determined by the Director, including overhead and equipment charges which the Contractor may have incurred in expectation of the quantity of work originally estimated unless specifically provided herein:

A material part is the decrease of twenty-five (25%) or more of the original bid quantity for any major item. A major item is defined as an item included in the contract as awarded, that has a total cost equal to, or greater than ten (10%) percent of the original contract amount.

If the quantity for any major item of work is increased by 25% or less of the original bid quantity the increase shall be paid according to the quantity of work actually done and at the price established for such work under this contract. If its quantity is increased by more than 25%, its unit bid price may be negotiated at the discretion of the Director, before the work is performed.

SECTION C136
EXTRA WORK

C136.01 The Contractor shall be prepared to do any extra work for which there is no price or quantity included in the contract but which is deemed necessary to fully complete the work. Such extra work shall form a part of the contract and shall be executed in the manner as if it had been included in the original estimate of quantities.

C136.02 Extra work shall be paid for at a unit price or lump sum to be agreed upon in advance in writing by the Director and the Contractor. Where such price and sum cannot be agreed upon by both parties, or where this method of payment is impractical, the Director may order the Contractor to do such work on a force account basis. The Contractor shall submit a detailed cost breakdown with each request for additional work.

C136.03 In computing the price of extra work on a force account basis, the Contractor shall be paid for all foremen and labor actually engaged on the specific work, at the current actual rate of wage for each and every hour that said foremen and labor are engaged in such work, plus twenty-five (25%) percent of the total thereof for superintendence, overhead and profit and use of small tools, hand tools and power tools not exceeding 2 HP; and in addition, the Contractor shall be allowed an amount sufficient to cover bond, Workmen's Compensation and all other Federal, State, or Municipal Employer payroll taxes. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance and taxes.

For all material used, the Contractor shall receive the actual cost of such material delivered at the site of the work, as shown by original receipted bill, to which shall be added fifteen (15%) percent for superintendence, overhead and profit.

For any equipment used that is owned by the Contractor, the Contractor shall be allowed an appropriate rental based upon the latest rental price as determined by the "Rental Rate Blue Book" in their most recent publication of their rental rate booklet, to which ten (10%) percent shall be added for fuels, oils, lubricants, tires, tracks and other general maintenance items.

Regardless of whether or not the Contractor owns or rents equipment, payment for use of such equipment shall be the minimum cost that would be incurred by the Contractor if it were rented on a hourly, daily, weekly or monthly basis whichever is cheapest for the City. The minimum cost shall be determined as the minimum number of days, including rain days, holidays and weekends, the equipment is required to be on the job site to complete the work in an expeditious manner. The Contractor shall also be paid the actual cost of transportation for any equipment which he owns and which he has to transport to the project for the extra work, to which no per cent shall be added.

No compensation for expenses incurred in executing extra work, other than herein specifically mentioned, will be allowed. If the Contractor is required to rent equipment for extra work, he will be paid the actual rental and transportation costs of such equipment, to which ten (10%) per cent shall be added for fuels, oils, lubricants, tires, tracks and other general maintenance items. The basis upon which rental costs are to be charged shall be agreed upon in writing before work is started.

Actual rental and transportation costs shall be obtained from receipted invoices and freight bills.

When the Contractor engages Subcontractors to perform certain portions of the work, he will be paid his actual cost of subcontracting to which ten (10%) per cent shall be added for his superintendence, overhead and profit. The Director reserves the right to approve the sub-Contractor for any extra work.

C136.04 A daily record of extra work done on the force account basis shall be submitted to the Director or his representatives by the Contractor within forty-five (45) days following the execution of the work. No less than two (2) copies of such record shall be made on suitable forms and signed by both the representative of the Director and the Contractor; one copy is to be retained by the Contractor. All bills for materials used on extra work shall be submitted to the Director by the Contractor upon certified statements to which will be attached original bills covering the cost of such materials.

C136.05 Payment for extra work of any kind will not be allowed unless the same has been approved in writing by the Director.

C136.06 If the Contractor deems additional compensation is due for work, material, delays, inefficiencies, disruptions or other additional costs or expenses not covered in the contract or not ordered as extra work, the Contractor shall notify the Director in writing of his intention to make a claim for such additional compensation before beginning the work on which the claim is based or within one working day of encountering the conditions or effects which the Contractor claims entitle him to additional compensation. If such notification is not given or the Director is not afforded

proper facilities by the Contractor for keeping account for actual costs incurred by the Contractor, the Contractor hereby agrees and shall be deemed to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Director has kept account of the costs as aforesaid shall not be construed as proving or substantiating the validity of any claim.

SECTION C137
MANNER OF ACCEPTANCE

Upon substantial completion of all the work executed under the contract, the same shall be accepted by the Director, in the manner provided for in Section C138 of these Specifications.

SECTION C138
METHOD OF ACCEPTANCE & PAYMENT

C138.01 Payment for the property owner's portion of the cost of the work, and the City's portion of the cost of the work, if any, shall be made in accordance with the provisions of the law regulating and governing the manner and mode of paying for the cost of paving, repaving, surfacing, resurfacing, etc., unless otherwise stipulated in the Uniform Bid Form and Special Specifications.

C138.02 Railroad's or Electric Street Car's portion of the cost of the work when executed under these specifications shall be paid for in the same manner as the City's and Property Owner's portion unless otherwise stipulated in the Uniform Bid Form and project specifications.

C138.03 During the progress of the work the Contractor shall be paid monthly for work completed during the month. These payments shall be made to the extent of: 1. Ninety-five (95%) percent of the value of the work when the original contract value exceeds one million five hundred thousand dollars ($1,500,000.00). 2. Ninety (90%) percent of the value of the work when the contract value is one million five hundred thousand dollars ($1,500,000.00) or less. No allowance shall be made in the computation of monthly estimate for material delivered at the site of the work and not actually put into place, except with the prior approval of the Director. The retained percentage of each monthly estimate shall be paid to the Contractor not less than forty-five (45) days after the date of the recorded acceptance in the Mortgage Office of the Parish of Orleans of the completed work and upon the production of Mortgage Certificate properly dated and signed by the Recorder of Mortgages evidencing the fact that there are no recorded liens or any other encumbrances against the said work or the funds in the hands of the City of New Orleans due the Contractor for said work. Partial payment as hereinabove described will be made on estimates of the work done since the commencement or last previous estimate and shall not in any respect, act as an acceptance of the work to be done therefore or release the Contractor from any responsibility whatever, in connection therewith. At the time of making the final estimate upon the completion of the work as a whole, the entire work shall be subject to revision and adjustment by the Director.

C138.04 Supplemental Payments: A supplemental payment request will be permitted prior to the regular monthly payment when work is performed for which change orders were not approved in time to be included on the previous payment and the amount of the change order involved is sixty thousand dollars ($60,000) or more.

C138.05 Final Payment:

(1) When the contract is substantially complete as defined herein, the Contractor shall request the Director to arrange an inspection for substantial completion with all user agencies. All signs must be up, erected and functioning as part of the substantial completion. This inspection shall take place within ten (10) working days of receipt of the request. The Director will promptly make such inspection, and when the work is found acceptable under the contract and the contract fully performed or substantially completed, the Director shall promptly issue a certificate over his own signature, stating that the work required by this contract has been completed or substantially completed and is accepted by him under the terms and conditions thereof. The entire balance found to be due the Contractor including the retained percentage, less an amount based on the Director's estimate of the fair value of the claims against the Contractor and the cost of completing the unsatisfactory items of work with specified amounts for each item shall be due and payable. A punch list shall be prepared for unsatisfactory items which will be filed with the certificate of substantial completion and shall include reasonable values which may be more than bid price assigned to each punch list item, said amounts to be withheld by the City pending completion of that item by the Contractor. If claims against unsatisfactory items are more than the retainage, then the value of such claims shall be retained by the City. Retainage shall be paid to the Contractor at the expiration of the forty-five (45) day lien period. Deduction may be withheld for incomplete punch list items. The date of substantial completion of a project or specified area of a project is the date when the construction is sufficiently completed in accordance with the contract documents as modified by any change orders agreed to by the parties so that the City can occupy the project or specified area of the project for the use for which it wasintended.

(2) Before the final payment is issued, if required in the Special Conditions, the Contractor shall certify in writing to the Director that all payrolls, material bills, and other indebtedness connected with the work have been paid, or otherwise satisfied, except that in case of disputed indebtedness or liens, if the contract does not include a payment bond, the Contractor may submit in lieu of certification of payment a surety bond in the amount of the disputed indebtedness or liens, guaranteeing payment of all such disputed amounts, including all related costs and interest in connection with said disputed indebtedness or liens which the owner may be compelled to pay upon adjudication.

(3) The making of final payment shall constitute a waiver of all claims by the City, other than those arising from unsettled liens, from faulty work appearing within the guarantee period provided in the special conditions, from the requirements of the drawings and specifications, or from manufacturer's guarantees.

(4) If after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Director so certifies, the Director of Finance shall, upon certification by the Director, and without terminating the contract, make payment of the balance due for the portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment.

(5) Outside or user agencies required to accept any portions of the project shall be subject to the provisions of this section. Failure of the outside agency to inspect their area of work within ten (10) working days will not affect or delay the issuance of a certificate of substantial completion.

C138.06 Should the acceptance fail to be recorded within five (5) working days, the Contractor may, at his option, record this document at his cost.

C138.07 Partial Payments: Provided work is prosecuted in accordance with provisions of the contract and with satisfactory progress the Director will make the first progress estimate within two (2) calendar months from the date indicated to begin work in the Notice to Proceed. The Director will determine the progress estimate date. Each successive progress estimate will be made on this same date of each month thereafter until completion of the contract.

Each progress estimate will be an approximation of the proportionate value of the work performed up to the date the estimate is made and will be based on material in place and labor expended thereon, but no more than ninety-five (95%) percent of the total contract price of the work will be paid in advance of final acceptance.

The amount of said estimate, after deducting appropriate retainage and all previous payments, shall be payable to the Contractor.

Monthly estimates will be approximate and subject to corrections in the estimate rendered following discovery of any error in any previous estimates.

Should defective work or material be discovered or reasonable doubt arise as to the integrity of any part of the work completed prior to final acceptance and payment, there will be deducted from the first estimate rendered after such discovery an amount equal in value to the defective or questioned work, and this work will not be included in a subsequent estimate until defects have been remedied or causes for doubt removed.

If the Contractor is not a corporation, the Contractor's Federal Identification Number (if a firm) or Social Security Number (if an individual) shall be furnished to the Director of Finance upon request before payments will be made to the Contractor for any work under the contract.

Payment of the monthly estimates shall not be taken as an admission that the work is done or that its quality is satisfactory, nor as a release of the Contractor from the responsibility for any portion thereof, but the whole work and all particulars relating thereto shall be subject to revision and adjustment by the Director at the time of final acceptance and payment of the final estimate.

SECTION C139
PAYMENT WITHHELD

The City may withhold that portion of the payment to such extent as may be necessary to protect itself against loss from:

(a) Defective work not remedied.
(b) All costs associated with cancelled or failed tests.
(c) Failure of the Contractor to make payments properly to sub-Contractors for material or labor.
(d) A reasonable doubt that the contract can be completed for the balance then unpaid.

When the above grounds are removed payments shall be made for amounts withheld because of them.

SUPERINTENDENCE AND INSPECTION

SECTION C140
DIRECTOR OF PUBLIC WORKS' AUTHORITY

The Director shall have the right to:

(1) Stop the work;

(2) Reject the work;

(3) Have access to work site whenever the work is in preparation or in progress;

(4) Determine the amount or quantity, or the classification of several kinds of work or material, which are to be paid for under the contract;

(5) Coordinate the work with utility companies, railroad companies and all governmental user agencies.

Should the Contractor fail to correct defective work as required in this contract or persistently fail to carry out the work in accordance with the contract documents, the Director may by written notice direct the Contractor to stop the work or any portion thereof until the defective work has been remedied to the satisfaction of the Director. The right to stop the work shall not be construed to create a duty on the part of the Director to exercise this or any other right under the contract. The Director shall also have the right to stop the work should the Contractor fail to maintain contract safety provisions.

The Director will not be responsible for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the work. These duties and responsibilities are exclusively the Contractor's obligations. The Director will not be responsible for the acts or omissions of the Contractor, Subcontractors or any of their agents or employees, or any other persons performing any of the work.

The Director will have authority to reject work which does not conform to the contract documents. The Director may require special inspections for testing of the work at any stage of preparation or completion. However, this right shall not be construed to create a duty on the part of the Director to exercise this or any other right under the contract.

SECTION C141
SUPERINTENDENCE

C141.01 The Contractor must at all times have an authorized representative on the work site to whom orders can be given; this representative will have full authority to carry out all orders given by the Director, and shall keep on the work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Director.

C141.02 The Authorized Representative (superintendent) shall represent the Contractor and all directions given to same by the Director shall be as binding as if given to the Contractor. Directions shall be confirmed in writing upon written request in each case. The Contractor shall give efficient supervision to the work, using its best skill and attention.

C141.03 If the Contractor, in the course of the work, finds any discrepancy between the plans and the physical condition of the locality, or any errors or omissions in plans or in the layout as given by points and instructions, it shall be the duty of the Contractor to immediately inform the Director in writing, and the Director shall promptly verify the same. Any work done after such discovery, until authorized, will be done at the Contractor's risk.

SECTION C142
INSPECTION

C142.01 Duly authorized representatives of the Department will be assigned by the Director to observe the work; their duties will be to see that proper materials are used and that the work is done in accordance with the plans and specifications and to notify the Contractor and the Director of any deficiencies or non-compliance with the project plans and specifications. The right of final condemnation or acceptance of the work shall not be waived by the Director at any time during the progress of the work or after its completion.

C142.02 The Contractor shall be responsible for the faithful execution of his contract and his presence or absence is in no manner to be presumed to relieve in any degree the responsibility or obligations of the Contractor. The decision of the Director shall be final and binding upon all technical questions concerning the execution of the work, in the interpretation of the specifications, and as to all measurements.

C142.03 The Contractor shall notify the Director as to the exact time at which he proposes to begin work so that the Director may provide for the inspection of all materials used and all work done under this contract. Such inspection may extend to all or any part of the work and to the preparation or manufacture of materials to be used, whether within the limits of the work on the street, or at any other place.

C142.04 The Director shall have free access to all parts of the work and to all places where any parts of the materials to be used are procured, manufactured or prepared.

C142.05 The Contractor shall furnish the Director all information relating to the work and the materials therefore, which may be deemed necessary or pertinent, and with such samples of materials as may be required. The Contractor, at his own expense, shall supply such labor and assistance as may be necessary in the handling of materials for proper inspection, or for inspection of any work done by him. The City of New Orleans shall, at its own expense, retain the services of an independent testing laboratory to perform physical, chemical and other pertinent tests on materials entering into the project. All reports on materials tested by the testing laboratory will be sent to the Director and the Contractor stating whether or not the materials conform to these specifications.

C142.06 The duly authorized representatives of the Director shall have no authority to permit deviation from or to relax or extend any of the provisions of the specifications without the written permission of the Director, or his Agent, nor to delay the Contractor by failure to inspect materials and work with reasonable promptness.

C142.07 The Contractor shall provide the Director with a schedule of his intended job progress before work proceeds. This schedule shall be in the form of a Gantt Chart and shall include major items of work and indicate when the Contractor has planned the performance of these work items. The Director may request the Contractor to update this schedule as work progresses under the contract.

SECTION C143
PLANT INSPECTION

Plant inspection may be required for all asphaltic concrete pavements, precast concrete curb and Portland cement concrete. When payment is to be made by the tonnage, haul tickets shall be signed by a representative of the testing laboratory.

The cost of plant inspection shall be borne by the City of New Orleans.

SECTION C144
FINAL AUTHORITY

The Director shall decide all questions which may arise to the quality and acceptability of materials furnished and work performed and as to the manner of performance and rate of progress of said work and shall decide all questions which may arise as to the interpretation of all plans and specifications relating to the work.

INJURY AND DAMAGES

SECTION C145
INJURY TO WORK

The Contractor shall be responsible for all injury which the work may suffer, without respect for cause, until it has been accepted as substantially complete by the Director.

SECTION C146
INJURIES TO PERSONS AND PROPERTY

C146.01 The Contractor shall alone be held responsible for all injuries to persons, and for all damage to the property of the City or others, caused by or resulting from the act of omissions of himself, his employees or his agents, during the progress of, or connected with the prosecution of the work, whether within the limits of the work or elsewhere, and whether under the contract proper or as extra work.

C146.02 The Contractor must protect and support all water, sewer and gas pipes or other conduits and buildings, walls, fences or other properties which may be damaged during the performance of his work. He shall take all reasonable and proper precautions to protect persons, animals and vehicles of the public from injury, and whenever necessary shall erect and maintain a fence or railing around any excavation, and place a sufficient number of warning lights about the work and keep them burning from twilight until sunrise, and shall employ one or more watchmen as an additional security whenever they are needed. He must, as far as practicable and consistent with good construction, permit access to private and public property and leave fire hydrants and catch basins free from encumbrances. He must restore, at his own expense, all injured property caused by any act of omission or commission on his part, or on the part of his agent, including sidewalks, curbing, sodding, pipes, conduits, sewers and other public property, to a condition as good as it was when he entered upon the work.

C146.03 During the progress of any and all parts of the work contemplated, the Contractor shall be required to prohibit and prevent any and all riding, driving on, or using in any manner any portion of such completed work except after the time hereinafter specified. To prevent the use of any completed work as above noted, the Contractor, at his own expense, shall effectually guard such portion of the work, with barriers sufficiently strong to afford the necessary protection.

C146.04 The Contractor shall indemnify and save harmless and defend the City from all suits and actions that may be brought against it by reasons of any injury, or alleged injury, to the person or property of another, resulting from negligence or carelessness in the execution of the work, or because of failure to properly light and guard the same.

C146.05 The Contractor must protect all vegetation or plant life, in whatever form, other than that proposed to be removed, altered or otherwise affected as part of the project. No parking upon, or use of, the median or neutral ground for storage of materials, equipment or supplies shall be permitted and no material, equipment or supplies may be stored or used on any unpaved area below the dripline of any tree unless specifically authorized by the Director. In case of damages of

any type to vegetation or plant life designated to remain in the project area, the Contractor shall replace the items in like kind or repair such damage to the satisfaction of the Department of Parks and Parkways staff without additional compensation.

C146.06 The Contractor must minimize damage to streets used for access to the project for the delivery of materials, equipment or supplies by observing weight and speed limits as defined in the City Code. Access routes to the work site from designated "truck routes" will be established at the pre-construction meeting. The Contractor and his sub-Contractor(s) will be required to adhere to these routes to and from the project site. The routes may be revised by the Director to accommodate the work as it progresses. The Contractor is required to keep the work site clean, particularly the roadways adjacent to the work site. The Contractor shall clear such roadways of dirt, silt, sand or other such material as often as necessary, or as specified by the Director. The work site shall be left in a clean condition at the close of each work day.

SECTION C147
DAMAGES

Should the Contractor be of the opinion at any time that he has sustained damages under this contract, for which he should be compensated, he shall make a written statement to the Director of the nature of the damage claimed within thirty (30) calendar days after sustaining such damages. The Director shall thereupon render a decision in the matter.

SECTION C148
OTHER STATUTES

Unless in direct conflict with the provisions stated herein, all state of Louisiana statutes applicable to construction shall be hereby adopted.

PART II - EARTH WORK

SECTION C201
CLEARING AND GRUBBING

C201.01 DESCRIPTION: This work consists of required clearing, grubbing, removing and disposing of vegetation and debris within the limits of the right-of-way and easement areas, except such items that are designated to remain or to be removed under other items.

This work consists of cutting trees, logs, brush, stumps and debris; excavating and removing stumps, roots, submerged logs, snags and other vegetative or objectionable material; disposing of removed material in a satisfactory manner and cleaning the area. When fencing or utility relocation is required, an area of 10 feet wide, adjacent to and inside the right-of-way line, shall be cleared and grubbed.

C201.02 GENERAL CONSTRUCTION REQUIREMENTS: The Director will designate trees, shrubs, plants and other items to remain. The Contractor shall preserve the items designated to remain. Equipment, materials and supplies shall not be stored in proximity of items designated to remain. Trees shall be removed without damaging items marked to remain. In case of damage to bark, trunks, limbs or roots of vegetation marked to remain, the Contractor shall repair such damage at no direct pay by horticultural and tree surgery practices published by the American Association of Nurserymen (AAN). Trees shall not be felled outside of the right-of-way. Damage outside the right-of-way caused by the Contractor's operations shall be the Contractor's responsibility.

C201.03 CLEARING AND GRUBBING: Clearing and grubbing shall be done within the construction limits and to a point in fills 15 feet beyond the toes of foreslopes and in cuts 15 feet beyond the tops of backslopes, when width of right-of-way permits, or to the limits shown on the plans; also from areas required for outfall ditches and channel changes. Trees, stumps, roots and other protruding vegetative obstructions not designated to remain shall be cleared and grubbed (including mowing when required by the Director). Undisturbed stumps, roots and nonperishable solid objects which will be a minimum of one foot below the subgrade or slope of embankments will be permitted to remain provided they do not extend more than six inches above the original ground line or low water level.

Except in areas to be excavated, stump holes and other holes left from clearing and grubbing shall be backfilled with usable soil which shall be thoroughly compacted.

C201.04 MEASUREMENT: No measurement of area will be made for payment.

C201.05 PAYMENT: Payment for clearing and grubbing will be made at the contract unit price under:

ITEM NO.	PAY ITEM	PAY UNIT
C201(01)	Clearing and Grubbing	Lump Sum

SECTION C202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS

C202.01 DESCRIPTION: This work consists of removal and satisfactory disposal of pavements, sidewalks, curbs, gutters and other obstructions not designated or permitted to remain, except obstructions to be removed under other contract items. It shall also include salvaging of designated materials and backfilling resulting trenches, holes and pits, except the area to be excavated. At locations where pavement, curbs or gutter, sidewalk, driveway, or footlaps are to be removed but are not to be replaced, the Contractor shall backfill the area with selected excavated or other suitable approved material at no direct payment.

C202.02 GENERAL CONSTRUCTION REQUIREMENTS: The Contractor shall remove and dispose of all pavements, sidewalks, curbs, gutters and other obstructions. Designated salvageable material shall be removed, without unnecessary damage, in sections which may be readily transported. Salvageable material shall be stacked at specified storage areas by the Contractor. When no storage sites are specified, salvaged materials shall be delivered to the street maintenance yard. Materials not designated to be salvaged shall be disposed of, off the project, outside the view of the traveling public with written permission of the property owner on whose property the material is placed. Copies of agreements with property owners shall be furnished to the Director prior to beginning of work. Saw cut may be required prior to removal.

C202.03 MEASUREMENT: When the contract stipulates that payment will be made for the removal of specific items on a unit basis, measurement will be made by the unit stipulated in the contract.

If the contract does not include pay items for removal of structures and obstructions, the removal work will not be measured for payment.

Hauling salvaged materials to specified storage sites will not be measured for payment.

Saw cut will be measured by the linear foot unless otherwise noted.

C202.04 PAYMENT: Payment for "removal and disposal of existing Portland Cement Concrete Pavement" shall be made at the contract unit price, including removal of asphaltic concrete pavement, regardless of thickness, on top of the existing Portland Cement Concrete Pavement and curb and gutter bottom if monolithic with pavement.

Payment for removal and disposal of "existing sidewalk, driveway, footlap," "existing curb", "existing curb and gutter bottom", "existing gutter bottom or rolling strip" and "existing asphaltic concrete pavement" shall be made at the contract unit price.

Payment for "saw cut" shall be made at the contract unit price per Linear Foot.

When the removal is an area to be excavated and payment is made under other items, no deduction will be made for those items.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C202(52)(C)	Removal and Disposal of Existing Portland Cement Concrete Pavement.	Square Yard
C202(52)(D)	Removal and Disposal of Existing Sidewalk, Driveway, Foot Lap (Concrete, Brick, Asphalt, etc.)	Square Yard
C202(52)(E)	Removal and Disposal of Existing Curb (Concrete, Asphalt, Brick, Stone, etc.)	Linear Foot
C202(52)(F)	Removal of Existing Curb and Gutterbottom	Linear Foot
C202(52)(G)	Removal of Existing Gutterbottom or Rolling Strip	Linear Foot
C202(52)(I)	Removal of Existing Asphaltic Concrete Pavement	Square Yard
C202(53)(C)	Removal of Existing Concrete Bus Pad	Square Yard
C202(54)(A)	Removal and Disposal of Concrete or Stone Headers	Linear Foot
C202(54)(B)	Removal and Salvage of Stone Headers	Linear Foot
C202(55)	Saw Cut Concrete Curb, Pavement, Side-Walk, Driveway, etc. According to Plans (_" Depth)	Linear Foot
C202(56)	Saw Cut, Wheel Cut or Spade Cut Existing Asphalt, According to Plans (_" Depth)	Linear Foot

SECTION C203
PREPARATION OF ROADWAY PAVEMENT SUBGRADE

C203.01 The roadway pavement subgrade shall be made to conform to the lines and elevations shown on plans, and to the proper crown as prescribed in these specifications.

C203.02 The surface of the finished subgrade shall be parallel to and conform to the cross section of the roadway pavement.

C203.03 Berms, ridges of earth, or other material that will interfere with the immediate discharge of water to the side of the crown shall not be left on the subgrade. The subgrade shall be maintained free from ruts so that it will, at all times, drain properly with no standing water. Excavation shall not exceed the prescribed lines and elevations so as to obviate the necessity for refilling.

Stumps and roots exposed in the preparation of the subgrade shall be, as directed by the Director, either removed or excavated to a depth of not less than one (1') foot below the subgrade and the resultant excavation filled with sand and compacted.

All equipment (excavation, compaction, hauling trucks, etc...) shall be subject to approval prior to usage. When the subgrade strength is sufficiently strong to support construction traffic without rutting, heavy equipment may be used

The subgrade shall be uniformly compacted by light weight roller (five tons). When the subgrade is in a wet condition, it shall be allowed to dry until the material is within reasonable limits of optimum moisture before compaction is attempted.

Upon completion of compaction by light weight roller the exposed subgrade areas shall be properly proof rolled in order to verify suitability of subgrade to receive the base course.

Proof roll shall consist of passing over the exposed surface with a 25 ton (+/- 1-ton) loaded tandem dump truck during dry weather and observed by the Director. Result of observations shall be documented including horizontal limits of area rolled, approximate extent of vertical deflections, and any observed excessive rutting or pumping (soft spots). Excessive rutting shall be considered prolonged deflection (rutting) in excess of 1-inch for new construction or ½-inch for reconstruction. Excessive pumping shall be considered temporary deflection with rebound (pumping) in excess of 1-inch for new construction or ½-inch for reconstruction. Areas of surface soils that are observed to excessively rut or excessively pump under the truck load (unsuitable subgrade) shall be removed to such an extent as directed by the Director, replaced with sand, and compacted under the Unsuitable Subgrade, Excavation, & Sand filling item. Additionally the Director may have testing performed on areas exhibiting excessive rutting or pumping and/or require adjustments or revision to the location or type of geogrid or backfill material to be installed.

When the Contractor encounters subgrade conditions that are impossible to proof roll and equipment is unable to move freely, the Contractor shall notify the Director.

C203.04 When subgrade is approved as the subbase for the pavement base material, it shall be constructed to have, as nearly as practicable, a uniform density throughout its entire width. Wherever the subgrade extends beyond the lateral limits of an old roadway, or wherever an old gravel, macadam, or other hard compacted crust comes within six (6") inches of the elevation of the finished subgrade, such old roadway or crust shall be plowed, loosened or scarified to a depth of at least six (6") inches and the loosened material redistributed across the full width of the subgrade, adding suitable material when necessary, so that when compacted to the required elevation, alignment and cross section, the subgrade will approach as nearly as possible a condition of uniform density. Compaction of the subgrade material shall be accomplished with a self-propelled roller weighing not less than five (5) tons.

Hand tamping portions of the subgrade, when necessary, may be directed by the Director. In such cases where hand tamping is permitted, the tamper shall be of an approved pneumatic type. Berms, ridges of earth, or other material that will interfere with the immediate discharge of water to the side of the crown shall not be left on the subgrade. The subgrade shall be maintained free from ruts so that it will, at all times, drain properly with no standing water. All depressions developing under traffic on the subgrade, or in connection with rolling, shall be filled with suitable material. Rolling shall be continued until the subgrade is uniformly compacted, properly shaped, and true to grade and alignment. It is not intended that the rolling shall be continued beyond this point, as the purpose of rolling is not to produce a subgrade that cannot be further compacted, but to produce a uniformly compacted subgrade. All hauling shall be distributed over the width of the subgrade so far as practicable, so as to leave it in a uniformly compacted condition. After being prepared in the above manner, the subgrade shall be so maintained until the concrete pavement or pavement foundation has been placed thereon. Excavation shall not exceed the prescribed lines and elevations so as to obviate the necessity for refilling. When considered necessary or of assistance in producing a compact, solid surfacing, the subgrade shall be well-sprinkled with water before being rolled.

C203.05 No geotextile or other base or subbase course shall be placed until the subgrade has been approved by the Director.

C203.06 GEOTEXTILE and GEOGRID FOR STABILIZATION: This work consists of furnishing and placing geotextile fabric and geogrid in accordance with these specifications and in conformance with the details shown on the plans.

Geotextile fabric and geogrid shall conform to Section C203.07 and C203.08. Rolls of geotextile fabric and geogrid shall be kept covered at all times until used. Geotextile fabric and geogrid that has been installed shall be covered with embankment within 7 calendar days. When ultraviolet damage occurs, the geotextile fabric and geogrid shall be removed and replaced. The geotextile fabric and geogrid shall be placed at the locations shown on the plans or as directed. Adjacent rolls of geotextile fabric and geogrid will be overlapped or sewn. When rolls are overlapped, the overlap shall be a minimum of three (3') feet, including the ends of the rolls. The top layer of the geotextile fabric and geogrid shall be parallel with adjacent rolls and in the direction of construction.

The geotextile fabric shall be placed as smooth as possible with no wrinkles or folds, except in curved road sections. For curved road sections, the geotextile fabric shall be folded to accommodate the curve. The fold shall be in the direction of construction and pinned or stapled. Ruts that occur during construction shall be filled and compacted prior to placement of geotextile fabric.

Damaged geotextile fabric and geogrid shall be either removed and replaced with new geotextile fabric and geogrid or covered with a second layer of geotextile fabric and geogrid extending three (3') feet in each direction from the damaged area

C203.07 GEOTEXTILE:

Work under this section includes furnishing and placing the specified geotextile on the existing subgrade or base. Geotextile manufacturers are encouraged to furnish engineering assistance during installation of woven fabric. In addition, manufacturers might provide special equipment which will ease handling and installation.

The woven fabric shall meet the following minimum requirements:

1. Grab Tensile Strength - 400 lbs. minimum per ASTM D-4632.
2. Trapezoid Tear Strength - 130 psi minimum per ASTM D-4533.
3. Bursting Strength - 620 psi minimum per ASTM D-3787.
4. Puncture Resistance - 130 lbs. minimum per ASTM D-4833.

The geotextile shall be delivered in rolls to facilitate installation. During shipment and storage the woven fabric shall be wrapped in a heavy-duty covering to protect it from direct sunlight, ultraviolet rays, temperatures greater than 140 degrees F. (60 degrees C.) mud, dirt, dust, debris and abrasion. The manufacturer shall furnish certified test reports showing that the geotextile meets the requirements of this section.

Unless otherwise specified by the manufacturer, installation of woven fabric shall be as follows:

1. The subgrade shall be graded to the elevations required by the plans.
2. Geotextiles which have a difference between the textures of the two sides shall be unrolled with the bearded or fuzzy side down and smooth side up.
3. The geotextile shall be spread in a uniform manner, lapped and in accordance with the manufacturer's recommendations, and stretched taut on transverse direction as required to prevent the subbase from pumping into the sand-shell base. Tears or rips in the fabric shall be patched.

No payment will be made for fabric used in patching or overlaps. Geotextile will be paid for per square yard in place at the price bid in the proposal. This price shall include all labor, equipment and materials required to install fabric according to the plans and specifications.

C203.08 GEOGRID:

The Contractor shall install a prior approved geogrid over the geotextile fabric in full compliance

with manufacturer's recommendations, to the alignment and grades designated, in locations shown on the plans or as directed by the Director. Use only material that has been approved by the Director. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section. The Contractor shall check the geogrid, upon delivery, to assure the proper material has been received.

The geogrid shall be a regular grid structure formed by punching and drawing a continuous sheet of select polypropylene material and shall have aperture geometry and rib and junction cross-sections sufficient to permit significant mechanical interlock with the material being stabilized. The geogrid shall have high flexural rigidity and high tensile modulus in relation to the material being stabilized and shall also have a high level of continuity through all ribs and junctions of the grid structure. The geogrid shall maintain its confinement and interlock capabilities under repeated dynamic loads while in service and shall also be resistant to ultraviolet degradation, to damage under normal construction practices, and to all forms of biological or chemical degradation normally encountered in the material being stabilized.

The geogrid shall meet the following minimum requirements**:**

1. Nominal Aperture size – 0.6 inches minimum to 1.6 inches maximum
2. Ultimate Tensile Strength – 850 lb/ft minimum per ASTM D-6637
3. Tensile Strength at 2% strain – 280 lb/ft minimum per ASTM D-6637
4. Tensile Strength at 5% strain – 580 lb/ft minimum per ASTM D-6637
5. Carbon Black Content – 0.5% minimum per ASTM D-4218

The Contractor may request a product from any geogrid manufacture listed on LaDOTD's Qualified Products List for approval.

Subgrade soil shall be prepared as indicated on the construction drawings or as directed by the Director. Geogrid shall be laid at the proper elevation and alignment as shown on the construction drawings. Geogrid shall be oriented such that the roll length runs parallel to the road direction. Geogrid shall be overlapped a minimum of 2-foot and there is no extra pay for overlapped area. Care shall be taken to ensure that geogrid sections do not separate at overlaps during construction. Placement of geogrid around corners will require cutting of geogrid product and diagonal overlapping of same to ensure that excessive buckling of grid material does not occur. Exercise care during placement of embankment over geogrid so as not to damage geogrid.

C203.09 MEASUREMENT: Roadway excavation, excluding pavement removal paid for in other items, shall be measured by the cubic yard, theoretical section, computed by the average end area methods.

Shape ditches to cross section as shown on the plans shall be measured by the linear foot.

Unsuitable subgrade, excavation, and sand filling, where directed for use by the Director, shall be measured by the cubic yard truck measure.

Geotextile fabric shall be measured by the square yard of covered areas in place. There will be no measurement for overlaps.

Geogrid will be measured by the square yard in place. There will be no measurement for overlaps.

C203.10 PAYMENT: Payment for the accepted quantities will be made at the contract unit prices.

Payment for "Roadway Excavation" shall include excavating, hauling, disposing of the excavated materials.

Payment for "Unsuitable Subgrade Excavation & Sand Filling" shall include excavation, disposal of unsuitable subgrade and replacing this material with sand, graded and compacted.

No direct payment will be made for grading and/or compacting the subgrade.

Payment will be made under:

ITEM NUMBER	PAY ITEM	PAY UNIT
C203(51)	Roadway Excavation	Cubic Yard
C203(53)	Shape Ditches	Linear Foot
C203(58)	Unsuitable Subgrade, Excavation, & Sand Filling	Cubic Yard (Truck Measure)
C203(59)	Geotextile Fabric for Stabilization	Square Yard
C203(60)	Geogrid	Square Yard

SECTION C204
ENVIRONMENTAL PROTECTION AND STORMWATER POLLUTION PREVENTION PLAN

The Contractor shall comply with federal, state, and local laws and regulations controlling pollution of the environment, including air, water and noise. The Contractor shall take precautions to prevent pollution of waters and wetlands with fuels, oils, asphalts, chemicals or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

The Contractor certifies under penalty of law that he understands and will abide by the terms and conditions of the following:

(a) Permit LAS000301: Municipal Separate Storm Sewer System MS4 Permit (LAS000301) for the Orleans Parish area. This permit requires a Stormwater Pollution Prevention Plan (SWPPP) for applicable activities;
(b) Permit LAR200000: Stormwater Discharges from Construction Activities from 1 to less than 5 acres (when applicable). This permit requires a SWPPP;
(c) Permit LAR100000: Storm Water Discharges from Construction Activities from 5 acres or more (when applicable). This permit requires a SWPPP;
(d) Section 54-154.1 of the New Orleans Municipal Code.

The use of erosion control features or methods other than those in the contract shall be as directed.

The Contractor's Storm Water Pollution Prevention Plan shall be comprised of all relevant components specified in the U.S. Environmental Protection Agency document entitled, "Storm Water Management for Construction Activities", and shall include Section 204.03, Temporary Erosion Control, the City of New Orleans General Specifications along with applicable supplemental specifications, special provisions, and the plans.

Construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals and other impoundments will be restricted to areas where it is necessary to perform filling or excavation to accomplish the work and areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, streams and impoundments shall be cleared of obstructions placed therein or caused by construction operations.

Frequent fording of waterways with construction equipment will not be permitted.

No residue from dust collectors, concrete mixers, vehicle wash racks, or entrance/exit debris shall be dumped into a stream or drainage structure. Attention is further directed to the federal, state and local air pollution control programs and their rules and regulations regarding air pollution, especially open burning, fugitive dust and asphaltic concrete plant restrictions. The Contractor shall maintain and operate equipment to minimize noise and vibration. Engines shall be equipped with properly functioning mufflers. The Contractor shall assure the activities near noise and vibration sensitive areas, such as churches, hospitals and schools are not unduly disruptive.

C204.01 REQUIREMENTS FOR NEW CONSTRUCTION AND DEQ PERMITS:

(a) Requirements for new construction:

• UNDER ONE ACRE DISTURBED (Approx. ½ square block)	• FIVE ACRES OR MORE DISTURBED
. Storm Water Control Measures (SCMs) in place. (SCMs formerly known as BMP) . NOI (Notice of Intent) not required. . Complete Inspection Reports and submit one copy to DPW. Contractor and inspector should keep a copy on file.	. SCMs in place . Must have NOI completed, sent to DEQ, and posted. . Must prepare SWPPP, post prominently
• ONE TO FIVE ACRES DISTURBED	
. SCMs in place . Must prepare SWPPP, post prominently . Must have General Permit posted on site . NOI not required. . Complete All Req'd. Reports and submit them to DPW	. Must have General Permit posted on site with DEQ permit number for specific site. . Must complete Notice of Termination (NOT) and submit to DEQ.

(b) Compliance with DEQ Permits:

Description: This work consists of constructing and maintaining the SWPPP (Storm Water Pollution Prevention Plan) and Storm Water Control Measures (SCMs) for all construction sites which include clearing, grading, construction or excavation.

Required steps for disturbed sites exceeding one (1) acre:

1. Prepare a STORM WATER POLLUTION PREVENTION PLAN (SWPPP). This program will show how the Contractor will control runoff from the construction site. The basic idea is to KEEP all soil, dirt and pollutants within the limits of the site. (NOTE: AN EROSION CONTROL PLAN SHEET IS NOT A SWPPP.)

Typical parts of the SWPPP include:

a. Site description and endangered species in the area.
b. Controls to be used to reduce pollution.
  i). Storm Water Control Measures (SCMs)
  ii). Sediment and Erosion Controls to be installed.
c. Inspections and Record Keeping.
d. Site Notice.
e. Certification.

2. Submit a NOTICE OF INTENT (NOI) to DEQ. For LARGE construction sites (larger than 5 acres.) The Contractor has authority to begin as per DEQ permit 48 hours after the postmark date on the NOI.

3. Put up the SITE NOTICE at the construction site.

4. INSTALL all erosion control structures (SCMs) BEFORE starting construction

5. MAINTAIN all SCMs during construction and mark any changes on the SWPPP.

6. INSPECT all SCMs as indicated in the SWPPP and make any needed corrections or changes to the construction site.

7a. For SMALL sites (less than 1 acre), INSTALL SCMs. Inspect, maintain, and keep records.

7b. For MEDIUM construction sites (larger than 1 acre and less than 5 acres), after construction is completed and the soil has been stabilized, fill out a Completion Report and submit it to DPW project manager.

7c. For LARGE construction sites (larger than 5 acres), after construction is completed and soil has been stabilized, fill out a Notice of Termination (NOT) and submit NOT to DEQ (same address as shown below)

Inspection: Contractor shall inspect and repair or replace, as needed, all job site SCMs a minimum of:

- Weekly, and
- Before, during, and after a major rain event, or as necessary.

Contractor shall document each inspection in the SWPPP.

Permits: Permits are required for any clearing, grading, construction or excavation which is larger than 1 acre. The Contractor is responsible to obtain coverage under the Storm Water General Permit with DEQ (Office of Environmental Service, PO Box 4313, Baton Rouge, LA 70821-4313).

Activities EXEMPT from the required permit include:

- Clearing of land SOLELY for agriculture purposes,
- Oil and gas exploration, production, processing, transportation or treatment,
- Repaving roads and reworking utilities and pipelines unless more than 1 acre is disturbed,
- Routine maintenance performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility (include culvert replacement, road patching, shoulder grading, pothole filling, road replacement without adding lanes, tree/brush removal)

Copies of the required DEQ permits shall be submitted to the Department of Public Works.

MEASUREMENT AND PAYMENT: Unless otherwise specified in Section C204.03, No direct payment shall be made for obtaining and maintaining the necessary permits, preparation, installation and inspection of the Storm Water Control Measures (SCMs) including all labor equipment or materials required to complete the Storm Water Management Program (SWPPP).

C204.02 – STORM WATER POLLUTION PREVENTION PLAN (SWPPP) and STORMWATER CONTROL MEASURES (SCMs)

(a) General:

1. The Contractor shall prepare and maintain a Storm Water Pollution Prevention Plan (SWPPP), which describes in specific details the Contractor's program to prevent contamination of the storm water collection system for this project. A suggested Template and Sample SWPPP Inspection Report, as well as other valuable information can be found at EPA's website http://cfpub.epa.gov/npdes/stormwaterlswppp.cfm.

2. Contractor shall implement, maintain, and inspect all erosion and sediment controls identified in the SWPPP. The program shall address both common construction activities and extraordinary events. The Contractor shall remove all temporary SCMs, such as silt fences, catch basin filters, wash areas, etcetera at the end of construction.

3. Contractor shall include Water Pollution Control Drawings (WPCD) in the SWPPP to illustrate the locations, applications, and deployment of the Storm Water Control Measures (SCMs) identified in the SWPPP. The WPCDs shall be included as an attachment to the SWPPP.

4. Storm Water Control Measures (SCMs): The Storm Water Control Measures (SCMs) are techniques, processes, activities, or structures used to reduce the pollutant content of a storm water or non-storm water discharge. SCMS may include simple, non-structural methods such as good housekeeping, staff training, and preventive maintenance. Additionally, SCMs may include structural modifications such as the installation of berms, canopies, or treatment control.

5. The Contractor shall comply with laws, rules, and regulations of the State of Louisiana and agencies of the United States Government prohibiting the pollution of lakes, wetlands, streams, or river waters from the dumping of contaminates, refuse, rubbish, or debris.

6. The Contractor shall submit copies of the SWPPP a minimum of 10 working days prior to beginning construction, to the Director. Contractor shall update the SWPPP as necessary during the work to prevent contamination of the storm water collection system.

7. Before start of work, Contractor shall train all employees and Subcontractors on the approved SWPPP and related WPCD and provide the Department of Public Works with written documentation of said training.

8. Suggested SCMs can be obtained from LA DEQ Small Business Assistance Program, 201 Evans Rd. Bldg. 4, Suite 420 Harahan LA. Phone 504-736-7739.

(b) Construction: The Contractor shall keep a copy of the SWPPP on the job site. The Contractor shall provide continuously at the jobsite all the tools, equipment, and materials necessary to implement the SWPPP at all times from project initiation through completion, including any punchlist or warranty work on the project. At a minimum the following requirements shall be met as applicable, to the maximum extent practicable, at construction sites:

1. Storm Drain System Protection: At the first order of work, the Contractor shall protect the existing storm drain system from entrance of construction debris and pollutants. Such protection shall include implementing the SCMs as outlined in the SWPPP. Protection shall prohibit the discharge of untreated runoff from temporary or permanent street maintenance/landscape maintenance material and waste storage areas from entering the storm drain system. Sediment that is generated on the project site shall be retained using structural drainage controls. In addition, the protection system shall have a minimum of three features:

- **a)** A particulate filter of geosynthetic material securely fastened in place such that it cannot be bypassed without significant physical damage;
- **b)** A prefilter for the particulate filter; and
- **c)** On-hand materials to close off the inlet or opening in the case of a significant pollution spill. Contractor shall monitor and maintain all storm drain inlet protection devices during rain events to prevent flooding.

2. Material Management & Storage: No construction-related materials, wastes, spills or residues shall be discharged from the project site to streets, drainage facilities or adjacent properties by wind or runoff. All materials and/or equipment storage areas where liquid construction materials are placed shall be protected by a physical barrier capable of containing the entire volume of stored liquid materials. During active construction activities, portions of the barrier may be removed for access. However, the barrier materials must be readily accessible for replacement by onsite construction personnel. The barrier must be in place at all times during the absence of Contractor personnel at the storage site. Building materials shall be placed on pallets and covered in event of rain. Do not store materials in the street or gutter area.

3. Equipment & Vehicle Maintenance: Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site and shall not be allowed to discharge from the project site to streets, drainage facilities or adjacent properties by wind or runoff. The Contractor shall inspect vehicles and equipment on each day of use. Leaks shall be repaired off-site if possible. If necessary to repair on site, the runoff must be contained, or the problem vehicle or equipment shall be removed from the project site until repaired. If necessary, drip pans shall be placed under the vehicles or equipment while not in use to catch and/or contain drips and leaks.

4. SCMs Inspection: The Contractor shall inspect all pollution control SCMs regularly. The Contractor shall also repair/replace any damaged or clogged element on a daily basis. During periods of precipitation where any runoff occurs, the system shall be checked twice a day, seven days a week, whether or not any work has been performed. The Contractor shall keep a monitoring inspection log of each inspection.

5. Spill Prevention & Cleanup Plan: Contractor shall have a spill prevention plan and spill cleanup materials readily available and addressed in the SWPPP. Spills shall be cleaned up immediately using dry methods if possible. Spill cleanup material shall be properly disposed of offsite. Contractor shall keep a record of any spills in the inspection log. In addition, at the end of the project, the Contractor must certify that all contaminated materials have been properly disposed in accordance with the SWPPP.

6. Asphalt & Concrete Activities: Asphalt and concrete activities shall be scheduled for dry weather. Contractor shall prohibit saw cutting during a storm event of 0.25 inches or greater. Store bags of cement away from gutters and storm drains, sealed and covered, protected from rainfall runoff and wind. Place tarp under cement mixer before operating to catch spills. Never dispose of cement washout or concrete dust onto driveways, streets, gutters or storm drains.

7. Sidewalk Washing: The following methods should be utilized to prevent discharge of sidewalk cleaning wastewater into the storm drain system:

- **a)** Sweep and pick up all areas to be cleaned before using water.
- **b)** Manually scrape gum from sidewalks and other surfaces.
- **c)** Must use high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to be rinsed.
- **d)** Use a wet/dry vacuum to collect wash water for disposal. Large volumes of wash water may require the use of a small sump pump to remove wash water from the job site.
- **e)** One or more of the following methods are recommended to prevent pollutants from entering the storm drain system:
  - Sandbags can be used to create a barrier around storm drains.
  - Rubber mats or plugs can be used to seal drain openings.
  - Temporary berms or containment pads help keep water on site.
  - Use berms of sandbags to direct wash water to landscaping.
  - Use large squeegees to accumulate sheet flow for collection.
  - Remember to remove plugs, berms, and sandbags or you may be liable for possible flooding.
- **f)** Wash water that contains hazardous waste such as oil-saturated absorbents, water with lead or other heavy metals from oxidized paint, and solvent cleaners requires special treatment and must be disposed of through a hazardous waste facility.

8. Employee SCMs Training: Contractor shall train employees and Subcontractors on SCMs implementation, general good housekeeping, and proper spill containment and cleanup. Before start of work, Contractor shall provide the Department of Public Works and the Sewerage & Water Board with written documentation of training and keep all documentation in the SWPPP.

9. Inspection: Contractor shall maintain SCMS at all times on a daily basis, shall inspect and repair or replace, as needed, all job site SCMS a minimum of:

- Biweekly
- Before, during and after a major rain event.

Contractor shall document the inspections in the SWPPP.

10. Dewatering: Avoid dewatering discharges where possible by using the water for dust control, infiltration, etcetera.

(c) Temporary Erosion Control:

1. This work consists of constructing and maintaining temporary erosion control features shown on the plans or as directed. Installation of temporary erosion control features shall be coordinated with construction of permanent erosion control features to the extent necessary to ensure economical, effective and continuous control of erosion and water pollution throughout the life of the contract.

The Contractor shall comply with a Storm Water Pollution Prevention Plan (SWPPP) and Storm Water Control Measures (SCMS) approved by the Department when conducting clearing or earthwork operations. The SWPPP shall include the erosion control features as shown on the plans, or as directed, in addition to other required components of the SWPPP specified by the US Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ). The plan shall indicate the use of contract items and the coordination of this work with the scheduling of clearing and earthwork. SCMs include but are not limited to:

a) All mechanical equipment intended for use at said construction site must be properly maintained,
b) Erect silt barrier fencing around the construction site,
c) Cover all drain inlets in the immediate area of the construction site until all work is completed,
d) Spread and compact all fill material within a short time after delivery (approximately 48 hours),
e) Drive creosote pilings soon after their delivery (approximately 48 hours),
f) Cover any loose piles of dirt or creosote pilings with plastic, if they will not be put into place in a short time,
g) Clean all mortar and cement mixing equipment in such a manner that the discharge does not enter the storm water system, but is removed as solid waste to a proper location,
h) Cover all piles of sand used for mortar with plastic,
i) Do not store fuel, automotive fluids, paint, glue, solvents, plaster, or other petroleum products on site for extended periods of time, or in areas where they are subject to spillage or open to the elements. Such products should remain in their original packaging until ready for use,
j) Maintain proper absorbent and dirking material to guard against accidental spillage of automotive fluids and other liquid products used on site,
k) Seed grass mulch and fertilize (taking care not to over-fertilize) the soil areas of the

construction site after all work is completed,

l) Have all workers and equipment enter the construction area from a single stable entrance,

m) Have all work coordinated by a single Contractor who is responsible for the SWPPP.

2. Control of Erodible Soil:

a) General: The Contractor shall prevent the transmission of soil particles into streams, canals, lakes, reservoirs or other waterways. Except as necessary for construction, excavated material shall not be deposited into streams or impoundments, or in a position close enough to be washed in waterways by high water or runoff. The Contractor shall not disturb lands or waters outside the limits of construction, except as authorized.

b) Adjacent to Waterways: Stream banks shall be kept in their natural state. The Contractor shall not unnecessarily strip protective vegetation in the vicinity of stream banks and shall conduct operations without damage to banks. Banks shall not be excavated except as shown on the plans or as otherwise approved in writing. Work roads requiring bank cuts shall be approved by the Director prior to making such cuts. The banks shall be restored by the Contractor to the satisfaction of the project Director.

c) Adjacent to Property: The location of, and method of operation in, borrow pits, material pits and disposal areas obtained by the Contractor for waste material from the project (other than commercially operated sources) shall be the Contractor's responsibility.

3. Materials: Materials not covered by project specifications shall meet commercial grade standards and shall be approved before being incorporated into the project. No testing of materials used in temporary erosion control features will be required. Acceptance of temporary erosion control materials will be by visual inspection.

a) Mulches: Mulch shall comply with LaDOTD Subsection 1018.19 and emulsified asphalt shall conform to LaDOTD Section 1002. Use of cypress mulch is discouraged.

b) Seeding: Grass shall be an approved quick-growing species suitable to the area, providing a temporary cover which will not compete with permanent grasses. Rye grass is the only acceptable grass for winter cover.

c) Slope Drains: Slope drains may be constructed of pipe, fiber mats, rubble, Portland cement concrete, asphaltic concrete, plastic sheets or other acceptable material.

d) Fertilizer: Fertilizer shall comply with LaDOTD Subsection 1018.16.

e) Silt Fencing: Silt fencing shall be wire-supported or self- supported systems. Other silt fencing systems may be used when approved.

i) Wire-Supported: Wire-supported silt fencing shall consist of standard woven livestock wire, and minimum of 14-gage (2.0 mm diameter) wire, a minimum of 36 inches (900 mm) in height with a maximum wire spacing of 6 inches (150 mm). Posts shall be either wood or steel installed a minimum of 2 feet (0.6 m) in the ground. Filter material shall be burlap weighing approximately 7 1/2 ounces per square yard (0.25 kg per sq. m), approved jute fabric or approved geotextile fabric. Geotextile fabric shall comply with Section 1019, Class F.

ii) Self-Supported: Self-supported silt fencing shall consist of an approved geotextile

fabric suitably attached to posts of either wood or steel installed in accordance with plan details. Geotextile fabric shall comply with LaDOTD Section 1019, Class G.

f) Lime: Agricultural lime shall comply with LaDOTD Subsection 1018.17.

g) Temporary Construction Entrance: Temporary construction entrances shall consist of stone or recycled Portland cement concrete complying with LaDOTD Subsection 711.02, 2 lb (1 kg) class placed on geotextile fabric complying with Section 1019, Class D. The geotextile fabric underliner shall be placed at the locations designated for temporary construction entrances before stone or recycled Portland cement concrete is placed. The stone or recycled Portland cement concrete shall be placed and compacted to the required thickness as directed. This work also includes additional measures required to remove mud from truck tires, such as wash racks, etc.

h) Hay Bales: Hay or straw bales shall be rectangular bales, acceptable to the Director. The average length of bales shall be 34 inches (850 mm) minimum.

4. Exposure of Erodible Earth: The Director may direct the Contractor to provide immediate permanent or temporary erosion or pollution control measures to prevent contamination of streams, lakes, tidal waters, reservoirs, canals or other impoundments or prevent detrimental effects on property outside the right-of-way and damage to the project. Limitations of areas in which excavation and embankment operations are underway shall be commensurate with the Contractor's capability and progress in keeping finish grading, temporary erosion control, and permanent erosion control measures in accordance with the accepted schedule.

5. Incorporation of Erosion Control features: Use of temporary erosion control features will be authorized to correct unforeseen conditions that develop during construction; to control erosion prior to the time it is practical to construct permanent control features; or to provide immediate temporary control of erosion that develops during normal construction operations but is not associated with permanent erosion control features. Permanent erosion control features shall be incorporated into the project at the earliest practical time. Temporary erosion control features will be used as directed in areas where stage construction or other conditions not under control of the Contractor preclude completion of a section of roadway in a continuous manner, or where subsequent construction operations will cause damage to permanent erosion control features.

6. Construction Requirements: Temporary erosion control features shall consist of, but not be limited to, temporary seeding, temporary mulching, sandbagging, slope drains, sediment basins, sediment check dams, erosion checks, artificial coverings, berms, and stone entrances. The Director may direct use of temporary erosion control features or methods other than those included in the original contract. Soil deposits outside the right-of-way shall be immediately removed and the surface repaired at no direct pay. The Director shall have the authority to require the Contractor's operations to be discontinued until erosion deposits have been cleared and the area restored.

a) Temporary Seeding: Seeding shall be done in accordance with LaDOTD Section 717, except that ground preparation will be limited to blading the area. Lime or fertilizer shall be applied in accordance with LaDOTD Section 718; however, lime or fertilizer may be omitted or the application rate reduced as directed.

b) Temporary Mulching: Mulch and emulsified asphalt shall be furnished and applied in accordance with LaDOTD Section 716. Mulch may be omitted or the application rate reduced as ordered. When permanent seeding operations begin, temporary mulch materials may be plowed under during ground preparation.

c) Sandbagging: Sandbags shall be placed as directed.

d) Baled Straw or Hay: Baled straw or hay shall be placed as directed to form checks or dams to control erosion and siltation. Bales shall be properly staked or otherwise secured as directed, as shown on the plans. The bales shall be buried as necessary to prevent scour under the bales. A minimum of 2 stakes shall be driven through each bale.

e) Filter Socks: Filter socks may be used in lieu of baled straw or hay in front of catch basins.

f) Geotextile Filters: Use geotextile filters in combination with filter socks at catch basins in lieu of baled straw or hay.

g) Slope Drains: Slope drains shall be constructed with acceptable materials in accordance with plan details or as directed, if necessary to prevent scour. The discharge area shall be stabilized or protected by temporary riprap as directed. Cost of discharge area protection will be included under the slope drain item.

h) Sediment Basins: Sediment basins shall be constructed in accordance with plan details or as directed.

i) Sediment Check Dams: Check dams shall be constructed at locations shown on the plans or as directed. Check dams shall be constructed before clearing and grubbing or grading in the area is begun unless otherwise directed.

j) Silt Fencing: Silt fencing shall be furnished and constructed at designated locations or other locations, as directed by the Director.

k) Berms: Earth berms shall be constructed as directed to divert the flow of water from erodible surfaces.

l) Unforeseen Conditions: When unforeseen conditions are encountered, the Director may direct the Contractor to construct such temporary devices as required to control erosion during construction. Details may be developed jointly by the Director and the Contractor.

m) Maintenance of Erosion Control Features: The Contractor shall install, construct, repair, and maintain temporary erosion control features within 7 calendar days of being instructed to do so by the Director. Temporary erosion control features shall be inspected at least once every 14 calendar days and within 24 hours after a rainfall event of 0.5 inches or greater. The features are to be maintained as described below and, if required, replaced as directed at no direct pay.

  i) Temporary Seeding: The seeded areas showing erosion after inspection shall be reseeded if necessary.

  ii) Mulches: Mulched areas showing erosion shall be repaired and the mulch reapplied if necessary.

  iii) Straw or Hay Bale Barriers: The bale barriers shall be inspected after each rainfall and time frame as defined above and at least daily during prolonged rainfall. Close attention shall be paid to the repair of damaged bales, "end runs" and undercutting beneath bales.

  iv) Filter Socks and Geotextile Fabric: Ensure that filter socks remain in place and that geotextile filters do not allow runoff to enter the catch basin around the edges.

  v) Slope Drains: Slope drains shall be inspected weekly and after each rainfall as defined

above, and repairs made if necessary. The Contractor shall avoid the placement of any material on and prevent construction traffic across the slope drain.

vi) Sediment Check Dams: Sediment deposits shall be removed when the deposits reach one-half the height of the check dam. Inspections shall be made to insure that the center of the dam is lower than the edges. Erosion around the edges shall be corrected immediately.

vii) Silt Fencing: Sediment deposits shall be removed when the deposits reach one-half the height of the fence. If the fabric on the silt fence decomposes or becomes ineffective, the fabric shall be replaced promptly.

viii) Temporary Stone Construction Entrance and/or Wash Racks: The construction entrance shall be maintained to allow for removal of mud from the tires. The sediment from the wash rack runoff shall be removed once the wash rack is no longer performing as intended.

n) Removal of Temporary Erosion Control Features: Temporary erosion control feature existing at the time of construction of permanent erosion control features shall be removed or incorporated into the soil in such manner that no detrimental effect will result. The Director may direct that temporary features be left in place. Sediment in sediment basins, silt fences, check dams, and other catchment areas shall be removed, replaced with acceptable soils in accordance with LaDOTD Subsection 203.06, and compacted as directed at no direct pay.

C204.03 Protection During Suspension of Operations: Prior to the suspension of operations, the Contractor shall shape the top of the earthwork in such manner as to permit runoff of rainwater and shall construct earth berms along the top edges of embankments to intercept runoff water. Temporary slope drains shall be provided in the earth berm to carry runoff. When such preventive measures fail, the Contractor shall immediately take other action as necessary to prevent erosion and siltation. The Director may direct the Contractor to perform other erosion control work during suspensions of contract time.

C204.04 Measurement: When temporary erosion and pollution control measures are required due to the Contractor's negligence or failure to install permanent controls, such work shall be performed by the Contractor at no direct pay. Required temporary erosion and pollution control work which is not due to the Contractor's negligence will be measured as follows:

When separate items for temporary erosion control devices are included in the contract, and the work is ordered, the quantities to be paid for will be the weight in pounds (kg) of Temporary Seeding and in tons (Mg) of Temporary Mulching; the volume in cubic yards (cu m) of Sandbagging with the measurement of sand being made in a batch box or other satisfactory means; the number of hay bales placed; the length in feet (m) of Temporary Slope Drains measured along the ground surface and Silt Fencing measured along ground surface between end posts; the number of Sediment Basins and Sediment Check Dams acceptably constructed; the number of gallons (L) of emulsified asphalt, and the number of construction entrances.

Temporary erosion control items may be eliminated when conditions do not justify their use.

When temporary erosion control work is ordered and is not covered by contract items, the work shall be performed as extra work in accordance with LaDOTD Subsection 109.04 except that no extra work order will be required prior to starting work.
The construction of temporary earth berms along edges of the roadway to prevent erosion during grading and subsequent operations will not be measured for payment.

In case of failure of the Contractor to control erosion, or siltation, the Director may employ outside assistance or use his own forces to provide the necessary corrective measures, and the cost thereof will be deducted from payments for the work. Partial payments will be withheld until satisfactory temporary erosion control is established.

C204.05 Payment: Payment for temporary erosion control items that are included as contract items will be made at the contract unit prices.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C204(01)	Temporary Sandbagging	Cubic Yard
C204(02)	Temporary Hay or Straw Bales	Each
C204(03)	Temporary Slope Drains	Linear Foot
C204(04)	Temporary Sediment Basins	Each
C204(05)	Temporary Sediment Check Dams	Each
C204(06)	Temporary Silt Fencing	Linear Foot
C204(07)	Temporary Stone Construction Entrance	Cubic Yard
C204(08)	Curb Inlet Drain Filter (9” Diam. X 8 Ft. Long)	Each
C204(09)	Curb Inlet Drain Filter (6” Diam. X 6 Ft. Long)	Each

PART III - BASE AND SUBBASE COURSE

SECTION C302
BASE AND SUBBASE COURSE

C302.01 This work consists of furnishing and placing a base or subbase course on a prepared subgrade in accordance with these specifications and in close uniformity with the lines, grades, thicknesses, typical cross sections and materials shown on the plans or included herein.

Subbase under asphaltic concrete pavements and base under Portland cement concrete pavements shall be required when the natural insitu subgrade soil, as determined by soil tests, is not an A.A.S.H.T.O. A 4 or better material. When the subgrade *natural ground* is an A 4 material, the maximum liquid limit shall be twenty-five (25) and the maximum plasticity index shall be six (6), otherwise subbase material is required under asphaltic pavements and base material is required under concrete pavements.

C302.02 DEFINITIONS:

(a)	A.A.S.H.T.O.	American Association of State Highway and Transportation Officials unified soil classification system.
(b)	Base	An engineered layer of approved material placed directly below the pavement and can be one of a number of materials.
(c)	Subbase	An engineered layer of approved material placed below the base.
(d)	Subgrade	The existing insitu soil at its interface with the subbase, base or pavement.

The base and subbase courses shall be of the materials noted or specified on the approved plans and can only be changed with the approval of the Director.

C302.03 MATERIALS FOR BASE AND SUBBASE:

(a) Sand shall be natural or pumped sand with a maximum liquid limit of twenty-five (25) and a maximum plasticity index of six (6), free from trash, weeds or other foreign or deleterious material.

(b) Recycled Portland Cement Concrete: Recycled Portland Cement Concrete shall be 100 percent crushed Portland Cement Concrete and will be permitted in combination with an approved stone for base course. After being crushed, the recycled Portland Cement Concrete or the combination of stone and recycled Portland Cement Concrete shall conform to the following gradation:

U.S. SIEVE	PERCENT PASSING
1 ½"	100
1"	90-100
¾"	70-100
No. 4	35-65
No. 40	12-32
No. 200	5-12

The fraction of recycled Portland Cement Concrete passing the No. 40 sieve shall be non-plastic.

(c) Stone shall consist of 100 percent stone and shall conform to the following gradation:

U.S. SIEVE	PERCENT PASSING
1 ½"	100
1"	90-100
¾"	70-100
No. 4	35-65
No. 40	12-32
No. 200	5-12

The fraction of stone passing the No. 40 sieve shall be non-plastic.

(d) Asphaltic Concrete shall conform to the requirements of Sections C501-C509.

(e) Cold-milled Asphaltic Concrete may be used when approved by the Director.

(f) Other Base Materials may also be used when approved by the Director.

C302.04 DENSITY REQUIREMENTS:

MATERIAL	TEST	DENSITY PERCENT OPTIMUM
Sand Subbase	A.S.T.M. D698	95
Sand Base	A.S.T.M. D698	96
Crushed Concrete or Stone	La.D.O.T.D. 418E	95
Cold-milled Asphaltic Concrete	La.D.O.T.D. 418E	95

The density requirements for other material shall be in accordance with the requirements of the Director.

C302.05 TESTING: A testing program, acceptable to the Director, shall be conducted on subgrade, subbase and base under the direction of a Louisiana licensed civil engineer. Soil borings and laboratory analysis are required for the design of the roadway section. Classification and density tests are required on the subbase and base materials. The number and location of the tests are to be approved by the Director.

C302.06 The base and subbase shall be constructed so that contamination, segregation, soft spots, wet spots and other deficiencies are prevented.

C302.07 MEASUREMENT: The quantities for payment will be based on the horizontal dimensions and compacted thickness of the completed course shown on the plans, and any adjustments approved by the Director.

C302.08 PAYMENT: Payment for base course or subbase course will be made at the contract unit price per Cubic Yard (net section) including prime coat.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C302(51)	Base Course	Cubic Yard, Net Section
C302(53)	Subbase Course	Cubic Yard, Net Section

SECTION C306
SCARIFYING AND COMPACTING ROADBED

C306.01 DESCRIPTION: This work consists of scarifying, shaping, and compacting an existing roadbed to form a subbase or base course in accordance with these specifications, and in conformity with the lines, grades, depth and cross section shown on the plans or established.

C306.02 CONSTRUCTION REQUIREMENTS: Existing materials shall be scarified for the full width of roadbed and a minimum depth of 6 inches, shaped to the required section, and uniformly compacted to density requirement as specified in C302.04. Any damage to the scarified roadbed prior to compaction shall be corrected at no direct pay. The scarified, shaped and compacted roadbed shall have a smooth, uniform, closely knit surface, free from ridges, waves, depressions or loose material. The recompacted roadbed shall be primed in accordance with Section C505.

C306.03 MAINTENANCE OF COMPACTED ROADBED: The Contractor shall protect the compacted roadbed from damage due to either public traffic or construction operation and shall maintain the roadbed in satisfactory condition at all times, including the asphaltic prime coat. Any damage shall be immediately repaired by the Contractor at no direct pay.

C306.04 MEASUREMENT: The quantities of scarifying and compacting roadbed for payment will be the design lengths or areas as specified in the plans and adjustments thereto. Design quantities are based on the horizontal length of the roadbed shown on the plans. Design quantities will be adjusted when the Director makes changes to adjust to field conditions, if plan errors are proven, or when design changes are necessary.

C306.05 PAYMENT: Payment for scarifying and compacting roadbed will be made at the contract unit price, including prime coat.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C306(52)	Scarifying and Compacting Roadbed	Square Yard

PART IV - SURFACE COURSE

SECTION C402
TRAFFIC MAINTENANCE AGGREGATE

C402.01 DESCRIPTION: This work consists of furnishing and constructing aggregate surfacing for maintenance of traffic detour as directed and in accordance with the following requirements.

C402.02 MATERIALS: Aggregate for maintenance of traffic shall be crushed stone, crushed concrete, or approved equal.

C402.03 EQUIPMENT: Equipment necessary to produce a finished product meeting the specification requirements shall be furnished and maintained by the Contractor.

C402.04 CONSTRUCTION REQUIREMENTS: When directed, the Contractor shall satisfactorily place, shape, compact and maintain areas requiring traffic maintenance aggregate. When directed, the aggregate material shall be reused on the project at designated locations for traffic maintenance at no direct pay. When aggregate surfacing is no longer necessary for maintenance of traffic, the Contractor shall, unless otherwise directed, remove the aggregate surfacing and dispose of the removed materials in accordance with Section C202.

C402.06 MEASUREMENT: When directed, traffic maintenance aggregate shall be furnished and measured by the cubic yard, truck measure. Traffic maintenance aggregate for access to driveways and temporary surfacing of utility trenches will be provided and placed at no direct pay.

C402.07 PAYMENT: Payment for traffic maintenance aggregate maintained and subsequently removed (when required) will be made at the contract unit price.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C402(51)	Traffic Maintenance Aggregate	Cubic Yard (Truck Measure)

PART V - ASPHALTIC CONCRETE PAVEMENTS

SECTION C501
ASPHALTIC CONCRETE MIXTURES

C501.01 DESCRIPTION: These specifications are applicable to asphaltic concrete wearing, binder and base course mixtures of the plant mix type.

This work consists of furnishing and constructing one or more courses of asphaltic concrete mixture applied hot in conformance with these specifications and in conformity with the lines, grades, thicknesses and typical sections shown on the plans or established. The mixture shall consist of aggregates and asphalt with additives combined in proportions which meet the requirements of this Section including Table 1 and the absolute viscosity test of Subsection C503.02. Equipment and processes shall conform to Section C503.

Substitutions will be allowed for mixes without requiring a plan change as follows:

1. Wearing course of the same or higher stability for binder course.
2. Wearing or binder course for base course.
3. Higher stability for lower stability mix of the same course.

When any substitution is made, the plant requirements for the mixture used shall apply. The stability requirements of Table 1 of the mix used shall be equal to or greater than the mix originally specified.

Quality assurance requirements and design procedures shall be as specified in the latest edition of the LaDOTD's publication entitled "Application of Quality Assurance Specifications for Asphaltic Concrete Mixtures."

C501.02 MATERIALS: The Contractor shall keep accurate records, including proof of deliveries of materials for use in asphaltic concrete mixtures. Copies of these records shall be furnished to the Director upon request. Material shall conform to the following Subsections:

Asphalt (C1002.01)
Silicone and Anti-Strip Additives (C1002.02)
Aggregates (C1003.01 & C1003.06)
Hydrated Lime (LaDOTD 1018.03(a))
Mix Release Agent (LaDOTD 1018.26)

(a) Asphalt: Asphalt cement Grade AC-30 shall be used, except when mixtures contain 20% to 30% reclaimed asphaltic pavement, Grade AC-10 shall be used.

The Contractor shall reduce the amount of asphalt cement in the plant's storage or working tanks to 20% or less before adding another grade of asphalt cement or asphalt cement from another source.

(b) Additives:

(1) Silicone: Silicone additives, when needed, shall be dispersed into the asphalt by methods and in concentrations given in LaDOTD-QPL 22.

(2) Anti-Strip (AS): An anti-strip additive shall be added at the minimum rate of 0.5% by weight of asphalt and thoroughly mixed with the asphalt cement at the plant. Additional anti-strip additive shall be added up to 1.2% by weight of asphalt in accordance with Subsection C501.03(b).

(3) Hydrated Lime: Hydrated lime additive may be incorporated into all asphaltic concrete mixtures at the rate specified in the approved job mix formula. The minimum rate shall not be less than 1.5% by weight of the total mixture. Hydrated lime additive shall be added to and thoroughly mixed with aggregates in conformance with Subsection C503.02(e). Hydrated lime may be added as a mineral filler in accordance with Heading (c)(3).

(c) Aggregates: Aggregates shall meet the requirements of Table 1 and Subsection C1003.06.

(1) Recycled Portland Cement Concrete: Recycled Portland Cement Concrete will be allowed in base courses with a maximum of 70% recycled portland cement concrete by weight combined with new aggregates. Recycled concrete shall be crushed and screened into a minimum of two stockpiles composed of different sized aggregates separate from other materials at the plant. Recycled concrete shall be dried as required for new aggregates.

(2) Reclaimed Asphaltic Pavement (RAP): Reclaimed asphaltic pavement shall be stockpiled separate from other materials at the plant and will be subject to approval prior to use. Such stockpiles shall be uniform and free of soil, debris, foreign matter and other contaminants. Reclaimed materials that cannot be broken down during mixing or that adversely affect paving operations shall be screened or crushed to pass a 2-inch sieve prior to use.

(3) Mineral Filler: Mineral filler conforming to the requirements of Subsection C1003.06(10) may be used in all mixtures.

(4) Screenings: Screenings conforming to the requirements of Subsection C1003.06(6) may be used in all mixtures.

(5) Crushed Aggregates: Crushed aggregates are crusher generated materials manufactured by crushing materials which have a maximum of 10% passing the No. 4 sieve.

a. Type 3 Mixes: For Type 3 mixes, a minimum of 65% by weight of the new aggregates used in wearing and binder courses for travel lanes shall be crushed aggregates; the remaining 35% may be natural sand and mineral filler.

b. Friction Ratings for coarse aggregates shall be determined in accordance with Subsection C1003.06. The allowable usage of coarse aggregates shall be as follows.

Friction Rating	Allowable Usage
I	All mixtures
II	All mixtures
III	All mixtures
IV	All mixtures except Type 3WC

Type 3 WC (with ADT/lane greater than 1000 VPD) may use this aggregate provided a minimum of 50% by weight of the coarse aggregates in the mixture have a Friction Rating of I or II. This aggregate may also be used in mixtures for shoulders, drives, curbs, detours, etc.

C501.03 DESIGN AND QUALITY CONTROL OF MIXTURES:

(a) General: It is the intent of these specifications that the mixtures produced and placed meet the requirements for 100% payment. The Contractor shall be responsible for design, production, transportation and laydown of mixtures. Work shall meet the requirements of this Section and be subject to acceptance by the Department.

The Contractor shall exercise quality control over materials and their assembly, design, processing, production, hauling, laydown and associated equipment. Quality control is defined as the constant monitoring of equipment, materials and processes to ensure that mixtures produced and laid are uniform, are within control limits, and meet specification requirements. When these specifications are not being met and satisfactory control adjustments are not being made, operations shall be discontinued until proper adjustments and uniform operations are established. Control shall be accomplished by a program independent of, but correlated with, the Department's testing and shall ensure that the requirements of the job mix are being achieved and that necessary adjustments provide specification results.

The Contractor shall conduct such tests as necessary, in addition to the required tests, to design, control and place mixtures within specifications.

The quality of mixtures will be evaluated during two phases, mixture produced at the plant, and mixture hauled, laid and compacted. Quality of both phases will be evaluated in series of lots conforming to Subsection C501.11. A lot is a segment of continuous production of asphaltic concrete mixture from the same job mix formula produced for the Department at an individual plant. Plant quality control testing shall be conducted on each lot independent of delivery points. Project site quality control testing shall be conducted on each project for that portion of the lot placed on that project.

When the plant is in operation, the Contractor shall have a Certified Asphaltic Concrete Plant Technician at the plant that is capable of designing asphaltic concrete mixes, conducting any test or

analysis necessary to put the plant into operation and producing a mixture meeting specifications. Daily plant operations shall not begin unless the Certified Asphaltic Concrete Plant Technician is at the plant. The Asphaltic Concrete Technician certification will be awarded by the DOTD upon satisfactory completion of the DOTD's requirements.

(b) Job Mix Formula: The Contractor shall design the mixtures for optimum asphalt content and comply with requirements of DOTD TR 303, Method B; however, Method A may be used when approved. The job mix formula shall include the recommended formula and supporting design data. The recommended formula shall be submitted for approval to the Director on a properly completed Asphaltic Concrete Job Formula form. No mixture shall be produced until the proposed job mix formula has been approved.

The proposed job mix formula shall indicate a single anti-strip additive rate which is 0.1% greater than the percentage which will yield a minimum of 90% coating when tested in accordance with DOTD TR 317 or 0.1% greater than the percentage which will produce a minimum Tensile Strength Ratio (TSR) of 75% when tested in accordance with DOTD TR 322 whichever gives the greatest amount of anti-strip additive. The approved limit shall be 0.2% by weight of asphalt, with the lower limit being the quantity determined in accordance with DOTD TR 317 and the maximum limit not to exceed 1.2% by weight of asphalt.

The job mix formula shall indicate a single rate of hydrated lime additive when used. The job mix formula rate of hydrated lime additive shall not be less than 1.5% by weight of total mixture.

The job mix formula shall produce an asphaltic concrete mixture with a minimum TSR of 75% when tested in accordance with DOTD TR 322. The Contractor's proposed job mix formula shall indicate a minimum TSR value of 75% attained in accordance with DOTD TR 322 on plant-produced mixture or laboratory-produced mixture. The Department may validate the plant produced mixture, at its option. When the Department's validation result is less than 75% TSR, no further production for the job mix formula or any proposed job mix formula substituted for that mix type will be accepted on any DOTD project having DOTD TR 322 requirements until a passing plant-produced TSR value is verified by the Department. A previously validated and approved job mix formula may be produced in lieu of the disapproved job mix formula.

The job mix formula shall indicate the optimum mixing temperature which is the midpoint of the range shown on the Optimum Mixing and Compaction Temperatures Chart for the asphalt cement used. This chart shall be furnished by the Materials and Testing Section of the DOTD, or by the produce1xof the asphalt cement used. The job mix formula limits for mix temperature will be +/- 25°F from the optimum mixing temperature.

When aggregates with a water absorption value greater than 2.0% determined in accordance with AASHTO T 84 for fine aggregate or AASHTO T 85 for coarse aggregate are used in the mixture, the Contractor shall increase the initial optimum asphalt cement content to compensate for the asphalt cement absorbed by the aggregates. When aggregates with an asphalt absorption value greater than 0.5%, determined in accordance with DOTD TR 320, are used in the mixture, the Contractor

shall increase the initial optimum asphalt cement content to compensate for the asphalt cement absorbed by the aggregates.

The job mix formula will allow the full range of gradation mix tolerances within the mix type specification limits.

The plant shall be operated to produce, on a continuing basis, a mixture uniformly conforming to the approved job mix formula. When this is not the case, the Contractor shall make satisfactory adjustments or cease operations. The Director may permit the Contractor to submit a new Asphaltic Concrete Job Mix Formula for approval. The Contractor shall submit a new job mix formula whenever a plant begins initial operations for the Department in a specific location or whenever a plant experiences a change in materials or source of materials. A new job mix formula will also be required whenever there are significant changes in equipment, such as the introduction of a new crusher, drum mixer, burner, etc.

(c) Control Charts: For control purposes, the Contractor shall obtain a minimum of one sample of mixture from each lot. Test results for extracted gradation (DOTD TR 309), percent crushed (DOTD TR 306) and asphalt content (DOTD TR 308) of each lot shall be plotted on control charts. The upper and lower control limits as shown on the approved job mix formula shall be included on the control chart. When the results of two consecutive extracted gradations on any sieve, except the No. 200, fall within 1% of the approved job mix formula gradation limit, or fall erratically within the range, the Contractor shall immediately make corrections to maintain the mix within the specified limits.

When the results of two consecutive extracted gradations on the No. 200 sieve fall within 0.5% of the approved job mix formula gradation limit or fall erratically within the range, the Contractor shall immediately make corrections.

(d) Reclaimed Asphaltic Pavement (RAP): The quantity of reclaimed asphaltic pavement to be used shall be designated in the job mix formula and meet the requirements of Table 1. The approved quantity shall be established after testing for absolute viscosity in accordance with Subsection C503.02(a). When mixtures contain less than 20% reclaimed asphaltic pavement, Grade AC-30 asphalt cement shall be used. Grade AC-10 asphalt cement shall be used in mixtures containing from 20% to 30% RAP. The mixture produced shall conform to the requirements for the type mixture specified. The Director may require the Contractor to reduce the percentage of reclaimed asphaltic pavement to meet acceptance criteria.

When RAP is used in the mixture, the new aggregate shall be dried and heated in a dryer to a sufficiently high temperature to produce a mixture with a minimum discharge temperature of 280°F.

C501.04 WEATHER LIMITATIONS: Asphaltic concrete mixtures shall not be applied on a wet surface or when ambient temperature is below 40°F, except that material in transit, or a maximum of 50 tons in a surge bin or silo used as a surge bin at the time plant operation is discontinued may be laid; however, mixture laid shall perform satisfactorily and meet specification requirements. Inclement weather will be sufficient reason to terminate or not begin production.

When base course materials are placed in plan thicknesses of 2 3/4 inches or greater, these temperature limitations shall not apply provided all other specification requirements are met.

C501.05 SURFACE PREPARATION: The surface to be covered shall be approved prior to placing mixtures. The Contractor shall maintain the surface until it is covered.

(a) Cleaning: The surface to be covered shall be swept clean of dust, dirt, caked clay, caked material and loose material by revolving brooms or other mechanical sweepers supplemented with hand equipment as directed. When mixtures are to be placed on portland cement concrete pavement or overlaid portland cement concrete, the Contractor shall remove excess joint filler from the surface by an approved burning method. The Contractor shall remove any existing raised pavement markers prior to asphaltic concrete overlay operations.

When brooming does not adequately clean the surface, the Contractor shall wash the surface with water in addition to brooming to clean the surface.

When liquid asphalt is exposed to traffic for more than 2 calendar days, becomes contaminated, or degrades due to inclement weather, the liquid asphalt shall be reapplied at the initial recommended rate at no direct pay.

(b) Applying Liquid Asphaltic Materials:

(1) Existing Pavement Surfaces: Before constructing each course, an approved asphaltic tack coat shall be applied in accordance with Section C504. The Contractor shall protect the tack coat and spot patch as required.

(2) Raw Aggregate Base Course and Raw Embankment Surfaces: The Contractor shall apply an approved asphaltic prime coat to unprimed surfaces, or protect in-place prime coat and spot patch as required with asphaltic prime coat, in accordance with Section C505.

(3) Cement and Lime Stabilized or Treated Embankment and Base Course Surfaces: The Contractor shall apply an approved asphaltic curing membrane when none is in place, or protect the in-place curing membrane and spot patch, as required, with asphaltic material in accordance with Section 506.

(4) Other Surfaces: Contact surfaces of curbs, gutters, manholes, edges of longitudinal and transverse joints, and other structures shall be covered with a uniform coating of an approved asphaltic tack coat conforming to Section C504 before placing asphalt mixtures.

C501.06 JOINT CONSTRUCTION:

(a) Longitudinal Joints: Longitudinal joints shall be constructed by setting the screed to allow approximately 25% fluff and also overlapping the paver approximately 2 inches onto the adjacent pass. Prior to rolling, the overlapped mix shall be pushed back to the uncompacted side, without scattering loose material over the uncompacted mat, to form a vertical edge above the joint. The vertical edge shall then be compacted by rolling to form a smooth, sealed joint. Longitudinal joints in one layer shall offset those in the layer below by a minimum of 3 inches; however, the joint in the top layer shall be offset 3 inches to 6 inches from the centerline of pavement when the roadway comprises two lanes of width, or offset 3 inches to 6 inches from lane lines when the roadway is more than two lanes. The narrow strip shall be constructed first.

Where adjacent paving strips are to be placed, the longitudinal edge joint of the existing strip shall be tacked.

(b) Transverse Joints: Transverse joints shall be butt joints formed by cutting back on the previously placed mixture to expose the full depth of the lift. An approved 10-foot static straightedge shall be used to identify the location at which the previously placed mixture is to be cut back to maintain no greater than a 1/8 inch deviation in grade. The cut face of the previously placed mat shall be lightly tacked before fresh material is placed. The screed shall rest on shims that are approximately 25% of plan thickness placed on the compacted mat or the screed shall be set at a distance that is 25% of plan thickness above the mat surface. Transverse joints shall be formed by an adequate crew. Transverse joints shall be checked by the Director for surface tolerance using a stringline extended from a point 10 feet before the joint to a point approximately 40 feet beyond the joint. Any deviation in grade from the stringline in excess of 3/16 inch for roadway wearing courses and 1/4 inch for other courses shall be immediately corrected prior to the paving operation continuing beyond 100 feet of the transverse joint. Additionally, the transverse joint shall meet the surface tolerance requirements of Table 1. The Contractor shall make necessary corrections to the joint before continuing placement operations.

Transverse joints in succeeding lifts shall be offset at least 2 feet.

(c) Sawing and sealing of joint in an asphaltic concrete overlay: When new concrete pavement or existing concrete foundation is to be overlaid with asphaltic concrete, joints shall be sawed or formed and sealed.

Saw cut shall be made in the overlay at the locations of all transverse and longitudinal joints in the concrete pavement. The sawed joints will have a minimum of 1/8" wide by 1" deep. Cleaning and drying the saw cut before applying hot poured sealant as specified in Subsection C601.04(g).

Sawing and sealing of joints in an asphaltic concrete overlay will be made at no direct pay.

C501.07 HAULING, PAVING AND FINISHING: Mixtures shall be transported from the plant and delivered to the paver at a temperature no cooler than 25°F below the lower limit of the approved job mix formula. The temperature of the mix going through the paver shall not be cooler than 250°F.

No loads shall be sent out so late in the day that completion of spreading and compaction of the mixture cannot be completed during daylight, unless artificial lighting has been approved.

When segregation occurs, haul trucks shall be loaded with a minimum of three drops of mix, the last of which shall be in the middle.

Each lift of asphaltic mixture shall be placed in accordance with the specified lift thickness. When no lift thickness is specified, binder and wearing course mixtures shall be placed in lifts not exceeding 2 inches plan thickness. Base course mixtures shall be placed in lifts of such thickness that all specification requirements are met.

With the Director's approval, motor patrols may be used to fill isolated depressions in the initial layer, provided this construction does not result in unsatisfactory subsequent lifts.

(a) Coordination of Production: The Contractor shall coordinate and manage plant production, transportation of mix and placement operations to achieve a high quality pavement and shall have sufficient hauling vehicles to ensure continuous plant and roadway operations. The Director will order a halt to operations when sufficient hauling vehicles are not available.

On final wearing course construction under traffic with pavement layers of 2 inches compacted thickness or less, the Contractor will be permitted to pave one travel lane for a full day. The Contractor shall pave the adjacent lane the next work day. When the adjacent travel lane is not paved the next calendar day and the longitudinal joint is exposed to traffic for more than 3 calendar days, the entire length of exposed longitudinal joint shall be cut back to plan thickness to a vertical edge and heavily tacked. When pavement layers are greater than 2 inches compacted thickness, the Contractor shall place approximately 1/2 of each day's production in one lane and the remainder in the adjacent lane.

Pavement shall be protected from traffic until it has sufficiently hardened to the extent the surface is not damaged.

(b) Paving Operations: All mixtures shall flow through the paver hopper. Mixtures dropped in front of the paver shall be either lifted into the hopper or rejected and cast aside. Delivery of material to the paver shall be at a uniform rate and in an amount within the capacity of paving and compacting equipment. The paver speed and number of trucks shall be adjusted to have one truck waiting in addition to the one at the paver in order to maintain continuous paving operations. The height of material in front of the screed shall remain uniform.

Transfer of mixture from haul truck to paver may be made by direct unloading into the paver hopper or by use of approved mechanical transfer devices to transfer mix from a haul truck or windrow. During mixture transfer, the paver shall not be jarred or moved out of alignment. During truck exchanges the level of mix in the paver hopper shall not drop so low as to expose the hopper feed slats.

Pavers shall be designed and operated to place mixtures to required line, grade and surface tolerance without resorting to hand finishing.

Longitudinal joints and edges shall be constructed along lines established. An acceptable method of longitudinal control shall be placed by the Contractor for the paver to follow. The paver shall be positioned and operated to closely follow the established line. Irregularities in alignment shall be corrected by trimming or filling directly behind the paver.

After each load of material has been placed, the texture of the unrolled surface shall be checked to determine its uniformity. The adjustment of screed, tamping bars, feed screws, hopper feed, etc., shall be checked frequently and adjusted as required to assure uniform spreading of the mix to proper line and grade and adequate compaction. When segregation of materials or other deficiencies occur, paving operations shall be suspended until the cause is determined and corrected.

Surface irregularities shall be corrected directly behind the paver. Excess material forming high spots shall be removed. Indented areas shall be filled and finished smooth. Hand placement in

accordance with Heading (c) for surface repair will be permitted. Material shall not be cast over the surface.

When paving and finishing operations are interrupted so that the mixture remaining in trucks, paver, paver hopper or on the pavement cools to such extent that it cannot be placed, finished or compacted to the same degree of smoothness and with the same texture and density as the uncooled mixture, the cooled mixture shall be removed and replaced at no direct pay.

When additional mix is required to increase superelevation in curves, the use of automatic slope control will be optional with the Contractor.

(c) Hand Placement: When the use of mechanical finishing equipment is not practical, the mix may be placed and finished by hand to the satisfaction of the Director. No casting will be allowed including casting the mixture from the truck to the grade. During paving operations material shall be thoroughly loosened and uniformly distributed. Material that has formed into lumps and does not break down readily will be rejected. The surface shall be checked before rolling and irregularities corrected.

C501.08 COMPACTION:

(a) General: After placement, mixtures shall be uniformly compacted by rolling while still hot, to at least the density specified in Table 1. If continuous roller operation is discontinued, rollers shall be removed to cooler areas of the mat, where they will not leave surface indentations. The use of steel wheel rollers which result in excessive crushing of aggregate will not be permitted.

The rolling pattern established by the Contractor shall be conducted by experienced operators in consistent sequences and by uniform methods that will obtain specified density and smoothness. Individual roller passes shall uniformly overlap preceding passes to ensure complete coverage of the paving area. The speed and operation of rollers shall not displace, tear or crack the mat. Non-vibrating steel wheel rollers shall be operated with drive wheels toward the paver. Any operations causing displacement, tearing or cracking of the mat shall be immediately corrected.

Equipment which leaves tracks or indented areas which cannot be corrected in normal operations or fails to produce a satisfactory surface shall not be used. Operation of equipment resulting in accumulation of material and subsequent shedding of accumulated material into the mixture or onto the mat will not be permitted.

To prevent adhesion of mixture, wheels of steel wheel rollers shall be kept properly moistened, but excess water will not be permitted.

Vibratory rollers may be used provided they do not impair the stability of the pavement structure or underlying layers.

The surface of mixtures after compaction shall be smooth and true to cross slope and grade within the tolerances specified. Mixtures that become loose, broken, contaminated or otherwise defective shall be removed and replaced with fresh hot mixture compacted to conform with the surrounding mixture.

Ripples in the mat surface will not be accepted. Lots with rippled areas will be subject to rideability testing by the Department. These areas will be compared with the balance of the lot and adjacent acceptable riding surfaces to determine acceptability. Areas identified by such testing as unacceptable shall be corrected at no direct pay. Damage to the longitudinal joint shall be minimized to conform to Subsection C501.07(a).

(b) Breakdown Rolling: Breakdown or initial rolling shall be accomplished with a static or vibratory steel-wheel roller designed for initial compaction of hot asphaltic concrete mixtures conforming to Subsection C503.06.

(c) Finish Rolling: Finish rolling shall be accomplished with an approved nonvibrating steel wheel roller conforming to Subsection C503.06 until roller marks have been eliminated.

After finish rolling, newly finished pavements shall have a uniform, tightly-knit surface free of cracks, tears or other deficiencies. Deficiencies shall be corrected at no direct pay and the Contractor shall adjust operations to correct the problem. This may require the Contractor to adjust the mix or furnish additional or different equipment.

(d) Hand Compaction: Along forms, curbs, headers, walls and at other places inaccessible to rollers, mixture shall be uniformly compacted to the satisfaction of the Director with approved hand tampers or mechanical tampers, conforming to Subsection C503.07.

C501.09 PAVEMENT SAMPLES: Samples shall be cores approximately 4" in diameter taken by an approved core drill. The Contractor shall furnish samples cut from the completed work. The removed pavement shall be replaced with hot or cold mixture and refinished during the work day coring is performed. No additional compensation will be allowed for furnishing test samples and replacing the areas with new pavement. Samples shall be taken by the Contractor in the presence of the Director's representative from areas selected by the Director in accordance with Subsection C501.11(b)(2)c. When the design thickness is greater than 1-3/8", cores less than 1-3/8" thick shall not be used as pavement samples for payment determination.

Cores shall be transported to the plant in approved transport containers or one-gallon friction-top cans. Regardless of transport container used, the container will be sealed, signed, and dated by the inspector using an approved method. The individually wrapped core will also be sealed, signed, and dated by the inspector using an approved method. Any evidence of tampering with the core wrappings, sticker, or of opening the container or friction-top can will result in the cores being rejected. Additional pavement samples will be required.

C501.10 DIMENSIONAL REQUIREMENTS: Mixtures that are specified for payment on a cubic yard or square yard basis shall conform to the following dimensional requirements. Overthickness and overwidth will be waived at no direct pay.

When grade adjustments are permitted for all mixtures except the final wearing course, areas with underthickness in excess of 1/4" shall be corrected to plan thickness at no direct pay by furnishing and placing additional mixture in accordance with Subsection 501.10(e). For the final wearing course, areas with underthickness in excess of the 1/4" shall be corrected to plan thickness at no direct pay by furnishing and placing a supplemental layer of wearing course mixture meeting

specification requirements in accordance with Subsection 501.10(e) over the entire area for the full width of the roadway when grade adjustments are permitted.

When grade adjustments do not permit, the deficient overthickness area shall be removed and replaced at no direct pay.

(b) Width: The width of completed courses will be determined in accordance with DOTD TR-602. Underwidths shall be corrected by furnishing and placing additional mixture a minimum of 1 foot wide and plan thickness at no direct pay.

C501.11 ACCEPTANCE REQUIREMENTS: All Department inspection procedures, including sampling and testing, form the basis for acceptance of the asphaltic concrete. Any section of pavement that is obviously deficient shall be satisfactorily corrected or replaced. Sampling and testing shall be accomplished following a stratified sampling plan in accordance with the Materials Sampling Manual and specified test procedures. Times and locations shall be established by the Director.

A standard lot is the production of asphaltic concrete mix from the same job mix formula produced for the Department at an individual plant in one day. Additional adjustments may be made to the standard lot size as specified in this Subsection. Minor adjustments will be made to the lot size to accommodate hauling unit capacity.

Acceptance testing for Marshall properties, percent anti-strip additive, percent hydrated lime (when used), quality of asphalt cement, aggregate gradation, percent crushed aggregate, percent asphalt cement, and percent moisture in loose mix will be conducted on the total lot quantity. Acceptance testing for pavement density, surface tolerance and dimensional tolerances will be conducted on that portion of the lot placed on each contract.

Pavement density and surface tolerance requirements will not be applied for short irregular sections, such as drives, aprons and turnouts; however, mix shall be placed to provide a neat, uniform appearance and shall be compacted by satisfactory methods.

For projects, or separate locations within a project, requiring over 100 tons of mixture, one sample will be taken for Marshall properties testing for each 250 tons or portion thereof produced. Sampling and testing for aggregate gradation, asphalt content and percent crushed shall be in accordance with Heading (b)(2)b. Five samples shall be taken for determination of pavement density, with the sampling distribution to be determined by the Director.

For projects, or separate locations within a project, requiring less than 100 tons, the job mix formula, materials, and plant and paving operations shall be satisfactory to the Director. Payment adjustments for Marshall properties will be based on "Individual Test Within Lot" values in Table 2. Sampling and testing requirements for aggregate gradation, surface tolerance and pavement density may be modified by the Director and the payment adjustment for deviations waived.

(a) Inspection: Mix exhibiting deficiencies before placement such as segregation, contamination, lumps, nonuniform coating, excessive temperature variations in surface texture and appearance or other deficiencies, apparent on visual inspection, will not be accepted. Poor

construction practices such as handwork, improper truck exchanges, improper joint construction, or other deficiencies, apparent on visual inspection, will not be accepted.

Deficiencies revealed by visual inspection after placement and before final acceptance shall be corrected at no direct pay.

When requested by the Contractor, the acceptability of mixtures or work rejected by visual inspection will be evaluated by tests and measurements.

(b) Sampling and Testing:

(1) Without Payment Adjustments: The Department will take samples or perform tests as outlined in these specifications to ensure that the asphaltic concrete conforms to Department standards, which include job mix limits, typical sections, material properties, surface deviations and verification of control testing. The Department will perform tests for gradation, percent crushed, percent asphalt cement, and Marshall properties to determine the acceptability of the asphaltic concrete without payment adjustment. Deviations from specified tolerances will not be accepted. When a sample or test indicates a deviation from a specified tolerance, the Contractor shall take immediate corrective action, or operations shall be discontinued.

(2) With Payment Adjustments: When the mix does not meet requirements in the areas listed in this Section, the Payment Adjustment Schedules shown in Table 2 will be applied. Production of mix that is not eligible for 100% will not be allowed on a continuous basis. When test results demonstrate that payment adjustments are necessary, satisfactory control adjustments shall be made, or production shall be discontinued.

The Department will pay the Contractor at an adjusted rate as specified in Table 2 for tests conducted by the Department on samples obtained from each lot of material, in accordance with the following Headings. In addition a payment adjustment will be applied for the use of asphalt cement which does not meet specifications.

a. Marshall Stability: Testing for Marshall Stability will be conducted by the Director. Compacted specimens of mixture shall conform to the properties in Table 1 when tested in accordance with DOTD TR 305 for both an individual and an average of four samples taken from each lot after the mixture is placed in trucks. One sample will be taken from each of four sublots. Temperature at the time of molding specimens shall be within 15°F of mix temperature at the time of sampling. When an individual test or the average of tests representing the lot is outside acceptance limits shown in Table 1, an adjustment in unit price for the lot will be made in accordance with Table 2.

b. Aggregate Gradation, Asphalt Content and Percent Crushed: Sampling and testing for aggregate gradation, asphalt content and percent crushed will be conducted by the Director. One loose mix sample, representing one/half day of production from an individual plant, randomly spaced throughout the production of each one/half day of production, will be taken after placement of the mix in the truck. These samples shall be tested at the plant laboratory in accordance with DOTD TR 309, TR 307 and TR 306, respectively. If the test results are within the job mix control limits given in Table 1, no payment adjustment will be made. When test results from the sample are outside the job mix control limits, the

Contractor's Certified Plant Technician will make immediate adjustments to maintain the mix within specified limits.

c. Pavement Density: Acceptance testing for pavement density will be conducted by the Director. Upon completion of compaction, five pavement samples per contract shall be obtained in accordance with Subsection C501.09 from each lot within 24 hours after placement of the lot. When this falls on a day the Contractor's crews are not working, sampling shall be done within 3 calendar days. The lot will be divided into five sublots of approximately equal length. One sample shall be obtained from each sublot. The number of samples representing a lot will not be less than five. The density requirement for the average of five samples will be as shown in Table 1 determined in accordance with DOTD TR 304. Payment will be made in accordance with Table 2.

When the sampling location determined by random sampling falls within areas that are to be replaced or within 1 foot of the pavement edge, another random sampling location will be used.

d. Longitudinal Surface Tolerance: Testing for surface tolerance will be required for each lot on the final roadway wearing course lift. Testing will be the responsibility of the Director. The surface will be tested with a ten (10') foot rolling straightedge in the longitudinal direction of the pavement before completion of the project. The rolling straightedge will be furnished by the Contractor and shall be recently calibrated. Surface corrections shall be made in accordance with subsection 3 below. The requirements for longitudinal surface tolerance on the final roadway wearing course lift shall be:

1. Longitudinal Surface Finish: One path in each lane of the finished surface will be selected at random. Intersections, driveways, drainage structures, bus pads or other roadway obstructions, shall be eliminated from the path of the straightedge.

2. Longitudinal variations: Longitudinal variations in the roadway wearing course surface will be subject to provisions of this section. Surface-finish deficiencies exceeding three-eighths (3/8") inch for more than 10% percent of the lot, shall be corrected in accordance with subsection 3 below. After corrections have been made, the entire lot will be subject to the provisions of this section.

3. Correction of Deficient Areas: Deficiencies to be corrected in the final wearing course shall be corrected by milling, removing and replacing or furnishing and placing a supplemental layer of wearing course mixture at least 2" thick for the full width of the roadway; all in a manner satisfactory to the Director and at no additional cost to the City.

e. Anti-Strip Additive: Testing for addition of anti-strip additive will be conducted at a frequency of twice per lot. When anti-strip additive is not added within the range given on the approved job mix formula, an adjustment in unit price will be made in accordance with Table 2. The payment adjustment required will be on the averaged whole percent payment for the lot. The lot will be divided into two approximately equal sublots. The percent pay will be adjusted for each sublot, then averaged to determine the payment adjustment for the lot.

C501.12 GEOTEXTILE FABRIC FOR PAVING (FOR CONCRETE WEARING COURSE ON PORTLAND CEMENT CONCRETE BASE):

(a) DESCRIPTION. Work shall include furnishing and placing the specified geotextile fabric on the pavement prior to installing the asphalt wearing course.

(b) MATERIALS. The geotextile fabric shall be nonwoven fabric and meet the following minimum requirements:

Tensile Strength (ASTM D-1682)	110 lbs (in either direction)
Elongation (ASTM D-1682)	55% (in either direction)
Melting point	320°F
Asphalt Retention	0.20 gal/sy

(c) CONSTRUCTION REQUIREMENTS:

(1) The pavement should be free from dirt, water, oil and foreign material. Cracks wider than 3/8" should be filled as specified in subsection C724.09.

(2) Prior to installation of the geotextile fabric a tack coat must be applied at the rate recommended by the manufacturer.

(3) The geotextile fabric shall be delivered in rolls to facilitate installation.

(4) During shipment and storage the geotextile fabric shall be wrapped in a heavy-duty covering to protect it from direct sunlight, ultraviolet rays, temperatures greater than 140°F (60°C), mud, dirt, dust, debris and abrasion.

(5) The manufacturer shall furnish a sample and certified test reports showing that the geotextile fabric meets the requirements of these subsections.

(6) Unless otherwise specified by the manufacturer the geotextile fabric shall be unrolled directly on top of the pavement in a uniform manner, free of wrinkles, and all sections overlapped by two (2') feet. Tears or rips in the fabric shall be patched.

C501.13 MEASUREMENT: Asphaltic tack coat, prime coat or curing membrane will not be measured for payment.

(a) Weight Measurement: Asphaltic concrete will be measured by the ton of 2,000 pounds from printed weights as provided in Section C503. Stamped printer tickets will be issued for each truckload of material delivered. Material lost, wasted, rejected or applied contrary to specifications will not be measured for payment.

Estimated quantities of asphaltic concrete shown on the plans are based on 110 lb/sq yd/inch thickness.

(b) Volume or Area Measurement: The quantities for payment will be the design quantities specified in the plans and adjustments thereto. Design quantities will be adjusted when the Director makes changes to adjust to field conditions or when design changes are necessary. Design quantities are based on the horizontal dimensions and compacted thickness of the completed course shown on the plans.

(c) Geotextile: Geotextile fabric shall be measured by the square yard, based on the theoretical area on the plans. Fabric used in patching or overlaps shall not be measured for payment.

C501.14 PAYMENT: Payment for asphaltic concrete will be made at the contract unit price on a lot basis. When the mix does not conform to acceptance requirements, payment will be made at an adjusted price per unit of measurement in accordance with Section C1002 and Table 2. The Director will provide adjustment percentage for properties of asphaltic materials.

(a) General: Payment for asphaltic concrete will include furnishing all required materials, producing the mixtures, preparing the surfaces on which the mixtures are placed, hauling the mixtures to the work site, and placing and compacting the mixtures.

(b) Wearing Course Mixes: The lowest percentage of contract price will be used for final adjustment in unit price for deficiencies in Marshall Stability, pavement density, surface tolerance, anti-strip additive, and asphalt cement properties.

(c) Base, Binder and Shoulder Mixes: The lowest percentage of contract price will be used for final adjustment in unit price for deficiencies in Marshall Stability, pavement density, anti-strip additive, and asphalt cement properties.

(d) Geotextile: Geotextile fabric will be paid for per square yard at the contract unit price which includes furnishing equipment, labor and materials to complete the item.

Payment will be made under:

ITEM NO.	PAY ITEM	Pay Unit
C501(51)	Asphaltic Concrete	Ton
C501(52)	Asphaltic Concrete	Cubic Yard
C501(53)	Asphaltic Concrete (___" Thick)	Square Yard
C501(54)	Geotextile Fabric for Paving	Square Yard

TABLE 1

REQUIREMENTS FOR ASPHALTIC CONCRETE MIXTURES

A. Mixture Requirements

U. S. Sieve % Passing	Type 3 Wearing Course	Binder Course	Type 5A Base	Mix Tolerance
1-1/2"	------	------	100	-----
1"	100	100	80 - 100	± 6
3/4"	95 - 100	85 - 100	------	± 6
1/2"	85 - 100	70 - 100	------	± 6
3/8"	70 - 100	60 - 95	------	± 6
No. 4	50 - 75	40 - 70	35 - 70	± 6
No. 10	28 - 55	28 - 50	------	± 6
No. 40	14 - 30	14 - 30	16 - 40	± 5
No. 80	8 - 20	8 - 20	------	± 4
No. 200[4]	3.0 - 8.0	3.0 - 8.0	3.0 - 8.0	± 2.0
Extracted Asphalt, %	------	------	------	± 0.4
Mix Temperature	------	------	------	± 25°F
% Cursched, Min.	85	70	As Needed	------
Aggregates[1] (Grade) A,B,C		A,B,C,I	A,B,C,D,G,H,I	------
Marchall Stability, lbs.				
No. of Blows	75	75	75	------
Design[2]	1700	1700	1400	------
Minimum	1500	1500	1200	------
Individual	1300	1300	1000	------
Marshall Flow,	1/100 in. 6 - 15	5 - 15	15 Max	------
% Voids	3.0 - 5.0	3.0 - 5.0	3.0-5.0	------
% VFA	70 - 80	70 - 80	70-80	------
% VMA Min[3]	14.5	14.0	13.0	------
% RAP, Max.	0.0	30.0	30.0	------

B. Pavement Requirements

Density, %:

Pavement Wearing & Binder Courses - 95.0

Base Course - 94.0

Grade Tolerance Variation, Inches:

Roadway Wearing Courses - 1/2

Binder Courses - ½

1 A - Gravel, B - Slag, C - Stone approved for wearing surface, D - Stone, G - Sand Gravel, H - Recycled portland cement concrete, I - Reclaimed asphaltic pavement. See Subsection C501.02(c).

2 The Contractor shall design a mixture at a stability value based on historical plant performance that will ensure compliance with 100 percent payment requirements for the average of four samples. Values listed may be used as guide.

3 For Design Guideline. For mixes with a theroetical gravity greater than 2.47, a tolerance of minus 1.0 percent will be applied to tthe minimum VMA.

4 Max of 6.5 percent passing the No. 200 sieve for design of all mixtures.

TABLE 2
PAYMENT ADJUSTMENT SCHEDULES

	Percent of Contract Unit Price/Lot[1]				
	100	98	95	80	50 or Remove [2]
Marshall Stability (lb):					
. Type 3 WC & BC:					
Lot (Average)	1500 & Above	------	1400 - 1499	1250 - 1399	Below 1250
Individual Test Within Lot	1300 & Above	Below 1300	------	------	------
. Type 5A Base:					
Lot (Average)	1200 & Above	------	1100 - 1199	1000 - 1099	Below 1000
Individual Test Within Lot	1000 & Above	Below 1000	------	------	------
Pavement Density: (% of Laboratory Density)					
95.0	95.0 & Above	------	94.0 - 94.9	92.0 - 92.9	Below 92.0
94.0	94.0 & Above	------	93.0 - 93.9	91.0 - 92.9	Below 91.0
Anti-Strip Addictive, % Below Job Mix Formula	Within Job Mix Formula	0.2 or less	More than 0.2	------	------

[1] Portion of lot placed on the project

[2] At the option of the Director

SECTION C502
SUPERPAVE ASPHALTIC CONCRETE MIXTURES

502.01 Description: These specifications are applicable to Superpave Asphaltic Concrete wearing, binder and base course mixtures of the plant mix type.

All references herein shall conform to the LaDOTD Louisiana Standard Specifications for Roads and Bridges, Latest Edition, Section 502, and latest revisions thereto. Section 502 shall govern except as amended herein. All references to the "department" and to "the Director" shall mean the City's representative in these specifications. Wearing Courses shall be (1/2" Nominal Size) and Binder and Base Courses shall be (3/4' or 1" Nominal Size and conforming to the Lift Thickness shown in Table 502-3). The use of a Material Transfer Device is not allowed unless receiving written approval from the Director.

502.02 Materials: See Latest Edition of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, including revisions thereto, except as modified herein.

(a) Asphalt Cement: The asphalt cement grades used shall be as specified in Table C502-1.

Table C502-1
Superpave Asphalt Cement Usage

Current Traffic Load Level	Mixture Type[1]	Grade of Asphalt Cement
Level A	Incidental Wearing Course	PG64-22
Level 1	Binder and Wearing Course	PG64-22
	Base Course	PG64-22*

[1] Nominal Aggregate Size must conform to the Lift Thickness requirements listed in Table C502-3 for each lift of asphalt.
* Binder and Base Course containing between 20 and 30 percent RAP shall use PG58-28. All Wearing Courses shall use PG64-22.

502.04 Job Mix Formula: Validation will be based on the first lot test results. All the specification criteria must be met for production to continue.

502.05 Plant Quality Control: This section does not apply to these specifications.

502.06 Plant Acceptance: This section does not apply to these specifications.

502.10 Roadway Quality Control: See Latest Edition of the LaDOTD Louisiana Standard Specifications including revisions thereto, except as modified herein. All references to Surface Tolerance and IRI specifications will not apply to these specifications.

502.11 Roadway Acceptance: See Latest Edition of the LaDOTD Louisiana Standard Specifications including revisions thereto, except as modified herein.

Density: Acceptance testing for pavement density will be conducted by the Director. One pavement core for each mix use shall be taken from each sublot within 72 hours after placement. Sampling shall be performed by the Director using the random number tables shown in DOTD TR 605. When the sampling location determined by random sampling falls within areas that are to be replaced, within 1 foot of the pavement edge, or within 5 feet of a transverse joint; another

sampling location will be determined. Samples will be drilled by the Contractor at the locations determined by the Director. The Director shall transport the cores to the asphalt plant for testing by the Director's representative. The Contractor's representative will inspect the cores upon delivery to the plant and before any testing is performed on the core. Any damaged cores or cores that are less than 1 3/8"; can be rejected at that time and a new sampling location must be determined and the core re-drilled. The removed pavement shall be replaced with hot or cold mixture and refinished during the work day the coring is performed. Cores less than 1 3/8" thick shall not be used as pavement samples for payment determination. The average density of all cores for each lot shall be greater than 92% of Maximum Theoretical Gravity (TR 327). Roadway density will be calculated using the lot average for Maximum Theoretical Gravity.

502.13 Quality Level Analysis: This section does not apply to these specifications.

502.14 Lot Sizes: This section has been modified as follows:

A lot is a segment of continuous production of asphaltic concrete mixture from the same job mix formula produced for a given job at an individual plant. A standard lot will be defined as:

- 2000 tons production
- Partial lots will require testing at the frequency of one test per 500 tons, and portion thereof.

Each lot will be sub-divided into four equal sublots based on expected production. Testing will be conducted as follows:

- First Sublot –
  - Tests will be performed on aged specimens compacted to N-design as follows:
    - Percent Voids
    - Percent VFA
    - Percent VMA
  - Theoretical Maximum Specific Gravity (Gmm)
  - Gradation, AC Content and Percent Crushed
  - Aged or un-aged specimens compacted to N-maximum as follows:
    - Percent Gmm at N-initial
    - Percent Gmm at N-Maximum
- Second Sublot –
  - Theoretical Maximum Specific Gravity (Gmm)
  - Aged or un-aged specimens compacted to N-maximum as follows:
    - Percent Gmm at N-initial
    - Percent Gmm at N-Maximum
- Third Sublot –
  - Tests will be performed on aged specimens compacted to N-design as follows:
    - Percent Voids
    - Percent VFA
    - Percent VMA
  - Theoretical Maximum Specific Gravity (Gmm)
  - Gradation, AC Content and Percent Crushed
  - Aged or un-aged specimens compacted to N-maximum as follows:
    - Percent Gmm at N-initial
    - Percent Gmm at N-Maximum

- Fourth Sublot –
    - Theoretical Maximum Specific Gravity (Gmm)
    - Aged or un-aged specimens compacted to N-maximum as follows:
        - Percent Gmm at N-initial
        - Percent Gmm at N-Maximum

Tests for Theoretical Maximum Specific Gravity, Voids, VMA and VFA shall be conducted by the Director. If lot averages (minimum two samples) exceed tolerances listed in Table C502-3, an adjustment must be made to the mix by the Contractor to bring the mix back within tolerance. If two consecutive lots are out on the same parameter, production must be halted and the mix re-designed.

Tests for Gradation, AC Content, and Percent Crushed and for aged or un-aged specimens compacted to N-maximum shall be conducted by the Contractor's Quality Control representative. If lot averages (minimum two samples) exceed tolerances listed in Table C502-2, an adjustment must be made to the mix by the Contractor to bring the mix back within tolerance. If two consecutive lots are out on the same parameter, production must be halted and the mix re-designed.

502.15 Measurement: See latest Edition of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, including revisions thereto, except as modified herein.

(a) Weight Measurement: Asphaltic concrete will be measured by the ton of 2,000 pounds (megagrams) from printed weights as provided in Section 503. Stamped printer tickets will be issued for each truckload of material delivered. Material lost, wasted, rejected or applied contrary to specifications will not be measured for payment.

Estimated quantities of asphaltic concrete shown on the plans are based on 110 lb/sq yd/inch (2.35 kg/sq m/mm) thickness.

(b) Volume or Area Measurement: The quantities for payment will be the design quantities specified in the plans and adjustments thereto. Design quantities will be adjusted when the Director makes changes to adjust to filed conditions or when design changes are necessary. Design quantities are based on the horizontal dimensions and compacted thickness of the complete course shown on the plans.

(c) Surface Tolerance Incentive Measurement: This Standard Specification section does not apply to this project.

502.16 Payment: Payment shall be made based on the measurement specified and adjusted for % Air Voids and Average Roadway Density in accordance with Table C502-4 included herein.

Payment will be made under:

ITEM NO.	PAY ITEM	Pay Unit
C502(51)	Superpave Asphaltic Concrete	Ton
C502(52)	Superpave Asphaltic Concrete	Cubic Yard
C502(53)	Superpave Asphaltic Concrete (_" Thick)	Square Yard

Table C502-2

Superpave Requirements

A. REQUIREMENTS FOR EXTRACTED ASPHALT CEMENT AND AGGREGATE GRADATION					
U.S. (Metric) Sieve Passing	1/2 inch (12.5 mm) Nominal	3/4 inch (19 mm) Nominal	1 inch (25 mm) Nominal		Mix Tolerance[1]
2 inch (50 mm)	---	---	---		±6
1 1/2 inch (37.5 mm)	---	---	100		±6
1 inch (25 mm)	---	100	90-100		±6
3/4 inch (19 mm)	100	90-100	89 Max		±6
1/2 inch (12.5 mm)	90-100	89 Max	---		±6
3/8 inch (9.5 mm)	89 Max.	---	---		±6
No. 4 (4.75 mm)	---	---	---		±6
No. 8 (2.36 mm)	28-58	23-49	19-45		±5
No. 16 (1.18 mm)	---	---	---		±4
No. 30 (600 µm)	---	---	---		±3
No. 50 (300 µm)	---	---	---		±3
No 100 (150 µm)	---	---	---		±2
No. 200 (75 µm)	2.0-10.0	2.0-8.0	1.0-7.0		±1.5
Extracted Asphalt, %	---	---	---		±0.4
Mix Temperature	---	---	---		±25°F (±14°C)
Aggregate[2]	A,B,C	A,B,C	A,B,C,D,E		---
B. PAVEMENT REQUIREMENTS					
Density, Min. 92.0 (% of Maximum Theoretical Gravity) Roadway Travel Lane Wearing, Binder and Base Courses					
Density, Min. 89.0 (% of Maximum Theoretical Gravity) Shoulders, Patching and Widening					

[1] Job Mix Formula based on validated mix design. Tolerances apply only to Lot average (2 samples minimum).

[2] A - Gravel, B - Slag, C - Stone approved for wearing surface, D - Stone, E - Reclaimed Asphaltic Pavement. See Subsection 502.02(c).

Table C502-3
Superpave Mixture Criteria

Nominal Max., Size Agg.	0.5 inch (12.5 mm)			0.75 inch (19 mm)			1.0 inch (25 mm)			
Type of Mix	Incidental Paving	Wearing Course			Binder Course		Binder Course		Base Course	
Level	A	1			1		1		1	
Asphalt Binder	Table C502-1									
Coarse Agg. Angularity, + No. 4 (4.75 mm)	55	75			75		75		75	
Fine Agg. Angularity, Min. % - No. 4 (4.75 mm)	40	40			40		40		40	
Flat and Elongated Particles, % Max. (5:1) + No. 4 (4.75 mm)	10									
Sand Equivalent, Min. % (Fine Agg.), - No. 4 (4.75 mm)	40	40			40		40		40	
Natural Sand Max. % of New Agg.	N/A	15			15		15		15	
RAP, Max. % of Mix[1]	20	20			30		30		30	
Compacted Mix Volumetrics										
VMA, Min. %	13	13			12		11		11	
Air Voids, %	2.5-4.5									
VFA, %	68-78									
$N_{initial}$ 91% max. (Gyrations)	7	7			7		7		7	
N_{design} 96.5±1.5 % (Gyrations)	75	75			75		75		75	
N_{max} 98 % max. (Gyrations)	115	115			115		115		115	
Moisture Sensitivity, TSR Min.	80									
Dust/Effective Asphalt Ratio, %	0.6 – 1.6									
Lift Thickness, inch	1.5 – 2.0	1.5 – 2.0		2.0 – 3.0			2.5 – 4.0		2.5+	

[1] For RAP percentages between 20 and 30 percent, use asphalt cement grade PG58-28.

Table C502-4
Payment Adjustment Schedule for Superpave

Parameter[1]	Percent of Contract Unit Price/Sublot		
	100	95	50 or Remove[2]
% Air Voids	2.5 – 4.5	2.0-2.4 or 4.6-5.0	<2.0 or >5.0
Average Roadway Density, % G_{mm}	≥ Lower limit	-0.1 to -0.9 below lower limit	-1.0 below lower limit

[1]The percent payment for plant acceptance will be the Lot Average for air voids,. Roadway pay is based on average roadway density of the sublot cores. The percent payment for roadway acceptance will be the average of the percent payments for density. The total percent payment for the Superpave mixture will be the lowest value of the percent payments for plant acceptance and roadway acceptance.
[2]At the option of the Director.
[3]Lot sizes less than 2000 tons will be accepted based on the average of all values reported.

SECTION C503
ASPHALTIC CONCRETE EQUIPMENT AND PROCESSES

C503.01 DESCRIPTION: This section specifies requirements for certification of plant and paving equipment used in producing, placing and compacting asphaltic concrete mixtures. It includes methods and equipment for handling and storing materials and transporting asphaltic concrete to the jobsite.

When less than 250 tons of mixture is required for a project or at separate locations within a project or for short irregular sections within a project, the paving equipment shall conform to the requirements of this Section, except that pavers without electronic screed and slope control devices may be permitted.

C503.02 PLANT EQUIPMENT:

(a) General: Plants furnishing asphaltic concrete mixtures in accordance with Section C501 shall be certified in accordance with current LaDOTD procedures. The plant and laboratory equipment, meters, scales, and measuring devices, shall be tested, inspected and certified every 90 calendar days and more often when directed, by a qualified independent scale service or the Weights and Measures Division, Louisiana Department of Agriculture and Forestry.

Asphaltic concrete shall be mixed at a central mixing plant by either the batch, continuous, or drum mixing process. Aggregates, additives and asphalt shall be proportioned in accordance with the approved Job Mix Formula.

The complete process, including plant with necessary auxiliary equipment and controls, operating procedures, and testing and sampling methods shall be approved during operation prior to use. Such approval will require a verification that the hardening properties of asphalt recovered from samples of mixture taken at the plant will not exceed the absolute viscosity value obtained on residue from the thin film oven test of the original asphalt by more than 2,000 poises. When samples of mixture are taken from the pavement, the absolute viscosity of recovered asphalt shall not exceed 12,000 poises. Asphalt shall be extracted from the mixture in accordance with DOTD TR 308 and recovered in accordance with AASHTO T 170. Absolute viscosity at 60°C (140°F) of the recovered asphalt shall be tested in accordance with AASHTO T 202.

The Contractor shall have a plant site laboratory conforming to LaDOTD Section 722 as a part of the plant facilities. The plant laboratory shall be equipped with a constant temperature oven capable of maintaining any temperature between 100°F and 400°F +/- 5°F for drying aggregates and determining the moisture content of loose mix, a specimen ejector for removing specimens from Marshall molds, and other laboratory equipment used to perform Quality Control Testing.

(b) Asphalt Preparation Equipment: The asphalt working tank shall be capable of uniformly heating the material by approved methods, under positive control, to the required temperature. The asphalt circulating system shall be of adequate size to ensure proper and continuous circulation (except while asphalt is being measured). Pipelines and fittings shall be heated or

insulated. Proper mixing temperature of asphalt shall be maintained. A sampling spigot shall be provided in each tank or the supply line.

(c) Anti-Strip Additive Equipment: Anti-strip additive shall be dispensed directly into the asphalt feed line at a location between the asphalt control valve and the end of the asphalt discharge line. The process for accomplishing this shall be approved and shall provide that the required quantity of anti-strip additive is uniformly proportional to the quantity of asphalt. The process shall have a means by which such uniformity can be easily verified. The equipment shall include a positive displacement accumulating meter which accumulates and displays materials used, and reads to the nearest 0.25 gallon. The additive storage tank shall be a recirculating tank provided with uniform heat and an indicating thermometer at an approved location near the tank discharge point.

(d) Cold Aggregate Feeder: The plant shall be provided with accurate mechanical means for uniformly feeding aggregate into the dryer. Feeders shall be capable of uniformly delivering the maximum number of required aggregate sizes in their proper proportion. When more than one cold bin feeder is used, each shall operate as a separate unit. The individual controls shall be integrated with a master control for all materials.

Cold aggregate bins shall be of sufficient size to store the amount of aggregates required for continuous plant operation. Partitions between bins shall extend a minimum of 1 foot above the top of bins and be sufficient to eliminate contamination. The unit shall include a feeder mounted under bins with each bin compartment having an accurately controlled individual gate to form an orifice for measuring the material drawn from it. The orifice shall be rectangular, with one dimension adjustable by positive mechanized adjustment with locking system. Indicators shall be provided on each gate to show the gate opening in inches.

The plant shall be modified as required to permit recycling operations in conformance with air pollution standards. A separate cold feed system, including weight indicating apparatus, shall be provided for reclaimed asphaltic pavement.

Calibration of gate openings shall be based on the weight of samples taken from bin material. Material shall be fed from a bin through the individual orifice and bypassed to a container to be weighed. Material from each bin shall be calibrated separately. Weight calibration curves shall be developed and kept on file. The calibration process shall be part of the Contractor's quality control and shall be shown as a function of belt speed and gate opening. The method and frequency shall be as directed.

When a cold feed system is the only system used to control the proportioning of aggregates, an automatic plant shutoff shall be provided to operate when any aggregate bin becomes empty or flow is interrupted.

(e) Hydrated Lime Additive Equipment: When hydrated lime additive is mixed with aggregate on the belt feed, the hydrated lime additive equipment shall be interlocked and synchronized with cold feed controls to operate concurrently with the cold feed operation. A positive signal system

which shall automatically shut the plant down when a malfunction causes an improper supply of additive or water shall be installed. The plant shall not operate unless the entire additive system is functioning properly. The hydrated lime additive system shall consist of the following equipment.

(1) A separate bulk storage bin with a vane feeder or other approved feeding system which can be readily calibrated. The system shall provide a means for easy sampling of additive and verification of the quantity dispensed by weight. The feeder system shall require a totalizer.

(2) An approved spray bar or other approved system capable of spraying the composited aggregate with potable water before the addition of hydrated lime additive when the moisture content of the composited aggregate falls below 3 percent. An alternative system for spraying coarse aggregate stockpiles may be allowed when approved. The approved equipment and methods shall consistently maintain the aggregates in a uniform, surface wet condition. The moisture content of the aggregate-lime additive mixture following spraying and mixing shall be introduced into the automatic moisture controls of the plant.

(3) An approved pugmill or other approved mixing device to uniformly coat the composited aggregates with the hydrated lime additive shall be located between the point at which the additive is placed on the composited aggregate and the dryer.

The hydrated lime additive shall be dispensed directly onto the composited aggregate between the cold feed and the dryer. When cold feed control is used, the additive shall be introduced after the composited aggregate has passed through the vibrating scalping screen. The additive shall be uniformly blended with the composited aggregate before entry into the dryer. The process and equipment used for mixing the lime additive and aggregate shall be approved and shall provide that no less than the required amount of additive is continuously blended with the aggregate. When a belt scale is used on the composited aggregate feed belt, it shall be positioned to record the combined weight of the blended aggregate and hydrated lime additive.

(f) Mineral Filler Equipment: Mineral filler shall be proportioned separately from a hopper equipped with an adjustable feed which can be accurately and conveniently calibrated and which shall be interlocked with the aggregate and asphalt feeds. The feeder shall accurately proportion the mineral filler and shall be designed to give a constant flow of material. For batch plants, the mineral filler shall be batched into the mix along with the aggregates. For continuous mix and drum mixer plants, the mineral filler shall be introduced to the mix at an approved location sufficiently in advance of the addition of the asphalt to give proper drying time.

(g) Screening System: Plant screens shall be provided as required for proportioning, capable of screening aggregates to the required sizes and having normal capacity in excess of the full capacity of the mixer or dryer. The screens shall be exposed for inspection as directed.

The plant shall have a scalping system on the fine sand cold bin and other bins as necessary, to ensure removal of objectionable material.

When a belt scale is used, an additional vibrating scalping screen will be required between the aggregate cold feed discharge and belt scale. Other processes will require a vibrating scalping screen between the cold feed discharge and mixing process. The screens shall be sized to remove all oversize aggregate and other objectionable material.

(h) Dryer: The plant shall include one or more dryers that shall continuously agitate aggregates during heating and drying. The equipment shall be capable of heating and drying aggregates in the necessary quantities to supply the mixing unit continuously at its operating capacity and at a specified temperature and acceptable moisture content. The dryer shall be equipped with automatic burner controls. Slope of dryers shall be in accordance with approved recommendations of the dryer manufacturer.

(i) Hot Bins: Bin sizes shall be adequate for continuous operation of the plant at rated capacity. Bins shall be arranged to ensure separate and adequate storage of appropriate fractions of aggregate. Adequate dry storage shall be provided with an overflow pipe or chute to prevent contamination of materials. Each size of aggregate shall be stored in separate bins when screens are used. For screenless operation, aggregate shall be stored in one or more bins with adequate provisions to prevent segregation.

(j) Thermometers: The plant will not be permitted to operate with faulty or inadequate thermometers, and the thermometers listed herein shall be immediately repaired or replaced when faulty operation is detected. The plant shall be equipped with the following thermometers.

(1) Asphalt: A thermometer graduated in 5°F increments and having an accuracy of +/- 5°F shall be fixed in the asphalt feed line at an approved location near the discharge valve at the mixer unit to indicate the temperature of asphalt from storage.

(2) Anti-Stripping Additive: A thermometer graduated in 5°F increments and having an accuracy of +/- 5°F shall be placed at an approved point near the anti-stripping tank discharge point prior to the meter.

(3) Heated Aggregates for Asphaltic Mixture: The plant shall be equipped with an approved recording thermometer graduated in maximum 10°F increments and having an accuracy of +/- 5°F and a sensitivity which will provide an indication of temperature change at a rate of at least 10°F per minute. It shall be placed at the dryer discharge chute to register automatically the temperature of heated aggregates for batch plants, and at an approved location for continuous or drum-mixer plants to register automatically the temperature of the asphaltic mixture at discharge.

(k) Dust Collector: When a dust collection system returns fines to the mixture, the fines shall be returned at a uniform and regulated rate and at an approved location. In the drum-mix process, baghouse fines shall be added near the asphalt discharge. Baghouse fines shall be dispensed into the aggregate mixture by an approved feed control device from a collector box, surge bin or filler silo. This provision does not apply to primary collectors.

(l) Asphalt Measuring Equipment: Asphalt may be measured either by weight or volumetric measurement.

(1) Weight Measurement: Scales shall conform to Heading (n) of this Subsection and shall read to the nearest pound.

(2) Volumetric Measurement: Measurement by volume shall be by means of a positive displacement pump and shall be recorded in digital form to the nearest gallon. Provisions shall be made to periodically check by weight the quantity of asphalt delivered. The rate of asphalt delivered shall be continuously displayed in digital form corrected to 60°F and the quantity totalized. The quantity of asphalt shall be corrected to the approved job mix temperature. Measurement shall be continuous and accurate to 1.0% of the required measurement.

(m) Mixer Unit: The mixer unit shall produce a uniform blend at the specified production rate, with rapid and complete asphalt coating of aggregate that will give a minimum coating of 95% of the coarse aggregate particles retained on the No. 4 sieve when tested in accordance with AASHTO T 195.

(1) Batch Plants: Batch plants shall have an approved pugmill and spray bar. The pugmill shall have an approved rated capacity. It shall be operated at an approved capacity not to exceed the rated capacity. The mixer shall have an approved timing device to prevent entrance of additional material during mixing. The discharge gates shall be locked to ensure proper mixing. The device shall also lock the asphalt bucket throughout the dry mixing period.

(2) Drum-Mixer Plants: Drum-mixer plants shall have an approved drying and mixing operation. Aggregate and asphalt shall be fed into the drum-mixer so that aggregates are dried, uniformly mixed and adequately coated with asphalt.

(3) Continuous Mix Plants: Continuous mix plants shall have an approved drying and mixing operation. The plant shall have an approved pugmill and spray bar. The pugmill shall be operated at an approved capacity not to exceed the rated capacity with the aggregates uniformly mixed and adequately coated with asphalt.

(n) Weigh Hoppers: Weigh hoppers used in weighing aggregates, asphalt and mixtures shall be constructed to prevent leakage and shall be suspended from scales conforming to this Subsection.

In batch plants, asphalt and aggregate hoppers shall be of sufficient size to weigh the total batch in one operation.

Hoppers for weighing a mixture from a storage or surge bin shall be constructed and used to prevent segregation of mixture loaded into the haul truck.

(o) Scales and Printer Systems:

(1) Scales: Scales shall be accurate to +/- 0.5% of the indicated load. They shall be designed, constructed and installed so that operations do not affect their accuracy.

To determine the total weight of mix loaded in trucks, the Contractor shall provide springless dial scales or load cell scales for weigh hoppers. When weigh hoppers are not used, the Contractor shall provide truck platform scales. The Contractor shall provide belt scales for conveyor systems when the drum-mixer process is used.

(2) Printer System for Batch Plants: To determine percent asphalt cement for the mix, the Contractor shall provide an approved printer system which will print separately the weight of aggregates and asphalt. These weights shall be used for calculating the percent asphalt in the mixture. When a mixture is loaded directly into the haul truck, these weights shall be used for the purpose of determining pay weights for the mix. Printing equipment shall also print zero weight for each batch and total weight of mixture loaded in trucks.

In the event of a breakdown of the printing mechanism, the Contractor may be permitted to operate during the 48-hour period immediately following the breakdown, provided an accurate weight of mixture can be determined and provided repeated breakdowns do not occur.

(3) Printer Systems for Plants Using Storage or Surge Bins: When storage or surge bins are used, the Contractor shall provide truck-platform scales or weigh hopper to determine pay weights for the mix. The weigh hopper shall be equipped with an approved automatic printer system that will print zero weight, batch weight and total weight of mixture loaded into the truck.

Truck-platform scales shall be of sufficient length to weigh the entire unit transporting the mix. Scales shall be equipped with an approved automatic printer system that will print the tare weight as well as the total weight of the unit and the mix.

Scales with electronic digital readout displays, that do not automatically reset to zero after the tare weight is obtained, shall print the tare weight, zero weight and either the total weight of mix loaded into the unit or the total weight of the unit and mixture. Scales with electronic digital readout displays that automatically return to zero after the tare weight is obtained, shall print the tare weight and either the total weight of mix loaded into the unit or the total weight of the unit and mixture.

When scales are located so that a truck leaves the scales between empty weighing and loaded weighing, the printer shall print the tare weight, zero weight before loaded weighing, and total weight of the unit and mix. In the event of a breakdown of the printing mechanism, the Contractor may be permitted to operate during the 48-hour period immediately following the breakdown provided an accurate weight of mixture can be determined and repeated breakdowns do not occur.

(p) Mix Release Agent Dispenser System: The plant shall be equipped with an approved pressurized system capable of spraying a uniform coating of an approved asphalt mix release agent into the haul unit bed prior to loading. Diesel is not allowed as a mix release agent.

C503.03 STORAGE SILOS AND SURGE BINS: Storage silos or surge bins for storing asphaltic concrete mixtures may be used with approval.

(a) Conditions of Use: Use of silos or bins shall conform to the limitations on retention time, type of mixture, heater operation, bin atmosphere, bin level or other characteristics set forth in these specifications and other requirements stated in granting approval of these facilities. An indicator device which is activated when material in the bin drops below the top of the sloped portion shall be affixed to each bin and be visible to the loading operator. Mixtures shall be maintained above this level during production, except for extended periods when the plant is not in operation.

(b) Heated Silos: The storage silo heating system shall be capable or uniformly maintaining mix temperature without localized heating.

Maximum allowable storage time for asphaltic concrete mixtures is 18 hours. The Director may grant permission to exceed the storage time, provided test results and other data indicate that the additional storage time is not detrimental to the mix.

(c) Unheated Surge Bins: The maximum allowable storage time for unheated surge bins is 2 hours. The Department may grant permission to exceed the 2-hour storage time, provided test results and other data indicate that the additional storage time is not detrimental to the mix.

(d) Loading and Unloading Mixtures: The system shall be capable of conveying the mixture from plant to bin or silo by a drag slat enclosed conveyor system or other approved system. The conveyor shall be of an enclosed continuous type designed to prevent spillage and to remove the mix from the plant as fast as it is produced.

The mix shall be transported directly from plant to silos or bins by means of the conveyor system. The mixture from the silo or surge bin shall remain within +/- 15°F of plant discharge temperature.

When the mixture is placed into a silo or bins through a surge device, an automatic warning system shall be provided to audibly warn the operator of a gate malfunction.

Silo or bin unloading gates shall be either clam shell gates operating under gravity feed or other approved gates that will not cause segregation or be detrimental to the mix.

C503.04 HAULING EQUIPMENT: Equipment for transporting asphaltic mixtures shall have tight, clean, smooth metal beds, sprayed daily or as often as directed with an approved asphalt mix release agent. Diesel fuel will not be allowed as a release agent.

Each vehicle shall have a cover of canvas or other suitable material large enough to completely cover the top and extend over the sides of the bed to protect the mixture from the weather or loss of

heat due to excessive haul time. The cover shall have sufficient tie-downs to hold the cover to the bed during hauling. The covers shall be used as directed.

The hauling unit shall discharge the mixture in a continuous manner so the spreader apron of the paver will not be overloaded. When the hauling unit/paver combination causes a surface deviation in excess of 1/8 inch, measured longitudinally with an approved 10-foot metal static straightedge, or other surface defects, the use of such hauling unit or paver shall be immediately discontinued. When rolling straightedge results indicate surface deviations which result in less than 100% payment or excessive correction of bumps, the results will be analyzed to determine if the deviations are caused by the hauling unit/paver combination. If the hauling unit/paver combination is determined to be the cause, their combination shall be discontinued.

Equipment such as bottom dumps shall be capable of discharging the mixture in a uniform windrow longitudinally down the pavement. A maximum of one truck load shall be allowed on the pavement. The temperature of the material in the windrow shall not drop below 275°F. The maximum amount of windrowed material allowed will be reduced if temperature requirements cannot be met. Distortions in surface tolerance resulting from improper unloading of the mixture shall be corrected immediately.

When size, speed and condition of trucks interfere with orderly paving operations, changes in equipment and/or operations shall be made.

Load Restrictions: Load restrictions shall be in accordance with the following:

The Contractor, Subcontractors and suppliers shall comply with legal load restrictions in hauling of materials or equipment on completed bridge structures, bases and pavements. A special permit will not relieve the Contractor of liability for damage resulting from moving of material or equipment. In no case shall the legal load limits be exceeded unless permitted in writing.

Operation of equipment of such weight or height or so loaded as to cause damage or overstress to structures, roadways or other construction will not be permitted. Hauling of materials over the base or surface course under construction shall be limited as directed. The Contractor shall be responsible for all damage done by hauling equipment.

C503.05 PAVING EQUIPMENT: Pavers shall be equipped with screed and slope control devices.

Equipment that is pushed by the paver shall be of such size and capacity that the paver will push them without affecting surface smoothness or edge line of the mixture.

Pavers shall be capable of placing mixtures within specified tolerances. A screed or strike-off assemble shall be used to distribute the mixture over the entire paving strip. The width of the paving strip will be approved. Assemblies, including extensions, shall place mixtures uniform in appearance and quality. The assembly shall be adjustable to provide the required cross section. The assembly shall be equipped with a heater and either a vibrator or tamping bars.

In hilly terrain, when mix is discharged directly into the paver hopper, a positive connection shall be provided between paver and hauling unit. When the hauling unit discharges directly into the paver hopper, the paver shall be capable of pushing the hauling unit.

Pavers shall be equipped with hoppers adequately designed and maintained to prevent spillage. Pavers shall also be equipped with augers to place the mix evenly in front of the screed, including extensions. Pavers shall be equipped with a quick and efficient steering device and shall be capable of traveling both forward and in reverse. Pavers shall be capable of spreading mixes to required thickness without segregation or tearing.

For shoulder construction, modified pavers or widening machines may be used when permitted.

A screed extension shall consist of a screed plate or plates, which meet all requirements for the screed, set forth in these specifications. The bottom surface of the screed extension shall be in the same plane as the bottom surface of the screed plate. A screed extension shall be used when mix is being placed within the traveled way and the paving strip is wider than the screed. Auger assembly extensions shall be used when screed extension in excess of 1 foot on a side are to be consistently used in the pavement operation. Such auger extensions shall extend to within 1 foot of the end of the screed. With approval, the use of an auger extension with screed extensions in excess of 1 foot on one side may be waived for transitions, taper sections and similar short sections. The Director may waive the requirement for auger extensions when hydraulically extended screeds, which trail the main screed assembly, are used, provided required density and surface texture are obtained.

A strike-off assembly or boxed extension shall not be used for paving within the traveled way, except when approved for short irregular sections or sections which are exceptions to the typical.

Pavers shall be equipped with screed and adjustable slope control devices capable of placing the mixture to grade within the tolerances specified, and distributing the mixture over the entire lane width and such partial lane widths as may be approved.

When a malfunction occurs in the automatic screed control device during laydown operations, work may continue for the balance of that day on any course other than the final wearing course. Any overrun resulting from placing material without the automatic screed control device shall be borne by the Contractor. When a screed control device malfunctions during final wearing course paving operations, plant operations shall be immediately discontinued and shall not be resumed until the screed malfunction has been remedied. Material in transit may be placed; however, slope tolerance, surface tolerance and grade tolerance shall be met.

When less than 250 tons of mixture is required for a project or at separate locations within a project or for short irregular sections within a project, the paving equipment shall conform to the requirements of this Section.

C503.06 COMPACTION EQUIPMENT:

(a) General: Compaction equipment shall be self-propelled and be capable of reversing without backlash. Compaction equipment shall be certified prior to use.

Poorly performing compaction equipment will be decertified and shall be replaced with suitable equipment or supplemented as necessary.

(b) Steel Wheel Rollers: Steel wheel rollers may be either vibratory or nonvibratory. Wheels shall be true to round and equipped with suitable scrapers and watering devices. Vibratory rollers shall be designed for asphaltic concrete compaction and shall have separate controls for frequency, amplitude and propulsion.

C503.07 MISCELLANEOUS EQUIPMENT AND HAND TOOLS: Power revolving brooms or power blowers and asphalt distributors shall be provided and maintained in a satisfactory working condition.

In areas that are inaccessible to conventional rollers, satisfactory mechanical compaction equipment, or hot hand tampers, shall be used. Tamping tools may be used for compacting edges.

The asphalt distributor shall be equipped with a suitable spray bar and nozzles designed to distribute material within the specified temperature range and shall be equipped with thermometers to indicate temperature of material in the tank. The distributor shall be designed to maintain a constant uniform pressure on asphaltic material as it passes through nozzles and to apply asphaltic material at the required rate. The distributor shall be equipped with a valve system that control the flow of asphaltic materials, a pump tachometer or pressure gauge that registers pump output, a bitumeter and odometer that indicates both the speed of the distributor in feet per minute and total distance traveled, and measuring devices, as necessary.

Charts shall be provided for an accurate, rapid determination and control of the amount of asphaltic materials being applied per square yard of surface under operating conditions. The bitumeter shall be calibrated to ensure accurate spraying operations and shall be kept clean of asphaltic buildup. The distributor shall be equipped with a hand-held spray attachment for applying asphaltic materials to areas inaccessible with the spray bar.

C503.08 HANDLING OF AGGREGATES: Aggregates shall be stored at the plant site so that no intermixing will occur. Material shall be stockpiled so that no detrimental degradation or segregation of aggregates will occur; no appreciable amount of foreign material will be incorporated into aggregates; and there will be no intermingling of stockpiled materials. Stockpiles shall be well drained.

Blending of aggregates shall be done from cold feed bins and not in stockpiles or on the ground at the plant site or the source.

Gradation and other properties of aggregate in stockpiles shall be such that when the aggregates are combined in proper proportions, the resulting combined gradation will meet the requirements of the approved job mix formula.

Proportioning of material at the cold feed shall be established to meet the approved job mix gradation requirements. Plants operating with only cold feed control shall not require additional manipulation to meet job mix requirements.

(a) Drying: Aggregates shall be heated and dried to produce a mixture meeting specification requirements. The quantity of material fed through the dryer shall be held to an amount which can be adequately heated and dried. When proper drying is not achieved and the quality of the mix is impaired, the Contractor shall adjust the rate of production of the dryer to obtain satisfactory results. The burner fuel used shall be clean burning so there is no contamination of aggregates. Contaminated aggregates or mixtures will be rejected.

(b) Hot Aggregate Storage: When batch plants are used, hot aggregates shall be stored in bins. Storage shall be accomplished to minimize segregation and loss of temperature of aggregates. When plant operation is interrupted and the temperature of material in hot storage cools to 25°F or more below the specified mixing temperature, bins shall be pulled and the material discarded. When a plant changes type of mix and the change requires a change of materials, bins shall be pulled and the material discarded.

C503.09 PROCESSING OF ASPHALT, ADDITIVES AND AGGREGATES: Aggregates shall be combined, either before or after drying, depending on the type of plant used, to meet the approved job mix formula. Asphalt shall be measured and introduced into the mixer or dryer in the quantities specified on the approved job mix formula.

The aggregate, asphalt and the mixture shall be processed at the temperature specified in the approved job mix formula. The temperature of the mixture at discharge from the mixer shall be within +/- 25°F of the optimum mixing temperature in the job mix formula. When the mixing, coating, placing or density requirements are not being met, the Director may require that the job mix temperature be changed or that the foregoing temperature range be restricted.

The moisture content of the final mixture shall be minimized and uniformly controlled to ensure that placing and density requirements are met. The maximum allowable moisture content of the final mixture shall be 0.5% by weight when tested in accordance with DOTD TR 319.

When the automatic adjustments or other critical control and shutoff devices are not functioning, the plant shall not operate.

(a) Plants with Pugmills: Prior to adding asphalt, the combined aggregate shall be thoroughly mixed dry, after which the proper amount of asphalt shall be sprayed over aggregates and mixed to produce a homogeneous mixture in which all aggregate particles are uniformly coated. Mixing times shall be in accordance with the approved job mix formula.

(b) Drum-mixer and Continuous Mix Plants: The system shall provide positive weight control of cold aggregates fed by a belt scale or other device interlocked with the asphalt measuring system to maintain required proportions of combined aggregates and asphalt. Aggregates shall be heated, dried and mixed with asphalt to produce a homogeneous mixture in which all aggregate particles are uniformly coated. Approved methods shall be provided to waste the first and last output of the plant after each interruption.

The Contractor's Certified Asphaltic Concrete Plant Technician shall measure the moisture content of the cold feed aggregates daily when starting the plant. Adequate scheduled tests during plant operations and adjustments to the plant shall be made to correct for moistures in the aggregate. The schedule for moisture content testing will be subject to approval.

Provisions shall be made for introducing the latest moisture content of the cold feed aggregates into the belt weighing system, thereby correcting wet aggregate weight to dry aggregate weight. Dry weight of the aggregate flow shall be displayed digitally in appropriate units of weight and time, and the quantity used totalized. The rate of flow of asphalt anti-strip, and lime (when used) shall also be digitally displayed and the quantity used totalized.

For mineral filler, a separate bin and feeder in accordance with Subsection C503.02(d) shall be furnished with its drive interlocked with the aggregate feeders. Mineral filler shall be introduced directly into the drum near the asphalt discharge.

SECTION C504
ASPHALTIC TACK COAT

C504.01 DESCRIPTION: This work consists of preparing and treating existing asphaltic or concrete surface with asphaltic material in accordance with these specifications and in conformity with the lines shown on the plans or established in the field.

C504.02 ASPHALTIC MATERIALS: Tack coat shall be a modified asphalt emulsion (Grade SS-1, SS-1H or CMS-2) or a modified asphalt emulsion (Grade CRS-2P, CRS-2L, SS-1P or SS-1L) conforming to Section C1002.

C504.03 WEATHER LIMITATIONS: Asphaltic tack coat shall not be applied on a wet surface or when the ambient air temperature is below 40°F.

C504.04 EQUIPMENT: The Contractor shall provide equipment for applying asphaltic material and preparation of the surface to be tacked. Equipment shall conform to Subsection C503.07. A hand-held pressure nozzle may be used for tack coat application in lieu of the spray bar/tachometer combination for irregular sections or short sections of 1500 feet or less.

C504.05 SURFACE PREPARATION: The surface shall be cleaned by sweeping or other approved methods. Edges of existing pavements which will form joints with new pavement shall be satisfactorily cleaned before tack coat is applied.

C504.06 APPLICATION: Asphalt shall be uniformly applied to a clean dry surface with no bare areas, streaks or puddles with an asphaltic distributor at a rate in accordance with Table 3. These rates may be raised or reduced as directed.

TABLE 3
ASPHALTIC TACK COATS

Existing Surface	Rate (Gal/sq yd)[1]
Bleeding Surface Treatment	0.02
Dry Surface Treatment	0.03
New Hot Mix	0.03
Old Hot Mix	0.07
Portland Cement Concrete	0.07
Friction Course	0.05
Cold Planed Surface[2]	0.08

[1] Rates are minimum rates of undiluted asphaltic material.
[2] Minimum of two applications.

The minimum application temperature for modified asphalt emulsions and emulsified asphalt Grades CRS-2L and CRS-2P is 160°F and Grades SS-1, SS-1H, CRS-2, SS-1L and SS-1P is 70°F.

Tack coat shall be applied in such manner as to cause the least inconvenience to traffic. The Contractor will be permitted to apply the tack coat 1 calendar day prior to the mixture laydown; however, when tack coat has been damaged by traffic pick-up or contaminated by dirt, dust or mud, the surface shall be cleaned and retacked prior to the mixture laydown at no direct pay. Tacked surfaces exposed to traffic for more than 24 hours or damaged due to inclement weather shall be retacked at no direct pay.

C504.07 MEASUREMENT AND PAYMENT: Asphaltic tack coat will not be measured for payment; however, payment under the contract will be subject to the payment adjustment provisions of Section C1002 for specification deviations of the asphaltic materials. The Director will provide the payment adjustment percentage for asphaltic materials.

SECTION C505
ASPHALTIC PRIME COAT

C505.01 DESCRIPTION: This work consists of preparing and treating a surface with asphaltic material in conformance with these specifications and in conformity with lines shown on the plans or established in the field.

C505.02 ASPHALTIC MATERIALS: Prime coat shall be cutback asphalt Grade MC-30, MC-70, or AEP Emulsified Asphalt conforming to Section C1002.

C505.03 WEATHER LIMITATIONS: Asphaltic materials shall not be applied on a wet surface or when ambient air temperature is less than 35°F in the shade.

C505.04 EQUIPMENT: The Contractor shall provide the necessary equipment for proper construction of the work. Equipment shall be approved before construction begins and shall be maintained in satisfactory working condition. Equipment shall conform to Subsection C503.07.

C505.05 SURFACE PREPARATION: The surface to be coated shall be shaped to required grade and section shall be free from ruts, corrugations, segregated material or other irregularities, and shall be compacted to required density. Delays in priming may necessitate reprocessing or reshaping to provide a smooth, compacted surface.

C505.06 APPLICATION: Prime coat shall extend 6 inches beyond the width of surfacing shown on the plans. The prime coat shall not be applied until the surface has been satisfactorily prepared and is dry.

Prime coat shall be applied at the rates and temperatures shown in Table 4. Quantities of prime coat shall not vary from that shown in Table 4.

TABLE 4
PRIME COATS

	Application Rate (Gallon/square yard)		**Application Temperature(°F)**	
Asphalt Grade	**Min.**	**Max.**	**Min.**	**Max.**
MC-30	0.15	0.30	60	120
MC-70	0.15	0.30	100	180
AEP	0.15	0.30	60	120

C505.07 PROTECTION: After prime coat has been applied it shall cure for a minimum of 24 hours before the surfacing is placed. The Contractor shall keep traffic off the surface until the prime coat has properly cured, unless otherwise permitted.

If traffic is permitted, the Contractor may be required to spread approved granular material, as directed, over the prime coat at no direct pay.

The prime coat shall be maintained intact. When required, the primed surface shall be thoroughly cleaned prior to the placement of surfacing.

Where the prime coat has failed, the failed area shall be cleaned and be recoated with prime coat at no direct pay. When the prime coat is generally unsatisfactory, the Contractor shall reprime the unsatisfactory surface at no direct pay.

C505.08 MEASUREMENT AND PAYMENT: Asphaltic prime coat will not be measured for payment; however, payment under the contract will be subject to the payment adjustment provisions of Section C1002 for specification deviations of the asphaltic materials. The Director will provide the payment adjustment percentage for asphaltic materials. Payment for surface preparation will be made under other items.

SECTION C506
POROUS ASPHALTIC CONCRETE PAVEMENT

C506.01 DESCRIPTION: This work consists of constructing a porous asphalt pavement on a prepared sub-grade in accordance with this section and in conformity with the lines, grades, thicknesses and typical sections shown on the plans or established in the field.

The porous asphaltic concrete pavement shall consist of a mixture of aggregates, bituminous binder material including polymer modified asphalt, fibers, mineral filler, anti-strip additives, and other optional additives as may be specified.

C506.02 REFERENCES:

- AASHTO T96 – Standard Method of Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact
- AASHTO T209 – Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
- AASHTO T283 – Standard Method of Test for Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage
- ASTM D3203 – Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
- ASTM D4791 – Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
- ASTM D5821 – Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
- ASTM D6752 – Standard Test Method for Bulk Specific Gravity and Density of Compacted bituminous Mixtures Using Automatic Vacuum Sealing Method
- NAPA IS-115 – Open-Graded Asphalt Friction Courses, Design, Construction & Maintenance
- NAPA IS-131 – Porous Asphalt Pavements for Stormwater Management
- NAPA – National Asphalt Pavement Association
- NCAT – National Center for Asphalt Technology

C506.03 MATERIALS: The Contractor shall keep accurate records, including proof of deliveries of materials for use in porous asphaltic concrete mixtures. Copies of these records shall be furnished to the Director upon request. Material shall conform to the following Subsections:

Asphalt (C1002.01)
Silicone and Anti-Strip Additives (C1002.02)
Aggregates (C1003.01 & C1003.06)
Hydrated Lime (LaDOTD 1018.03(a))
Mix Release Agent (LaDOTD 1018.26)

as well as the following:

(a) Asphalt Binder: An asphalt binder shall meet the requirements of section C502.02.

(b) Additives: Additives such as cellulose or mineral filler, or anti-strip additives, shall be included as allowed by the Director.

(c) Aggregates: Coarse aggregate shall be that part of the aggregate retained on the No. 8 sieve and shall consist of clean, tough, durable fragments of crushed stone, or crushed gravel of uniform quality. Coarse aggregate shall:

(1) Have a percentage of wear as determined by AASHTO T96 of not more than 30 percent;

(2) Have at least 75% by mass (weight) of the material coarser than the No. 4 sieve with at least two (2) fractured faces, and 90% shall have one or more fractured faces as determined by ASTM D5821;

(3) Have not more than 5% of flat or elongated pieces (>5:1) as specified in ASTM D4791;

(4) Be free from clay balls, organic matter, and other deleterious substances.

(5) The nominal maximum aggregate size shall be ¾ inch.

C506.04 JOB MIX FORMULA: The Contractor shall develop for approval a job mix formula for proportioning of each type of porous asphalt pavement proposed for use as specified in accordance with C501 and the following:

(a) The recommended percent of bituminous material is 6% minimum based on the total weight of the mix, to assure adequately thick layers of asphalt around the aggregate.

(b) Fines in the job mix formula shall have a maximum of 20% passing the #4 sieve and 2.5% passing the #200 sieve.

(c) Mix design shall result in pavement that accepts 60 inches/hour (30 gallons per hour in a 12 inch diameter ring). Testing shall be in accordance with NCAT.

(d) Air void content shall be >16%.

C506.05 WEATHER LIMITATIONS: The Contractor must comply with Section C501 as well as the following:

(a) The ambient air temperature during the past 24 hours shall be above 50 degrees Fahrenheit,

(b) The asphalt laying temperature should be within 10 degrees Fahrenheit of the comparative temperature in the approved job mix design.

C506.06 SURFACE PREPARATION: The surface to be covered shall be approved prior to placing mixtures. The Contractor shall maintain the surface until it is covered. The stormwater storage/infiltration beds shall be in accordance with the following:

(a) Coarse aggregates shall meet the size and grading requirements as defined in Standard Sizes of Coarse Aggregate, AASHTO Specifications, 30th Ed., 2010, or later, unless otherwise specified.

(b) Coarse aggregate for groundwater recharge bed shall be 2-1/2" to 1-1/2" uniformly graded Crushed coarse aggregate, with a wash loss of no more than 0.5%, AASHTO size number 2 per AASHTO Specifications, 30th Ed., 2010, or later.

(c) Choker base course aggregate for groundwater recharge bed shall be 1" to 3/8" uniformly graded, crushed coarse aggregate, or approved equal, AASHTO Specifications, 30th Ed., 2010, or later.

(d) Filter fabric shall be Propex PERC™ Pervious Concrete Infiltration Fabric or approved equal.

(e) Impervious liner – shall be Permalon, PLY-X 150, or approved equal.

C506.07 JOINT CONSTRUCTION:

(a) Joints between old and new pavements or between successive days work shall be made to ensure a thorough and continuous bond between the old and new mixtures. Whenever the spreading process is interrupted long enough for the mixture to attain its initial stability, the paver shall be removed from the mat and a joint constructed.

(b) Transverse joints shall be butt joints formed by cutting the pavement in a vertical plane at right angles to the centerline, at location approved by the Director. The Director will determine locations by using a straightedge at least 16 feet long. The transverse joint shall be thoroughly coated with Type RS-1 emulsified asphalt just prior to depositing the pavement mixture when paving resumes.

(c) Tapered joints shall not be allowed. Longitudinal joints that have become cold shall be coated with Type RS-1 emulsified asphalt before the adjacent mat is placed. If directed by the Director, joints shall be cut back to a clean vertical edge prior to applying the Type RS-1 emulsified asphalt.

C506.08 HAULING, PAVING AND FINISHING: Mixtures shall be transported in clean vehicles with tight, smooth dump beds that have been sprayed with a non-petroleum release agent or soap solution to prevent the mixture from adhering to the dump beds.

Mineral filler, fine aggregate, slag dust, and similar materials shall not be used to dust truck beds.

(a) The asphaltic mixture shall be placed using self-propelled paving equipment with an activated screed or strike-off assembly capable of being heated in necessary, and capable of spreading and finishing the mixture without segregation. Track pavers are recommended.

(b) The use of water to cool the asphaltic mixture is prohibited.

(c) Place lifts no more than 24 hours after each previous lift to minimize the use of tack coats. Tack coats will only be allowed if required by the Director.

(d) The finished surface shall be of a uniform texture and evenness, and shall not show any indication of tearing, shoving, or pulling of the pavement during placement.

C506.09 COMPACTION:

(a) General: After placement, mixtures shall be uniformly compacted by rolling while still hot. If continuous roller operation is discontinued, rollers shall be removed to cooler areas of the mat, where they will not leave surface indentations. The use of steel wheel rollers which result in excessive crushing of aggregate will not be permitted.

(1) Roll the asphalt using a two-axle tandem roller when it is cool enough to withstand the roller without displacement of the asphalt, and using rollers sufficient to compact the asphalt without crushing the aggregate or compromising the required void content and infiltration rates.

(2) The number, mass (weight), and type of rollers furnished shall be sufficient to obtain the required compaction while the mixture is in a workable condition. Generally one breakdown roller will be needed for each paver used in the spreading operation.

(A) Breakdown rolling shall occur when the mix temperature is between 275 and 325 degrees Fahrenheit.

(B) Intermediate rolling shall occur when the ix temperature is between 200 and 275 degrees Fahrenheit.

(C) Finish rolling shall occur when the mix temperature is between 150 and 200 degrees Fahrenheit.

(3) Unless otherwise specified, the longitudinal joints shall be rolled first. Next, the Contractor shall begin rolling at the low side of the pavement and shall

proceed toward the center or high side with lapped rolling parallel to the centerline.

(4) Roll until all roller marks are gone; however, avoid excessive rolling which could reduce the infiltration capabilities of the asphalt.

(5) To prevent adhesion of the mixture to the rolls, rolls shall be kept moist with clean water or water mixed with very small quantities of detergent or other approved materials. Excess liquid will not be permitted.

(6) Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced with a fresh hot mixture. The mixture shall be compacted to conform to the surrounding area with segregation. Any area showing deficiencies shall be replaced at the Contractor's expense.

(b) Hand Compaction: Along forms, curbs, headers, walls and at other places inaccessible to rollers, mixture shall be uniformly compacted to the satisfaction of the Director with approved hand tampers or mechanical tampers, conforming to Subsection C503.07.

C506.10 PAVEMENT SAMPLES: Samples shall be cores approximately 4" in diameter taken by an approved core drill. The Contractor shall furnish samples cut from the completed work. The removed pavement shall be replaced with hot or cold mixture and refinished during the work day coring is performed. No additional compensation will be allowed for furnishing test samples and replacing the areas with new pavement. Samples shall be taken by the Contractor in the presence of the Director's representative from areas selected by the Director in accordance with Subsection C501.11(b)(2)c. When the design thickness is greater than 1-3/8", cores less than 1-3/8" thick shall not be used as pavement samples for payment determination.

Cores shall be transported to the plant in approved transport containers or one-gallon friction-top cans. Regardless of transport container used, the container will be sealed, signed, and dated by the inspector using an approved method. The individually wrapped core will also be sealed, signed, and dated by the inspector using an approved method. Any evidence of tampering with the core wrappings, sticker, or of opening the container or friction-top can will result in the cores being rejected. Additional pavement samples will be required.

C506.11 ACCEPTANCE REQUIREMENTS: All Department inspection procedures, including sampling and testing, form the basis for acceptance of the asphaltic concrete. Any section of pavement that is obviously deficient shall be satisfactorily corrected or replaced. Sampling and testing shall be accomplished following a stratified sampling plan in accordance with the Materials Sampling Manual and specified test procedures. Times and locations shall be established by the Director.

A standard lot is the production of asphaltic concrete mix from the same job mix formula produced for the Department at an individual plant in one day. Additional adjustments may be made to the standard lot size as specified in this Subsection. Minor adjustments will be made to the lot size to accommodate hauling unit capacity.

Testing:

(1) Quality Assurance (QA) Inspector: The Contractor shall provide at the Contractors' sole expense and the Director's approval a third-party QA Inspector to oversee and document mix production. All mix testing results during production shall be submitted to the QA Inspector.

The QC plan may be altered at the discretion of the Director and based on written recommendations from the QA Inspector.

For small batch production, the Director may also modify or eliminate some testing requirements in the QC plan.

(2) During Production: The Contractor shall sample, test, and evaluate the mix in accordance with the methods and minimum frequencies in the Table 1. Test results shall be delivered to the Director.

Table 1: QC/QA Testing requirements during production

Test	Minimum Frequency	Test Method
Temperature in Trucks Prior to leaving Plant	Six times per day	--
Gradation	Greater of either (a) 1 per 500 tons, (b) 2 per day, or (c) 3 per job	AASHTO T30
Binder Content	Greater of either (a) 1 per 500 tons, (b) 2 per day, or (c) 3 per job	AASHTO T164
Air Void Content	Greater of either (a) 1 per 500 tons, (b) 2 per day, or (c) 3 per job	ASTM D6752, Volumetric Measurement

Testing of the temperature, binder content, and air void content shall be within the limits set by this specification.

Testing of the gradation shall not vary from the approved design mix by more than the tolerances in Table 2.

Table 3: QC/QA testing tolerances during production

Sieve Size	Percent Passing
0.75	--
0.50	+/- 6.0
0.375	+/- 6.0
No. 4	+/- 5.0
No. 8	+/- 4.0
No. 200	+/- 2.0

Should the asphalt fail to meet all testing requirements initially, production modifications shall be made until the porous asphalt mix is within required tolerances. After the corrective action has been taken, the resulting mix will be sampled and tested again at the Contractor's expense.

If the resampled asphalt fails to meet all testing requirements again, the Director will be immediately informed and provided with the test results. The Director may determine that it is in the best interest of the project that production is ceased at that time. The Contractor will be responsible for all costs associated with the inability of the asphalt plant to meet all testing requirements.

(3) Following Placement: The full permeability of the pavement surface shall be tested prior to final acceptance in accordance with NCAT.

Test in place base and surface course for compliance with requirements for thickness, void content and unit weight as described above by using 1' x 1' slab samples. Repair or remove and replace unacceptable work as directed by the Director at the Contractor's cost.

Test finished surface for smoothness using a 10 foot straightedge applied parallel with and at right angles to the centerline of the paved area. Surface will not be accepted if gaps or ridges exceed 3/16 of an inch. The smoothness requirements specified herein apply only to the top lift of each layer, when asphalt is constructed in more than one lift.

QC/QA requirements during paving are summarized in Table 3.

Table 3: QC/QA requirements during paving

Activity Schedule	Frequency	Tolerance
Inspect truck beds for pooling (draindown)	Every truck	--
Take surface temperature behind joint heater	Each pull	10 degrees F of compaction temperature
Test surface smoothness and positive drainage with a 10 foot straight edge	After compaction	3/16 inch
Hose test with at least 5 gpm water	After compaction	Immediate infiltration, no puddling

C506.12 PROTECTION OF ASPHALTIC PAVEMENT: The minimum times prior to opening the pavement to traffic are as follows:

- After pavement has been permitted to cool to below 100 degrees Fahrenheit for all traffic,
- 24 hours for pedestrian traffic, and
- 48 hours for vehicular traffic.

The Contractor shall protect the porous asphalt from severe weather conditions and contamination by dust, dirt, mud, or other fine grained material or sediment. The asphalt shall be protected by an approved method from the time of placement until final acceptance of the project. Any damage to the porous asphalt caused by the Contractor's equipment shall be repaired by the contactor at no cost to the City. Any portion of the porous asphalt that becomes contaminated to the extent that drainage is reduced or inhibited shall be removed and replaced at no expense to the City.

C506.13 MEASUREMENT: Asphaltic tack coat, prime coat or curing membrane will not be measured for payment.

(a) Weight Measurement: Porous asphaltic concrete will be measured by the ton of 2,000 pounds from printed weights as provided in Section C503. Stamped printer tickets will be issued for each truckload of material delivered. Material lost, wasted, rejected or applied contrary to specifications will not be measured for payment.

Estimated quantities of porous asphaltic concrete shown on the plans are based on 110 lb/sq yd/inch thickness.

(b) Volume or Area Measurement: The quantities for payment will be the design quantities specified in the plans and adjustments thereto. Design quantities will be adjusted when the Director makes changes to adjust to field conditions or when design changes are necessary. Design quantities are based on the horizontal dimensions and compacted thickness of the completed course shown on the plans.

(c) Geotextile: Geotextile fabric shall be measured by the square yard, based on the theoretical area on the plans. Fabric used in patching or overlaps shall not be measured for payment.

C506.14 PAYMENT: Payment for porous asphaltic concrete will be made at the contract unit price on a lot basis. When the mix does not conform to acceptance requirements, payment will be made at an adjusted price per unit of measurement in accordance with Section C1002 and Table 2. The Director will provide adjustment percentages for properties of asphaltic materials.

(a) General: Payment for porous asphaltic concrete will include furnishing all required materials, producing the mixtures, preparing the surfaces on which the mixtures are placed, hauling the mixtures to the work site, and placing and compacting the mixtures.

(b) Wearing Course Mixes: The lowest percentage of contract price will be used for final adjustment in unit price for deficiencies in Marshall Stability, pavement density, surface tolerance, anti-strip additive, and porous asphalt cement properties.

(c) Base, Binder and Shoulder Mixes: The lowest percentage of contract price will be used for final adjustment in unit price for deficiencies in Marshall Stability, pavement density, anti-strip additive, and porous asphalt cement properties.

(d) Geotextile: Geotextile fabric will be paid for per square yard at the contract unit price which includes furnishing equipment, labor and materials to complete the item.

Payment will be made under:

ITEM NO.	PAY ITEM	Pay Unit
C506(51)	Porous Asphaltic Concrete	Ton
C506(52)	Porous Asphaltic Concrete	Cubic Yard
C506(53)	Porous Asphaltic Concrete (___" Thick)	Square Yard
C501(54)	Geotextile Fabric for Paving	Square Yard

SECTION C507
ASPHALTIC BINDERS

C507.01 DESCRIPTION: This section specifies requirements for the selection and placement of asphaltic interlayer reinforcement for flexible and rigid pavement.

C507.02 REFERENCES:

- Asphalt Institute Handbook.
- AASHTO Standard Specification for Highway Bridges.
- ASTM D276 – Standard Test Methods for Identification of Fibers in Textiles.
- ASTM D4595 – Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
- ASTM D4694 – Standard Test Method for Deflections with a Falling-Weight-Type Impulse Load Device.
- ASTM D4759 – Standard Practice for Determining the Specification Conformance of Geosynthetics.
- ASTM D5340 – Standard Test Method for Airport Pavement Condition Index Surveys.
- ASTM D5261 – Standard Test Method for Measuring Mass per Unit Area of Geotextiles.
- ASTM D6637 – Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Test Method; 2001.
- DIN EN ISO 10319 (2008-10) – Geosynthetics - Wide-Width Tensile Test (ISO 10319:2008).
- FHWA Federal Highway Administration – Design Guidelines.

C507.03 SYSTEM DESCRIPTION:

(a) Flexible Pavements: Provide interlayer reinforcement system installed between asphalt layers in a pavement structure to distribute loads, reinforce the pavement and reduce reflective cracking distresses.

(b) Rigid or Composite Pavements: Provide interlayer reinforcement system installed between freshly leveled asphalt overlay to absorb the strain and stress energy developed by traffic-induced working concrete joints and by slab shrinkage and expansion due to thermal changes.

C507.04 QUALITY ASSURANCE:

(a) Manufacturer Qualifications:

(1) Manufacturer with at least 10 years of documented experience in the manufacture and installation of fiberglass interlayer grids to reduce thermal or load associated cracking distress, and in the manufacture of the tack coat that meets the specification.

(2) Manufacturer with documented evidence of an established quality control program to assure products with consistent compliance with the requirements of this specification. Such a program would be ISO 9001:2008 Registration.

(3) Annual conformance testing performed by an accredited third party testing facility.

(b) Installer Qualifications:

(1) Firm with documented experience in the installation of fiberglass interlayer grid systems with at least two projects of similar construction and scope.

C507.05 DELIVERY, STORAGE, AND HANDLING:

(a) Store products in manufacturer's unopened packaging until ready for installation.

(b) Store in a dry, covered location that is free of dust, dirt, and moisture. Prevent excessive mud, fluid concrete, asphalt, or other deleterious materials from coming in contact with reinforcement grid materials.

(c) Store at temperatures between minus 29°C (minus 20°F), below 82°C (180°F) and maximum relative humidity of 85%.

C507.06 PROJECT CONDITIONS:

(a) Do not place grid reinforcement when the asphalt surface is wet, or contaminated with oil, soil or excessive dust.

(b) Existing pavement should show no signs of poor drainage, pumping of fines, excessive deflections or structural instability.

(c) Receiving surface shall be smooth, with the existing cracks pretreated per SHRP-H-348.

(d) Make all repairs as required prior to placement of interlayer system.

(e) Do not install asphalt on the grid reinforcement when the underlying asphalt surface is hotter than 60°C (140°F) or in the case of new asphalt, do not install prior to the asphalt cooling to 43°C (110°F) at least once previously.

C507.07 MATERIALS:

(a) The asphalt reinforcement grid shall consist of a high strength, fiberglass grid custom knitted and coated with an elastomeric polymer and self-adhesive glue.

(b) In addition, the reinforcement grid shall have the following/adhere to the following Minimum Average Roll Values (MARV) for material properties and should adhere to the strength properties in Table 1.

Table 1 –Material and Strength Properties

	PRODUCT PROPERTIES	METHOD	UNITS	Type 1	Type 2
Material Properties	Aperture Size (Center to Center)		mm (inch)	12.5 x 12.5 (0.5 x 0.5)	25.0 x 25.0 (1.0 x 1.0)
	Percent Open Area	CW-02215 MOD.[1]	%	Greater than or equal to 50	Greater than or equal to 50
	Fiberglass Coating			Elastomeric Polymer	Elastomeric Polymer
	Mass / Unit Area	ASTM D5261	g/m² (oz/yd²)	405 (12.0)	405 (12.0)
	Roll Width		m (ft.)	1.5 (5.0)	1.5 (5.0)
Strength Properties	Fiberglass Coating Softening Point	ASTM D36	°C (°F)	Greater than 149 (300)	Greater than 149 (300)
	Tensile Strength (MD x CD)	ASTM D6637	kN/m (lb./in)	100 x 100 (560 x 560)	100 x 100 (560 x 560)
	Tensile Strength @2%	ASTM D6637	kN/m (lb./in)	80 x 80 (456 x 456)	80 x 80 (456 x 456)
	Elongation at Break	ASTM D6637	(%)	Less than 3	Less than 3
	[1] - Army Corp of Engineers test method correlated to light emitted through fabric.				

Table 2 Product Performance Requirements

	TEST DESCRIPTION	TEST METHOD	METHOD OF MEASURE	PERFORMANCE
Performance Requirements	Coating Softening Temperature vs. HMA Asphalt Binder Compaction Temperature	Temperature Comparison	Job Mix Formula Compaction Temperature Requirement	Coating Softening Point > HMA Compaction Temperature
	Field Millability and Recyclability Validation	Field Milling of Asphalt with Interlayer System	References or Reports	Documented Experience
	Asphalt : Grid composite stiffness for durability of composite layers over life of pavement during individual and long term deformation	3Pt Beam Test at 70°F, Grid with polymer tack at mid depth relative to a control with polymer emulsion tack coat – cyclic stress controlled loading	Minimum Improvement Factor vs. Control	> 3x
	Fatigue and Rutting Performance	Circular Full Scale APT [1] Testing vs. Control	Rutting and Fatigue	> 2x (rutting) >3x (fatigue)
	Fatigue and Reflective Cracking	MMLS3 Scaled APT [1] Testing vs. Control	Fatigue and Reflective Cracking Testing	>3x
	Full Scale Crack and Durability Test	NCAT Test Track [1] Performance	Number of ESALS	>40 million

[1] : APT – Accelerated Pavement Testing

(c) The hot applied tack shall have the following/adhere to the following properties in Table 3.

Table 3 Typical Physical Properties

PARAMETER	TEST METHOD	MIN	MAX
Rotational Viscosity @ 149 °C, cP	AASHTO T316	----	3000*
Penetration @ 25 °C , dmm	ASTM D5	----	25
Softening Point, °C	ASTM D36	70	99
Original DSR @ 82 °C , G*/sin δ, kPa	AASHTO T315	1.0	----
Creep Stiffness, m-value @ 0 °C on original binder	AASHTO T313	0.285	----

* Rotational viscosity shall be waived if material can be successfully applied in the field.

C507.08 PREPARATION:

(a) Do not begin interlayer system until existing pavement condition has been evaluated and all repairs have been completed.

(b) Seal cracks between 3mm (1/8”) and 6 mm (1/4”) with an acceptable crack filler. Repair wider cracks using a method that provides a level surface. All holes shall be filled with hot asphalt and compacted level with adjacent surfaces.

(c) Surfaces shall be mechanically cleaned by sweeping and vacuuming and be free of oil, vegetation, sand, dirt, water, gravel, and other contaminants prior to placement of interlayer reinforcing.

(d) Cracks shall be marked and recorded prior to and after the true and leveling course. Identifying and preserving the crack location will ensure that the interlayer system is properly centered on each crack when full interlayer system coverage of the site is not specified.

C507.09 INSTALLATION:

(a) Storage of Material:

(1) Prior to use, store reinforcement rolls in unopened packaging vertically (on end) under dry, covered conditions free from dust, dirt, and moisture to prevent roll distortion and contamination.

(2) Store the product at temperatures above minus 29°C (-20°F), below 82°C (180°F) with a relative humidity of less than 85%.

Install interlayer reinforcement system in accordance with Tensar International’s installation guidelines.

(b) Leveling Course:

(1) Leveling course shall be a minimum thickness of 19 mm (3/4”) and shall have a surface temperature cooler than 60°C (140°F) and will have cooled to 43°C (110°F) at least once previously.

(2) Crack areas showing excessive surface irregularities shall be leveled prior to placement.

(3) Slab joint showing upward tenting shall be saw-cut to relieve pressure prior to leveling.

(c) Asphalt Reinforcement Grid Placement:

(1) Surface temperature shall be between 5°C and 60°C (40-140°F) prior to laying the grid reinforcement.

(2) The placement surface must be dry. Since moisture affects the adhesion of the grid to the pavement surface, grid placement should not be undertaken if rain is likely to fall prior to covering the grid with an asphalt mat overlay. Grid that is placed and will not adhere due to moisture shall be removed and replaced at the Contractor's expense.

(3) Reinforcement grid shall be laid out by mechanical means or by hand using sufficient pressure to eliminate ripples. Remove any ripples by pulling the grid tight. Cutting of the grid may be done on tight radii to prevent ripples.

(4) Lap transverse joints in the direction of the paving 76 mm to 152 mm (3-6"); longitudinal joints shall be overlapped 25 mm to 50 mm (1-2") or as recommended by the manufacturer, whichever is greater.

(5) Following the placement of the material, activate self-adhesive glue by rolling with a rubber coated drum roller or a pneumatic tire roller. In no instance shall steel-wheeled or vibratory rollers be used. Rolling shall continue until the adhesive is activated and the grid is bonded to the truing and leveling course. During rolling operations, roller tires shall be kept clean to the satisfaction of the Director. Reinforcement shall be laid and rolled over ironworks (i.e., manhole covers, drainage grates, etc.). Once the grid has been rolled, these portions of the mats covering the ironworks shall be removed by cutting the reinforcement grid with a utility knife or other similar tool.

(6) Construction and emergency vehicles will be allowed to run on the reinforcement grid after rolling. However, any damaged or de-bonded sections of the grid resulting from these vehicles, as determined by the Director, shall be immediately replaced with new grid sections, taking care to place the adhesive backing down and to overlap the grid already in place. As before, replacement sections shall be rolled in accordance with manufacturer's recommendations. Interlayer system shall be rolled until the adhesive is activated and the replacement grid section is bonded to the truing and leveling course. Any dirt, dust or other contaminants deposited on the grid-covered truing and leveling course by the construction equipment, maintenance vehicles, or emergency vehicles shall be removed by mechanical sweeping or vacuuming the surface. No additional payment will be made to replace sections of grids damaged by construction equipment, maintenance vehicles, or emergency traffic. No payment will be made to sweep or vacuum the surface, or to remove contaminates deposited by such traffic.

(7) Protect the asphalt reinforcing grid until placement of the finished asphalt topping. Repair damaged sections prior to placement of finished asphalt topping.

(8) Place the asphaltic overlay course the same day the interlayer reinforcing grid is placed.

(9) Overlay course shall be a minimum thickness of 40 mm (1-1/2").

(10) When a tack coat is specified, the approved tack coat should be used in conjunction with the interlayer system.

(i) If placed prior to the interlayer it must fully cure prior to placement of interlayer system,

(ii) if placed after to interlayer material it must fully cure prior to any construction traffic over the surface including paving

(d) FIELD QUALITY CONTROL

(1) Testing and Inspection shall be provided by an independent laboratory provided by the Contractor and acceptable to the Director.

(2) Perform adhesion tests in accordance with the following:

(i) Place approximately 1 m² (1 sq. yd.) of interlayer reinforcing grid on a properly prepared leveling course that is representative of the project condition.

(ii) Activate self-adhesive glue by rolling with a rubber-tired roller or by applying adequate pressure to fully activate the pressure-sensitive adhesive.

(iii) Use a calibrated spring balance by inserting the hook of the balance under the center of the grid and pulling upward until the grid starts to pull away from the surface.

(iv) A 9 kg (20 pound) pull is required without pulling the grid free or creating ripples in the grid.

(v) Consult grid manufacturer if grid does not meet this pull rating and do not place asphalt topping until an acceptable adhesion is achieved.

(3) Frequency of Tests:

(i) Adhesion Test: Provide a minimum of one test per 300 m² (3,000 sq. ft.) of surface area.

C507.10 PAYMENT: Payment for asphaltic binder will be made at the contract unit price.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C507(51)	Asphaltic Binder	Square Yard

SECTION C509
COLD PLANING ASPHALTIC PAVEMENT

C509.01 DESCRIPTION: This work consists of removing asphaltic concrete surfacing in accordance with these specifications and in conformity with the average depth, width, grade, cross-slope and typical sections shown on the plans or established in the field.

C509.02 EQUIPMENT: Equipment for cold planing asphaltic surfacing shall be certified, self-propelled planing machines or grinders. They shall have sufficient power, traction and stability to remove the thickness of asphaltic concrete necessary to provide profile grade and cross slope uniformly across the surface. Cold planing equipment shall be capable of working from an erected string line, shoe device or a traveling reference plane that will accurately reflect, for a minimum length of 30 feet, the average grade of the surface on which it is to be operated and shall have an automatic system for controlling cross slope at a given rate. Adequate loading equipment shall be provided to immediately remove materials cut from the surface and discharge the cuttings into a truck or on the shoulder as specified or directed. When cuttings are placed directly on the shoulder or used in asphaltic concrete, surfacing with lightweight aggregate shall be removed separately. Adequate personnel shall be provided to ensure that the cuttings are removed from the surface daily. The drum shall be round and true with sufficient number of teeth to yield a uniform and fine textured surface for bonding of the subsequent overlay. The machine shall be equipped with means to control dust created by the cutting action and shall have a system providing for uniformly varying the depth of cut while the machine is in motion.

C509.03 CONSTRUCTION REQUIREMENTS:

(a) GENERAL: The maximum forward speed of the planing machine shall be 40 feet per minute. The Director may approve forward speeds greater than 40 feet per minute provided the planed surface is uniform and fine textured and conforms to the surface tolerance requirements for a binder course. This speed shall be reduced as directed to provide a planed surface of uniform and fine texture with the specified grade and cross slope. Ridges left in the surface due to missing teeth shall be corrected by additional passes. The maximum depth of cold planing shall be 2 inches per pass when traffic is being maintained. Teeth lost during planing shall be immediately replaced.

Thirty foot (minimum) traveling reference plane shall be used on each pass of the planing machine. A shoe device to match the curb may be used when directed. The reference plane shall be placed on the best available adjacent surface.

When the entire roadway width has not been planed to a flush surface by the end of a work period resulting in a vertical or near vertical longitudinal face exceeding 2 inches in height, this longitudinal face shall be sloped as directed. Transverse faces present at the end of a work period shall be beveled as directed. Provisions shall be made at drives and turnouts to maintain local traffic.

Asphaltic concrete next to structures that cannot be removed by the planing machine shall be removed by other acceptable methods.

Pavement surfaces resulting from planing operations shall be of uniform texture, grade and cross-slope and free from loose material. Planed surfaces not meeting these requirements shall be replaned at no direct pay. No uneven, undulating surfaces will be accepted. The Contractor shall provide drainage of planed areas by cutting through the shoulder to the ditch.

The cold planing operation shall not precede the subsequent paving operation by more than 10 calendar days. This time may be extended by the Director upon request by the Contractor if extensive joint repairs or patching is required. For single lift overlays requiring shoulder stabilization, the cold planing operation shall not precede the subsequent paving operation by more than 30 days.

On roadways that are open to traffic, pavement striping removed by planing shall be replaced with temporary pavement markings at the end of each day's planing operations in accordance with Section C713.

Unless otherwise specified, surfacing material removed by planing shall become the property of the Contractor and shall be disposed of in accordance with Subsection C202.02. When specified on the plans, a portion or all of the surfacing material removed by planing will be retained by the Department and shall be hauled by the Contractor to the specified location and stockpiled as directed. Excess material shall then become the property of the Contractor and shall be disposed of in accordance with Section C202.02.

Required joint repairs shall be made after planing. Pavement patching should be completed before planing. When additional areas requiring patching are exposed by planing operations, such additional patching shall be performed after planing. Pavement patching shall be in accordance with Section C724.

(b) Except when planing reaches to the existing concrete base layer, the surface tolerance requirements of the cold planed surface shall meet the requirements for binder course in Section C501.

C509.04 MEASUREMENT: Measurement will be made by the square yard of asphaltic concrete surfacing satisfactorily removed.

C509.05 PAYMENT: Payment of cold planing asphaltic pavement will be made at the contract unit price, which includes removal of asphaltic concrete surfacing to the necessary depth, texturing the pavement surface, disposal of removed materials and cleaning the roadway. Payment for temporary pavement markings will be included under appropriate pay items.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C509(51)	Cold Planing Asphaltic Pavement (___" Average Thick)	Square Yard

PART VI - PORTLAND CEMENT CONCRETE PAVEMENT

SECTION C601
PORTLAND CEMENT CONCRETE PAVEMENT

C601.01 GENERAL CONSIDERATIONS:

(a) The Contractor shall construct the roadway pavement in substantial conformance with these specifications and in reasonable close conformity with the locations, lines, grades, slopes, thickness, sections and strength shown on the plans and included herein.

(b) Pavement shall be Portland Cement Concrete constructed over an approved base.

C601.02 REFERENCED SPECIFICATIONS:

LaDOTD Louisiana Standard Specifications for Roads and Bridges, latest edition
ASTM American Society of Testing and Materials
ACI American Concrete Institute
AASHTO American Association of State Highway and Transportation Officials, "Standard Specifications for Transportation, Materials and Methods of Sampling & Testing"
AWPA American Wood Preservers Association

C601.03 PAVEMENT THICKNESS: The pavement thickness shall be dependent upon soil properties, traffic type and frequency as determined by the Director. Unless otherwise stated, all streets shall be reinforced concrete having a minimum thickness of eight (8") inches.

C601.04 MATERIALS: Materials shall be furnished only from sources approved by the Director.

(a) Cement: Shall conform to the requirements of ASTM C 150, Type I or Type II.

(b) Aggregates:

(1) Fine aggregate shall be a clean natural sand conforming to the requirements of ASTM C 33.

(2) Coarse aggregate shall be clean, hard, durable gravel, crushed stone or crushed concrete conforming to the requirements of ASTM C 33, Gradation No. 467 or 57.

(c) Admixtures:

(1) If used, air entraining admixtures shall conform to the requirements of ASTM CZ60.

(2) Water used in mixing concrete shall be potable and fit for human consumption.

(3) Water reducing admixtures and water reducing, retarding admixtures shall conform to the requirements of ASTM C 494.

(4) Super plasticizers shall conform to the requirements of ASTM C 494, Type F or G.

(d) Fly Ash: Fly ash shall meet the requirements of ASTM C 618, Class C. Fly ash is approved for use in pavements only and not in structures.

(e) Ground granulated Blast Furnace slag shall meet the requirements of ASTM C 989.

(f) Expansion Joint Filler:

(1) Filler shall be clear-heart redwood, clear all-heart western red cedar, Idaho white pine, western white spruce, northern white pine, sugar pine, western hemlock, white fir, or other material approved by the Director.

(2) The dimensions shall be as specified with a tolerance of 1/16 inch in thickness, 1/8 inch in depth, and plus or minus 1/4 inch in length. The load required to compress the material in an oven dry condition to 50% of its original thickness shall not exceed 1,800 psi.

(g) Joint Sealing Compound: Joint sealing compound shall meet all of the requirements as stated below, heated and applied in strict conformance with manufacturer's recommendations.

(1) Hot Poured Asphalt Mineral Filler: Asphalt mineral filler shall be homogenous and shall be composed of asphalt and mineral filler. The asphalt shall be free from impurities. Asphalt mineral filler shall conform to the following requirements:

PROPERTY	AASHTO TEST METHOD	REQUIREMENT	
		MINIMUM	MAXIMUM
Softening Point, Ring and Ball Method, °F	T 53	125	145
Penetration at 32°F, 200 grams, 60 seconds	T 49	15	--
Penetration at 77°F, 100 grams, 5 seconds	T 49	50	70
Ductility at 77°F, cm	T 51	15	--
Asphalt, %	T 44	45	55
Mineral Filler, %	T 44	45	55
Water, %	T 55	--	2

(2) Hot Poured Elastic Asphaltic Type: This sealer shall conform to AASHTO Designation M 173, except the pour point test will be performed only as deemed necessary. Materials shall be applied in accordance with the sealer manufacturer's recommendations.

(3) Hot Poured Catalytically Blown Asphalt: Catalytically blown asphalt shall be uniformly blended with 10% diatomaceous earth filler which passes the No. 325 sieve. It shall form a suitable joint and crack sealer which may be melted to pouring consistency in a regular asphalt kettle at a temperature of 400°F to 485°F.

The material shall conform to the following requirements:

PROPERTY	AASHTO TEST METHOD	REQUIREMENT	
		MINIMUM	MAXIMUM
Penetration at 77°F, 100 grams, 5 seconds	T 49	68	88
Penetration at 32°F, 200 grams, 60 seconds	T 49	38	--
Penetration at 115°F, 50 grams, 5 seconds	T 49	--	160
Softening Point, Ring and Ball Method, °F	T 53	175	200
Flash, Cleveland Open Cap Method, °F	T 48	500	--
Specific Gravity, 77/77 %F	--	1.02	--
Ductility at 77°F, 5 cm/minute, cm	T 51	5	--
Flow, 140°F, cm	T 187	8	0.5
Ash Weight, %	T 111	8	20
Shock Test, 30°F	M 190-5.3.1	No Cracking	

(4) Cold Applied Sealing Compound: The Contractor may use cold applied sealing compound such as silicon sealants. Silicon rubber base joint sealing compound shall conform to Federal Specifications TT-S-001543A for Class A sealants.

(f) Metal parting strips used to form keyed joints shall be 16-gauge galvanized steel.

(g) Reinforcing Steel:

(1) Reinforcing bars shall conform to "Specifications for Billet-Steel Bars for Concrete Reinforcement" (ASTM A 615), "Specifications for Deformed Rail-Steel Bars for Concrete

Reinforcement" (ASTM A 616), "Specifications for Deformed Rail-Steel Bars for Concrete Reinforcement with 60,000 psi Minimum Yield Strength," or "Specifications for Axle-Steel Bars for Concrete Reinforcement" (ASTM A 160). Deformations for deformed bars shall conform to "Specifications For Deformations for Deformed Steel Bars for Concrete Reinforcement" (ASTM A 305).

(2) Bar and rod mats for concrete reinforcement shall conform to "Specifications for Fabricated Steel Bar or Rod Mats for Concrete Reinforcement" (ASTM A 124).

(3) Wire for concrete reinforcement shall conform to "Specifications for Cold-Drawn Steel Wire for Concrete Reinforcement" (A.S.T.M. A 82).

(4) Welded wire fabric for concrete reinforcement shall conform to "Specifications for Welded Steel Wire Fabric for Concrete Reinforcement" (A.S.T.M. A 185) except that the weld-shear strength requirement of Section 5b of those specifications shall be extended to include a wire size differential up to and including six gauge.

(5) When placed, all reinforcement shall be free from dirt, oil, paint, grease, mill scale, loose or thick rust, or other deleterious substances. When bending is required, it shall be accurately done. All reinforcement shall be placed in the exact positions shown on the plans. Reinforcement shall be securely held in position by wiring and blocking it from the forms and by wiring it together at intersections so that it will not be displaced during depositing and compacting of the concrete.

(h) Curing compound shall be a white pigmented, impervious membrane conforming to the requirements of ASTM C 309, Type 2.

(i) Tie bars shall be deformed concrete reinforcing steel conforming to ASTM A 615, Grade 40.

(j) Dowels and dowel assemblies shall be as shown on the plans and shall conform with the requirements of Subsection C601.16.

(k) Load transfer devices shall consist of approved dowel bar assemblies, either painted or plastic coated (see standard drawings).

(1) Dowel Bars: Dowel bars shall be plain bars conforming to ASTM Designations A 615, A 616, A 617, and their supplementary requirements. Paint for dowel bars shall conform to AASHTO Designation M 72.

Plastic-coated dowel bars shall be undercoated with an adhesive and given an outer coat of extruded polyethylene plastic in accordance with the coating requirements of AASHTO Designation M 254 and the following:

Adhesive Undercoating:

Adhesive Thickness 3 to 10 mils

Outer Coating:

Coating Material	High Density Polyethylene
Coating Thickness	14 to 20 mils
Total Thickness of Adhesive:	
Undercoating and Outer Coating	20 to 30 mils

(2) Dowels shall have a uniformly round cross-section and shall be saw-cut, smooth and free of burrs, projections, and deformations. Dowels shall be coated with one coat of an approved paint and thoroughly coated with an approved lubricant. In lieu of painted and lubricated dowels, plastic-coated dowel bars may be used. Plastic-coated dowel bars may be placed by approved mechanical devices equipped with suitable means to control proper depth and alignment of the dowel bars. Bars shall be positioned parallel to the pavement centerline and surface. Bars shall be firmly held in position by the mechanical device until concrete has been thoroughly consolidated around the bars. Painted and greased dowel bars shall be placed in approved metal dowel assemblies. An approved sleeve shall be furnished with each dowel bar used in expansion joints. The sleeve shall fit the dowel bar tightly and the closed end shall be watertight.

C601.05 FORMS:

(a) Straight-sided forms shall be made of metal having a thickness of not less than 7/32" and shall be furnished in sections not less than 10' in length. On curves with a radius greater than 150', straight forms of shorter lengths will be permitted. Forms shall have a depth not less than the specified edge thickness of the pavement and a base width at least 0.8 of the depth, except as otherwise approved by the Director.

Flexible or curved forms of proper radius shall be used on curves of a 150' radius or less and shall be of a design acceptable to the Director. Forms shall be provided with adequate devices for secure setting. Flange braces shall extend outward on the base not less than two-thirds the height of the forms. Forms with battered top surfaces and bent, twisted or broken forms shall be removed from the work. Repaired forms shall not be used until inspected and approved.

When approved by the Director, built-up forms may be used; however, the built-up forms shall not exceed 2". No limitation will be made on the use of built-up forms or the amount of build-up where the total area of pavement of any specified thickness on the project is less than 2,000 square yards. The top face of the form shall not vary from a true plane more than 1/8" in 10' and the upstanding leg shall not vary more than 1/4" from the vertical. The forms shall contain provisions for locking the ends of abutting form sections together tightly and for secure setting.

(b) Alignment and grade elevation of forms shall be checked and corrections made by the Contractor prior to placing concrete. When any form has been disturbed or any grade has become unstable, the form shall be reset and rechecked.

(c) Form removal shall be done carefully without damage to green concrete and in no case less than 12 hours after placing concrete. Holes or voids in surfaces shall be immediately filled with 1:2 mortar and floated smooth. Formed edges shall be cured after removal of forms.

C601.06 JOINTS AND REINFORCEMENT:

(a) Expansion Joints:

(1) Expansion joints should be 3/4" in thickness and will have smooth dowel bar assemblies. Dowels should be sized and spaced in accordance to the standard plans.

(2) Expansion joints shall be placed at all intersections and points of curvature; joints shall not exceed 300' center to center spacings.

(b) Contraction Joints:

(1) Contraction joints will have smooth dowel bar assemblies.

(2) Doweled contraction joint assemblies shall be placed at maximum 20' centers and at a minimum 10' centers. Dowels shall be sized and spaced according to the standard plans.

(c) Longitudinal Joints:

(1) Longitudinal joints shall be spaced so that pavement widths do not exceed 14'. Joints shall be formed by parting strips and doweled with deformed tie bars in accordance with the standard plans.

(2) Irregular slopes of pavement, cul de sacs and intersections shall be doweled in panels no larger than 14' on any side. They shall be formed by parting strips and doweled with the same deformed tie bars as above.

C601.07 CONCRETE PROPERTIES AND PROPORTIONS OF MATERIALS:

(a) The Contractor shall submit an appropriate mix design to the designated testing laboratory. The mix design shall be reviewed and forwarded to the Contractor and consulting engineer within 48 hours of receipt.

(b) The specified 28-day compressive strength (f'_c) shall be a minimum of 4,000 psi or as noted on the plans.

(c) Concrete shall have a minimum cementitious content of 500 pounds per cubic yard, be designed with a water reducing admixture, and have a maximum slump of 4 inches.

(d) High early strength concrete shall have a minimum cementitious content of seven sacks and be designed to provide a minimum strength of 3000 psi before the pavement can be opened to traffic where the pavement thickness exceeds nine inches, else a minimum strength of 4,000 psi

before the pavement can be opened to traffic. Additional test cylinders should be cast at the time of placement.

(e) Fly ash may be substituted for cement at the ratio of one pound of fly ash for each pound of cement up to a total of 150 pounds of fly ash per cubic yard of concrete in accordance with the approved mix design. Slag cement may be used to replace up to ½ of the total cementitious content.

(f) Concrete with a temperature of 95°F or greater at the time of placement, or concrete not deposited within one-and-one-half hours after initial injection of the water to the mix, shall be rejected. Any deviations from the above requirement shall be verified for strength by additional cylinders at the expense of the Contractor.

C601.08 CONCRETE MIXING AND DELIVERY:

(a) Concrete mixing shall be in accordance with the requirements of ACI 304R-00.

(b) Concrete delivery shall be in accordance with the requirements of ASTM C 94.

C601.09 PLACING AND FINISHING:

(a) Concrete may be placed and finished by machine. Concrete shall be placed between the forms in such a manner as to avoid segregation, avoid damage to forms and joints, and avoid unnecessary movement once it has been placed.

(b) The subgrade or base course shall be brought to a proper cross-section. High areas shall be trimmed to proper elevation. The finished grade shall be maintained in a smooth and compacted condition until the pavement is placed. No concrete shall be placed until the subgrade or base course has been approved.

(c) The subgrade or base course shall be uniformly moist when concrete is placed. If it becomes too dry, the subgrade or base course shall be sprinkled, but the method of sprinkling shall not be such as to form mud or pools of water.

(d) Concrete Placement:

(1) Concrete shall be deposited on the grade in such a manner as to require as little rehandling as possible. All equipment shall be designed and operated so as to assure placement and spreading of concrete without segregation. Placement shall be continuous between transverse joints without the use of intermediate bulkheads. Necessary hand-spreading shall be done with shovels or other approved tools, excluding rakes.

(2) Concrete shall be consolidated by use of a vibrating screed or internal vibrators approved by the Director.

(3) Concrete shall not be placed on a frozen subgrade when the air temperature is below freezing, or when the air temperature is expected to go below 32°F within 12 hours with a minimum concrete temperature of 50° F.

(4) The roadway pavement shall be of the size and shape shown on the plans including integral curb. It shall consist of one course of concrete with joints, dowels, etc., as called for in the plans.

(5) Final strike-off, consolidation and finishing shall conform to the requirements of Subsection C601.09.e, except metal tine texturing will not be required. The surface texture shall be a broom finish.

(6) Tolerance for surface smoothness shall be 1/4" in 10', except at high and low points and utility structures in the street.

(7) If split slab construction is used and not slip formed, forms on each side of the slab will be required. The side of the slab to be joined during a later placement will have tie bars. Caution shall be exercised in removing the form and in straightening the tie bars.

(e) Final Strike Off, Consolidation and Finishing.

(1) Sequence: The sequence of operations shall be the strike off, consolidation floating and removal of laitance, straight edging, and final surface finish.

(2) In general, the addition of water to the surface of concrete to assist in finishing operations will not be permitted unless approved by the Director. If approved, it shall be applied as a fog spray by means of approved spray equipment.

(3) During final surface-finish operations, all areas that are improperly finished shall be refloated and refinished as required.

(4) Concrete adjacent to joints shall be compacted or firmly placed, without voids or segregation, against the joint material. It shall also be compacted and firmly placed under and around load transfer devices, joint assembly units and other features designed to extend into the pavement. Concrete adjacent to joints shall be consolidated.

(5) After concrete has been placed and vibrated adjacent to joints as required, the finishing machine shall be brought forward operating in a manner to avoid damage or misalignment of joints. The finishing machine shall be stopped when the front screed is approximately 8 inches from the joint. Segregated concrete shall be removed from in front of and off the joint. The front screed shall be lifted and set directly on top of the joint and the forward motion of the finishing machine resumed. When the second screed is close enough to permit excess mortar in front of it to flow over the joint, it shall be lifted and carried over the joint. Thereafter, the finishing machine may be run over the joint without lifting the screed or on top of the joint.

(6) Machine-Finishing: Vibrators for full width vibration of concrete paving slabs shall not be operated longer than 15 seconds in one location. If uniform and satisfactory density of concrete is not obtained by the vibratory method at joints, along forms, at structures, and throughout the pavement, the Contractor shall furnish equipment and use methods which will provide pavement conforming to the specifications.

(7) Hand-Finishing: Unless otherwise specified, hand-finishing methods will not be permitted except in the event of a breakdown of the mechanical equipment. Hand methods may then be used to finish the concrete already deposited on grade. When a breakdown occurs in pavement areas not exceeding a width of 16' or irregular in dimension where operations of mechanical equipment are impractical, the pavement may be finished by hand methods.

(8) Concrete, as soon as it is placed, shall be struck off and screeded.

(9) The screed for the surface shall be at least 2 feet longer than the maximum width of slab to be struck off. It shall be of approved design, sufficiently rigid to retain its shape, and constructed of either metal or other suitable material shod with metal.

(10) Consolidation shall be attained by the use of a suitable vibrator or other approved equipment.

(11) In operation, the screed shall be moved forward on forms with a combined longitudinal and transverse shearing motion, moving always in the direction in which the work is progressing and so manipulated that neither end is raised from the side of the forms during the strike-off process. If necessary, this shall be repeated until the surface has a uniform texture, is true to grade and cross-section, and is free from porous areas.

(12) Longitudinal Float Method: The mechanical longitudinal float shall be of a design approved by the Director and shall be in good working condition. The tracks from which the float operates shall be accurately adjusted to the required crown. The float shall be accurately adjusted and coordinated with the adjustments of the transverse finishing machine so that a small amount of mortar is carried ahead of the float at all times. The forward speed shall be adjusted so that the float will lap the distance specified by the area of pavement at least twice. Excessive operation over a given area will not be permitted. Any excess water or soupy material shall be wasted over the side forms on each pass.

(13) Pan Float Method: The Contractor may use a machine composed of cutting and smoothing float or floats suspended from and guided by a rigid frame. The frame shall be carried by four or more visible wheels riding on and constantly in contact with the side forms.

(14) If necessary, following one of the preceding methods of floating, long handled floats, having blades not less than 5' in length and 6" in width, may be used to smooth and fill in open-textured areas in the pavement. Long handled floats shall not be used to float the

entire surface of the pavement in lieu of, or supplementing one of the preceding methods of floating. When strike-off and consolidation are done by hand methods and the crown of the pavement will not permit use of the longitudinal float, the surface shall be floated transversely by means of the long handled float. Care shall be taken not to work the crown out of the pavement during the operation. After floating, any excess water and laitance shall be removed from the surface of the pavement by a straightedge, 10' or more in length. Successive drags shall be lapped one-half the length of the blade.

(15) Straightedge Testing and Surface Correction: After floating has been completed and excess water removed, but while the concrete is still plastic, the surface of the concrete shall be tested for trueness with an accurate 10' straightedge swung from handles approximately 3' longer than one-half the width of the slab. The straightedge shall be furnished and used by the Contractor. It shall be held with the surface in successive positions parallel to the road centerline and the whole area gone over from one side of the slab to the other as necessary. Advance along the road shall be in successive stages of not more than one-half the length of the straightedge.

Any depressions found shall be immediately filled with freshly mixed concrete, struck off, consolidated and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across the joints meets with requirements for smoothness. Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and the slab conforms to the required grade and cross-section.

(16) Final Finish and Texture: Unless otherwise specified, the final finish and texture shall be obtained using a broom in accordance with this subsection. The surface texture shall be a broom finish. It shall be applied when the water sheen has practically disappeared. The broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly overlapping. The brooming operation shall be so executed that the corrugation produced in the surface shall be uniform in appearance and not more than 1/16" in depth. Brooming shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The surface, thus finished, shall be free from rough and porous areas, irregularities and depressions resulting from improper handling of the broom. Brooms shall be of such quality, size and construction and be so operated as to produce a surface finish meeting the approval of the Director. Subject to satisfactory results being obtained, the Contractor will be permitted to use mechanical brooming in lieu of manual brooming.

(17) Edging at Forms and Joints: After the final finish, but before the concrete has taken its initial set, the edges of pavement along each side of transverse expansion joints, formed joints and transverse construction joints shall be worked with an approved tool and rounded to the radius specified. A well-defined, continuous radius shall be produced and a smooth, dense mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting the tool during use. Tool marks appearing on the slab adjacent to joints shall be eliminated by brooming the surface. In doing this, the rounding of the corner of the

slab shall not be disturbed. All concrete on top of the joint filler shall be removed. All joints shall be tested with a straightedge before the concrete has set. Corrections shall be made if one side of the joints are higher than the other or if the joints are higher or lower than in adjacent slabs.

C601.10 CURING AND PROTECTING:

(a) Immediately after completion of finishing operations and as soon as marring of concrete will not occur, the entire surface of newly placed concrete shall be covered and cured with a white pigmented impervious membrane.

(b) The Contractor shall have available at the job site, sufficient covering material to cover and properly protect the last hour's pour against the effects of rain. This covering material may be burlap mats, waterproof paper or combined burlap and white polyethylene sheeting. Failure to provide sufficient cover material or to adequately take care of curing requirements shall be cause for immediate suspension of concreting operations.

(c) Curing compound shall be applied under pressure by mechanical sprayers at the rate recommended by the manufacturer. In no case should less than one gallon per 100 square feet of surface area be applied. The spraying equipment shall be the full atomizing type equipped with a tank agitator. At the time of use, the compound shall be stirred continuously by mechanical or other approved means. Hand-spraying odd widths or shapes and on surfaces exposed by the removal of forms will be permitted provided the curing compound has been thoroughly agitated prior to placing it in the hand sprayer. The curing compound shall be applied to the inside faces of joints to be sealed. In split-slab construction, the curing compound shall be applied in such a manner as to prevent the spraying of exposed reinforcing steel.

(d) Upon removal of side forms, the sides of the slabs and curbs exposed shall be protected immediately in such a manner as to provide a curing treatment equal to that provided for the surface.

(e) Curbs not cast integrally with the slab shall be cured in the manner specified above immediately after completion of finishing.

C601.11 OPENING FOR TRAFFIC:

(a) When the concrete strength determined by testing reaches 75% of design strength or 3,000 psi, or when approved by the Director, the street shall be open to traffic.

(b) No traffic shall be allowed on the pavement until all joints have been cleaned and sealed.

C601.12 ACCEPTANCE CRITERIA:

(a) For the purpose of establishing the thickness of concrete pavements or foundation, either plain or reinforced, constructed or specified herein, cores taken by the testing laboratory will be used.

The average thickness of the concrete pavement to be used as a basis for the price to be paid shall be the average thickness of the core drilling from the concrete, representing the area bounded between lines drawn at right angles to the center of the roadway and at a point halfway between any two consecutive cores. Cores will be taken at about the center of each 500 square yards (approximately) of paved lane or a major fraction thereof, with a minimum of one core per lane per block. No less than four cores shall be taken from the pavement or foundation built under any one contract. The following schedule will be used to determine the unit price to be paid for the work:

THICKNESS AS DETERMINED BY CORES	PROPORTIONAL PART OF CONCRETE PRICE ALLOWED
Full specified thickness or greater	100%
0.0 to 0.2 inch or less below specified thickness	100%
0.21 to 0.3 inch below specified thickness	90%
0.31 to 0.4 inch below specified thickness	85%
0.41 to 0.5 inch below specified thickness	80%
0.51 to 0.75 inch below specified thickness	70%
0.75 to 1.0 inch below specified thickness	60%

Should any core show a deficiency of more than 1" below the specified thickness, additional cores will be taken 5' on either side of the deficient core. If both of these cores are within the 1" tolerance, the procedure will be to cut cores in the following order: 25', 50', 100', the same to be measured from the location of the original core found to be deficient in thickness, then at 100' intervals until a thickness within the 1" tolerance is found in both directions.

Any cores required over those specified to establish the average thickness of the pavement or foundation shall be made at the expense of the Contractor. Areas found to be deficient in thickness by more than 1" shall be evaluated by the Director. If, in his judgement, the deficient areas warrant removal, they shall be removed and replaced with concrete of the thickness shown on the plans.

(b) Compressive Strength: Payment for compressive strength shall be paid in accordance with the following table:

PAYMENT (PERCENT OF CONTRACT UNIT PRICE/LOT)[1]	AVERAGE COMPRESSIVE STRENGTH, PSI[3]	
	WITHOUT AIR ENTRAINMENT	WITH AIR ENTRAINMENT
100	4000 & Over	3600 & Over
98	--	--
95	3500 to 3999	3150 to 3599
80	3000 to 3499	3000 to 3149
50 or Remove and Replace[2]	Below 3000	Below 3000
Correct or Remove and Replace[2]	--	--

[1] Payment adjustments shall be cumulative.

[2] At the option of the department after investigation.

[3] At 28 days.

C601.13 MEASUREMENT: The area of all roadway pavements will be determined by actual measurements from back of curb to back of curb and no allowance will be made for curvature of the cross section. Deductions will not be made for the rails of electric and other railroads, nor for subsurface structures in the street occupying less than twelve square feet of area, when these are within the area or areas paved under the contract.

C601.14 PAYMENT: Payment for Portland cement concrete pavement will be on a lot basis, at the contract unit price per square yard, which includes furnishing and placing all materials including tie-bars, dowel bars, joint material and welded wire fabric. If the pavement does not conform to acceptance requirements, payment will be made at an adjusted unit price in accordance with Section C601.12.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C601(54)	Reinforced Concrete Pavement (___" Thick)	Square Yard
C601(55)	Surcharge for High Early Strength (___" Thick)	Square Yard
C601(56)	Reinforced Concrete Bus Pad (___" Thick)	Square Yard

SECTION C604
PERVIOUS PORTLAND CEMENT CONCRETE PAVEMENT

C604.01 GENERAL CONSIDERATIONS:

(a) The Contractor shall construct the roadway pavement in substantial conformance with these specifications and in reasonable close conformity with the locations, lines, grades, slopes, thickness, sections and strength shown on the plans and included herein.

(b) Pavement shall be Portland Cement Concrete constructed over an approved base.

C604.02 REFERENCED SPECIFICATIONS:

- Annual Book of ASTM Standards, 2014; American Society for Testing and Materials, Philadelphia, PA.
- Standards of the American Association of State Highway and Transportation Officials (AASHTO).
- American Society of Testing and Materials ASTM C 29 “Test for Unit Weight and Voids in Aggregate.”
- ASTM C 33 “Specification for Concrete Aggregates. ”ASTM C 42 “Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
- ASTM C 117 “Test Method for Material Finer than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing.”
- ASTM C 138 “Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete.”
- ASTM C 140 “Methods of Sampling and Testing Concrete Masonry Units.”
- ASTM C 150 “Specifications for Portland Cement” (Types I or II only).
- ASTM C 172 “Practice for Sampling Fresh Concrete.”
- ASTM C 260 “Specification for Air-Entraining Admixtures for Concrete.”
- ASTM C 494 “Specification for Chemical Admixtures for Concrete.”
- ASTM C 595 “Specifications for Blended Hydraulic Cements” (Types IP or IS only).
- ASTM C 618 “Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for use as a Mineral Admixture in Portland Cement Concrete.”
- ASTM C 989 “Specification for Ground Granulated Blast-Furnace Slag for use in Concrete and Mortars.”
- ASTM C 1077 “Practice for Laboratories Testing Concrete and concrete Aggregates for use in Construction and Criteria Laboratory Evaluation.”
- ASTM C 1688 “Standard Test Method for Density and Void Content of Freshly Mixed Pervious Concrete.”
- ASTM D 448 “Specification for Standard Sizes of coarse Aggregate for Highway Construction.
- ASTM D 1557 “Tests for Moisture-Density Relations of Soils and Soil Aggregate Mixtures using 10 Pound Rammer and 18-inch Drop”
- ASTM E 329 “Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as used in Construction.”

- ASTM C 1701 **"**Standard Test Method for Infiltration Rate of In Place Pervious Concrete

C604.03 QUALITY ASSURANCE:

(a) Perform work of this section in accordance with ACI 522.

(b) Follow recommendations of ACI 306R when concreting during cold weather.

(c) Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.

C604.04 CONTRACTOR QUALIFICATIONS:

(a) The Contractor shall employ no less than one National Ready Mixed Concrete Association (NRMCA) Certified Pervious Concrete Craftsman who must be on site, overseeing each placement crew during all concrete placement, or the Contractor shall employ no less than three NRMCA Certified Pervious Concrete Installers, who shall be on site working as members of each placement crew during all concrete placement unless otherwise specified. Alternative documentation of qualifications shall be permitted when approved by the Director. Prior to award of the contract, the placing Contractor shall furnish a statement attesting to qualifications and experience and the following:

(1) A minimum of 3 completed projects, total square footage to exceed 10,000 sf with addresses.
(2) Unit weight acceptance data.
(3) In-Situ pavement test results including void content and unit weight.
(4) Sample of Product (i.e. core or test panel)

(b) If the placing Contractor and concrete producer have insufficient experience with Portland Cement pervious concrete pavement (less than 3 successful jobs), the placing Contractor shall retain an experienced consultant or NRMCA Certified Pervious Craftsman to monitor production, handling, and placement operations at the Contractor's expense.

(c) Test Panels: Regardless of qualification, Contractor is to place, joint and cure two test panels, each to be a minimum of 225 sq. ft. at the required project thickness to demonstrate to the Director's satisfaction that in-place unit weights can be achieved and a satisfactory pavement can be installed at the site location.

(d) Test panels may be placed at any of the specified Portland Cement pervious locations on the project or at another test site. Test panels shall be tested for thickness in accordance with ASTM C 42; void structure in accordance with ASTM C 138; and for core unit weight in accordance with ASTM C140, paragraph 6.3.

(e) Satisfactory performance of the test panels will be determined by:

(1) Compacted thickness no less than ¼" of specified thickness.

(2) Void Structure: 15% minimum; 28% maximum.
(3) Unit weight plus or minus 5 pcf of the design unit weight.
(4) If measured void structure falls below 13% or if measured thickness is greater than ¼" less than the specified thickness of if measured weight falls less than 5 pcf below unit weight, the test panel shall be removed at the Contractor's expense and disposed of in an approved landfill.

(f) If the test panel meets the above-mentioned requirements, it can be left in-place and included in the completed work.

C604.05 PROJECT CONDITIONS:

(a) Protect adjacent work from splashing of paving materials. Remove all stains from exposed surfaces of paving, structures, and grounds. Remove all waste and spillage. Do not damage or disturb existing improvements or vegetation. Provide suitable protection where required before starting work and maintain protection throughout the course of the work. Restore damaged improvements, including existing paving on or adjacent to the site that has been damaged as a result of construction work, to their original condition or repair as directed to the satisfaction of the City, and authority having jurisdiction at no additional cost.

(b) Do not place Portland cement pervious concrete pavement mixtures when the ambient temperature is 40 degrees Fahrenheit or lower, unless otherwise permitted in writing by the Director.

C604.06 CONCRETE MIX DESIGN:

Contractor shall furnish a proposed mix design with proportions of materials prior to commencement of work. The data shall include unit weights determined in accordance with ASTM C 1688.

C604.07 STORMWATER STORAGE/INFILTRATION BEDS:

(a) Coarse aggregates shall meet the size and grading requirements as defined in Standard Sizes of Coarse Aggregate, Table 4, AASHTO Specifications, Part I, 13th Ed., 1982, or later, unless otherwise specified.

(b) Coarse aggregate for groundwater recharge bed shall be 2-1/2" to 1-1/2" uniformly graded Crushed coarse aggregate, with a wash loss of no more than 0.5%, AASHTO size number 2 per AASHTO Specifications, 30th Ed., 2010, or later.

(c) Choker base course aggregate for groundwater recharge bed shall be 1" to 3/8" uniformly graded, crushed coarse aggregate, or approved equal, AASHTO Specifications, 30th Ed., 2010, or later.

(d) Filter fabric shall be Propex PERC™ Pervious Concrete Infiltration Fabric or approved equal.

(e) Impervious liner – shall be Permalon, PLY-X 150, or approved equal.

C604.08 MATERIALS:

(a) Cement. Portland Cement Type I or II conforming to ASTM C 150 or Portland Cement Type IP or IS conforming to ASTM C 595. Slag or Flyash may be used as part of the total cementitious content.

(b) Aggregate. Use #9 (1/4") Washed, crushed limestone coarse aggregate. If other gradation of aggregate are to be used, submit data on proposed material to City for approval.

(c) Admixtures. The following admixtures may be used as needed:

(1) Type A/F Water Reducing – ASTM C 494.
(2) Air Entraining Agent – ASTM C 260. May be used to improve resistance to freeze/thaw cycles.
(3) A viscosity modifier. Used to reduce paste drain down caused by using a dirty aggregate.
(4) Buckeye Cellulose fibers. Dosed at the rate of 3# per cubic yard.

(d) The following admixtures shall be used:

(1) A hydration stabilizer that also meets the requirements of ASTM C 494 Type B Retarding or Type D Water Reducing/Retarding admixtures. This stabilizer suspends cement hydration by forming a protective barrier around the cementitious particles, which delays the particles initial set.
(2) HydroMax® Internal Curing Admixture dosed at the rate of 1.5 oz/cwt of total cementitious material. Should reduce the amount of cementitious material needed as well as the need for a viscosity modifier.
(3) Water: Potable water shall be used.

(e) Proportions:

(1) Cement Content: For pavements subjected to vehicular traffic loading, the total cementitious material shall not be less than 480 lbs. per cu. yd. For other pavement areas not subject to vehicular traffic loading, the total cementitious material shall not be less than 450 lbs. per cu. yd.
(2) Aggregate Content: the volume of aggregate per cu. yd. shall be equal to 27 cu. ft. when calculated as a function of the unit weight determined in accordance with ASTM C 1688. An aggregate/cement ratio range of 4:1 to 4.5:1. A unit weight range of 105 lbs/cu. ft. to 140 lbs/cu. ft. per ASTM C 1688. Voids of 15% to 28%.
(3) Admixtures: Shall be used in accordance with the manufacturer's instructions and recommendations.
(4) Mix Water: Mix water shall be such that the cement paste displays a wet metallic sheen without causing the paste to flow from the aggregate. (Mix water yielding a cement paste with a dull-dry appearance has insufficient water for hydration). Water cement ratios can range from 0.24 to 0.39. Insufficient water results in inconsistency in the mix and poor bond strength. High water content results in the paste sealing the void system

primarily at the bottom and poor surface bond.

C604.09 INSTALLATION:

(a) Subgrade Preparation.

(1) Existing subgrade under bed areas shall NOT be compacted or subject to excessive construction equipment traffic prior to stone bed placement.
(2) Where erosion of subgrade has caused accumulation of fine materials and/or surface ponding, this material shall be removed with light equipment and the underlying soils scarified to a minimum depth of 6 inches with a York rake or equivalent and light tractor.
(3) Bring subgrade of stone recharge bed to line, grade, and elevations required.
(4) Fill and lightly regrade any areas damaged by erosion, ponding, or traffic compaction before the placing of stone.

(b) Recharge Bed Installation.

(1) Upon completion of subgrade work, the Director shall be notified and shall inspect at his discretion before proceeding with recharge bed installation.
(2) Filter fabric, pipe, and recharge bed aggregate shall be placed immediately after approval of subgrade preparation. Any accumulation of debris or sediment which has taken place after approval of subgrade shall be removed prior to installation of filter fabric at no extra cost to the City.
(3) Place PERC™ filter fabric in accordance with manufacturer's standards and recommendations. Adjacent strips of filter fabric shall overlap a minimum of sixteen inches (16"). Secure fabric at least two feet (2') outside of bed and take steps necessary to prevent any runoff or sediment from entering the storage bed. Place impervious liner over geo-textile extending six feet (6') beyond toe of slope face at building face, secure as recommended by manufacturer.
(4) Install coarse aggregate in 6 inch maximum lifts. Lightly compact each layer with equipment, keeping equipment movement over storage bed subgrades to a minimum. Install aggregate to grades required on the drawings.
(5) Install 1" thick choker base course size #57 (AASHTO) aggregate evenly over surface of stone bed, sufficient to allow placement of pavement, and notify Director for approval.
(6) Following placement of bed aggregate, the filter fabric shall be folded back along all bed edges to protect from sediment washout along bed edges. At least a two foot (2") strip shall be used to protect beds from adjacent bare soil. This edge strip shall remain in place until all bare soils contiguous to beds are stabilized and vegetated. In addition, hay bales shall be placed at the toe of slopes which may be adjacent to beds to further prevent sediment from washing into beds during site development. As the site is fully stabilized, excess filter fabric along the bed edges can be cut back to gravel edge.

C604.10 PORTLAND CEMENT PERVIOUS PAVEMENT CONCRETE MIXING, HAULING AND PLACING:

(a) Mix Time. Central mixed concrete shall be mixed for a minimum of one minute after introduction of all materials into mixer. Truck mixers shall be operated at the speed designated as mixing speed by the manufacturer for 75 to 100 revolutions of the drum.

(b) Transportation. The Portland Cement aggregate mixture may be transported by ready mix trucks or dump trucks or mixed on site and should be used within one (1) hour of the introduction of mix water, unless otherwise approved by the Director. This time can be increased to 180 minutes when utilizing the hydration stabilizer specified above at the proper dosage rate, unless otherwise approved by the Director.

(c) Each truck should not haul more than two (2) loads before being cycled to another type concrete, unless delivered by dump truck or if a stabilizing hydration agent is used in the pervious concrete mix design or if field experience proves that there is no significant concrete buildup in concrete mixer after delivery.

(d) Prior to placing concrete, the subbase shall be soaked and in a wet condition (no ponding of water) at time of placement. Failure to provide a moist subbase will result in a reduction in strength of the pavement.

(e) Discharge shall be a continuous operation and shall be completed as quickly as possible. If consolidation occurs during concrete discharge, placement shall be halted and wet concrete removed (this may happen towards the end of some loads).

(f) Concrete shall be deposited as close to its final position as practicable and such that fresh concrete enters the mass of previously placed concrete. The practice of discharging onto subgrade and pulling or shoveling to final placement is not allowed.

(g) Placing and Finishing Equipment. Unless otherwise approved by the Director in writing, the Contractor shall provide mechanical equipment of either slipform or form riding with a following compactive unit that will provide a minimum of 10 psi vertical force. The pervious concrete pavement will be placed to the required cross section and shall not deviate more than +/- 3/8 inch in 10 feet from profile grade.

(h) If placing equipment does not provide the minimum specified vertical force, a full width roller or other full width compaction device that provides sufficient compactive effort shall be used immediately following the strike-off operation.

(i) Strike off the pervious concrete 1/2" to 3/4" above the final grade prior to compaction, if needed, by using either slip-form, form riding vibrating screed, form riding aluminum roller screed or laser screed. Strike off may be done by hand for sidewalks. Care must be taken to avoid filling voids in the concrete.

(j) If vibration, internal or surface applied, is used, it shall be shut off immediately when forward progress is halted for any reason.

(k) The Contractor will be restricted to pavement placement widths of a maximum of fifteen (15') feet unless the Contractor can demonstrate competence to provide pavement placement widths greater than the maximum specified to the satisfaction of the City.

C604.11 CURING:

(a) Curing procedures shall begin immediately following all finishing operations if PerviouShield™ liquid spray on curing compound/densifier is used.

(b) Curing procedures shall be complete within 20 minutes after the final placement operations if polyethylene sheeting is used. The pavement surface shall be covered with a minimum .31 mil thick polyethylene sheet (painters plastic) or other approved covering material prior to final cross rolling of the surface and then covered with a layer of four to six (4 – 6) mil thick polyethylene sheeting. Prior to covering, an evaporative reducer shall be sprayed above the surface when required due to ambient conditions (high temperature, high wind, and low humidity). The cover shall overlap all exposed edges and shall be secured (without using dirt or stone) to prevent dislocation due to winds or adjacent traffic conditions.

(c) Cure Time: Portland Cement Type I, II, or IS – 7 days minimum.

(d) No truck traffic shall be allowed for 10 days (no passenger car/light trucks for 7 days and no pedestrian traffic for 24 hours).

C604.12 JOINTING:

(a) Control (contraction) joints shall be installed as indicated by plans. They shall be installed at a depth of the 1/ 3 to 1/4 the thickness of the pavement.

(b) These joints can be installed in the plastic concrete or saw cut. If saw cut, the procedure should begin as soon as the pavement has hardened sufficiently to prevent raveling and uncontrolled cracking (normally after curing), minimum of 24 hours after placement. Removal of plastic to perform saw cutting will cause pervious concrete to hydrate too quickly (Not a concern if PerviouShield™ is used). If plastic is removed to accommodate saw cutting, re-hydrating of pervious concrete is required. Walking on pervious concrete too early can damage concrete surface

(c) Transverse constructions joints shall be installed whenever placing is suspended a sufficient length of time that concrete may begin to harden.

(d) Isolation (expansion) joints should be used in structure widths exceeding thirty (30) feet or at seventy five (75) feet on sidewalks or when pavement is abutting slabs or other adjoining structures.

(e) Expansion joint material shall be K-form screed rail or approved equal. To reduce raveling, if transverse or isolation joints are used, or where pervious concrete meets impervious pavement, extra compaction may be necessary.

(f) Additional installation specifications for the pervious concrete provided by the material source and Director shall be followed strictly.

C604.13 PORTLAND CEMENT PERVIOUS PAVEMENT CONCRETE TESTING, INSPECTION, AND ACCEPTANCE:

(a) The City will retain an independent testing laboratory. The testing laboratory shall conform to the applicable requirements of ASTM E 329 "Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction" and ASTM C 1077 "Standard Practice for Testing Concrete and Concrete Aggregates for use in Construction, and Criteria for Laboratory Evaluation" and shall be inspected and accredited by the Construction Materials Engineering Council, Inc. or by an equivalent recognized national authority.

(b) The Agent of the testing laboratory performing field sampling and testing of concrete shall be certified by the American Concrete Institute as a Concrete Field Testing Technician Grade I, or by a recognized state or national authority for an equivalent level of competence.

(c) Testing and Acceptance.

(1) A minimum of 1 gradation test of the subgrade is required every 5000 square feet to determine percent passing the No. 200 sieve per ASTM C 117.

(2) A minimum of one test for each load of pervious concrete in accordance with ASTM C 172 and ASTM C 29 to verify unit weight shall be conducted. Delivered unit weights are to be determined in accordance with ASTM C 29 using a 0.25 cubic foot cylindrical metal measure. The measure is to be filled and compacted in accordance with ASTM C 1688. The unit weight of the delivered concrete shall be +/- 5 pcf of the design unit weight.

(3) Test panels shall have two cores taken from each panel in accordance to ASTM C 42 at a minimum of seven (7) days after placement of the pervious concrete. The cores shall be measured for thickness, void structure, and unit weight. Untrimmed, hardened core samples shall be used to determine placement thickness. The average of all production cores shall not be less than ½" less than the specified thickness. After thickness determination, the cores shall be trimmed and measured for unit weight in the saturated condition as described in paragraph 6.3.1 of 'Saturation' of ASTM C 140 "Standard Methods of Sampling and Testing Concrete Masonry Units." The trimmed cores shall be immersed in water for 24 hours, allowed to drain for one (1) minute, surface water removed with a damp cloth, the weighed immediately. Range of satisfactory unit weight values are +/- 5 pcf of the design unit weight.

(4) After a minimum of seven (7) days following each placement, three cores shall be taken in accordance with ASTM C 42. The cores shall be measured for thickness and unit weight determined as described above for test panels. Core holes shall be filled

with concrete meeting the pervious design or other concrete material as permitted by the Director.

(d) Maintenance.

There shall be a maintenance plan submitted to the Director to prevent the clogging of the pervious concrete pavement which shall include periodic testing for flowability by the pervious concrete installer prior to the pervious concrete being opened to service, with flow rates reported in writing to the City and again at six (6), twelve (12) eighteen (18) and twenty-four (24) months and again report the results in writing to the Director. It is the Contractor's responsibility to help the City to develop a maintenance plan. Acceptable methods to restore levels of flowability are either to vacuum or powerwash the pervious concrete sections.

C604.14 PAYMENT: Payment for Portland cement concrete pavement will be on a lot basis, at the contract unit price per square yard, which includes furnishing and placing all materials including tie-bars, dowel bars, joint material and welded wire fabric. If the pavement does not conform to acceptance requirements, payment will be made at an adjusted unit price in accordance with Section C601.12.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C604(54)	Pervious Concrete Pavement (___" Thick)	Square Yard

PART VII - INCIDENTAL CONSTRUCTION

SECTION C701
CULVERTS AND STORM DRAINS

Culverts and storm drains shall conform to all of the requirements of the General Specifications and Standard Plans of the Sewerage & Water Board (S&WB) of New Orleans (the latest revision) except as noted.

C701.01 GENERAL:

(a) The Contractor shall furnish all materials, equipment, labor and supervision to remove the existing deteriorated main, install new mains and fittings, including appurtenances such as tie-ins to existing system, lumber foundation, bedding, backfilling, necessary dewatering and by-passing during the execution of this contract.

(b) All workmanship, material and tests shall conform with Section E of the General Specifications of the S&WB and S&WB Standard Drawing No. 7260-D except as noted herein.

(c) The Contractor shall notify the Chief of Network Engineering of the S&WB in writing not less than three or more than ten working days in advance of starting the job so as to schedule the inspection of the work. Failure to do so prior to starting work will result in the Contractor being required to expose the bedding on all pipe previously installed.

(d) The Contractor may use more than one crew in performing work in various sections of a system at a given time, provided he has the approval of the Director.

(e) The Contractor performing work under this contract shall be required to coordinate his operations with the S&WB and other utilities prior to making any excavation so that the location of their services can be identified. The Contractor shall exercise caution in making excavations to avoid damage to these services and other utilities.

(f) The Contractor will be furnished a list of the locations of water and sewer house connections. It will be the Contractor's responsibility to verify the location of these so as to avoid damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather an attempt on the part of the S&WB to minimize the Contractor's hazard. The existing house connections submitted in the list are from S&WB records and could vary from the actual location. Any damage to the existing water, sewer and drain connections resulting from negligence shall be repaired by the S&WB at the expense of the Contractor. The Contractor is also responsible for damage to other utilities and the property of others.

(g) Existing drain house connections shall be tied into the new mains. No new drain house services shall be installed.

C701.02 INSTALLATION: Where the entire drain line is replaced between manholes, the drain pipe shall be reinforced concrete pipe conforming to Section C of the General Specifications of the S&WB and to the Standard City Plans, unless otherwise noted. Installation of drain lines, including bedding and foundation lumber, shall be in accordance with S&WB Standard Drawings No. D-3809, No. D-3810, No. D-3933 and D-3934.

The new drain lines and house connections, where required, shall be installed at the existing elevations and locations indicated, unless changed by the Director. The Contractor shall schedule his work so that the drain lines and catch basin connections between two manholes are completed before moving to another location (this will minimize the spillage of storm water into an open trench). The Contractor shall isolate the block where the work is in progress by plugging the upstream and downstream manholes. Should the storm water build up to within three feet of the top of the upstream manhole, or if directed by the Director, the Contractor shall pump the water to the downstream manhole or to a nearby catch basin, through bypass pumping. No mains or lines shall be left open overnight; a temporary tie-in shall be made between the end of the new main and the existing, and plugs at manholes shall be removed so as to allow flow to continue until work is resumed.

Backfill material shall be pumped sand and shall be placed at or near optimum moisture content and compacted according to one of the following procedures:

Backfill material shall be placed in layers not to exceed 12 inches. Each layer shall be compacted to a minimum of 95 percent of maximum density using approved mechanical compaction equipment, or:

Backfill material may be placed in layers not exceeding 3 feet by thoroughly flooding and compacting each layer to a minimum of 95 percent maximum density at or near optimum moisture content using approved mechanical compaction equipment, prior to placing a subsequent layer. During placement, backfill materials shall be thoroughly saturated with water and satisfactory drainage of materials shall be provided. The above backfill material compaction procedures shall be applied also for any service connections and point repairs.

Filter cloth around the joints of drain lines shall be non-woven conforming to LaDOTD Specification Section 1019, class B.

C701.03 DRAIN HOUSE CONNECTIONS: All existing drain house connections shall be removed and replaced with new PVC pipe from the new drain line to one (1') foot behind the curb where it will be tied to the existing drain house connection pipe.

The need for replacing existing drain house connections from the back of the curb to the property line (or any point between) shall be determined by the S&WB after field inspection or as indicated on the drawings. The new pipe will be tied to the existing pipe at that point.

If the existing drain line is being removed and not replaced, or if the S&WB determines it is necessary, an alternate method may be utilized by connecting the existing drain house connections

into a PVC collector line located behind the curb and tied into the catch basins or manholes, as directed by the S&WB.

The new house connection pipe may be connected to the new reinforced concrete pipe by drilling the concrete pipe and by using a rubber boot (Kor-n-Seal boot or approved equal) or sand impregnated PVC bell grouted in the concrete pipe, to connect the new PVC pipe.

No bends greater than 45 degrees will be allowed in drain house connection pipe.

No drain house connection shall be installed in the corners of catch basins. All connections shall be in the side or back of the catch basins.

All pipes and fittings shall be approved by the S&WB. The connection of any two dissimilar house connection materials shall be accomplished by the installation of a “No-Hub” coupling consisting of a neoprene sleeve and bushing adapter and two stainless steel bands. The coupling shall be manufactured in strict accordance with Fernco specification, or approved equal.

Where it is necessary to connect the drains to existing manholes, catch basins, or canals, the existing short bell pieces remaining in the wall of the structure shall be inspected. If in bad condition, the short bell pieces shall be broken out and new short bell pieces inserted to the full thickness of the walls and permanently grouted (see S&WB Dwg. 6178-B-6). The annular space between the concrete pipe and the wall of the structure shall be grouted with a type three, high early strength cement, or quick setting EMBECO or similar material.

If a PVC pipe is to be connected to a manhole or other concrete or brick drainage structure, the Contractor shall use a sand-impregnated PVC stub, grouted with cement grout as specified above, for the manhole connection.

Drain house connections shall be backfilled as described herein for drain lines.

C701.04 POINT REPAIRS OF EXISTING DRAIN LINES: Where the existing drain line has to be removed and replaced with new concrete pipe, said pipe fittings shall conform with Section E of the S&WB General Specifications. Bedding and foundation lumber for the drain line shall conform with S&WB drawings No. D-3809, No. D-3910, No. D-3933 and No. D-3934. Bedding and foundation lumber shall extend under the existing pipe for a distance of not less than 12 inches from the end of pipe to insure proper bedding under the coupling.

The Contractor shall make point repairs to the lines at specific locations shown on the drawings and as listed in the schedule of bid prices. Point repairs shall be made by dry type and shall conform to Section XII of NASSCO (National Association of Sewer Service Companies). The Contractor shall make an excavation to expose a basic "ten (10) linear feet" of main per point repair. Any additional footage of repair beyond the ten-foot minimum for each point repair shall be approved by the Director or as indicated on the Drawings as “Beyond point repair”. The Contractor is required to have all materials and equipment on hand prior to the start of excavation so that there will be a

minimum of inconvenience to the residents. All trenches must be backfilled at the end of the day. Backfill will be in accordance with the same as described herein for new drain lines.

For drain point repairs, and for all other drain repairs, the connection of any two dissimilar materials shall be accomplished by the installation of a "no-hub" coupling consisting of a neoprene sleeve and bushing adapter, two stainless steel bands, and stainless steel screws. The coupling shall be manufactured in strict accordance with Fernco coupling specifications, or approved equal.

C701.05 INSPECTION: At the completion of the point repair or replacement of mains between manholes, and prior to final acceptance, the S&WB may inspect the mains with a remote controlled television unit or by visual inspection of large lines. The Contractor will be required to repair, at his expense and in an approved manner, all defects in his workmanship disclosed by these tests and inspections before final acceptance.

C701.06 AS BUILT DRAWINGS: The Contractor shall furnish a set of "as built" drawings upon completion of the work and prior to final inspection. These drawings shall be a legibly marked set of prints of the Contract Drawings, revised to show clearly all field changes.

C701.07 MEASUREMENT: Drain pipes will be measured in place and the length determined by measuring from center to center of manholes, or other subsurface structures of which they form a part. If the drain line is connected to a square or rectangular manhole, the measurement will be to the center of the manhole. If the drain line is connected to a box canal wall, the measurement will be to the face of the wall.

C701.08 PAYMENT: Payment for the accepted quantities will be made at the contract unit price.

(a) Payment for reinforced concrete pipe shall be made at the contract unit price, per linear foot of the types and sizes specified, including excavation, removal of existing pipe (if any), foundation lumber, bedding, engineering fabrics, backfill, complete shoring, pumping as necessary and tie-ins to manholes and catch basins. (Bid Items C701(53) or C701(54)).

(b) Payment for reinforced concrete wye in a new drain line shall be made at the contract unit price per Item No. C701(59) and shall be in addition to the payment per linear foot for reinforced concrete drain pipe.

Payment for reinforced concrete wye in an existing drain line shall be made at the contract unit price per Item No. C701(65), including a ten (10') foot point repair (total length including wye),couplings, excavation, removal of existing pipe, granular bedding, engineering fabric, backfill, foundation lumber, shoring, and pumping as necessary and saw cutting of existing pipe. (Bid Items (C701(53) or C701(54)).

(c) Payment for reinforced concrete tee shall be made at the contract unit price, per Item No. C701(66).

(d) Payment for point repairs of existing drain lines, up to ten (10') feet shall be made at the contract unit price, per each of the sizes specified, including excavation, foundation lumber, bedding, engineering fabrics, backfill, complete shoring and pumping, as necessary, pipe fittings, couplings, saw cutting existing pipe, removal of existing pipe, and tie-ins to existing manholes if required as per Item No. C701(68). Payment for point repair beyond ten (10') feet shall be made at the contract unit price per linear foot, including the above work, as per Item No. C701(69).

(e) Drain house connections from new drain line to back of curb shall be paid per each including, fittings, tie-ins, excavation, backfilling, removal of existing pipe (if any) and drilling the reinforced concrete pipe, per Item No. C701(70). Payment for drain service line tie-ins beyond back of curb will be made by linear foot of tie-in service lines, including the removal of existing pipes, fittings, and backfill (Item C701(71)). PVC collector line to catch basins for drain house connections shall be paid per linear foot, including, fitting tie-ins to catch basins, excavation, and backfilling per item No. C701(72).

Payment will be made under:

ITEM NUMBER	PAY ITEM	PAY UNIT
C701(53)	Reinforced Concrete Pipe (Size)	Linear Foot
C701(54)	Reinforced Concrete Arch Pipe (Size)	Linear Foot
C701(57)	Yard Drain Service Line (Size & Type)	Linear Foot
C701(58)	Reset Culvert Pipe (Size)	Linear Foot
C701(59)	Reinforced Concrete Wye or Arch Equivalent – New (size)	Each
C701(65)	Reinforced Concrete Wye or Arch Equivalent – Existing (size)	Each
C701(66)	Concrete Tee (size)	Each
C701(67)	Clean and Flush Culvert	Linear Foot
C701(68)	Point Repair of Existing Drain Lines up to Ten (10') Feet (size)	Each
C701(69)	Point Repair of Existing Drain Lines Beyond Ten (10') Feet (size)	Linear Foot
C701(70)	Drain House Connection (size) From New Drain Line to Back of Curb	Each
C701(71)	Drain House Connection Beyond Back of Curb (Size)	Linear Foot
C701(72)	Collector Line to Catch Basins for Drain House Connections (Size)	Linear Foot
C701(73)	Abandoning Existing Drainage Pipes in Place and Fill with Flowable Material (size)	Linear Foot
C701(74)	Removal and Disposal of Existing Drain Lines (Not in Same Trench) Including Backfilling with River Sand and Compaction	Linear Foot

SECTION C702
MANHOLES, CATCH BASINS, DROP INLETS, AND CLEAN-OUTS

C702.01 DESCRIPTION: This work consists of the construction and adjustment of manholes, catch basins, drop inlets, and cleanouts in accordance with the General Specifications and Standard Plans of the Sewerage & Water Board of New Orleans (latest revision), and in conformity with lines shown on the plans or established. The surrounding structure shall be backfilled and compacted in accordance with Subsection C701.02.

C702.02 CONSTRUCTION REQUIREMENTS:

(a) MANHOLES: (No. 1, No. 2, No. 3, Standard Drain Manholes, Special Drain Manholes and Special Conflict Manholes.) Manholes shall be built according to the Standard Plans of the S&WB and/or as indicated on the plans.

(b) CATCH BASIN ADJUSTMENTS: (Type A, type B and type C.)

(1) Type A: The work consists of making slight adjustments in alignment and raising or lowering the elevation of the casting, no additional walls are required.

(2) Type B: The work consists of building a wall inside the wall and outside of the front wall of the basin or racking over or drawing in the rear wall and building a brick wall outside of the front of the front wall or vice versa, and preserving and reusing the footing courses and subgrade lumber and the side walls.

(3) Type C: The work consists of removing the basin completely and rebuilding it either at the same location or at a different location, as directed.

(c) CATCH BASINS AND DROP INLETS: (No. 1, Double No. 1, No. 2, No. 3, No. 4, No. 5, Standard Catch Basin, Standard Drop Inlet, Single and Double Mountable Catch Basins.)

The structures shall be built conforming to the Standard Plans of the S&WB.

(d) REHABILITATE EXISTING CATCH BASIN: The work consists of reshagging inside, stopping leaks and resealing where required.

(e) REHABILITATE EXISTING MANHOLE: The work consists of reshagging inside, stopping leaks and resealing where required.

(f) TAP-IN TO EXISTING DRAIN LINE: The work consists of breaking out the existing drain line and tapping the new drain line into it, including stub.

(g) ADJUST MANHOLE OR DROP INLET: The work consists of adjusting manholes or drop inlets to grade with brick and mortar where directed.

(h) SIX (6") INCH DRAIN CLEANOUT FOR ROOF DRAIN: The work consists of installing new a cleanout box with casing for roof drain in accordance with plans.

(i) CLEANOUT BOX IN EXISTING CULVERT AND NEW CULVERT: The work consists of installing a new brick cleanout box with casting in accordance with the plans.

C702.03 MEASUREMENT: New and adjusted manholes, catch basins, drop inlets and clean-outs will be measured by the pay unit. New or rehabilitated manholes will be measured by vertical foot height. The height of manholes will be determined by measuring from the invert of the manholes to the top of the cast iron cover. Excavation and backfill shall not be measured for payment.

C702.04 PAYMENT: Payment for the accepted quantities will be made at the contract unit price.

(a) Payment for "standard manhole" shall be made at the contract unit price per foot height, including excavation, granular bedding and backfilling.

(b) Payment for "catch basin adjustment" shall be made at the contract unit price per each, including excavation, granular bedding and backfilling. For type C, the price shall include the risk of breakage and replacement of any casting and the cost of bricking up the front grating where necessary, so as to make such catch basins conform to a No. 1 standard catch basin.

(c) Payment for "catch basin & drop inlet" shall be made at the contract unit price per each, including excavation, granular bedding and backfilling.

(d) Payment for "rehabilitate existing catch basin" shall be made at the contract unit price per each.

(e) Payment for "rehabilitate existing manhole" shall be made at the contract unit price per foot height.

(f) Payment for "tap-in to existing drain line" shall be made at the contract unit price per each.

(g) Payment for "adjust manhole or drop inlet up to six (6") inches with brick and mortar" shall be made at the contract unit price per each, including the base material (Portland cement concrete or asphaltic) to be replaced around the manhole. Payment for "adjust manhole or drop inlet over six (6") inches" shall be made at the contract unit price per foot height, or any fraction of a foot, including the above work.

(h) Payment for "six (6") inch drain cleanout for roof drain" shall be made at the contract unit price per each, including excavation and backfilling.

(i) Payment for "cleanout box in existing culvert" and in "new culvert" shall be made at the contract unit price per each, including excavation and backfilling.

Payment will be made under:

ITEM	PAY ITEM	PAY UNIT
C702(52)(J)	No. 1 Standard Drain Manhole	Foot Height
C702(52)(K)	No. 2 Standard Drain Manhole	Foot Height
C702(52)(L)	No. 3 Standard Drain Manhole	Foot Height
C702(52)(M)	Special Drain Manhole	Each
C702(52)(N)	Special Conflict Manhole	Each
C702(53)(J)	Type A Catch Basins Adjustment	Each
C702(53)(K)	Type B Catch Basins Adjustment	Each
C702(53)(L)	Type C Catch Basins Adjustment	Each
C702(53)(M)	No. 1 Standard Catch Basin	Each
C702(53)(N)	Double No. 1 Catch Basin	Each
C702(53)(O)	No. 2 Standard Catch Basin	Each
C702(53)(P)	No. 3 Standard Catch Basin	Each
C702(53)(Q)	No. 4 Standard Catch Basin	Each
C702(53)(R)	No. 5 Standard Catch Basin	Each
C702(53)(S)	24" X 30" Clear Opening Standard Drop Inlet	Each
C702(53)(T)	Single Mountable Catch Basins	Each
C702(53)(U)	Double Mountable Catch Basins	Each
C702(53)(V)	Rehabilitate Existing Catch Basin	Each
C702(54)(I)	Rehabilitate Existing Manhole	Foot Height
C702(54)(K)	Tap-in to Existing Drain Line	Each
C702(54)(A)(1)	Adjust Manhole or Drop Inlet up to 6" with Brick and Mortar	Each
C702(54)(A)(3)	Adjust Manhole or Drop Inlet over 6" with Brick and Mortar	Foot Height
C702(55)(C)	6" Drain Cleanout for Roof Drains	Each
C702(56)	Clean Out Box Existing Culvert	Each
C702(57)	Clean Out Box New Culvert	Each

SECTION C706
DRIVEWAYS AND SIDEWALKS

C706.01 DRIVEWAYS:

(a) Driveways shall be constructed of such lengths and widths and at such points as shown on the plans or as may be designated by the Director.

(b) Where driveways are to be constructed within the sidewalk area, where lip concrete curb is installed, the details of the driveways shall be as shown on Standard Plans for Standard Mountable Driveway or Heavy Duty Mountable Curb Driveway, as specified in the proposal.

(c) All standard driveways shall be six (6") inches and all heavy duty driveways shall be eight (8") inches in thickness. Driveways shall be constructed of Portland cement concrete having a minimum compressive strength of three thousand (3,000) psi. at twenty-eight (28) days. The minimum cement content shall be five and one-half (5-1/2) bags per cubic yard of concrete. The maximum water content, including free water in the aggregate, shall not be greater than six (6) gallons per bag of cement. The consistency of the concrete shall be such as to have a slump of from two (2") inches to four (4") inches.

(d) Driveways shall be reinforced with 6 X 12 – W7.5 X W6.5 welded wire fabric weighing seventy-seven (77) pounds per hundred (100) square feet.

(e) Expansion joints shall be provided where shown on Standard Plans or as may be otherwise directed.

(f) Weakened planes shall be formed by a jointing tool or other acceptable means. Weakened planes shall extend into concrete for at least 1/4 of the depth and shall be approximately 1/8 inch wide.

A longitudinal weakened plane shall be formed along the centerline of drives more than 16 feet wide, and transverse weakened planes shall be formed at not more than 16-foot intervals.

(g) The subgrade on which the driveways are to rest shall be thoroughly rolled or tamped so as to be uniformly compacted and solidified. The finished grade shall be smooth, even, well-graded and exactly parallel to the finished surface of the driveway.

(h) Immediately after placing and tamping the concrete in place, it will be brought to the established grade by means of a strike board. Finishing shall be completed by use of a soft-haired brush, moved lightly over the surface in the direction of the width of the driveway. Joints are to be straight and square, in good alignment and edges finished by a joiner, so as to avoid sharp corners.

C706.02 SIDEWALKS AND RAMP ACCESSIBILITY:

Sidewalks and ramps shall comply with the most current regulations for Titles II and III of the Americans with Disabilities Act of 1990 (ADA) and applicable accessibility standards published by

the Department of Justice (the 2010 ADA Standards for Accessible Design, “2010 Standards”, or later).

(a) An ADA curb ramp is a short ramp cutting through a curb or built up to it to provide an accessible path of travel.

(1) On a curb ramp, the running slope is the slope in the direction of pedestrian travel on the ramp run and must be 8.33 percent (1:12) or less. Where provided, curb ramp flares shall not be steeper than 1:10.

(2) On a curb ramp, the cross slope is the slope perpendicular to [across] the direction of pedestrian travel on the ramp run and the cross slope of the ramp run itself may not exceed 2 percent (1:50).

(3) The ramp, or ramp run, must be at least 48 inches wide, not including the flared sides. The ramp run must have detectable warnings – i.e., dome-shaped bumps – that extend the full width and depth of the ramp.

(4) Transitions from the ramp to the walkway, gutter, and street must be flush (level) and free of abrupt level changes. The gutter must have a slope of no more than 5 percent (1:20) toward the ramp.

(5) Landings shall be provided at the tops of curb ramps. The minimum landing clear length shall be 48 inches. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

(6) Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space of 48 inches minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches long minimum, located on each side of the curb ramp and within the marked crossing.

(b) Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches long minimum by 48 inches wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch minimum by 48 inch minimum area shall be oriented so that the 48 inch minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch minimum by 48 inch minimum areas and the accessible route shall be permitted to overlap.

(c) The running slope of sidewalks must be 5 percent (1:20) or less. The cross slope of sidewalks must be 2 percent (1:50) or less. The clear width of sidewalks shall be at least 48 inches and a sidewalk with a clear width of less than 60 inches shall provide passing spaces at intervals of 200 feet maximum. If the longitudinal slope of the sidewalk exceeds 1:20, it is considered a ramp and a level landing must be provided for every 30-inch change in elevation.

C706.03 PORTLAND CEMENT CONCRETE SIDEWALK OR BANQUETTE PAVEMENT:

(a) Portland cement concrete sidewalk or banquette pavement shall be of such widths and fixed at such elevations as may be stipulated in the proposal and Special Specifications, or may be otherwise designated by the Director. They shall consist of a one course Portland cement concrete pavement four (4") inches in thickness.

(1) The concrete shall have a minimum compressive strength of three thousand (3,000) psi. at twenty-eight (28) days. The minimum cement content shall be five and one-half (5-1/2) bags per cubic yard of concrete. The maximum water content, including free water in the aggregate, shall not be greater than six (6) gallons per bag of cement. The consistency of concrete shall be such as to have a slump of from two (2") inches to four (4") inches.

(2) Sidewalks or banquettes shall be reinforced with 6 X 6 – W2.9 X W2.9 wire mesh weighing forty-two (42) pounds per hundred square feet.

(b) In preparing the subgrade on which the Portland cement concrete sidewalk or banquette pavement will be placed, all soft and spongy places shall be removed and all depressions filled with suitable materials which shall be thoroughly compacted in layers not exceeding six (6") inches in thickness. The subgrade shall be thoroughly tamped until it is brought to a firm, unyielding surface. It shall have a slope in conformity with the slope of the finished surface of the Portland cement concrete sidewalk or banquette pavement.

When the Portland cement concrete sidewalk or banquette pavement is to be constructed over an old path composed of gravel or cinder, the old path shall be entirely loosened, the material spread for the full width of the subgrade and compacted as specified.

(c) All fills shall be made in a manner satisfactory to the Director. The use of muck, quicksand, soft clay, spongy or perishable material is prohibited. The top of all fills shall extend at least two (2') feet beyond the sidewalk or banquette pavement on each side and the sides shall have a maximum slope not greater than one (1) vertical to one and one-half (1-1/2) horizontal before any Portland cement concrete sidewalk or banquette pavement will be allowed to be placed thereon.

(d) Concrete shall be of the strength and consistency herein before described. The method of mixing and placing shall be in conformance with the requirements for Subsections C601.20 and C601.21, Portland cement concrete pavement. Concrete that does not flush readily shall be removed immediately from the grade and not re-used, except that the coarse aggregate can be salvaged by washing.

(e) After mixing, the concrete shall be handled rapidly and the successive batches deposited in a continuous operation completing individual sections to the required depth and width. The forms shall be filled and the concrete struck off and tamped. The method of placing the various sections shall be such as to produce a straight clean joint between them so as to make each section an independent unit. If dirt, dust or other foreign substances collect on the surface, they shall be removed before the trowelling is started.

(f) After the concrete has been tamped in accordance with subsection C706.02 (e), it will be brought to the established grade by means of a strike board, and it will then be worked with a wood float in a manner which will thoroughly compact it and provide a surface free from depressions or irregularities of any kind. Excessive working shall be avoided. In no case shall dry cement and sand be sprinkled on the surface. The surface edges of all slabs shall be rounded to a radius of one-half (1/2") inch.

(g) Portland cement concrete sidewalk or banquette pavement shall be divided into blocks of such dimensions, by means of a joiner or grooves, as shown on the Standard Plans or as the Director may designate. Weakened planes shall be formed by a jointing tool or other acceptable means. Weakened planes shall extend into concrete for at least one-quarter (1/4") inch of the depth and shall be approximately one-eighth (1/8") inch wide. Spacing of weakened planes shall be equal to the width of the sidewalk. Transverse expansion joints shall be made at intervals of about ninety (90') feet and constructed in accordance with the standard plans.

All expansion joints shall be carefully made so as to be truly perpendicular to the surface of the sidewalk or banquette pavement and at right angles to the edge of same. The surface of the concrete adjacent to expansion joints shall be finished with a wood float, which is divided through the center and which will permit finishing on both sides of the joint at the same time. An expansion joint shall also be provided adjacent to solid walls of masonry, behind curbs, at intersections and at footlaps. Where posts or poles fall within the limit of the sidewalk or banquette pavement, an expansion joint not less than one-half (1/2") inch in width shall be placed around said posts or poles and filled with joint filler. In the case of expansion joints adjacent to masonry walls, at footlaps and around posts or poles, the joint filler shall not extend above the surfaces of the sidewalk or banquette pavement and any excess filler that so protrudes shall be cut off and made flush with the sidewalk or banquette pavement.

(h) As soon as the finished work has hardened sufficiently to prevent damage, the surface of the walk shall be covered with curing compound. The freshly finished work shall be protected from hot sun and drying winds until it can be covered as above specified. Curing by application of chemicals or some other method of curing may be used upon the approval of the Director. The concrete surface must not be damaged or pitted by raindrops and the Contractor shall provide and use, where necessary, sufficient tarpaulins to completely cover all sections that have been placed within the preceding twelve (12) hours. The Contractor shall erect and maintain suitable barriers to protect the walk from traffic, and any section damaged from traffic or other causes, shall be repaired or replaced by the Contractor at his own expense, in a manner satisfactory to the Director. The walk shall not be opened to traffic until the prescribed curing period has expired.

(i) Portland cement concrete sidewalk or banquette pavement at intersections, including ramps for the handicapped, shall be six (6") inches thick and placed as above specified.

C706.04 BRICK SIDEWALK OR BANQUETTE PAVEMENT:

(a) Brick sidewalk or banquette pavement shall be of such width, grades or elevations as shown on plans or as may be designated by the Director and laid in the manner herein described and as shown on the standard plan.

(b) The surface of the earth upon which the brick sidewalk or banquette pavement will rest shall be first graded and tamped and otherwise prepared as specified for Portland cement concrete sidewalk or banquette pavement.

(c) Five (5") inches of reinforced concrete foundation having a compressive strength of not less than three thousand (3,000) psi. in twenty-eight (28) days shall be poured and tamped. The brick shall be laid on a prepared subgrade, a minimum of a three-eighths (3/8") inch setting bed which is composed of one (1) part cement to three (3) parts sand. Bricks shall be in close contact with each other and thoroughly tamped. After tamping, they shall be thoroughly sprinkled and all joints shall at once be completely filled with grout formed of one (1) part Portland cement concrete to three (3) parts sand. Thereafter, clean, sharp sand shall be evenly spread on the surface to a thickness of approximately one-half (1/2") inch. When the grout has been in place for seventy-two (72) hours or longer, this sand shall be removed and may be re-used at the option of the Contractor.

(d) After completion, the brick sidewalk or banquette pavement shall be closed to traffic and not opened until so directed by the Director. The Contractor will be required to barricade and protect the walk in every way as prescribed and required for Portland cement concrete sidewalk or banquette pavement.

(e) Brick sidewalk or banquette pavement will be paid for by the square yard, at the price bid in the proposal for that item, which price shall include grading and all the materials, reinforced concrete foundation, labor, tools, equipment and service employees used in completing the brick sidewalk or banquette pavement in place as herein described.

C706.05 RELAYING SIDEWALK OR BANQUETTE PAVEMENT:

(a) All sidewalk or banquette pavement relaid shall conform to the requirements herein fixed for new sidewalk or banquette pavement. Where old bricks are not suitable for relaying, they shall be replaced by new brick.

(b) When Portland cement concrete sidewalk or banquette pavement is unavoidably disturbed in executing the work embraced by the specifications, the limits of the area proposed to be disturbed or removed shall be sharply defined by the Contractor with concrete saw made lines and then carefully removed along said lines. Should the surface fracture along irregular lines, a straight line shall be struck and the edge made true. When other sidewalk or banquette pavement is unavoidably disturbed, they shall be restored by the Contractor to the same conditions in which they were before they disturbed them, and for such work, he shall be compensated at the prices bid in the proposal for relaying sidewalk or banquette pavement; no compensation shall be allowed for relaying sidewalk or banquette pavement that has been unnecessarily disturbed.

(c) Relaying sidewalk or banquette pavement shall be paid for by the square yard at the price bid in the proposal for those items, which price shall include all materials, labor, tools, equipment and services employed in taking up the sidewalk or banquette pavement and restoring them to the same condition in which they were before being disturbed, including the grouting of old brick. Exception is made in the case of Portland cement concrete sidewalk or banquette pavement, which price shall include all material, labor, tools, equipment and services employed in taking up and relaying them.

C706.06 MINIMUM SIDEWALK OR BANQUETTE TREATMENT WITHIN THE DOWNTOWN DEVELOPMENT DISTRICT:

This will be in accordance with Section 146-193 of the City Code.

C706.07 MINIMUM SIDEWALK OR BANQUETTE TREATMENT WITHIN THE VIEUX CARRE:

This will be in accordance with Section 146-194 of the City Code.

C706.08 TILE STREET NAMES:

(a) LETTERS OR NUMBERS FOR TILE STREET NAMES: Letters or numbers for tile street names shall be hard, tough, durable, porcelain tile or other material satisfactory to the Director. The letters or numbers shall be block type on tile not less than five and one-half (5-1/2") inches, nor greater than six (6") inches high. The letters or numbers shall not be less than five (5") inches high, of blue or willow green in color, on a white background. Letter or numbers for tile street names shall be installed and oriented so that they may be read by pedestrians approaching the intersection where they are located.

(b) RESETTING TILE STREET NAMES: Existing tile street names shall be salvaged intact by saw-cutting the name out of the concrete in which the tiles are imbedded. The saw-cut shall be located two (2") inches away from the name's perimeter and will extend through the depth of the concrete, usually four (4") inches. The salvaged street name tile shall be reset in the fresh concrete of the sidewalk intersection, flush with the level of the sidewalk and clean of any cement residue.

C706.09 MEASUREMENT: The area of driveways will be determined by surface measurements and no extra allowance will be made for shoulders.

Sidewalk pavements will be paid for by surface measurements and no deduction will be made for subsurface structures occupying less than five (5) square feet of area. Areas under structures encroaching on public property not paved will not be included in the surface measurement.

C706.10 PAYMENT: Payment for concrete driveways, sidewalks or banquette pavement will be made at the contract price per square yard, which includes excavation, installation of expansion joint and welded wire fabric. Granular material for adjustment and removal of existing driveways, sidewalk or banquette pavement shall be paid for in other items.

Payment for "letters or numbers for Tile street names" will be per each tile at the contract unit price.

Payment for "Resetting Tile Street Name" will be per name at the contract unit price.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C706(51)	Concrete Sidewalk (___" Thick)	Square Yard
C706(52)	Concrete Driveway (___" Thick)	Square Yard
C706(54)	Sidewalk at Intersection Including Handicapped Ramps (___" Thick)	Square Yard
C706(55)	Sidewalk in Median Including Handicapped Ramps	Square Yard
C706(56)	Handicapped Ramp (Specify Concrete Brick or Stone)	Square Yard
C706(57)	Brick Sidewalk	Square Yard
C706(58)	Relaying Brick Sidewalk	Square Yard
C706(59)	Stone Sidewalk	Square Yard
C706(60)	Relaying Stone Sidewalk	Square Yard
C706(61)	Letter or Number for Tile Street Name	Each
C706(62)	Resetting Tile Street Name	Each

SECTION C707
CURBS AND GUTTERS

C707.01 INTEGRAL CONCRETE CURB, STRAIGHT OR CIRCULAR: Integral concrete curb shall be either mountable or barrier curb. Concrete curb and barrier curb shall be constructed monolithically with the same materials, having the same compressive strength and placed and cured in the same manner as the concrete in the roadway slab. The dimensions shall be as shown on standard plans. The overall depth shall be determined by the curb exposure, depth of gutterbottom and roadway slab.

(a) The curb forms shall provide for the dimensions specified and must be set to the established grades.

(b) Premoulded joint filler shall be placed and extended through the entire curb section, at those points where joint filler is used in the roadway slab.

C707.02 COMBINED CONCRETE CURB AND GUTTERBOTTOM AND/OR CONCRETE CURB, STRAIGHT OR CIRCULAR:

(a) Combined concrete curb and gutterbottom shall be either combined mountable concrete curb and gutterbottom or barrier concrete curb and gutterbottom. Concrete curb shall be either mountable or barrier. The type of concrete curb or concrete curb and gutterbottom to be provided shall be as shown on plans. The forms to be used shall conform to the requirements of these specifications on "FORMS".

(1) The concrete used shall be mixed with the same materials, having the same compressive strength and shall be cured in the same manner as specified for "Reinforced Concrete Roadway Pavements".

(2) Where it is required to construct concrete curb and gutterbottom, the curb and gutterbottom must be poured monolithically.

(3) Undowelled contraction joints shall be placed through the entire width of the concrete curb or curb and gutterbottom, at no greater than fifteen (15') foot intervals. Contraction joints shall be formed by a jointing tool or other acceptable means, having a 2" depth and 1/4" width and filled with silicone sealant or an approved joint sealant.

Dowelled expansion joints shall be placed at intersections, not to exceed three hundred (300') foot intervals, and/or as indicated on the plans.

Pre-moulded joint filler shall be placed through the entire section of the concrete curb or curb and gutterbottom. The concrete curb and gutterbottom shall be reinforced in accordance with the standard plans.

(4) The forms shall provide for the dimensions specified and must be set to the established grades. After placing, concrete shall be worked with a float, in a manner that will thoroughly compact it and provide a surface free from depressions or irregularities of any kind.

C707.03 CONCRETE GUTTER:

(a) Where the concrete gutter is constructed as a part of combined curb and gutterbottom, it shall conform to the requirements of combined curb and gutterbottom. Jointing shall conform to subsections C601.06(a) and C601.06(b).

(b) Where the concrete gutter is constructed in conjunction with roadway pavement, it shall, unless otherwise specified or directed, be poured monolithically with, become part of, be laid at the same time, in the same manner and have the same compressive strength as concrete roadway foundation, for such roadway pavements. It shall be of the same width indicated on the plans and of such depth as will be equal to the combined thickness of the roadway foundation and the roadway pavement wearing surface.

(c) The subgrade shall meet the requirements for roadway pavement sub-grade.

(d) Immediately after the concrete has been placed, it shall be tamped, struck off and worked with a wood float in a manner to provide a surface free from irregularities and depressions, bringing the mortar to the top. The surface shall then be broomed or brushed with a soft hand broom in the direction of the flow line of the gutter. Surface joints shall be made by a steel joining tool and premoulded joint filler shall be placed and extended through the entire gutter section at those joints where filler is used in the roadway slab or curb.

(e) Curing the gutter shall be similar to that provided for roadway pavement.

C707.04 STONE CURB:

(a) Stone curb shall either be old stone curb or new stone curb as herein specified.

(b) Old stone curb shall be of suitable quality with well-defined face and top, of the depth not less than prescribed for new curb and not less than three (3') feet in length.

(c) New stone curb shall be best North River Blue Stone or Cabin Creek Blue Stone or Granite or similar stone acceptable to the Director, and shall measure five (5") inches in thickness for the remainder of depth, and in lengths of not less than five (5') feet except for closures. It shall be of such depth as may be indicated on the plans or otherwise specified. The top of the curb shall be peen-hammer dressed, and the face for ten (10") inches below the top pointed, so that there will be no protrusions or depressions measuring more than one-half (1/2") inch from a straightedge laid in any direction parallel to the general surface. All ends shall be squared so as to form close-fitting joints. No drill holes will be permitted to show on any exposed surface. All edges shall be well-defined.

(d) Closures shall not be less than two and one-half (2-1/2') feet in length and must not be placed adjacent to catch basins or over fresh excavations or adjacent to one another. No more than three (3) such closures will be allowed between any two fixed points such as circular curb for corners, circular curb for driveways or catch basins.

C707.05 SETTING AND RESETTING STONE CURBS:

(a) Stone curb shall be set to lines and grades indicated on plans, or as may be otherwise directed. The subgrade on which the curb base is to be placed shall be excavated and thoroughly tampered by means of a pneumatic tamper.

(b) After the curb has been set to proper line and grade as above, the Contractor shall place under each curb joint, or as close thereto as may be practical, a concrete pier. These piers and concrete base shall be constructed in accordance with dimensions shown on the detail plans, care being taken that the excavation therefore made prior to the pouring of the concrete is evenly cut and as nearly true to the plans as the character of the excavation materials will permit. Care should be taken also, that all loose material is removed from the finished subgrade of the roadway prior to pouring concrete.

(c) One pier shall be provided under each curb joint except in cases where it is impractical to construct one at said point, as where a drain sewer or gas service is directly under the joint and is sufficiently high to prevent the pier being built to the dimensions shown on the plans. In this case, two (2) piers shall be constructed, one (1) on each side of the curb joint and as close thereto as practical.

(d) After setting curb, the excavated area behind same shall be backfilled by tamping and this filling shall be brought to the top of the back of the curb.

(e) Old stone curb of proper quality and dimensions will be relined and reset at its present location when required by the proposal or special specfications, or it shall be removed to other points within the limits of the project, as may be designated by the Director, and there reset.

(f) The ends of all curb, whether new or old, shall be neatly squared so as to form close-fitting joints. Joint filler one-half (1/2") inch in thickness shall be placed adjacent to catch basins and circular curbs when setting stone curbs. All joints in stone curb shall be thoroughly and neatly pointed with mortar. The joints in the precast concrete curbs shall be neatly filled with a joint filler, one-eighth (1/8") inch thick. This joint filler material shall be finished flush with the top and roadway face of the curb.

(g) When stipulated in the Uniform Bid Form and Special Specifications, that curb shall be set in a recess in the concrete foundation of the pavement, then this shall be done only after the concrete has become thoroughly hardened. The recess shall be cleared of all foreign matter and on its bottom surface there shall be placed a bed of stiff mortar, varying from one-quarter (1/4") inch to three quarter (3/4") inch in thickness and averaging one-half (1/2") inch in thickness depending on the irregularities in the bottom of the stone curb, or the concrete roadway foundation. When the curb stones have been so set, the recess on both sides of the curb shall be filled from top to bottom with liquid mortar. Compensation for providing the recess and for filling same with mortar after the curb has been set shall be included in the price per linear foot bid in the proposal for curb.

(h) Cuts of proper dimensions, executed in a neat and workmanlike manner shall be made where directed and where required in both new and old curb for drain pipe or gas pipe where required under the curb for connections. No additional compensation shall be made for such cuts.

(i) No extra compensation will be allowed for removing obstructions, gallery or shed posts, etc. that may be encountered in setting new or old curb, nor will any extra compensation be allowed for shoring or reinforcing sheds or galleries that may be necessary.

C707.06 CIRCULAR STONE CURB:

(a) Circular stone curb shall be granite, free of stratification and excess of mica, flint and feldspar. The entire top shall be peen-hammer dressed, and the face of eight (8") inches from the top and the back for four (4") inches from the top of the curb shall be neatly pointed. All edges shall be well defined. The stone shall have squared and neatly finished ends, so as to form close-fitting joints.

(b) Circular stone curb shall be of the radius indicated on plans or as otherwise specified. When the radius is two (2') feet or less, the circular curb shall be in one (1) piece; where the radius is more than two (2') feet, and not more than four (4') feet, the circular curb shall be in two (2) pieces; where the radius is more than four (4') feet, and not more than six (6') feet, the circular curb shall be in three (3) pieces; where the radius is more than six (6') feet, and not more than eight (8') feet, the circular curb shall be in four (4) pieces; where the radius is more than eight (8) feet, and not more than ten (10') feet, the circular curb shall be in five (5) pieces; and where the radius is more than ten (10') feet, and not more than twelve (12') feet, the circular curb shall be in six (6) pieces.

(c) Circular stone curb shall be twelve (12") inches in depth, five (5") inches in width at both ends, and of such widths intermediate to the ends as shown on plans.

C707.07 SETTING CIRCULAR STONE CURB:

(a) Circular curb shall be of the quality and dimensions hereinbefore prescribed for circular curb.

(b) All joints in circular stone curb shall be thoroughly and neatly jointed with mortar and such amount of lamp black added as may be necessary to make the color of the mortar correspond with the color of the stone immediately after it has been set and while it is to correct line and grade.

(c) Circular curb shall be placed on a concrete foundation four (4") inches in thickness mixed in proportion of one (1) part cement to three (3) parts fine aggregate to six (6) parts coarse aggregate.

C707.08 TIMBER CURB:

(a) Timber curb shall be placed on the lines and at the grades as shown on the drawings or as furnished by the Director, and shall be of the dimensions indicated on the plans and herein described.

(b) The face of curbs shall be set either barrier or with a batter as may be designated.

(c) Timber curb shall be formed of either creosoted No. 1 Common Pine, twelve (12 lb.) pound treatment, or treated No. 1 Common Pine .6 lb/cf of CCA, anchors, braces, sills and boards as shown on plans and herein described.

(d) Posts shall measure four (4") inches by four (4") inches and generally the length shall be three (3) times the depth of the finished curb measured on its surface. Posts shall generally be spaced six (6') foot centers apart.

(e) Boards shall be three (3") inches thick and not less than eight (8") inches wide and generally not less than sixteen (16') feet long. They shall be laid horizontal with close-fitting sides and end joints. Joints shall be broken so that boards alongside of each other shall not break joints on the same posts.

(f) At such points as may be designated, cuts of proper dimensions, executed in a neat and workmanlike manner shall be made for drain pipe connections and for the proper construction of foot bridges. No direct compensation shall be made for such cuts.

C707.09 ASPHALTIC CURB: Asphaltic curb shall be placed by an approved extruding machine. Prior to placing curb, the Contractor shall apply asphaltic tack coat conforming to Section C504.

C707.10 MEASUREMENT: The length of curb, gutter, and curb and gutterbottom will be established by measurements of the actual curb, gutter and curb and gutterbottom in place and no allowance will be made for waste due to closures or other causes.

Circular curb shall be measured at the top outer face.

Timber curb will be measured by the number of board feet (MFBM) including board and posts.

Joint materials, rebars, concrete base and piers for stone curb or resetting existing curb shall not be measured for payment.

Excavation for reconstruction of curb and gutter bottom only, and excavation for setting and resetting stone curbs in rehabilitating projects shall not be measured for payment.

C707.11 PAYMENT: Payment for curbs, gutters, and curbs and gutterbottoms shall be made at the contract unit price per linear foot including curb transitions or depressions or after hand-forming curbs and curb and gutterbottom as directed by the Director, subject to the payment adjustment

provisions of Section C501 for asphaltic concrete mixtures and Section C601 for Portland cement concrete.

Payment for wood curb shall be made at the contract unit price per Thousand Board Feet (MFBM).

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C707(54)	Asphaltic Curb	Linear Foot
C707(55)	Concrete Mountable Curb with or Without Dowels (Straight, Circular or Depressed)	Linear Foot
C707(56)	6" Concrete Barrier Curb with or Without Dowels (Straight, Circular or Depressed)	Linear Foot
C707(57)	8" Concrete Barrier Curb with or Without Dowels (Straight, Circular or Depressed)	Linear Foot
C707(58)	Concrete Gutterbottom or Rolling Strip	Linear Foot
C707(59)	Concrete Mountable Curb and Gutterbottom	Linear Foot
C707(60)	6" Concrete Barrier Curb & Gutterbottom or Rolling Strip	Linear Foot
C707(61)	8" Concrete Barrier Curb & Gutterbottom or Rolling Strip	Linear Foot
C707(62)	Stone Curb Including Base (Straight, Circular or Depressed)	Linear Foot
C707(63)	Reset Existing Curb (Precast Concrete, Stone, etc.) Including Base	Linear Foot
C707(64)	Timber Curb	Thousand Board Feet (MFBM)

SECTION C713
TEMPORARY SIGNS, BARRICADES AND PAVEMENT MARKINGS

C713.01 MAINTENANCE OF TRAFFIC:

(a) Reasonable provisions for local traffic throughout the length of the project and the life of the contract must be made by the Contractor during construction without direct compensation.

(b) When specified, the Contractor may also be required to provide for through traffic over the entire project, or designated portions thereof.

(c) The Contractor shall keep the portion of the project being used by public traffic, whether through or local traffic, in such condition that traffic (including garbage collection and mail delivery) will be adequately accommodated. He shall furnish, erect and maintain barricades, warning signs and delineators, and shall provide flagmen and pilot cars in accordance with the plans and the MUTCD. He shall also provide and maintain, in a safe condition, all required temporary approaches or crossings, intersections with roads, streets, business parking lots, residences and garages.

C713.02 PAVING SEQUENCES:

(a) When asphaltic concrete pavement layers are placed in two (2") inch thickness or less, the Contractor will be permitted to pave in one lane for a full day; the adjacent lane may be paved the following workday. When pavement layers are greater than two (2") inch thickness, the Contractor shall place approximately one half (1/2) of each day's production in one (1) lane and the remainder in the adjacent lane. At the end of each day's overlay operation, temporary pavement markings shall be placed and proper signs and barricades displayed. During the period that all lanes are open to traffic, the Contractor shall neither store material nor park equipment on roadway shoulders.

(b) The Contractor shall be responsible for supplying, maintaining and moving, when necessary, adequate barricades, warning signs and lights to safely inform the traveling public as to the location of the work at all times.

C713.03 DETOUR PLAN:

(a) The Contractor shall adhere to the detour plan as shown in the plans. Any changes requested by the Contractor must be approved by the Director before implementation.

Where no detour plan is shown, but is required by the Director to maintain the safe and efficient flow of traffic or efficiency of the Contractor's operation, it shall be developed by the Contractor and approved by the Director.

(b) The Contractor is to provide and maintain construction fences, temporary barricades and sidewalks as required by the Department of Public Works or other authorities in providing security to the premises during the construction period. The Contractor shall provide all necessary items to

insure accessible pedestrian access to properties during construction. When required, the Contractor shall maintain sidewalk barricades, fences and lighting with flashing lights or steady burn lights at locations required by local authorities.

(c) Hauling of material or equipment. Any material or equipment hauled to or from the construction site will be by a route approved or designated by the Department of Public Works Traffic Engineering Division prior to start of construction.

C713.04 TEMPORARY SIGNS, BARRICADES, AND PAVEMENT MARKINGS: Temporary signs, Barricades and Pavement Markings shall conform to Section 713 of the LaDOTD Louisiana Standard Specifications for Road and Bridges, the latest Edition.

C713.05 MEASUREMENT: The furnishing, erecting, maintaining and subsequent removing of temporary construction signs, barricades, pavement markings & markers and related devices will be measured on a lump sum basis.

C713.06 PAYMENT: Payment for temporary construction signs, barricades and related devices will be at the contract lump sum price in accordance with the following schedule:

% of Total Contract Amount Earned	**Allowable % Lump Sum Price for Temporary Signs and Barricades**
Initial Erection	20
25	40
50	60
75	80
100	100

Payment will be made under:

ITEM NO.	**PAY ITEM**	**PAY UNIT**
C713(51)	Temporary Signs, Barricades, Pavement Markings	Lump Sum

HORTICULTURAL REQUIREMENTS

SECTION C714
SODDING

C714.01 DESCRIPTION: This work consists of furnishing, hauling, planting, rolling, watering and maintaining live grass sod at locations shown on the plans or as directed. Sodding shall be in compliance with the Department of Parks and Parkways Section 02485 “Seeding and Sodding” which shall take precedence in any conflict.

C714.02 MATERIALS: Approved sod shall be either field grown grass or nursery grown grass.

Field grown grass sod shall be Bermuda grass or other approved grass native to the sodded area.

Nursery grown grass sod shall be Tiffway Bermuda, Common Bermuda or St. Augustine grass. If Common Bermuda sod is laid between September 15 and March 31, the Contractor shall overseed the sod with Fescue seed as otherwise indicated in the Seeding Section (C717).

Fertilizer shall be Agriform CRF 16-7-12 (+ iron) or equal approved by the Department of Parks and Parkways.

Sod shall be free from noxious weeds or other vegetation.

Water may be obtained from any source. Brackish, chemically contaminated, or oily water shall not be used.

C714.03 GENERAL CONSTRUCTION REQUIREMENTS: Sod shall be Grade A and cut with approved sod cutters. The designated area shall be mowed when necessary. Sod shall be cut to a minimum soil depth three quarter (3/4”) inch to one (1”) inch for field grown grass and one (1") inch for nursery grown grass, and to a uniform width and in convenient lengths for handling. Soil shall be retained on roots of sod during excavating, hauling and planting. Only common Bermuda slab sod shall be used within thirty (30') feet of the outer edges of paved shoulders. Sod cut more than 48 hours before placing shall not be used unless authorized. Sod taken from areas that may produce inferior growth will not be accepted.

C714.04 HANDLING SOD: Sod shall be placed flat, grass side up on boards of convenient lengths and hauled to planting site with soil intact. Only one layer of sod shall be placed on each board. Boards shall be of sufficient thickness to prevent excessive bending and of sufficient width to prevent sod from hanging over the edges.

Stacked sod shall be kept moist and satisfactorily protected from the elements.

C714.05 PLANTING: Areas to receive sod shall be pulverized to a depth of at least four (4") inches, graded and cleared of weeds, grass, stones and other debris. If an item for agricultural lime is included in the contract, liming shall be done when the area is being pulverized. When an

item for fertilizer is included in the contract, approximately ninety (90%) percent shall be broadcast over the area to receive sodding, and the remaining ten (10%) percent shall be broadcast over sod after placing and rolling. Upon delivery to the planting site, sod shall be transferred onto the surface soil. Areas to be sodded shall be watered as directed. Sod shall be placed with minimum space between slabs. Slabs which do not fit closely shall be pulled together with suitable tools and pegged when necessary. When directed, sod surface will be top dressed with sand to smooth-out uneven spots. Sod should have alternating seams (joints).

C714.06 ROLLING: Sod shall be rolled after planting with smooth drum steel rollers or cultipackers. Where rolling is impractical, sod shall be tamped by approved hand methods. Sod shall be installed to cover all exposed bare areas, with tight even seams. Sod shall be rolled after installation to ensure complete contact with the soil.

C714.07 WATERING: Sodding shall be watered as directed. Water sod immediately after installation. Watering shall be done in a manner to prevent erosion of soil or sod. Sod shall be kept moist for thirty (30) days after sodding.

C714.08 MAINTENANCE AND PROTECTION:

(a) Rainfall is usually not adequate to keep newly seeded or sodded turf grasses alive and healthy, supplemental watering is required.

(b) Refill, resod, and refertilize all bare areas as necessary to achieve complete coverage with a satisfactory stand of grass with no gaps larger than four inches (4") square.

(c) At least three (3) mowings shall be completed before the turf will be accepted. At the time of the first cutting, mower blades should be set at 2-1/2" high. Mow prior to the grass growing taller than 3.75". Inform the Parkway and Park Commission Landscape Architect at time of each mowing.

(d) The sodded areas shall be protected against traffic by placing warning signs, protective fencing, or other means as may be required until turf is established and accepted by the Parkway and Park Commission

C714.09 MEASUREMENT: Sodding shall be measured by the square yard along the surface of the completed sodding.

C714.10 PAYMENT: Payment for sodding shall be made at the contract unit price, which includes water and fertilizer.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C714(51)	Sodding	Square Yard

SECTION C717
SEEDING

C717.01 All areas of public greenspace where turf grass has been damaged during construction shall be reseeded by the Contractor. The plans shall designate the limits of seeding and fertilizing.

C717.02 Materials to be used shall include:

(a) Soil: Soil required for preparation of seed bed shall be Mississippi River Batture Sand.

(b) Seed: Grass seed (March through September) shall be hulled Bermuda Grass with minimum 82% by weight of pure live seed and maximum 1% by weight weed seed.

Grass seed (September through March) shall be 50% Turf Type Tall Fescue (variety "Jaguar") and 50% non-hulled Bermuda Seed. Fescue shall have minimum 82% by weight pure live seed have minimum 82% by weight pure live seed and maximum 1% by weight weed seed.

(c) Fertilizer: Fertilizer shall be a complete fertilizer with an analysis of 8-8-8, 13-13-13, or equal approved by the Parkway and Park Commission.

C717.03 PREPARATION AND INSTALLATION:

(a) Prior to seeding, the bed shall be prepared by breaking, disking, harrowing, blading, dragging or other approved methods. The soil shall be thoroughly pulverized to a minimum depth of four (4") inches and smoothed by means of raking or other approved method. This requirement may be waived if 3" to 4" of Mississippi River Batture sand is used for dressing. Each area then shall be rolled with a light roller and then finely raked. The finished surface shall be smooth, finely textured and free from sticks and debris.

(b) Fertilizer shall be distributed evenly, by mechanical spreader, over all areas to be seeded. The rate of application shall be twenty (20) pounds per 1,000 square feet, as per manufacturer's specifications.

(c) Grass seed shall be applied at the rate of ten (10) pounds each of the specified seed types per 1,000 square feet of seed bed by means of an approved mechanical seed spreader which will provide a depth of 1/8" to 1/4", or rake seed into soil.

(d) Water seed immediately after installation. Watering shall be done in a manner to prevent erosion of soil or seed.

C717.04 MAINTENANCE AND PROTECTION:

(a) Rainfall is usually not adequate to keep newly seeded or sodded turf grasses alive and healthy, supplemental watering is required.

(b) Refill, reseed and refertilize, all bare areas as necessary to achieve complete coverage with a satisfactory stand of grass no gaps larger than four inches (4") square.

(c) At least three (3) mowings shall be completed before the turf will be accepted. At the time of the first cutting, mower blades should be set at 2-1/2" high. Inform the Parkway and Park Commission Landscape Architect at time of each mowing.

(d) The seeded areas shall be protected against traffic by placing warning signs, protective fencing, or other means as may be required until turf is established and accepted by the Parkway and Park Commission.

C717.05 MEASUREMENT: Seeding will be measured by Lump Sum.

C717.06 PAYMENT: Payment for seeding, including fertilizer and water will be made at the contract unit price under:

ITEM NO.	PAY ITEM	PAY UNIT
C717(51)	Seeding	Lump Sum

SECTION C719
LANDSCAPING

C719.01 TREE PROTECTION: At the field plan-in-hand meeting of each project, the Department of Public Works and the Department of Parks and Parkways will prepare a list which will state the location of each tree by station and distance off the survey base line and what work is required at each tree location. The list will be enclosed in the project specifications. Tree protection shall be in compliance with the Department of Parks and Parkways Section 02480 "Landscape Protection During Construction".

(a) The Contractor shall be responsible for damage to any City tree within the construction area and liable to the City for compensation of damage.

(b) The Contractor must notify the Department of Parks and Parkways, Tree Department at least ten (10) working days prior to the beginning of construction.

(c) The Contractor shall provide a Louisiana Licensed Arborist to perform the necessary tree trimming, root pruning, or removal of any tree or stump on City property. A non-exclusive list of licensed previously approved arborists may be obtained from:

Department of Parks and Parkways
Tree Department
2829 Gentilly Blvd.
New Orleans, LA 70122
Ph. (504) 658-3201
Fax. (504) 658-3227
ParksandParkways@nola.gov

(d) The Licensed Arborist must obtain a permit from the Department of Parks and Parkways, Tree Department prior to working on any City Trees.

(e) The Critical Root Zone (CRZ) of a tree is established on the basis of the trunk diameter. The CRZ is a circular area which extends from the trunk in a radius of 12 inches to every inch diameter of trunk taken at 4.5 feet above grade, or to the outer edge of the dripline, whichever distance is furthest.

(f) Prior to beginning construction, the Contractor must complete trimming trees requiring clearance for all new construction.

(g) The attachment of signs, barricades, equipment or materials in any manner to any tree is prohibited.

(h) Excavation within the CRZ of any City tree is permitted only under existing roadbeds. All other excavation (i.e. street widening, neutral grounds, or sidewalks) within the dripline of any City trees will be inspected by the Department of Parks and Parkways, Tree Department prior to beginning construction.

(i) Trenching within the CRZ of any City tree is not permitted. Boring or hydraulic jacking is acceptable within the dripline if performed according to the following specifications. The boring or jacking must be at minimum depth of thirty inches (30") and begin ten (10') feet from the dripline of the tree. Placement of boring pits and direction of the boring must be approved by the Director prior to beginning construction. Under unusual conditions, the Director may approve alternative methods. Boring or jacking shall be in compliance with Section C728 "jacked or bored pipe."

(j) Where tree roots interfere with placement of new curbs, delete the typical one (1') foot excavation for placement of new curbs within the driplines of any City-owned tree. Hand forming curbs within the dripline of City trees may be required at no direct pay.

(k) Where tree roots interfere with placement of new sidewalk, wherever possible ramp over roots using a minimum four (4") inch gravel bed and filter cloth between the gravel bed and the new concrete. If ramping is not an option, an on site inspection by the Department of Public Works, Department of Parks and Parkways, the Contractor, and the Contractor's licensed arborist will be required prior to excavating for the new sidewalk to determine the extent of root pruning necessary for construction clearance. Do not place expansion joints over roots, only use control joints.

(l) No more than two (2") inches of cut or fill is permitted within the CRZ of any City-owned tree except under existing roadbeds.

(m) Storage is never permitted within the CRZ of any tree. The use of neutral grounds and other City property for the storage of materials, supplies, equipment, or vehicles is permitted only with specific written authorization from the Department of Parks and Parkways Director.

(n) The erection of barricades around the perimeter of tree CRZ may be required. The Contractor is responsible for maintaining the temporary barricades until completion of the project. The tree protection fencing and posts shall be removed upon Substantial Completion and become the property of the Contractor. The minimum barricade requirements shall be the following:

Wooden or rigid chain link barricade of at least five (5’) feet in height.

(o) Tree trimming is defined as the cutting of tree branches. The Parkway and Park Commission Urban Forester will consult the Contractor and the licensed arborist to determine the extent of trimming allowable. Tree trimming will only be performed on tree branches conflicting with construction. No trimming will be allowed that will alter the natural form of a tree.

(p) Root pruning is defined as the cutting or grinding of roots. The Parkway and Park Commission Urban Forester will consult with the Contractor and the licensed arborist to determine the extent of root pruning allowable.

(q) Root trenching is defined as cutting of roots using a trenching machine. The Parkway and Park Commission Urban Forester will consult with the Contractor and the licensed arborist to determine the extent of root trenching allowable.

(r) Root pruning and root trenching will be at No Direct Payment for trees with less than four (4") inch caliper measured six (6") inches off the existing ground.

C719.02 MAINTENANCE OF NEUTRAL GROUNDS:

(a) The Contractor is responsible for restoring the neutral ground to a like or better condition than existed prior to construction. All areas disturbed during construction shall be regraded to a smooth even surface, eliminating ruts and holes. All obstructions such as bricks, concrete, wire, cable, wood, metal, shell, gravel, and other debris must be removed. Pump Sand may be used to backfill low areas to complete grading. Restoration of turf grass is covered in Section C717.

(b) The Contractor is responsible for the maintenance of turf grass and other plant material on neutral grounds within the limits of the entire construction area defined by the project limits on the construction plans and specifications for the duration of the project.

(c) Maintenance shall commence when construction begins or when any supplies, equipment, signs, barricades, or other materials related to the construction are placed on the neutral ground, whichever occurs first; and continue until Final Acceptance.

(d) Maintenance shall primarily include mowing with grass to be maintained no higher than six (6") inches at any time. Intervals between mowing shall not extend beyond three (3) weeks.

(e) Under certain rare circumstances, if newly planted trees or shrubs or other existing plantings requiring maintenance during construction, are inaccessible to Parkway and Park Commission maintenance personnel and equipment for watering, weeding, trimming or other maintenance, the Contractor may be required to perform such maintenance during construction at no Direct Pay.

(f) The Contractor shall be responsible for damage to any City-owned tree, groundcover, or shrub on the neutral ground or other greenspace within the construction area and liable to the City for compensation of damage.

(g) No tree, groundcover, or shrub may be removed from public greenspace without the approval of the Director.

C719.03 INSTALLATION OF NEW AND RELOCATED TREES AND SHRUBS:

(a) Removal from the construction site of trees or shrubs to be relocated shall be accomplished by the use of an appropriately sized tree spade. For trees, the tree spade must be adequate to obtain a minimum of one (1') foot of root ball diameter for each one (1") inch of tree caliper measured one (1') foot off the ground.

(b) The Contractor must contact the Department of Parks and Parkways Landscape Architect at least ten (10) working days prior to the installation of new or relocated trees and shrubs. The Department of Parks and Parkways Landscape Architect will determine and identify the planting sites for new or relocated trees and shrubs.

(c) The Contractor is responsible for ensuring that all trees and shrubs are planted according to locally accepted horticultural practices, including planning hole preparation, soil backfill, fertilizer, mulch, watering, staking, and guying (See Standard Plans). Planting shall be in compliance with the Department of Parks and Parkways Section 02481 “Installation of New Plant Materials”.

(d) The Contractor is responsible for maintenance of any new or relocated trees and shrubs from the time of planting until one year from the date of Final Acceptance of the project.

(e) Maintenance shall include all necessary watering, fertilizing, weeding, pruning, disease and insect control, straightening and adjustment, replacement of dead or unhealthy plants, and other procedures consistent with good horticultural practices which are necessary to insure normal, vigorous and healthy growth of the plant material.

C719.04 MEASUREMENT:

(a) Gravel bed and filter cloth over tree roots shall be measured by square yard.
(b) Tree protection shall be measured per the linear foot.
(c) Tree removal shall be measured per each.
(d) Tree replacement shall be measured per each.
(e) Tree relocation shall be measured per each.
(f) Tree trimming shall be measured per the lump sum.
(g) Root pruning shall be measured per each.
(h) Root trenching shall be measured per each.

C719.05 PAYMENT:

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C719(55)	Gravel Bed and Filter Cloth over Tree Roots	Square Yard
C719(56)	Tree Protection	Linear Foot
C719(57)	Tree Removal (dbh Size, Type)	Each
C719(58)	Tree Replacement (dbh Size, Type)	Each
C719(59)	Tree Relocation (dbh Size, Type)	Each
C719(60)	Tree Trimming	Lump Sum
C719(61)	Root Pruning	Each
C719(62)	Root Trenching	Each

INCIDENTAL CONSTRUCTION II

SECTION C723
GRANULAR MATERIAL

C723.01 DESCRIPTION: This work consists of furnishing and placing batture sand for dressing behind the curb and granular material for other adjustments, in accordance with these Specifications and in conformity with the lines, grades and typical sections shown on the plans and as directed.

C723.02 MATERIALS: Batture sand shall be used for dressing behind the curb. When the cross slope is steep and construction takes place during the rainy season, batture sand shall be replaced by silt clay soil at no additional cost as directed by the Director. For other adjustments, granular material shall be used and conform to subsection 1003.07.

C723.03 MEASUREMENT: Soil dressing behind the curb and granular material shall be measured by the cubic yard, truck measure.

C723.04 PAYMENT: Payment for soil dressing behind the curb and granular material for other adjustments will be made at the contract unit price, including compaction.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C723(52)	Batture Sand for Dressing, Granular Material for other Adjustments	Cubic Yard, Truck Measure

SECTION C724
PAVEMENT REPAIR, JOINT REPAIR, AND CRACK REPAIR

C724.01 DESCRIPTION: This work consists of pavement repair, joint repair and crack repair of existing pavements in accordance with applicable sections of the City Code and these specifications and in conformity with the lines, grades and typical sections shown on the plans or as directed.

C724.02 MATERIALS:

Portland cement concrete shall conform to Section C601.
Asphaltic concrete shall be any type mixture listed in Section C501 or Section C502.
Asphaltic tack coat shall conform to Section C504.
Mix for joint repair shall be Type 3 Wearing Course conforming to Section C501.

C724.03 EQUIPMENT: Equipment furnished shall meet the specification requirements for the types of material used.

C724.04 GENERAL CONSTRUCTION REQUIREMENTS: The Contractor shall remove existing surfacing and base materials and perform all required excavation for pavement repair, joint repair and crack repair. When through traffic is maintained, the Contractor shall complete the replacing of pavement, place the widening material, or fill and compact open areas or trenches, at the end of each day's operation.

Excavation and compaction of the subgrade shall be in accordance with the plans or as directed by the Director. The subgrade shall be compacted uniformly.

Existing surfacing and excess excavation shall be disposed of beyond the right-of-way in accordance with Section C202.

C724.05 SCOPE: The scope of the roadway pavement repair and restoration required is based on the extent of pavement repair required, type of pavement, condition/age of the pavement, and type of street. For purposes of roadway pavement repair scoping the following definitions apply:

Concrete panel - A panel is defined as a homogenous section bound by full original construction joints on each side.

Condition of the pavement – the condition of the roadway pavement on a specific block as reflected by its Pavement Condition as determined using ASTM D6433 - 11: Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys. Pavement Conditions include Excellent, Good, Fair, Poor, Very Poor, and Failure.

Pothole – a contiguous area in the roadway of less than 12 square feet where the pavement exhibits distress and/or is beginning to fail, or has failed, but the base course underneath the pavement has not begun to fail. Potholes shall be repaired in accordance with Section C724.11.

Utility Service Cut – an intentional cut into the roadway surface as part of an excavation that extends through the pavement and is a feature of work for the repair, replacement, installation or other related work on one or more underground utility lines.

(a) Restoration of concrete pavements and pavements with a bituminous wearing surface and concrete foundation. In the case of concrete pavements and pavements with a bituminous wearing surface and concrete foundation, the following shall be required when restoring utility service and other repair cuts regardless of size:

(1) The concrete for restoration of service cuts shall have a compressive strength of at least 4,500 pounds per square inch at 72 hours. On streets with a concrete base or full depth concrete paving, dowelling into the existing concrete pavement shall be employed.

(2) The pavement must be restored by replacement of the full concrete panel in which the cut or part of the cut is made, unless otherwise approved/directed by the DPW Director or his designee.

(3) The concrete and any wearing surface on top of the concrete base shall be saw cut and remove, to a depth equal to that of the pavement to be restored, unless otherwise directed by the DPW Director. Cutouts outside of the trench lines must be normal or parallel to the trench line. Pavement edges shall have vertical face and be neatly aligned with the center.

(4) If the extent of the cut(s) and subsequent pavement restoration is seventy-five percent (75%) or more of the pavement surface area of the street block in which the cut was made, the entire street block from intersection to intersection shall be repaved, unless otherwise approved/directed by the DPW Director.

(b) Restoration of asphaltic concrete pavements. In the case of full depth asphalt roadways, the following shall be required when restoring utility service and other repair cuts regardless of size:

(1) The existing pavement shall be saw cut and removed in a manner that does not damage the base that is to remain in place, for a distance of at least 12 inches on each side of the width of the trench and 12 inches at each end thereof.

(2) In addition to the full-depth restoration of the cut, the street's wearing surface to a minimum depth of 2-1/2 inches shall be removed and replaced on the entire street block, as measured from beginning of intersection to the beginning of intersection, as part of the pavement restoration, unless otherwise approved/directed by the DPW Director, if:

a) The roadway pavement and one or more major utility lines (water, sewer, drainage) have been constructed or reconstructed within the last 5 years (3 years, if the roadway was only resurfaced) and the service cut and subsequent pavement restoration runs

for more than 100 linear feet along the length of the block or covers 25% or more of the pavement surface area of the block; or

b) The service cut and subsequent pavement restoration runs for more than 150 linear feet along the length of the block or covers 50% or more of the pavement surface area of the block, regardless of the age of the pavement.

For purposes of this determination, the restoration of more than one separate cut made within a 12-month period shall be considered as one combined restoration effort.

The Director may grant exceptions to these roadway pavement repair and restoration requirements on a case-by case basis upon written request, subject to applicable City Code requirements.

If the roadway pavement damages/repairs extend into the area of the roadway or curb and no Americans with Disabilities Act (ADA) compliant is present, then an ADA-complaint ramp is required to be installed as part of the repair and restoration work on that corner, except as directed by the Director and except in cases where routine maintenance such as pothole repairs (C724.11), joint resealing (724.09), and crack repairs (C724.08 or C724.10), is being completed.

C724.06 ASPHALTIC CONCRETE REPAIR:

(a) Where a section of an existing asphaltic concrete roadway has deteriorated and needs to be replaced, it shall be completely removed and replaced with full depth asphaltic concrete.

(b) On streets having a bituminous wearing surface, such surfaces shall be removed for a distance of 9 inches on each side of the width of the trench and 9 inches at each end thereof.

(c) If the bituminous surface is on concrete base, the concrete shall be undercut for nine inches to form a keyway having a depth equal to that of the pavement to be restored.

(d) When the bituminous surfacing is on a base other than concrete, it will then be required to cut back the base for nine inches in each horizontal direction.

(e) Unstable pavement shall be removed over cave-ins, areas of contiguous subsidence, overbreaks and small floating sections and is to be treated the same as the main trench.

(f) Cutouts outside of the trench lines must be normal or parallel to the trench line. Pavement edges shall have vertical face and be neatly aligned with the center.

(g) The Director will designate the area of pavement to be removed. A minimum of 2 inches saw cut into the pavement shall be required to ensure a square break of the pavement to be removed.

(h) All pavement within the designated area shall be removed and the subgrade area prepared to receive an eight (8") inch compacted base course. Compacted pumped sand as required shall be used to replace unsuitable subgrade or to fill voids as directed.

(i) Just prior to placing the new asphaltic concrete, the vertical faces of the old asphaltic pavement shall be coated with asphaltic tack coat, and an asphaltic coat shall be applied on the base course. Tack coat **and** prime coat shall conform to all requirements of Sections C504 and C505.

C724.07 CONCRETE PAVEMENT REPAIR:

(a) Where expansion has caused a buckling of the roadway base pavement resulting in a ramp effect in the roadway or where sections of roadway pavement have deteriorated and need to be replaced, sections of roadway pavement are to be completely removed and replaced with High Early Strength Concrete Pavement and subsequent asphalt surfacing as required.

(b) The Director will designate the areas of pavement to be removed. Asphalt surfacing, if any, shall be removed to permit a minimum of two (2”) inches saw cut into the concrete base pavement is required to ensure a square break of the pavement to be removed.

(c) The breaking out shall be done with hydraulic or pneumatic equipment only. No free fall equipment shall be allowed. When breaking the concrete pavement, every attempt shall be made to save a minimum twelve (12) inches of the existing welded wire fabric on each side. In the event that the welded wire fabric cannot be saved, or where none exists, tie bars shall be drilled and epoxy grouted into the existing pavement to allow for a proper tie-in.

(d) All concrete pavement within the designated area is to be removed and the subgrade area prepared to receive an eight (8") inch compacted base course. Compacted pumped sand as required shall be used to bring subgrade to the required elevation. It shall also be used to replace unsuitable subgrade or to fill voids as directed.

(e) Just prior to placing the new concrete, the vertical faces of the old concrete pavement are to be coated with an approved concrete epoxy per A.S.T.M. C 881 Type II. The new roadway pavement shall consist of four thousand (4,000) psi. at three (3) days, High Early Strength Concrete reinforced with 6 X 12 - W 7.5 X W 6.5 welded wire fabric, seventy-seven (77) pounds per one hundred (100) square feet. The new mesh shall be tied to the existing mesh where possible.

(f) Wherever a joint (any type) or a part thereof falls within the affected area, the same shall be reestablished in kind and shall be incidental to the work included as Concrete pavement repair.

(g) After all roadway pavement repairs have been completed at a location, Bituminous Wearing Course material, if required, shall be placed in a continuous operation.

C724.08 CONCRETE JOINT REPAIR:

(a) Where a roadway pavement contraction joint or expansion joint has failed, the roadway pavement and defective joint shall be removed and replaced with a new expansion joint and High Early Strength Concrete Pavement.

(b) The Director shall designate the areas of pavement and joints to be removed. Asphalt surfacing, if any, shall be removed to permit a minimum of two (2”) inches saw cut into the concrete base pavement is required to ensure a square break of the pavement to be removed.

(c) The breaking out shall be done with hydraulic or pneumatic equipment only, no free fall equipment shall be allowed. When breaking the concrete pavement, every attempt shall be made to save a minimum twelve (12") inches of existing welded wire fabric on each side. In the event that the welded wire fabric cannot be saved or where none exists, tie bars shall be drilled and epoxy grouted into the existing pavement to allow for a proper tie in.

(d) All concrete pavement within the designated area shall be removed and the subgrade area prepared to receive an eight (8") inch compacted base course. Compacted pumped sand as required shall be used to bring subgrade to the required elevation. It shall also be used to replace unsuitable subgrade or to fill voids as directed.

(e) Just prior to placing the new concrete, the vertical faces of the old concrete pavement are to be coated with an approved concrete epoxy per A.S.T.M. C 881 Type II. The new roadway pavement shall consist of four thousand (4,000) psi. at three (3) days, High Early Strength concrete reinforced with 6 X 12 - W 7.5 X W 6.5 welded wire fabric, seventy-seven (77 lbs.) pounds per one hundred (100) square feet. An expansion joint is to be constructed.

(f) After all pavement and joint repairs have been completed at a location, bituminous wearing course material, if required, shall be placed in a continuous operation.

C724.09 JOINT RESEALING:

(a) This work shall apply for all type of joints requiring sealing.

(b) Clean all joints of contaminants, impurities and old sealants and backer rods, if any, by grinding, saw-cutting or blast cleaning.

(c) Blow out dust, loose particles and other debris from joints with oil-free compressed air.

(d) Install an approved backer rod in joints as required.

(e) Apply an approved joint sealant in a continuous operation to properly fill and seal the joint width.

C724.10 CRACK REPAIR:

(a) Cracks between three-eighth (3/8") and one (1") inch:

(1) A groove about one-half (1/2") inch wide and three-fourths (3/4") inches deep should be made along the crack by sawing or grooving. The equipment must be capable of following closely the path of the crack.

(2) Clean the crack with compressed air. The crack must be free of dust, dirt and other material that might prevent bonding of the seal.

(3) Seal the crack, using hot poured asphaltic-type sealant as specified in subsection C601.04(g)(2).

(b) Cracks greater than one (1") inch:

(1) Clean all cracks of contaminants, impurities and old sealants to the depth required by blast-cleaning.

(2) Coat vertical faces of the cracks with an asphaltic tack coat.

(3) Apply an approved asphaltic sand mix in a continuous operation to properly fill.

C724.11 POTHOLE REPAIR ON ACCESS ROUTES: The work consists of cutting the pavement around the pothole in a rectangular shape, lining with the tack coat, filling with hot mix asphalt wearing course and compacting. Location of repair sites shall be as specified by the Director and shall encompass sufficient work to require a minimum of one (1) ton of asphalt per repair operation.

C724.12 MEASUREMENT:

(a) Pavement repair and joint repair. Pavement repair and joint repair will be measured by the square yard of existing pavement designated to be removed and replaced.

(b) Joint resealing, and crack repair. Joint resealing and crack repair will be measured by the linear foot.

(c) Pothole repair on access routes. Pothole repair on access routes, will be measured by the ton of asphalt.

C724.13 PAYMENT: Payment will be made at the contract unit price.

(a) Asphaltic concrete repair: Payment for asphaltic concrete repair will be made at the contract unit price per square yard, including saw cutting, removal of existing pavement, base preparation excavation, base course, tack coat, prime coat and asphaltic concrete. The cost of pumped sand as mentioned in Subsection C724.05(c) will be paid for by bid item No. C203(58).

(b) Concrete pavement repair. Payment for concrete pavement repair will be made at the contract unit price per square yard, including saw cutting, removal of existing pavement, excavation, base preparation, base course, Portland Cement concrete and welded wire fabric. The cost of pumped sand as mentioned in Subsection C724.06(d) will be paid for by bid item No. C203(58).

(c) Concrete joint repair. Payment for concrete joint repair will be made at the contract unit price per square yard, including the work mentioned in Subsection C724.12(b) and installation of new joint assembly.

(d) Joint resealing. Payment for joint resealing will be made at the contract unit price per linear foot including the works described in Subsection C724.08.

(e) Crack repair. Payment for crack repair will be made at the contract unit price per linear foot, including the works described in Subsection C724.09.

(f) Pothole repair on access routes. Payment for pothole repair on access routes will be made at the contract unit price per the ton including the works mentioned in Subsection C724.10.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C724(51)(A)	Asphaltic Concrete Repair	Square Yard
C724(51)(B)	Concrete Foundation Repair with Asphalt Overlay	Square Yard
C724(51)(C)	Concrete Pavement Repair	Square Yard
C724(53)(A)	Concrete Joint Repair	Square Yard
C724(53)(B)	Joint Resealing	Linear Foot
C724(54)(A)	Crack Repair Between 1/8" and 1/2" Wide	Linear Foot
C724(54)(B)	Crack Repair Greater than 1" Wide	Linear Foot
C724(55)	Pothole Repair on Access Routes	Ton

SECTION C727
MOBILIZATION

C727.01 DESCRIPTION: This work consists of preparatory work and operations, including those necessary for movement of personnel, equipment, supplies and incidental to the project site; the establishment of offices, buildings and other facilities necessary for work on the project; the cost of bonds and any required insurance; and other preconstruction expenses necessary for start of the work excluding the cost of construction materials.

C727.02 PAYMENTS:

(a) When the contract does not include a pay item for mobilization, no direct payment will be made for mobilization.

(b) When the contract contains a pay item for mobilization, payment will be made at the contract lump sum price, subject to the following provisions:

Partial payments for mobilization will be made in accordance with the following schedule up to a maximum of ten (10%) per cent of the original contract amount, including this item, and payment of any remaining amount will be made upon completion of all work under the contract.

Percent of Total Contract Amount Earned		Allowable Percent of the Lump Sum Price For the Item
1st Partial Estimate	up to	25 **%**
10 **%**	up to	50 **%**
25 **%**	up to	75 **%**
50 **%**	up to	100 **%**

No payment adjustments will be made for this item due to changes in the work. Additional Mobilization cost occasioned, by a plan change, if approved, will be paid for within the Plan Change.

Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.

Payment will be made under:

ITEM NO.	**PAY ITEM**	**PAY UNIT**
C727(51)	Mobilization	Lump Sum

SECTION C728
JACKED OR BORED PIPE

C728.01 DESCRIPTION: This work consists of furnishing and installing pipe in embankments at the locations shown on the plans by jacking or boring in accordance with these specifications.

C728.02 MATERIALS: Pipe and joint materials shall conform to Section C701 for drain lines, C741 for water mains and C742 for sewer lines.

C728.03 CONSTRUCTION REQUIREMENTS: In general, pipes 30 inches diameter and greater shall be jacked, and pipes less than 30 inches diameter shall be bored.

The work shall begin at the outfall end of pipe when possible. When the grade at the jacking or boring end is below ground surface, suitable pits or trenches shall be excavated for conducting operations and placing joints of pipe. Adequate sheeting and bracing shall be provided to prevent earth caving.

For pipe with bell joints, if the outside diameter of pipe bell exceeds the outside diameter of pipe barrel by more than 1 inch, pipe shall be either cased or pressure grouted its full length. The casing shall be an approved type and size, and shall be furnished and installed by the Contractor in accordance with these specifications. Pressure grouting shall be performed with approved materials placed by approved methods.

The method used shall be such as not to weaken or damage the embankment. The Contractor shall furnish to the Director for approval a plan showing the proposed procedure, including backstop or jacking frame arrangement, pipe guides, position of jacks and jacking head. Approval of this plan shall not relieve the Contractor from responsibility to obtain the desired result.

(a) Jacking: Heavy duty jacks suitable for forcing pipe through the embankment shall be provided. Even pressure shall be applied to all jacks and shall be transmitted to the pipe end through a jacking head. The jacking head shall be designed so that pressure is uniformly applied around the ring of the pipe. Backstop or jacking frame shall be adequate to resist pressure of the jacks under load. Pipe shall be set on guides properly fastened together to support the pipe in the proper direction at correct grade. Suitable cushioning material, such as plywood, shall be provided between sections of concrete pipe.

Material shall be excavated ahead of the pipe and shall be removed through the pipe. Excavation shall not extend more than 2 feet beyond the forward end of pipe. When the character of embankment material dictates, the distance shall be reduced to prevent the embankment from being damaged. Excavated material shall be disposed of in accordance with Subsection C202.02.

Excavation on the underside of pipe, for at least 1/3 the circumference of pipe, shall conform to the contour and grade of the pipe. A clearance of not more than 2 inches may be provided for the upper half of pipe, tapered to zero at the point where excavation conforms to contour of pipe.
A steel cutting edge may be used around the forward end of pipe, constructed so that it will transmit pressures uniformly around the ring of the pipe.

Jacking shall continue without interruption, to prevent pipe from becoming firmly set in the embankment.

Pipe shall not vary horizontally or vertically by more than 1 inch in 10 feet from established line and grade. Any variation shall be regular, and no abrupt changes in direction will be permitted. Any pipe damaged or misaligned in jacking operations shall be removed and replaced by the Contractor at no direct pay.

(b) Boring: Boring shall be done mechanically, using a pilot hole approximately 2 inches in diameter. The pilot hole shall extend through the embankment and shall be checked for line and grade before boring begins. Variations from line and grade shall not exceed those specified for jacking. The pilot hole shall serve as centerline of the larger diameter hole to be bored.

The use of water and other fluids with boring operations will be permitted only to lubricate cuttings. Jetting will not be permitted.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least ten (10%) percent high-grade, bentonite may be used to consolidate cuttings of the bit, seal walls of the hole, and furnish lubrication for subsequent removal of cuttings and installation of pipe.

Overcutting in excess of 1 inch shall be remedied by pressure grouting the entire length of the installation.

Pipe shall be joined as specified in Section C701 for drain lines, C741 for water mains and C742 for sewer lines.

C728.04 MEASUREMENT: Quantities of jacked or bored pipe for payment will be the design lengths as specified on the plans and adjustments thereto. Design quantities will be adjusted if the Director makes changes to adjust to field conditions, if plan errors are proven, or if design changes are made. Required excavation, sheeting, bracing, falsework, casing, joint materials and grouting will not be measured for payment.

C728.05 PAYMENT: Payment for jacked or bored pipe will be made at the contract unit price per linear foot under:

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C728(51)	Jacked or Bored Pipe (Size, Type, Class or Thickness)	Linear Foot

SECTION C729
TRAFFIC SIGNS AND DEVICES

C729.01 DESCRIPTION: The Contractor shall furnish and install traffic signs (street edge signs), street name signs and project signs with accessories and posts of specified materials, sizes, shapes, weights and designs.

In general, the work and materials shall conform to the MUTCD as modified by these specifications or as shown on the plans.

Signs shall be fabricated in an approved plant. The fabrication Contractor shall show evidence of successful experience in fabrication and erection of quality reflectorized signs.

The term legend shall mean border strip, letters, numerals and symbols which convey the message on signs.

C729.02 MATERIALS: Materials shall be new stock conforming to the following:

(a) Sign and Marker Sheeting: Sheeting material for sign panels, delineators and markers shall conform to LaDOTD Section 1015. Reflective sheeting material shall be either ASTM Type I, ASTM Type II or ASTM Type III, as specified. When not specified, either ASTM Type I, Type II or Type III may be furnished.

(b) Ferrous Metal: Ferrous metals shall conform to LaDOTD Subsection 1015.02(a). Ferrous metal shall be galvanized in accordance with LaDOTD Section 811.

(c) Aluminum: Aluminum sign panels shall conform to LaDOTD Subsection 1015.04(a).

(d) Fittings: Structural bolts, nuts, washers and miscellaneous hardware shall conform to LaDOTD Subsection 1015.02.

(e) Flexible Sign Posts: Flexible posts for small signs, markers and delineators shall conform to LaDOTD Subsection 1015.03.

C729.03 GENERAL REQUIREMENTS: The Contractor has the option of furnishing either steel or aluminum posts. Sign panels shall be aluminum. Before beginning work, the Contractor shall notify the Director in writing as to the combination of signing materials he proposes to furnish. The same combination of signing materials shall be used throughout the project.

C729.04 FABRICATION OF SIGNS AND MARKERS:

(a) General: The completed product shall have a surface free of cracks, blisters, blemishes and wrinkles.

Metal fabrication including shearing, cutting and punching of holes shall be completed prior to surface treatment of metal and application of sheeting. Metal panels shall be cut to size and shape and shall be free of buckles, warps, dents, cockles, burrs and defects resulting from fabrication. Surface of sign panels shall be flat.

Splice plates joining sign panels shall not extend behind horizontal sills. Aluminum panels shall be a nominal 0.080 inch thick.

(b) Surface Treatment: Surface treatment shall be in accordance with approved recommendations of the reflective sheeting manufacturer.

(c) Sheeting Application: Application of sign face and legend sheeting shall be in accordance with approved recommendations of the reflective sheeting manufacturer. Unless otherwise approved in writing, reflective sheeting shall be applied to panels in such a manner that there are no horizontal splices.

Legend shall be of the shape, size, dimension and stroke specified in the MUTCD and sign face shop drawings. Legend shall be applied in accordance with LaDOTD Subsection 1015.05.

(d) Object Markers and Delineators:

(1) Object Markers: Object markers shall be yellow reflectorized material conforming to LaDOTD Subsection 1015.05 and low gloss black nonreflectorized material conforming to LaDOTD Subsection 1015.06 or 1015.07, mounted on nominal 0.080 inch thick aluminum panels.

(2) Delineators: Delineators shall be ASTM Type III reflective sheeting (silver, red or yellow, as specified) conforming to LaDOTD Subsection 1015.05 applied to properly treated base panels, punched or sheared to specified dimensions for rigid steel posts or applied directly to flexible posts.

(e) Packaging: Before being packed, signs shall be allowed to stand for at least 12 hours after completion of screening. Signs shall be slipsheeted and packed in such manner as to ensure their arrival at their destination in an undamaged condition. Packaged signs shall not be permitted to become wet during storage or shipment.

C729.05 STREET NAME SIGNS: The Contractor shall supply erect street name signs complete, in place, according to the provisions below:

(1) Sign Dimensions:

8" High or 12” High, as specified by the Director.

24", 30" or 36" Long.
No faces longer than 36".

(2) Sign Material: Aluminum plate, 0.080 inch thick with all corners rounded on approximately 3/4" radius. All holes 7/32".

(3) Sign Legend and Border: See standard plans.

(4) Color: See standard plans.

(5) Sign Post: Galvanized steel, two (2 lb/ft) pounds per foot, U-channel. The sign post must be installed with seven (7') foot vertical clearance and three (3') feet of post underground.

(6) Bracket and Hardware: Bracket (if needed) and hardware in galvanized steel, approved by the Department of Public Works.

(7) Sign Locations: The number and location of street name signs shall be approved by the Traffic Engineer of the Department of Public Works. In principle, all existing vertical street name signs shall be replaced with new horizontal street name signs. All old signs, damaged or illegible, shall be replaced.

C729.06 PROJECT SIGNS: The Contractor shall supply erect project signs, complete in place according to the provisions, as detailed in the project specifications.

C729.07 CONSTRUCTION REQUIREMENTS: When removal of existing signs is required, the Contractor's sign removal operations shall be coordinated as directed with new sign construction to provide for adequate signing to be in place at all times.

(a) Sign Locations: Sign support locations shall be as shown on the plans or as directed. Locations which are obviously improper because of topography, existing appurtenances or other conflicting conditions will be adjusted to the closest desirable location. The Contractor shall determine elevations for post length determinations at the established sign support location.

(b) Sign Positioning:

(1) Traffic Signs: Traffic signs shall be constructed with sign faces vertical. Sign faces, other than parking regulations, located less than 30' from the edge of the travel lane shall be placed at a 93° angle from the center of the travel lane. Sign faces located 30' or more from the edge of the travel lane shall be placed at an 87° angle from the center of the travel lane. Parking signs shall be placed at a 45 degree angle from the center of the travel lane. Where the lanes divide or on curves or grades, sign faces shall be oriented to be most effective both day and night and avoid specular reflection.

(2) Delineator, Object Marker and Milepost Assemblies: These assemblies shall be placed at least 2' beyond the outer edge of roadway shoulder, 2' beyond the face of curb, or in the line of guard rail.

(3) Vertical and Horizontal Clearances: The bottom of the sign shall be a minimum of 7' above the existing terrain.

Minimum horizontal clearance from edge of roadway to any ground sign shall be as shown on the plans or as directed.

(c) After erection, sign faces shall be cleaned to allow adequate visibility of the sign.

C729.08 ACCEPTANCE OF SIGNS: After installation of signs is complete, the Traffic Engineer of the Department of Public Works will inspect the signs, sign faces, mounts, installations, hardware and matters relating to the requirements of this Section for conformance to applicable plans, standards and project specifications.

Color match, uniformity and spacing of legend, specular glare and, sign type and design will be inspected for conformance to plans and specifications. When specular reflection is apparent on any sign, its positioning shall be adjusted by the Contractor to eliminate this condition. Signs shall be clean at the time of inspection. Reflective sheeting shall be free of cuts, scratches, breaks or other defects which might allow moisture to infiltrate and damage reflective cells. Nonstandard or otherwise unacceptable signs and traffic control devices shall be replaced or repaired as directed by the Director. The Contractor will be required to correct damage that is discovered at the time of the sign inspection.

C729.09 MEASUREMENT: Traffic signs, street name signs, project signs, delineators and object marker assemblies shall be measured per each.

Concrete footing for securing sign posts will not be measured for payment.

C729.10 PAYMENT: Payment for installation of traffic signs, project signs, delineators and object marker assemblies shall be made at the contract unit price per each, including signs, posts and footing to complete the item in place.

Payment for installation of street name signs shall be made at the contract unit price per each, including four signs at each post, brackets, hardware, posts and footing to complete the item in place.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C729(51)	Traffic Sign	Each
C729(54)	Delineator Assembly	Each
C729(66)	Object Marker Assembly	Each
C729(71)(A)	Street Name Sign on Existing Post	Each
C729(71)(B)	Street Name Sign on New Post	Each
C729(72)	Project Sign	Each

SECTION C731
RAISED PAVEMENT MARKERS

C731.01 DESCRIPTION: This work consists of furnishing and placing raised pavement markers in accordance with plan details.

C731.02 MATERIALS:

(a) Markers: Markers shall conform to LaDOTD Subsection 1015.09. The same product shall be used throughout the project. Markers shall be the specified class, type, color, size and shape.

(b) Adhesive: Markers shall be placed with bituminous adhesive on asphaltic surfaces and epoxy adhesive on portland cement concrete surfaces.

(1) Bituminous Adhesive: Bituminous adhesive shall conform to LaDOTD Subsection 1015.09(c)(2).

(2) Epoxy Adhesive: Epoxy adhesive shall be Type V epoxy resin system conforming to LaDOTD Subsection 1017.02. Epoxy components shall be mixed in equal parts by volume. Adhesive shall be mechanically mixed and dispensed, unless hand methods are permitted.

C731.03 CONSTRUCTION REQUIREMENTS:

(a) Weather Limitations: Markers shall not be applied when there is moisture on the surface.

(1) Epoxy Adhesive: When a normal set adhesive is used, application of markers will not be permitted at ambient air temperatures less than 50°F. When a rapid set adhesive is used, application of markers will be permitted at ambient air temperatures between 35°F and 50°F, provided adhesive is adequately heated to obtain proper viscosity for mixing and application, and provided adhesive is identified as a rapid set type on container labels and Certificates of Delivery.

(2) Bituminous Adhesive: Markers shall be applied when the ambient air temperature is 50°F or greater.

(b) Cleaning of Surfaces: Surfaces on which markers are to be applied shall be cleaned of all materials that may reduce the bond of adhesive. Surfaces shall be cleaned by blast cleaning or other approved methods which do not damage the surface; however, blast cleaning equipment shall be provided with positive cutoff controls. Surfaces shall be maintained in a clean dry condition until placement of markers.

(c) Application of Markers: Surfaces on which markers are to be placed shall be blown dry immediately prior to marker placement. Markers shall be applied to surfaces with adhesive in accordance with the manufacturer's recommendations.

(1) Epoxy Adhesive: Voids in a cured undisturbed sample approximately 1/16 inch thick from the extrusion nozzle shall not exceed 4 percent by volume. Machine mixer and applicator shall be capable of accurately and uniformly proportioning the two components in a 1 to 1 ratio within five (5%) percent by volume of each component (i.e., within 47.5 to 52.5 percent for each component). Periodic checks of proportioning equipment shall be made to determine the actual ratio of components. This shall be done by placing containers in front of the mixing chamber and measuring the actual volume of each component. Equipment shall be arranged so it is possible to bypass the mixer to perform these periodic checks. Temperature of adhesive shall be maintained between 70°F and 110°F before mixing. The temperature shall be adjusted to prevent excessive flow of epoxy from the marker when installed. The area of the epoxy adhesive bed shall be equal to the bottom area of marker. Adhesive shall be applied in sufficient quantity to cause excess adhesive to be forced out around the perimeter of the marker. Voids in markers with an open grid pattern on bottom shall be filled with adhesive immediately prior to placement.

(2) Bituminous Adhesive: The adhesive shall be heated and melted in either thermostatically controlled double boiler type units utilizing heat transfer oil or thermostatically controlled electric heating pots. The melter/applicator unit shall be suited for both melting and pumping application through heated applicator hoses. The adhesive shall be heated to between 375°F and 425°F and applied directly to the pavement surface from the melter/applicator by either pumping or pouring. The area of the bituminous adhesive bed shall be a minimum of 6 inches in diameter. Markers shall be applied to the adhesive within 10 seconds. The marker shall be placed in the adhesive bed by applying downward pressure until the marker is firmly seated. Adhesive on exposed surfaces of markers shall be immediately removed with soft rags moistened with mineral spirits or kerosene. Markers shall be protected against impact until the adhesive has hardened. The adhesive may be reheated and reused; however, the pot life at application temperatures shall not be exceeded.

C731.04 MEASUREMENT: Reflectorized raised pavement markers will be measured by counting the number of markers furnished, placed and accepted.

C731.05 PAYMENT: Payment for reflectorized raised pavement markers will be made at the contract unit price under:

ITEM NO.	PAY ITEM	PAY UNIT
C731(52)	Reflectorized Raised Pavement Markers	Each

SECTION C732
PLASTIC PAVEMENT MARKINGS

C732.01 DESCRIPTION: This work consists of furnishing and placing reflective pavement markings of hot applied thermoplastic at the locations shown on the plans or as directed, in conformance with the MUTCD, plan details and these specifications.

C732.02 MATERIALS: Thermoplastic marking material shall be a plastic compound reflectorized by internal and external application of glass beads, conforming to LaDOTD Subsections 1015.10 and Subsection 1015.13, respectively. Width and color of markings shall be as specified.

Thermoplastic material shall be delivered in containers of sufficient strength to permit normal handling during shipment and transportation without loss of material. Approved heat-degradable containers that can be placed in heating kettles along with the plastic material will be permitted. Each container shall be clearly marked to indicate color of material, process batch number, name of manufacturer and date of manufacture. Glass beads used in drop-on application to molten plastic shall be shipped in sacks of multi-ply paper or burlap, both with a polyethylene liner. The sacks shall be strong enough to permit handling without damage, and have a capacity of 50 pounds of beads. Sacks shall be sufficiently water-resistant so that beads will not become wet or caked in transit.

C732.03 CONSTRUCTION REQUIREMENTS:

(a) Equipment for Thermoplastic Markings: Material shall be applied to pavement by either spray or extrusion methods. Equipment shall provide continuous mixing and agitation of material. Conveying parts of equipment between main material reservoir and discharge mechanism shall prevent accumulation and clogging. Parts of equipment which come in contact with the material shall be easily accessible for cleaning and maintaining. Mixing and conveying parts shall maintain material at the application temperature. Equipment shall be capable of producing continuous uniformity in dimensions of stripes. Equipment shall be capable of producing various widths of traffic markings. Glass beads shall be applied to the molten surface of completed stripes by an automatic bead dispenser attached to the striping machine in such a manner that beads are dispensed simultaneously with the thermoplastic material at a controlled rate of flow on installed lines. The glass bead dispenser shall be equipped with an automatic cutoff control synchronized with cutoff of thermoplastic material. Kettles to hold a minimum of 1,000 pounds of material shall be provided for melting and heating thermoplastic material. Kettles shall be equipped with automatic temperature control devices so that heating can be done by controlled heat transfer liquid rather than direct flame, to provide positive temperature control and prevent overheating of material. Applicators and kettles shall be equipped and arranged to comply with requirements of the National Board of Fire Underwriters. Applicators shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in a true arc. Applicator equipment shall consist of a motorized mobile unit capable of installing traffic stripes either left or right of applicating unit so that only one lane for traffic will be occupied during installation.

Applicators shall produce sharply defined lines and provide means for cleanly cutting off stripe ends and applying broken lines. The applicator unit shall have a tachometer or other approved device to

insure uniform application at the required rate. It shall be adjustable for applying 1, 2, or 3 adjacent lines simultaneously at the specified spacing. The ribbon extrusion die or shaping die shall not be more than 2 inches above the roadway surface during application.

(b) Weather Limitations: Application of markings will not be permitted when there is excessive pavement moisture or when the surface temperature or ambient temperature is below 50°F. The pavement shall be considered excessively moist when it is visibly wet or when a 1 square foot piece of polyethylene film condenses moisture after being placed on the pavement surface for 15 minutes.

(c) Cleaning of Surfaces: Surfaces on which markings are to applied shall be cleaned of materials that may reduce adhesion of the thermoplastic marking materials to the pavement. Cleaning shall be done by blast cleaning or grinding. Surfaces shall be kept clean until placement of markings.

Existing thermoplastic markings on the roadway that are not flaking or peeling do not require removal prior to placement of new thermoplastic markings. When thermoplastic markings will replace the existing painted markings, the existing painted markings do not require removal prior to applying new thermoplastic markings, provided the existing painted markings are not flaking or peeling.

Existing lane line pavement markings on bridges shall be removed prior to applying new markings.

When preformed plastic markings will replace any of the existing markings, the existing markings shall be removed prior to applying the preformed plastic markings.

Removal shall be accomplished by methods which will not damage the pavement or bridge deck. Removal shall be to such extent that 75% of the pavement surface or bridge deck under the markings is exposed. At the end of each day's operations, temporary pavement markings conforming to Section C713 shall be placed in areas where existing markings have been removed and new markings not placed. Temporary pavement markings shall be satisfactorily removed prior to resuming plastic striping operations.

(d) Application of Markings: Material shall be installed in specified widths from 4 inches to 24 inches. Finish lines shall have well defined edges and be free of waviness. Measurements shall be taken as an average through any 36-inch section of line. Longitudinal lines shall be offset approximately 2 inches from longitudinal joints. A tolerance of +1/2 inch and -1/8 inch from the specified width will be allowed, provided the variation is gradual. Segments shall square off at each end without mist or drip. Transverse variations from the control device up to 1 inch will be allowed provided the variation does not increase or decrease at the rate of more than 1/2 inch in 25 feet. Lines not meeting these tolerances shall be removed and replaced at no direct pay.

Thickness of material, not including drop-on beads, shall be not less than 90 mils for lane lines, edge lines and gore markings and not less than 125 mils for crosswalks, stop lines and word and symbol markings. A binder sealer material recommended by the thermoplastic marking manufacturer shall be applied to the pavement surface or bridge deck prior to application of the

thermoplastic markings. Thermoplastic material shall be applied either by extrusion at 390°F to 450°F or by spray at 410°F to 450°F. Immediately after application of the markings, glass beads shall be applied at a minimum rate of 300 pounds per mile. Material shall not scorch or discolor when kept at this temperature range for four hours.

C732.04 MEASUREMENT:

(a) Plastic Pavement Striping: Plastic striping will be measured by the linear foot of striping, exclusive of gaps.

(b) Plastic Pavement Legends and Symbols: Plastic legends and symbols will be measured by lump sum. Symbols shall include all letters, lines, bars or markings necessary to convey the message at each location.

C732.05 PAYMENT: Payment for plastic pavement markings and removal of existing markings will be made at the contract unit prices.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C732(52)	Plastic Pavement Striping (Solid Line)(___" Width)	Linear Foot
C732(53)	Plastic Pavement Striping (Broken Line)(___" Width)	Linear Foot
C732(54)	Plastic Pavement Legends and Symbols	Each
C732(55)	Plastic Pavement Striping Removal	Linear Foot

SECTION C736
RESTORATION OF TRAFFIC SIGNAL LOOP DETECTORS IN CONNECTION WITH ROADWAY REHABILITATION

C736.01 GENERAL: Vehicle Loop detectors shall detect the presence or passage of every vehicle which passes over the interconnected loop embedded in the surface roadway. Loops shall be of the size and shape indicated in the plans. Loop construction shall be in conformance with the details in the plans and these specifications.

C736.02 TESTING: Each Loop shall be tested for continuity, resistance, inductance and insulation leakage. For the latter, a 600-volt Megohmeter shall be used to measure resistance between one end of lead-in wire and the nearest reliable electrical ground. Resistance to ground shall be greater than 10 megohms. Inductance shall be checked with an approved Loop Tester supplied by the Contractor.

This test shall be made with no vehicle over the Loop. The Contractor shall perform these tests in the presence of the authorized representative of the Department of Public Works unless written authorization is given by the authorized representative for permission to do otherwise. Tests shall be made from the pullbox where the Loop wires tie into the lead-in, and at the controller cabinet where the lead-in cable is terminated. The Contractor shall record the location, data and readings taken, noting satisfactory results have been obtained. Any Loop failing to pass these tests shall be recut at the Contractor`s expense.

C736.03 SAW CUT: Loop wire shall be installed in saw cuts in the roadway made by a diamond or abrasive power saw. The slot width and depth shall be as indicated on the plans; however, in all cases, the slot shall be between 1/4" to 3/8" wide and 1-1/2" to 2-1/2" deep.

The saw cuts shall be overlapped so that the slot has full depth at all corners. All corners where Loop wires turn shall be diagonally cut so that there are no jagged edges or protrusions which may damage the wire. Prior to installation of the wire, the saw cuts shall be cleaned and dried. There shall be no cutting dust, grit, oil, moisture or other contaminants in the saw cut.

C736.04 LOOP WIRE: Loop wire and lead-in to the pull or aerial junction box shall be AWG #14 stranded Type XHHW gasoline and oil resistant single conductor insulated for 600 volts. XHHW wire shall meet the requirements of the latest edition of NEMA Standard WC-7 and Section 310 of the N.E.C. and IMSA 51-3, 1984. The Loop wire shall not have any cuts, nicks, abrasions or breaks in the insulation before or after installation in the slot. Any wire having defects in the insulation shall be replaced at no additional cost to the City.

Loop wire and lead-in to the pullbox or Loop detector shall be one continuous length of wire with no splices.

Loop lead-in from the curb or edge of pavement to the pullbox or conduit shall be installed in one inch conduit as indicated on the plans. The Loop lead-in for each loop shall be run in separate saw cuts from the loop to the pullbox.

The two loop lead-in wires shall be twisted two to five turns per foot from the loop to the point of termination.

The wire shall be placed in the bottom of the slot so that there are no kinks, curls, straining or stretching of the insulation. Subsequent turns of the loop shall be placed to assure vertical stacking of the wires.

Special care shall be taken in seating the wires so that the insulation will not be broken or abraded. No sharp tools such as screwdriver or metal object shall be used for this operation.

Loop location and configuration shall be as shown on the plans unless otherwise directed.

C736.05 LOOP SEALANT: All saw cuts with the wire installed shall be inspected and approved by the authorized representative of the Department of Public Works, unless written authorization is given by the authorized representative for permission to do otherwise, before the sealer is installed.

The sealant shall be encapsulant one-part urethane elastomeric compound requiring no mixing, measuring or application of heat prior to or during its installation. The sealant encapsulant shall be designed specifically for sealing detector loops in concrete or asphalt and have flow characteristics which insure complete encapsulation of the wires.

The encapsulant loop sealant shall have the ability to enable vehicular traffic to pass over the properly filled saw cut immediately after installation without stringing of the material. The encapsulant shall form a surface skin within 60 minutes at 75°F at 50% Relative Humidity (RH).

The cured sealant encapsulant shall exhibit resistance to effects of weather, vehicular abrasion, motor oil, gasoline, antifreeze solution, brake fluid, deicing chemicals and salt normally encountered, in such a manner that the performance of the vehicle detector loop wire is not adversely affected. The sealant shall maintain its protective characteristics throughout the ambient temperature ranges experienced within the continental United States.

The Contractor shall install the sealer in strict adherence to the manufacturer's recommendations and these specifications.

The sealant shall be designed for roadway installation when the surface temperature is between 40°F and 100°F. No sealer shall be installed during inclement weather or under any condition which might introduce moisture into the saw slots.

A minimum of 75% of the sealant weight shall remain solid with no volume shrinkage after all solvent has evaporated. The sealant shall have an installation viscosity range of 5,000 to 85,000 cps.

The tack-free drying time shall be a maximum of 24 hours. The cure time of 1/8" thick film shall be a maximum of 30 hours. However, the under filling of the saw cut from 1/8" to 1/4" shall permit opening of the intersection immediately after the work has been completed.

The sealant shall have an elongation at break point property between the range of 400% to 700%. The tensile strength of the sealant shall be a minimum of 800 psi.

C736.06 SHIELDED CABLE: Shielded cable shall conform to IMSA Specification 50-2, AWG #14.

Shielded cable shall be installed continuous from the loop wire splice in the curbside pullbox to the cabinet mounted terminal strip allocated for detector lead-in cable termination. No splices shall be allowed between these points. The Contractor shall take adequate measures to protect cable from damage during handling and installation.

All splices in pullboxes must be carefully made to insure constant low resistance and must be insulated by means of a plastic casting splice kit to render a waterproof joint. Connections shall be soldered. The shielded drain wire in the pullbox shall be cut off flush and waterproofed so as not to come in contact with the pullbox or ground. The shielded drain wire shall be terminated with a ground wire and solidly grounded at the amplifier.

C736.07 MEASUREMENT: Loop detectors will be measured by the Linear Foot of sawed lot. Measurement will include sawing, installed wire, shielded cable and sealing. Measurement will be made from the curbside pull box and once around each loop perimeter.

C736.08 PAYMENT: Payment for loop detector will be made at the contract unit price under:

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C736(59)	Loop Detector	Linear Foot

SECTION C740
CONSTRUCTION LAYOUT

C740.01 DESCRIPTION: This section sets forth requirements for all construction layouts. The work consists of establishing lines and grades, taking all cross sections, and staking out the construction work in accordance with these specifications, plan details, and as directed. This work also includes but is not limited to, the layout of pavement striping and raised pavement markers, setting of line and grade for construction of super elevated curves or other applicable work items, and providing assistance in the coordination of utility relocation activities to ensure that the placement of relocated facilities will not conflict with required construction.

C740.02 CONSTRUCTION REQUIREMENTS: The Contractor shall establish all lines and grades and stake out all work on this project, including sufficient vertical and horizontal points for utility relocations for use by the Department and others.

The project survey control and horizontal alignment are based on NAVD 88 and the Louisiana State Plane Coordinate System (NAD-83--92), as determined by GPS observation. The construction plans and/or right-of-way map depicts the coordinates of sufficient survey control points to establish or re-establish horizontal control throughout the length of the project. The Contractor shall employ such methods as approved by the Director for the location of the project alignment and other necessary survey control points in accordance with currently acceptable surveying standards and practices. The Contractor shall verify the values of any intermediate bench marks shown on the plans, by checking against these bench marks.
The Contractor shall employ qualified engineering and surveying personnel experienced in layout and construction of highways and bridges to correctly establish and keep complete and comprehensive notebook records (field books) of all lines and grades necessary from initial layout to final acceptance.

The Contractor shall provide sufficient qualified staff, of at least one employee, on site during utility relocation periods. The Contractor shall provide any necessary survey work to ensure there are no utility conflicts with required construction. The Contractor shall provide daily documentation of utility relocation activities for incorporation into the project diaries.

The Contractor shall be liable for the accuracy of the initial layout and all subsequent alignment and elevations and shall, at no additional pay, rebuild, repair or make good any portion of the work found to be incorrectly positioned either horizontally or vertically at any time before final acceptance.

The Contractor shall notify the Director immediately of any apparent errors in the plans. The Contractor shall compute and provide template grades to the Director. In order to obtain pipe order lengths, the appropriate grades shall be provided to the Director two weeks in advance of the work.

Computer generated printouts will be allowed when approved. Stationing for overlay projects shall be set using an approved measuring device that is accurate to 0.1 percent. Stakes shall be placed every 100 linear feet and maintained by the Contractor throughout construction.

Layout of striping, raised pavement markers, and signs shall be done by methods approved by the Director prior to placement.

C740.03 MEASUREMENT: Measurements for determination of pay quantities will be made by the Department. Construction layout and utility oversight and coordination will be measured per lump sum, which will include all labor, materials and incidentals required to complete the work. No changes in the lump sum contract price will be made for minor additions or deletions to the scope of work.

C740.04 PAYMENT: Payment for construction layout, and utility oversight and coordination will be made at the contract lump sum price in accordance with Table 740-1.

Payment shall be made under:

Table C740-1

Construction Layout Payment Schedule

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Construction Layout
Staffed	25
25	50
50	80
75	95
100	100

ITEM NO.	PAY ITEM	PAY UNIT
C740(51)	Construction Layout	Lump Sum

SECTION C741
WATER MAINS

Water mains shall conform to all of the requirements of the General Specifications and Standard Plans of the Sewerage & Water Board (S&WB) of New Orleans (the latest revision), except as noted.

C741.01 GENERAL:

(a) The Contractor shall furnish all labor, supervision, materials and equipment required for the replacement of existing water mains with new mains, including house connections, valves, manholes, hydrants, and making necessary offsets, as required.

(b) All workmanship and materials shall conform with section F of the General Specifications of the S&WB and Dwg. No. 7260-W except as noted herein.

(c) The Contractor shall notify the Chief of Network Engineering of the Sewerage & Water Board in writing a minimum of three working days and not more than ten working days in advance of starting the job.

(d) All tie-ins to the existing water mains shall be made by the Contractor. The S&WB Forces shall close all valves and witnessing the tests and chlorination of the mains. Contractors shall not operate S&WB valves. Prior to making tie-ins, the Contractor shall notify residents at least 48 hours in advance of interruption of service.

(e) The existing utilities shown are approximate. The Contractor shall verify the location of utilities in the field and shall protect them from damage.

(f) Water and sewer services damaged by the Contractor shall be repaired by the S&WB at the Contractor's expense. The Contractor will be furnished a list of the locations of water and sewer house connections. This listing is from S&WB records and the listed locations could vary from the actual locations. It is the Contractor's responsibility to verify the location of these services and to protect them from damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather an attempt on the part of the S&WB to minimize the Contractor's hazards

C741.02.1 MATERIALS:

(a) All new water mains 4-inch through 12-inch, unless otherwise noted, shall be solid wall DR 18 Polyvinyl Chloride (PVC) pipe manufactured in accordance with AWWA C900, latest edition, and shall be U.L. listed. New water mains 16-inch through 30-inch, unless otherwise noted, shall be solid wall DR 18 PVC pipe manufactured in accordance with AWWA C905, latest edition, and shall be U.L. listed. Pipe shall be furnished in standard lengths (min. 16 feet) with integral cast bells or couplings using elastomeric gaskets conforming to the AWWA C900 or AWWA C905 specification.

(b) Ductile iron pipe, unless otherwise noted, shall be Special Thickness Class 52. All ductile

iron pipe shall be furnished with an asphaltic outside coating in accordance with AWWA C151 and a cement-mortar lining and seal coating, where applicable, in accordance with AWWA C104.

(c) Ductile iron fittings for water mains shall be mechanical joint restrained with external restraints such as Megalug as manufactured by EBAA Iron, Inc., or approved equal in accordance with the applicable requirements of AWWA C110 or C153 with rubber gasket joints conforming to AWWA C111. All fittings shall be furnished with an asphaltic outside coating in accordance with AWWA C151 and a cement-mortar lining and seal coating, in accordance with AWWA C104. All fittings, bends, tees, etc. shall have restrained joints in accordance with and for the length recommended by the manufacturer. All nuts, bolts and washers shall be manufactured of stainless steel conforming to the requirements of ASTM A276, Grade 316.

(d) Joint restraint devices shall be Megalug as manufactured by EBAA Iron, Inc., or approved equal. Restrained joints for pipe, valves and fittings shall be designed for a working pressure of 350 psi unless otherwise specified. Joints shall be capable of being deflected 4 degrees, after assembly.

(e) All buried ductile iron pipe and fittings shall be wrapped with 8 mils polyethylene wrap in accordance with AWWA C105. This polyethylene wrap shall cover all buried ductile iron pipe and fittings, including joints, and shall be overlapped a minimum of twelve inches between sections and sealed with black polyethylene tape.

C741.02.2 INSTALLATION

(a) The installation of the new water main shall conform to the manufacturer's recommendations, and all the applicable requirements of Section F of the S&WB General Specifications.

(b) Bedding and backfill for water mains and all appurtenances shall be pumped Mississippi River Sand, free of roots, wood, clay lumps, or any other foreign matter and shall meet the requirements of LaDOTD Louisiana Standard Specifications for Roads and Bridges (LSSRB) Section 1003.07, latest edition.

(c) The trench bottom shall be smooth and free from roots, rocks, etc. The pipe shall be laid on a smooth bed of pumped Mississippi River sand six inches in depth for the full width of the trench and extending to the top of the pipe.

(d) Special care should be given in placing and consolidating the sand under the pipe haunches to provide adequate side support to the pipe while avoiding displacement and misalignment. The remainder of the trench shall be spread in loose lifts not to exceed twelve (12) inches and shall be compacted by mechanical vibrating equipment to at least 95 percent laboratory maximum density (dry) as determined by ASTM D 1557 at a moisture content within the limits of plus five (5) percent to minus three (3) percent of optimum. Density tests shall be one (1) per lift per one hundred (100) feet of trench. Field density in-place tests will be performed in accordance with ASTM D 2922.

(e) The Contractor shall prevent foreign material from entering the water main and contaminating it during storage and construction. The Contractor will be responsible for the cleanliness of the main at all times. At the end of each work day or stoppage of work, the Contractor must provide

a temporary water tight plug at each open end. When the work is resumed, the trench must be free of water and dirt before the plug is removed.

(f) At points of tie-ins, valves, offsets and other locations where the use of ductile iron pipe is required, the Contractor shall furnish AWWA C150, Special Thickness Class 52 ductile iron pipe with rubber gasket joints. All ductile iron pipe and fittings shall have cement mortar lining in accordance with AWWA C104 and shall be wrapped with 8 mils polyethylene wrapped in accordance with AWWA C105. This tubular wrap shall cover all ductile iron pipe and fittings, including joints, and shall be overlapped a minimum of twelve inches between sections and sealed with black polyethylene tape.

(g) Offsets in water mains shall be made by the Contractor with ductile iron bends or ductile offset fittings. All ductile iron fittings and bends shall be mechanical-joint with retainer glands and shall have stainless steel nuts and bolts. Bends shall be 22.5 degree or 45 degree and no bends greater than 45 degrees are allowed unless specifically called out in the Plans.

(h) Water main offsets in the new main that are indicated on the drawings are considered main line fittings and payment is included in the price of the new water main. Water line offsets not indicated on the drawings are to be paid at the bid price for water line offsets.

(i) Where called for in the Plans, the water main shall be installed by horizontal directional drilling. PVC pipe shall meet the requirements of Section C741.02.1. Pipe material shall be submitted to Director for approval prior to installation. The directional drilling equipment is to consist of a directional drilling rig of sufficient capacity to perform the bore and pull back the pipe, a drilling, fluid mixing, delivery and recovery system of sufficient capacity to successfully complete the installation, a drilling fluid recycling system to remove solids from the drilling fluid so that the fluid can be reused (if required), a Magnetic Guidance System (MGS) or "walkover" system to accurately guide boring operations, a vacuum truck of sufficient capacity to handle the drilling fluid volume, and trained and competent personnel to operate the system. All equipment must be in good, safe condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project. The Contractor shall be responsible for appropriate disposal of any drilling fluid used in the process.

C741.02.3 LUBRICANT FOR GASKETED PIPE AND FITTINGS

(a) Lubricant shall be suitable for potable water systems and shall conform to and be certified by both of the following standards:

ANSI/NSF 14: Plastic Piping System Components and Related Materials
ANSI/NSF 61: Drinking Water System Components – Health Effects

(b) Lubricant shall be nontoxic and suitable for potable water systems, non-corrosive and be non-flammable. Lubricant shall be an emulsified polymer based product, specifically formulated to be water-soluble without causing turbidity. Lubricant shall not transfer taste and/or odor to the new water main installations. Lubricant shall not promote bacterial growth and be safe for use on all metal and plastic pipes. Lubricant shall be easily flushed from the line and be non-reactive to chlorinated water. Lubricant should work easily on both wet and dry surfaces.

The use of oleate-based lubricants is not permitted for new water main installations due to odor and taste transfer problems.

C741.02.4 VALVES, VALVE BOXES, AND VALVE MANHOLES

(a) Valves shall be procured by the Contractor. Valves 4 in. to 12 in. shall be S&WB R.D. Wood Gate valves as shown in S&WB Dwg. 11897-W-62 or American RD Rotating Gate Disc Valve C-500 with adjustable packing. Valves 16 in. and larger shall be American RD gate valves. Valves shall have raised pattern letters "SEWERAGE & WATER BOARD" on the body of the valve. Valves must turn clockwise to open.

(b) Valves 4” to 12” shall be installed as shown on S&WB Drawing 6179-F-2.

(c) Existing valves that are replaced or no longer needed shall be removed and delivered to S&WB Central Yard, 2900 Peoples Avenue, at no direct pay.

(d) Valve Manholes for valves up to and including 12” shall be brick and installed as shown on S&WB Drawing No. 6179-F-2. Water manhole casting and covers shall conform to S&WB Drawing No. 3143-E-1.

(e) Valve Manholes for valves 16” and larger shall be as shown in the details included in the plans.

(f) Existing manholes that are replaced or no longer needed shall be abandoned in accordance with S&WB Drawing No. 8180-SD, at no direct pay.

(g) Existing manhole castings and covers that are replaced or no longer needed shall be removed and delivered to S&WB Central Yard, 2900 Peoples Avenue, at no direct pay.

(h) Valve boxes shall be installed as shown in S&WB Drawing 6179-F-2.

C741.02.5 FIRE HYDRANTS

(a) Fire Hydrants shall conform to at least one of the following: (1) 5 in. Breakaway Fire Hydrant Bronze Trim, as detailed in S&WB Dwg. No. 11825-W-62 or, (2) 5½ in. American-Darling Co.’s B-62-B or, (3) S&WB Mueller Hydrant A473 as detailed in Mueller Dwg. No. FH285 or (4) 5 in. New Orleans HYBRID-2 as detailed in Kennedy Valve Dwg. No. 81661-HYBRID-2. For details of setting hydrants, see S&WB Dwg. No. 6179-F-2.

(b) New fire hydrant leads shall be 6” solid wall DR 18 PVC pipe manufactured in accordance with AWWA C900, and shall be included in the water main unit price per linear foot. All hydrant lead joints shall be restrained.

(c) Existing hydrants that are removed shall be delivered to the S&WB Central Yard, 2900 Peoples Avenue, at no direct pay.

(d) Any fire hydrants existing or new and not in service must be covered, firmly secured and identified as being “Not in Service” at no direct pay.

C741.03 SERVICE CONNECTIONS:

(a) No direct tapping of the new water main will be permitted for making house service connections. Service saddles suitable to use with PVC pipe shall be used; i.e., Clow No. 3407 (all bronze) or JCM 407 Series with 2 bolts, or J. Jones J-966 (all bronze), or approved equal. The Contractor shall use only shell type hole cutter that will retain the coupon or chips and is designed to accommodate walls equal to pressure class 200.

(b) The Contractor shall replace all existing house water connections from the new main to the meter. There shall be no splicing allowed of new or existing water service connections. Existing services shall be tied into new mains using a service saddle and corporation cock.

(c) Existing 5/8", 3/4" and 1" water house connections to be replaced shall be replaced with 1" Polyethylene (PE) tubing from the main to the meter (see S&WB Dwg. Nos. 7134-W and 7134A-W). All other existing water house connections shall be replaced with the same size as the existing connection, unless otherwise noted

(d) All Polyethylene (PE) tubing through 2" shall be PE 3406, DR9, conforming to ASTM D2737.

(e) All Bronze/Brass fittings, connectors, corporation stops and appurtenances used in conjunction with PE tubing shall be of domestic manufacture, SHALL BE MADE OF LEAD FREE BRONZE/BRASS, and meet all requirements of AWWA, ASTM, and ANSI for use in the potable water distribution systems.

(f) Existing 4" through 8" water house connections to be replaced shall be replaced with solid wall DR 18 Polyvinyl Chloride (PVC) pipe manufactured in accordance with AWWA C900, from the main to the meter.

C741.04 INSPECTION:

(a) After the award of the Contract, the Contractor's representative, in the company of representatives of the Department of Public Works and the Sewerage & Water Board will inspect all meter boxes and list the condition of each and what corrective action is required.

(b) It is the Contractor's responsibility to schedule the meter box inspection prior to the start of construction. If no pre-construction inspection is performed, it will be assumed that all meter boxes were in good condition prior to the start of construction. Any required repairs will be at the Contractor's expense.

(c) Prior to final acceptance, all meter boxes located within the limits of this project shall be in good repair, at proper grade, properly aligned and cleaned of mud and debris. The types of repair as specified in the bid items and noted in the pre-construction inspection will be paid per each at the price bid in the proposal. The Contractor shall be paid for one bid item only for each meter box. Required repairs which were not noted at the pre-construction inspection will be assumed to be the result of the Contractor's negligence and will be repaired at his expense.

(d) All inspection of the water main and related appurtenances will be performed under the inspection of, and to the satisfaction of, the S&WB. Final acceptance of the water system is subject to a one-year maintenance period following the substantial completion date of the contract accepted by the S&WB.

C741.05.1 HYDROSTATIC TESTING:

(a) The Contractor shall provide and install all materials in accordance with S&WB Dwg. Nos. 7004-W and 7005-W, latest revision. The test plugs are to be caps or plugs as required and shall be secured to the pipe ends. The test plugs become the Contractor's property after their use. Prior to commencement of the hydrostatic testing, all pipes to be tested should be filled with water a minimum of twenty-four hours prior to testing in order to minimize absorption of water by the inner surface.

(b) The Contractor shall make a hydrostatic test of the main when the entire main has been laid, including service connections, valves and hydrant leads, and all apparent defects in the main, coating, joints, etc., have been repaired as described in Paragraph F-15 of the S&WB General Specifications. Testing of only a portion of the main will be done only with the approval of the S&WB. The Contractor shall provide all the equipment and all the labor required for filling and emptying the main and measuring the pressure and leakage. The Contractor's test setup shall include provisions for the Sewerage & Water Board to install their own pressure gage so that the Contractor's pressure readings can be verified.

(c) All valves in the system shall be wide open so that pressure will come on the flanges and the test plugs which close the ends of the main and its branches, and not on the valve discs.

(d) The main shall be filled from the nearest hydrant, or from other sources of supply where hydrants are not available, to the flange outlet in the test plug. When the main is completely filled with water to the satisfaction of the Director, the Contractor shall close the air cocks. He shall apply a hydrostatic pressure of 100 psi on the water main system, including fire hydrants, fire hydrant leads, valves, and service connections and shall maintain this pressure for a minimum period of (2) two hours with no pressure loss.

(e) If leakage develops, the Contractor shall locate the leaks and repair them, working only from outside the main and using only such methods as approved in advance by the S&WB's Engineer.

(f) It is the intent of these specifications and of the contract based thereon, that all pipe joints be water tight under all service conditions. Any and all leaks from improperly laid or defective joints which are discovered during the leakage test or tests, or at any time prior to the elapse of one year following the final acceptance by the S&WB of the entire work, will be repaired by and at the expense of the Contractor.

(g) Hydrostatic testing shall be performed by the Contractor under the direct supervision of and to the satisfaction of the S&WB Engineer, at no direct pay.

C741.05.2 CHLORINATION:

(a) The Contractor shall not proceed with the chlorination process until successfully passing the

hydrostatic pressure test and given authorization to proceed by the S&WB Engineer.

(b) The Contractor shall use the continuous feed method of chlorination as described in AWWA Standard C651. The tablet method and the slug method are not acceptable.

(c) The Contractor shall use either sodium hypochlorite or calcium hypochlorite to provide the disinfectant for the chlorination process. If calcium hypochlorite is used, the Contractor shall pre-mix the calcium hypochlorite into solution before application. All hypochlorite raw materials must be certified as suitable for the treatment of drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 60, Drinking Water Treatment Chemicals – Health Effects.

(d) The Contractor shall flush the mains prior to the chlorination. Flushing shall be done at flow rates sufficient to provide a velocity in the water main of at least 2.5 feet per second to remove particulate debris prior to disinfection. During this flushing process, the Contractor shall make sure there are no air pockets present within the system.

(e) The Contractor shall follow AWWA Standard C651, latest revision, these Special Specifications and shall meet the requirements of the Louisiana Department of Health and Hospitals (LA-DHH) for installation and disinfection of potable water mains. Transporting, storage, and handling of all disinfection products, utilized for chlorination, shall be performed in accordance with all applicable Federal, State, Local Laws and Regulations.

(f) The Contractor shall chlorinate the new water main system, including fire hydrants, fire hydrant leads, valves, and service connections, under the direct supervision of the S&WB, such that the minimum chlorine concentration throughout the system is 50 mg/l. The chlorinated water shall be retained in the pipe for 24 hours for water mains less than 30 inches in diameter, and for 48 hours for water mains greater than or equal to 30 inches in diameter. After the required retention time, the chlorinated residual shall be at least 5 mg/l free chlorine, as measured by the S&WB. If the residual is less than 5 mg/l at any point in the system, the initial flushing and disinfection procedure shall be repeated by the Contractor until a 5 mg/l free chlorine residual is obtained. The Contractor shall contact the S&WB Water Purification Department (504) 865-0572, a minimum of 48 hours prior to chlorinating the new main to schedule the sample collection.

(g) The maximum length of water piping that can be chlorinated at one time is 2,000 (two thousand) linear feet.

(h) The Contractor shall flush the chlorinated water from the new main using potable water. Disposal of chlorinated water shall be in accordance with AWWA Standard C651 and all federal, state, and local requirements. The Contractor's chlorination and flushing setup shall include provisions for the S&WB to collect a sample, via a ¾" faucet without hose bib threads, on the inlet and each discharge stand pipe.

(i) The S&WB shall collect and analyze samples for coliform bacteria, chlorine residual, and turbidity from all pipe extremities and from representative points. All samples must be free from contamination by coliform bacteria and have acceptable turbidity levels as determined by the S&WB. The Contractor shall be responsible for final flushing and coordinating sample collection

by the S&WB.

(j) Chlorination and flushing of water mains shall be performed by the Contractor, at no direct pay. Also, no additional payment will be allowed for providing taps for chlorine injection and/or flushing if necessary.

(k) In the event that a new water main tests positive for coliform bacteria following chlorination, the Contractor will be responsible for reflushing the main and coordinating resampling for coliform analysis. If the second set of coliform samples test positive, the Contractor shall be required to repeat the chlorination procedure. A fee may be imposed on the Contractor for the additional supervision, sampling, and analysis required of S&WB employees as the result of the necessity of resampling and/or re-chlorination.

C741.05.3 TIE-INS

(a) The Contractor shall tie-in the new water main within 72 hours of receiving notification of acceptable laboratory test results from the S&WB. If the Contractor fails to complete the tie-in within 72 hours, additional flushing and re-testing for coliform bacteria by S&WB shall be required. Under no circumstances will the Contractor be allowed to make a tie-in to the existing water distribution system until acceptable laboratory test results have been obtained by the S&WB. All tie-ins shall be performed under the direct supervision, and to the satisfaction, of the S&WB. A fee may be imposed on the Contractor for the additional supervision, sampling, and analysis required of S&WB employees as a result of the necessity of resampling and/or re-chlorination.

(b) The tie-in shall be configured in such a manner to require 16 linear feet of pipe or less. The S&WB does not allow installation of pipe runs greater than 16 linear feet without hydrostatic pressure testing and chlorination. All pipe used in the tie-in shall be thoroughly cleaned and swabbed with a 1-5 percent hypochlorite disinfecting solution just prior to being installed, as recommended by AWWA C651.

(c) The S&WB forces shall be responsible for the closure of all water valves. Contractors shall not operate S&WB valves. The S&WB cannot guarantee a water-tight closure. The Contractor must work continuously and without interruption until the new piping is tied into the existing system and services are restored.

(d) Before the water service is interrupted, the Contractor shall:

1. Expose the existing water main at the tie-in location and verify the type, size, location, and elevation of the existing facilities.

2. Have sufficient materials, equipment and manpower available at the job site.

3. Verify materials on hand will meet the job needs after uncovering the existing mains.

4. Request a water test closure through the S&WB Networks Department (942-3891) a minimum of seven (7) working days in advance of the scheduled tie-ins.

5. Have notified all residents and the New Orleans Fire Department a minimum of forty-eight (48) hours in advance of interruption of service.

(e) After the tie-in is completed, the new line will be refilled under normal S&WB water main pressure (approximately 60 pounds per square inch). Tie-in piping will then be visually inspected for leaks and if any leaks are discovered shall be repaired by the Contractor using only such methods as approved by the S&WB, at the Contractors expense.

(f) The Contractor shall perform a final flush on the newly installed water main under the supervision of the S&WB Engineer to flush out the remaining free chlorine residual and fill the line with water representative of the quality in the distribution system prior to hydraulically connecting the new main to the distribution system

(g) All tie-ins shall be made by the Contractor, at no direct pay.

C741.06 AS-BUILT DRAWINGS: Prior to final inspection and testing of the system, the Contractor shall submit to the S&WB "as-built" drawings, at no direct pay, showing any change in line or grade from the original drawings, location of house service connections.

C741.07 PAYMENT: Payment for the accepted quantities will be made at the contract unit price.

(a) Payment for furnishing and installing New Water Mains shall be made at the contract unit price per linear foot, including main line fittings (bends, tees, etc.), fire hydrant leads, tie-ins, excavation, removal of existing pipe (if any), pumping as necessary to prevent contaminating the existing system, bedding, complete shoring, backfilling material, hauling and disposal of excavation material, and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for plugging and abandoning existing manholes and filling with flowable material (sand/cement mixture).

(b) Payment for furnishing and installing 1-inch through 2-inch Polyethylene Pipe for water house connections (adjustment/replacement) shall be made at the contract unit price per each, including excavation, backfilling, service saddles, corporation cock and removal of existing pipe (if any) and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for tie-ins to the main or meter. Minimum size of water house connections shall be 1".

(c) Payment for furnishing and installing 4-inch through 8-inch PVC pipe for water house connections shall be made at the contract unit price per each, including, excavation, backfilling, and removal of existing pipe (if any) and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for tie-ins to the main or meter. PVC pipe for house connections shall meet the requirements of Section C741.02.01.

(d) Payment for furnishing and installing New Fire Hydrant shall be made at the contract unit price per each. including, excavation, backfilling, and removal of existing pipe (if any), and any other related or incidental items required to complete this item of work for which separate payment is

not provided for under other items in the Uniform Bid Form.

(e) Payment for furnishing and Installing Water Valves up to and including 12-inch shall be made at the contract unit price per each. Payment for the installation of valves shall include furnishing and installing all ductile iron pipe, mechanical joint retainer glands, gaskets, including stainless steel tee bolts and nuts, etc. for a complete installation and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. The cost for valve boxes indicated on the plans shall be included in the bid price of the valves.

(f) Payment for furnishing and Installing Water Valves 16-inch and larger shall be made at the contract unit price per each. Payment for the installation of valves shall include furnishing and installing all ductile iron pipe, mechanical joint retainer glands, gaskets, including stainless steel tee bolts and nuts, etc. for a complete installation and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form.

(g) Payment for furnishing and installing Water Main Offset shall be for offsets consisting of four (4) mechanical joint bends complete with retainer glands, stainless steel nuts and bolts and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form, and shall be made at the contract unit price per each. Water line offsets consisting of only two (2) bends will be paid for at one-half (1/2) the unit price bid. Offsets are paid when not indicated on the plans. There is no direct pay for offsets shown on the plans.

(h) Payment for Plug Existing Water Main and Fill With Flowable Material (sand/cement mixture) shall be made at the contract unit price per linear foot, shall include all necessary equipment to completely fill the abandon main with sand/cement and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form.

(i) Payment for Construction of New Water Valve Manholes for 4-inch through 12-inch valves shall be made at the contract unit price per each, including excavation, granular bedding, foundation slab, manhole casting and cover and backfilling and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for plugging and abandoning existing manholes and filling with sand.

(j) Payment for Construction of New Water Valve Manholes for valves 16-inch and larger shall be made at the contract unit price per each, including excavation, granular bedding, foundation slab, manhole casting and cover, valve box, and backfilling and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. There shall be no direct payment for plugging and abandoning existing manholes and filling with sand.

(k) Payment for Remove Mud and Debris from Inside of Water Meter Box shall consist of the removal of all mud or debris within a meter box that does not need adjustment or replacement, and shall be made at the contract unit price per each.

(l) Payment for Adjust Complete Water Meter Box to Grade shall consist of adjusting the meter box to grade by placing bricks, slate, or similar material under the meter box pan, and shall be made at the contract unit price per each. There shall be no separation between the upper barrel and the lower meter box pan. Any mud or debris within the box shall be removed before the upper barrel and lower pan have been adjusted. There will be no additional payment for removal of mud and debris under another item. Meter boxes shall be adjusted to grade in areas where the grade of the curbs and/or sidewalks is changed or as directed by the Director. If the water house connection needs to be replaced from the meter to the property line in order to adjust the meter box, the new water house connection shall be paid under the item, “Remove and replace water house connection (from meter to property line) (all sizes)”.

(m) Payment for Replace Broken Water Meter Box (5/8” to 1”) shall be made at the contract unit price per each, shall include any meter box replacement or any new meter box required and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Uniform Bid Form. Installation shall be as shown on S&WB Drawing. No. 7134-W.

(n) There shall be no direct payment for salvaging existing valves, fire hydrants, manhole castings and covers, etc.

(o) All other items of work necessary to the performance of the project, for which no specific unit price and/or lump sum pay item is established, shall be considered and designated part of the construction, and the existing pay items shall be full compensation. Items including but not limited to, trench safety, traffic control, contract closeout, shop drawings, submittals, and office support shall be merged into the prices bid.

(p) There will be no direct payment for temporary water mains, temporary water service connections, and any related work including temporary tie-ins, removal of temporary work after installation of permanent work, and other incidentals. The cost of all work shall be included in the unit bid prices of water mains and house connections.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C741(51)(B)	6” New Water Main with Main Line Fittings	Linear Foot
C741(51)(C)(1)	8” PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(C)(2)	8” Ductile Iron New Water Main w/ Main Line Fittings	Linear Foot
C741(51)(C)(3)	8” PVC New Water Main with Main Line Fittings by Directional Drilling	Linear Foot
C741(51)(E)(1)	12" PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(E)(2)	12” Ductile Iron New Water Main w/Main Line Fittings	Linear Foot
C741(51)(F)(1)	16" PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(F)(2)	16” Ductile Iron New Water Main w/Main Line Fittings	Linear Foot
C741(51)(H)(1)	20" PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(H)(2)	20” Ductile Iron New Water Main w/Main Lin e Fittings	Linear Foot
C741(51)(I)(1)	24" PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(I)(2)	24” Ductile Iron New Water Main w/Main Line Fittings	Linear Foot
C741(51)(J)(1)	30" PVC New Water Main with Main Line Fittings	Linear Foot
C741(51)(J)(2)	30” Ductile Iron New Water Main w/Main Line Fittings	Linear Foot
C741(52)(A)	New 4" Valve	Each
C741(52)(B)	New 6" Valve	Each
C741(52)(C)	New 8" Valve	Each
C741(52)(E)	New 12" Valve	Each
C741(52)(F)	New 16" Valve	Each
C741(52)(H)	New 20" Valve	Each
C741(52)(I)	New 24" Valve	Each
C741(52)(J)	New 30" Valve	Each
C741(53)	Tapping Sleeve & Valve Assembly (Size)	Each
C741(54)	New Fire Hydrant	Each
C741(55)(A)	Replace 5/8’ to 1” Water House Connection with 1” Water House Connection (from Main to Meter)	Each
C741(55)(B)	Replace 1-1/2" Water House Connection (from Main to Meter)	Each
C741(55)(C)	Replace 2” Water House Connection (from Main to Meter)	Each
C741(55)(D)	Replace 4” Water House Connection (from Main to Meter)	Each
C741(55)(E)	Replace 6” Water House Connection (from Main to Meter)	Each
C741(55)(F)	Replace 8” Water House Connection (from Main to Meter)	Each
C741(55)(G)	Replace Water House Connection from meter to property line 5/8” to 1”	Each
C741(56)	Relocation of Fire Hydrant (In Existing Main)	Each
C741(70)	Additional Ductile Iron Fittings	Ton
C741(71)(B-01)	6” Water Line Offset up to 24”	Each
C741(71)(C-01)	8” Water Line Offset up to 24”	Each
C741(71)(C-02)	8” Water Line Offset over 24”	Each
C741(71)(E-01)	12” Water Line Offset up to 24”	Each
C741(72)(B-02)	6” Water Line Offset over 24”	Each
C741(72)(E-02)	12” Water Line Offset over 24”	Each
C741(73)	Adjust Water Valve Box	Each

C741(74)(A)	New Water Valve Manhole (4” through 12" Valves)	Each
C741(74)(B)	New Water Valve Manhole (16” through 20” Valves)	Each
C741(74)(C)	New Water Valve Manhole (24” through 30” Valves)	Each
C741(75)	Remove Mud and Debris from Inside Water Meter Box	Each
C741(76)	Adjust Complete Water Meter Box to Grade	Each
C741(77)	Replace Broken Water Meter Box (5/8”) to (1”)	Each
C741(78)(A)	Plug Existing Water Main 4” through 12” and Fill with Flowable Material (Sand/Cement Mixture)	Linear Foot
C741(78)(B)	Plug Existing Water Main greater than 12” and Fill with Flowable Material (Sand/Cement Mixture)	Linear Foot

SECTION C742
SEWER LINES

C742.01 SEWERAGE CONSTRUCTION: The work shall be in accordance with the Sewerage & Water Board Specifications and Standard Plans except as noted.

C742.02 GENERAL:

(a) The Contractor shall furnish all labor, materials, equipment and supervision required for:

- Restoration of existing sewer mains by point repair.
- Replacement of existing sewer mains between manholes including tie-in into existing system.
- Relocation of existing sewer mains because of conflicts.
- Installation of new sewer mains, sewer house connections and manholes.
- Replacement of damaged sewer house connections and manholes.
- Installation/rehabilitation of manholes and cleaning of new replaced or restored mains and manholes.

All work to be done on Sewerage Systems will be as shown on the plans and as directed by the Director. All workmanship, materials and tests shall conform with Section D of the General Specifications of the Sewerage & Water Board and Sewerage & Water Board Standard Drawing No. 7260-S, except as noted hereinafter. The Contractor shall notify the Chief of Network Engineering of the Sewerage & Water Board in writing not less than three or more than ten working days in advance of starting the job, in order to allow for scheduling the inspection of the work. Failure to do so prior to starting work will result in the Contractor being required to expose the bedding on all pipe previously installed without Sewerage & Water Board inspection.

(b) All workmanship and materials required to perform this work, shall conform to the current General Specifications of the Sewerage & Water Board and the Department of Public Works except as noted hereinafter.

(c) The Contractor performing work covered in this section shall be required to coordinate his operations with the Sewerage & Water Board (Chief of Network Engineering) and other utilities prior to making any excavation so that the location of their services can be identified. The Contractor shall exercise caution in making excavations to avoid damage to these services and other utilities.

(d) The Contractor will be furnished with a list of the locations of water and sewer house connections from the Sewerage & Water Board. It will be the Contractor's responsibility to verify the location of these so as to avoid damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather an attempt on the part of the S&WB to minimize the Contractor's hazard. The existing house connections submitted in the lists are from S&WB records and could vary from the actual location. Any damage to the existing water, sewer and drain connections resulting from negligence will be repaired by the S&WB at the expense of the Contractor. The Contractor is also responsible for damage to other utilities and the property of others.

(e) Sewer house connections shall be tied into the new mains and replaced with new connections where needed.

C742.03 INSTALLATION AND REHABILITATION OF SEWER MAINS:

(a) GENERAL: Work under this section shall consist of furnishing all labor and materials for the replacement, relocation and/or installation of sewer mains, installing new house connections, point repairs and performing all operations required for improving the sewer system. The Contractor shall provide the necessary dewatering and by-passing required during execution of this work at no direct pay.

(b) MATERIALS AND METHODS: Pipe material for sewer mains shall be solid wall polyvinyl chloride (PVC) pipe. The solid wall PVC pipe 6" through 15"shall be manufactured in accordance with ASTM D-3034 specifications for a special gravity sewer pipe dimensions ratio (SDR) of 26. The fittings (tees, wyes, etc.) and bell stock for truss and solid wall PVC pipe shall have a thickness not less than that of the SDR-35 solid wall PVC pipe of the same inside diameter. PVC Sewer Mains sizes 18" through 27" shall be solid wall, PVC pipe conforming to ASTM F-679, Class T-1. PVC pipe shall be type PSM Vinyl Chloride (PVC) standard lengths with integral cast bells and elastomeric gaskets as recommended by the manufacturer and ASTM D-3212.The Sewerage & Water Board reserves the right to approve the type of material.

The maximum allowed deflection for installed PVC sewer pipe is per the manufacturer recommendations. Newly installed pipe that exceeds this allowable deflection shall be removed and replaced with new pipe and reinstalled as per the above specifications at the Contractor's expense. The S&WB reserves the right to mandrel any and/or newly installed PVC sewer pipe. The Contractor will install the pull lines and pass the mandrel through the mains selected by the S&WB. The S&WB will provide the mandrels for all tests. The mandreling tests will occur after compacted backfill of the trenches. The Contractor shall bear the cost of mandreling re-testing if required and will be assessed $100.00 for each occurrence in each section between manholes. In addition, cleaning and TV/video of the new PVC sewer lines (either in-service or not) will occur during final inspection after all paving is completed to verify the absence of construction debris. The Contractor shall bear all costs of cleaning and TV/video test or re-testing. It is required that a S&WB representative and the Contractor witness the actual mandreling test(s) and witness the real-time cleaning and TV/video test(s). The S&WB does not desire a copy of the videotape.
Bedding and foundation for mains shall conform with S&WB Drawing No. 4697-E5-A except as noted below. Backfill and drainage fabric for mains shall be as noted below. Standard sheeting and bracing shall comply with DWG. 4697-E5A of the S&WB General Specifications. The same type and size pipe material must be installed between manholes.

Installation of the solid wall PVC pipe shall conform to Section D of the Sewerage & Water Board General Specifications, "The Construction of Sewer" and the Plastic Pipe Association Specification UNI-B 78, "Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Sewer Pipe." The trench bottom shall be relatively smooth and free from rocks, roots, etc. After the sheeting and/or foundation lumber is placed, the pipe shall be laid on a smooth bed of approved bedding

material mentioned below, compacted to a density of not less than 95% relative density, six inches deep for the full width of the trench.

The bedding material shall be extended to six inches above the top of the pipe, well compacted (hand or mechanical) in six inch layers to not less than 95% relative density, as shown on the Standard Plans of the Department of Public Works. The bedding material shall be placed and consolidated under the pipe haunches to provide maximum side support to the pipe while avoiding displacement and misalignment of the pipe.

Bedding material shall be 100% crushed aggregate listed on Qualified Product of the Louisiana Department of Transportation and Development and conforming to ASTM D2321, class 1A Angular Material (1/4" to 1 ½") and ASTM No. 57. The Sewerage & Water Board reserves the right to approve the type of bedding material.

Backfill material shall be pumped sand and shall be placed at or near optimum moisture content and compacted according to one of the following procedures:

1. Backfill material shall be placed in layers not to exceed 12 inches. Each layer shall be compacted to a minimum of 95% of maximum density using approved mechanical compaction equipment. Or,

2. Backfill material may be placed in layers not exceeding 12 inches by thoroughly compacting each layer to 95% maximum density at or near optimum moisture content using approved mechanical compaction equipment, prior to placing a subsequent layer.

The above backfill material and the compaction procedures shall be applied also for any service connections, and point repairs.

Drainage fabric shall be installed around the bedding and under the sand backfill according to the Standard Plans. Fabric shall extend a minimum of twelve (12") inches on each side of the trench and shall be secured to each side in a manner acceptable to the Director.

The Contractor shall provide the Director a sample of the fabric to be used on the project along with a copy of the manufacturer's minimum requirement specifications prior to the start of construction.

The drainage fabric shall be installed around the bedding and under the sand backfill according to the Standard plans.

(c) REPLACEMENT AND RELOCATION OF EXISTING SEWER MAINS, INSTALLATION OF NEW SEWER MAINS BETWEEN MANHOLES: The Contractor shall furnish all materials, equipment and labor to remove the existing deteriorated main, (if any) install mains and fittings (wyes, tees, etc.), including appurtenances such as tie-ins to existing system, lumber foundation, bedding, backfilling, necessary dewatering and by-passing, during the execution of this work.

Where the sewer main is relocated, the existing abandoned main must be filled and plugged where shown on the plans. Sand shall be filled into the sewer line to avoid caving in of the sewer line.

All workmanship, materials and tests shall conform to Section D of the General Specifications of the S&WB, except as noted otherwise. The Contractor may use more than one crew in performing work in various sections of a system at a given time, provided he has the approval of the Director.

The new sewer mains and house connections shall be installed at the elevations and locations indicated on the plans, unless changed by the S&WB. The Contractor shall schedule his work so that the sewer mains and house service connections between two manholes are completed before moving to another location (this will minimize the spillage of raw sewage into an open trench). The Contractor shall isolate the block where the work is in progress by plugging the upstream and downstream manholes. Should the sewerage build up to within three feet of the upstream manhole, or if directed by the S&WB, the Contractor shall pump the sewer liquid to the downstream manhole through by-pass pumping. No mains or lines shall be left open overnight; a temporary tie-in shall be made between the end of the new main and the existing, and plugs at manholes shall be removed so as to allow flow to continue until work is resumed.

Where it is necessary to connect the sewers to existing manholes, the existing short bell pieces remaining in the wall of the manhole shall be broken out. A new short bell piece shall be inserted to the full thickness of the walls and permanently grouted in place (see S&WB Dwg. 6178-B6). The new short bell piece shall be a sand impregnated PVC stub grouted with a type three, high early strength cement, or quick setting EMBECO or similar material.

If a PVC pipe is to be connected to a manhole or other concrete or brick structure, the Contractor shall use a sand impregnated PVC stub, grouted with cement grout as specified above, for the manhole connection.

(d) POINT REPAIRS OF EXISTING SEWER MAINS: The Contractor shall make point repairs to the lines at specific locations shown on the drawings and as listed in the proposal.

Point repairs shall be made by either wet or dry type and shall conform to Section XII of NASSCO (National Association of Sewer Service Companies). The Contractor shall make an excavation to expose a base "ten (10') linear feet" of main, per point repair. Any additional footage of repair beyond the ten foot minimum for each point repair shall be approved by the Director.

The Contractor is required to have all materials and equipment on hand prior to the start of excavation so that there will be a minimum of inconvenience to the residents. All trenches must be backfilled at the end of the day.

(e) SEWER HOUSE CONNECTIONS: New or replacement sewer house connections, where required, shall be six inch pipe extended from the main to the back of curb or to a point directed by the Director. Bedding and foundations required under sewer mains are <u>not</u> required under six (6") inch sewer house connections.

The use of saddles to connect the house service to the main will not be permitted; all such connections shall be made using wye to tee fittings.

The need for replacing these house services beyond the wye or tee connection will be determined by the Director. If the pipe beyond the wye or tee is in good condition, a tie in will be made at the fitting (wyes, tees, etc.). If the pipe beyond the wye or tee is in poor condition, a new house service will be installed from the main to the back of curb or to a point directed by the Director and tied into the existing house service at the point. All pipe and fittings shall be of the same material as the main, unless approved by the S&WB. The connection of any two dissimilar materials shall be accomplished by the installation of a "No-Hub" coupling, consisting of a neoprene sleeve and bushing adaptor and two stainless steel bands with STAINLESS STEEL SCREWS. The coupling shall be manufactured in strict accordance with Cast Iron Soil Pipe Institute Specifications C-301, latest revision, as manufactured by Tyler Pipe Company, Mission Clay Products Corps., Fernco, or approved equal.

Where existing or proposed subsurface facilities conflict with existing sewer house connections, these same connections shall be adjusted to provide for adequate clearance in accordance with the S&WB Standard Specifications. No syphons will be permitted. Adjustment of sewer house connections shall comply with the above specifications for replacement of sewer house connections.

(f) SANITARY SEWER MANHOLE: New sanitary sewer manholes required when installing new sewer mains or relocating existing sewer mains shall be constructed in accordance with the applicable sections of the S&WB General Specifications and S&WB Standard Drawings No. 6178-B6, No. 6178-B-6A, and 3143-E-1.

(g) INSPECTION: At the completion of the point repair or installation of mains between manholes, and prior to final acceptance, the S&WB may inspect the mains with a remote control television unit. The Contractor shall assist by notifying the residents to refrain from use of these services during the inspection. The Contractor will be required to repair at his expense and in an approved manner, all defects in his workmanship disclosed by these tests and inspections before final acceptance.

C742.04 MEASUREMENT: Sewer mains will be measured in place and the length determined by measuring from center to center of manholes or other subsurface structures of which they form a part.

Depth of sewer mains for payment purposes shall be determined by measurement from the invert to the top of casting at original existing grades of connecting manholes. Depth of manholes shall be measured from invert to the top of casting.

C742.05 PAYMENT:

(a) Payment for relocation, replacement and restoration of existing sewer mains or installation of new sewer mains shall be made at the contract unit price per linear foot of the size and depth, which includes excavation, pumping, as necessary, complete shoring, foundation lumber, bedding, installation of new main, including fittings, backfill, drainage fabric and tie-ins. If the existing sewer main is to be replaced, the cost shall include removal of the existing sewer main.

(b) Payment for "install sewer manhole" shall be made at the contract unit price per foot high, including excavation, granular bedding and backfilling. If the existing manhole is to be replaced, the cost shall include removal of the existing sewer manhole.

(c) Payment for "replacing manhole casting and cover" shall be made at the contract unit price per each including removal of the existing sewer manhole casting, installing the new casting at the specified grade and backfilling the excavation with approved backfill material. Adjustment to grade of the manhole casting shall be included in the cost of replacement.

(d) Payment for "point repair of existing sewer mains" shall be made at the contract unit price per each of the size and depth specified, including excavation, foundation lumber, bedding, drainage fabric, backfill, complete shoring, pumping as necessary and tie-ins. Payment for point repair beyond ten (10') feet shall be made at the contract unit price per the linear foot, including the above works.

(e) Payment for "new sewer house connection from main to back of curb" shall be made at the contract unit price per each of the size specified including installation of a wye or tee in the main, PVC pipes, fittings, a cap behind the curb, excavation and backfill.

(f) Payment for "replacing existing sewer house connection from existing main to back of curb" shall be made at the contract unit price per each including the installation of PVC pipe, fittings, excavation, backfill, and tie-ins from the existing wye or tee to the existing sewer house connection back of curb.

(g) Payment for "reconnecting existing sewer house connection to new main" shall be made at the contract unit price per each including installation of a new tee or wye into the main, removal and rep1xcement of up to three feet of the existing, excavation and backfill.

(h) Payment for "reconnecting existing sewer house connection to new main and extend to back of curb" shall be made at the contract unit price per each including the installation of PVC pipe, fittings, excavation, backfill, tie-in, and installation of a new wye or tee in the new main, from the new wye or tee to the existing sewer house connection back of curb.

(i) "Replacing existing sewer house connection beyond back of curb." If directed by the Director to replace the sewer house connections in (f) or (h) beyond back of curb, payment for this item shall be made at the contract unit price per linear foot per any additional footage beyond back of curb.

(j) "Adjust Sewer House Connections" includes removing and replacing up to 15 feet of existing sewer house connection where required to avoid conflict with new water, drain, or other utility line, including tie-ins at both ends, fittings, excavation, installation, backfill, no siphon permitted. Payment for this item shall be made at the contract unit price per each.

(k) Payment for "pipe lining" shall be made at the contract unit price per linear foot of the size and method specified to; (1) clean and inspect the existing pipe to be sure that the liner can be properly installed, (2) install the liner in accordance with Special Specifications; and (3) clean up and restore any damage caused by the lining process.

(l) Payment for "cut liner to restore existing service connections" shall be made at the contract unit price per each of the size and the method specified. If the lining method for restoring service connections requires excavation, the price shall include all excavation, backfill and surface restoration.

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
C742(51)	Install Sewer Mains (Size & Depth)	Linear Foot
C742(55)	Install Sewer Manhole	Foot High
C742(56)	Replace Sewer Manhole Casting	Each
C742(57)	Sewer Point Repair up to Ten Feet (Size & Depth)	Linear Foot
C742(58)	Sewer Point Repair beyond Ten Feet (Size & Depth)	Linear Foot
C742(59)	New Sewer House Connections from Main to Back of Curb (Size)	Each
C742(60)	Replace Existing Sewer House Connection from Existing Main to Back of Curb	Each
C742(61)	Re-connect Existing Sewer House Connection to New Main up to Three Feet	Each
C742(62)	Re-connect Existing Sewer House Connection to New Main and Extend to back of Curb	Each
C742(63)	Replace Existing Sewer House Connection Beyond back of Curb	Linear Foot
C742(64)	Adjust Sewer House Connection	Each
C742(65)	Pipe Lining (Size & Method)	Linear Foot
C742(66)	Cut Liner to Restore Existing Sewer House Connection (Size & Method)	Each

SECTION C743
TESTING LABORATORY SERVICES

C743.01 GENERAL:

(a) An independent accredited testing laboratory shall be retained by the City of New Orleans for the purpose of sampling and testing materials or performing inspections on a given project.

(b) Cooperation of the Contractor: The Contractor shall cooperate with the designated testing laboratory and shall:

(1) Make available without cost, samples of all materials to be tested in accordance with applicable standard specifications.

(2) Furnish such nominal labor and sheltered working space as is necessary for designated testing laboratory to obtain samples at the project site.

(3) Advise the designated testing laboratory of the identity of material sources and instruct the suppliers to allow tests or inspections by the designated testing laboratory.

(4) Notify the designated testing laboratory sufficiently in advance of operations to allow for completion of initial tests and assignment of inspection personnel.

(5) Notify the designated testing laboratory sufficiently in advance of cancellation of required testing operations. The Contractor shall be responsible to the Director for charges due to failure to notify, if requirements for testing are cancelled. The Contractor shall also be responsible to the Director for charges due to failed tests. The Director can withhold payment to cover the cost of these charges.

(6) Provide curing facilities for initial curing of concrete cylinders at the job site in accordance with the requirements ASTMC-94.

(c) Test Methods: Tests and inspections shall be conducted in accordance with the latest applicable A.S.T.M., A.C.I., A.A.S.H.T.O., or La. D.O.T.D. requirements, or the requirements of other recognized authorities.

(d) Authority and Responsibility of the Testing Laboratory: The designated testing laboratory does not have the authority to accept or reject work for the Director. It is their duty to inform the Contractor and the Consulting Engineer's representative (CER) at the job site of any tests or conditions that do not meet the project specification requirements. The CER has the authority and duty to reject materials and/or workmanship that do not comply and to so notify the Director.

(e) Test Reports: The designated testing laboratory shall promptly submit written reports of each test and inspection made to the Director, Contractor and to such other parties that the Director may specify.

C743.02 PORTLAND CEMENT CONCRETE: Tests and Inspections:

(a) Mix Design:

(1) The designated testing laboratory shall review the contract mix design submitted for compliance within the General Specification requests and ACI 318-94, Chapter 5 or latest revision.

(2) Regardless of what method is employed, the following tests are required prior to use on a given project:

A.S.T.M. Sieve Analysis for Fine & Coarse Aggregates

(3) Certificates of Delivery which include test results shall be submitted by the concrete producer for cement, fly ash and additives to the designated testing laboratory for review. These certificates must certify that the material conforms to the specifications.

(b) Batch Plant:

(1) Prior to initial start-up of pavement operations for the project, the designated testing laboratory shall make themselves familiar with the concrete suppliers batch plant to determine if the operation substantially conforms to the requirements of A.S.T.M. C94. Any substandard conditions observed shall be immediately reported to the Director and the Contractor.

(2) Plant inspector is not required to be present at the plant during production. However, the Director may require an inspector be provided periodically at his discretion.

(3) The plant must be approved prior to beginning production for a given project. This approval will be given by the Director and/or his representative. The testing laboratory shall be responsible to inform the Director of any reasons or conditions that would adversely affect the plant's approval. Conditions for approval shall include but not be limited to the following:

(i) Ability to comply with A.S.T.M. C-94 (latest revision) Standard Specifications for Ready Mixed Concrete.

(ii) Whenever fly ash is used, the plant shall have a separate silo or bin to store the fly ash.

(iii) Whenever ground granulated blast-furnace GGBF slags are used, the plant shall have a separate silo or bin to store the slag.

(4) Prior to and periodically during construction, the designated testing laboratory shall sample and test aggregates proposed for use in concrete to determine their compliance with these specifications.

(c) Roadway Inspection:

(1) The designated testing laboratory shall provide a roadway technician at the job site during all times concrete is being placed. This roadway technician shall be responsible to perform the required field tests and promptly notify the Contractor and the CER of any sub-standard materials, workmanship or code violations being incorporated in the work.

(2) Samples of fresh concrete shall be gathered in accordance with A.S.T.M. C-172 (latest revision).

(3) Tests for slump - A.S.T.M. C-143 (latest revision) and air content - A.S.T.M. C-173 or C-231 (latest revisions) if applicable, must be performed whenever test cylinders are taken, and more frequently, when deemed necessary.

(4) The concrete temperature shall be measured and recorded when each set of cylinders are molded.

(5) Test cylinders shall be cast in accordance with A.S.T.M. C-31 (latest revision) as follows:

(i) Pavements: One set consisting of four (4) cylinders shall be cast for each one hundred (100) cubic yards or fraction thereof. An additional two (2) cylinders per set shall be cast for early strength determination.

(ii) Curbs, Driveways, and Sidewalks: One set of four (4) cylinders shall be cast in the a.m. (morning) and one set shall be cast in the p.m. (afternoon). A minimum of four (4) cylinders shall be cast per visit.

(iii) Combination Curb & Gutters: One set of four (4) cylinders shall be cast for each fifty (50) cubic yards or any fraction thereof. A minimum of four (4) cylinders shall be cast per visit.

(6) Test cylinders are to be tested in accordance with A.S.T.M. C-39 (latest revision) as follows:

2 @ 7 days of age.
2 @ 28 days of age.
1 @ 3 days of age (for verification of High Early Strength concrete).
1 @ 5 days of age (for verification of High Early Strength concrete).

(7) During production, if any truck of ready-mixed concrete fails to conform to specifications, the designated testing laboratory will immediately notify the Director and the Contractor and this material shall not be incorporated in the work.

(8) Re-tempering of concrete is not permitted.

(d) Cores for Thickness Verification:

(1) Cores shall be taken by the designated testing laboratory in accordance with Subsections C501.10 and C601.12 no later than fourteen (14) days after the conclusion of paving operations.

(2) Final locations of the cores shall be reported in a manner that is acceptable to the Director or his representative.

C743.03 ASPHALTIC CONCRETE MIXTURES:

(a) Tests and Inspections:

(1) The Contractor will be required to design the mixtures for optimum asphalt content and comply with all requirements of La. D.O.T.D. designation TR 303, Method A, however, Method B may be used when approved by the Director. Mixes which have been previously approved and are current within six (6) months may be submitted for approval subject to the same criteria as required by TR 303, Method A.

(2) The job mix formula shall be submitted for review by the designated testing laboratory and the Director supported by appropriate design data. No mixture shall be produced for the job until the Contractor's job mix formula has been approved by the Director. Approval or rejection of job mix formula shall be accomplished within seven (7) calendar days of submittal.

(b) Preliminary Tests: Prior to starting plant operations, the following materials will be sampled and/or tested by the designated testing laboratory:

(1) Obtain La. D.O.T.D. Certificates of Delivery covering asphalt cement in working tank. (Also to be obtained on a daily basis during production.)

(2) Obtain the refinery test report covering chemical and physical properties of the asphalt cement.

(3) Verify that the Anti-Stripping agent is included in the La. D.O.T.D. Qualified Products List.

(4) Other admixtures - La. D.O.T.D. Qualfied Products List.

(5) Aggregates - Verify that the source of aggregates to be used are included in the La. D.O.T.D. Qualified Products List.

(6) Sample the Contractor's fine sand. Test in accordance with A.A.S.H.T.O. T-90 to determine if plasticity index is four (4) or less. Visually inspect Contractor's stockpile to verify absence of clay balls and excessive clay coating.

(c) Tests Conducted at the Asphalt Plant: Tests to be conducted on the hot mix material at the asphalt plant will be conducted by the designated testing laboratory's plant technician. All tests will be conducted in accordance with La. D.O.T.D. specifications. Test results shall conform to the properties in Section 42. A sampling plan will be utilized such that samples are taken and tested as follows:

(1) 0 to 200 tons - Full sample is taken upon which the following tests are to be conducted:

Temperature - read to the nearest 5 degrees.

Extraction	
Extracted Gradation	TR 309
Per cent Extracted Asphalt Cement	TR 308
Per cent Crushed	TR 306
Marshall Stability & Flow	
(2 briquettes are made.)	TR 305
Unit Weight, Voids & Per cent	
V.F.A.	TR 304

Record Anti-strip content from meters and scales

(2) 201 to 400 tons - smaller sample is taken:

Temperature - read to the nearest 5 degrees.

Marshall Stability & Flow	
(1 briquette is made.)	TR 305

(3) 401 to 600 tons - Full sample is taken. Conduct tests as described for 0 to 200 tons.

(4) In excess of 600 tons - Smaller sample is taken. Conduct tests as described for 201 to 400 tons.

Mix temperatures at the time of molding the briquettes shall be within 15°F of the mix temperature at the time of sampling.

In addition to the above, the temperature of the mix is to be taken at least once per hour, when the mix has been loaded into haul trucks and is ready to leave the plant.
If the test results during the production of a lot are outside the limits given in Table 1 of Section C501, the representative of the designated testing laboratory shall immediately notify the Contractor's qualified asphaltic concrete plant technician.

If the Contractor refuses to take appropriate corrective action, the designated testing laboratory representative shall recommend to the Director to discontinue the operation of the plant immediately and shall notify the Contractor of his action. The plant may resume production of mix

for the project only after the Contractor's qualified asphaltic concrete plant technician produces evidence to the designated testing laboratory representative that the problem has been corrected.

When an individual test or the average of tests representing the lot is outside acceptance limits shown in Table 1 of Section C501, an adjustment in unit price for the lot will be made in accordance with Table 2 of Section C501.

(d) Pavement Samples: The Contractor shall furnish samples at locations determined by the designated testing laboratory's roadway technician. These operations shall be witnessed by the designated testing laboratory's roadway technician.

(e) Pavement Density: Refer to subsection Table 2 of Section C501.

(f) Roadway Inspection.

(g) Inspection of roadway asphaltic concrete work at the job site shall be performed by the roadway technician furnished by the designated testing laboratory. His duties will include, but not be limited to, the following:

(1) Record locations, tonnage, type of mix, lot number, and other pertinent data in his daily report.

(2) Temperatures will be checked and recorded in accordance with these specifications during the production of each lot.

(3) Observe the general operations of the Contractor to assure compliance with all requirements.

(4) Observe and record the tack and prime coat operations. (Square yards covered number of gallons used.)

(5) Determine the location of cores to be taken by the Contractor for thickness and density.

(6) Witness the drilling or cutting of the roadway samples and deliver same to designated testing laboratory for further testing.

(7) Witness the surface finish testing performed by the Contractor and report the findings of such testing.

(8) Inspect all mix hauled to the roadway for any obvious deficiencies which may include uncoated aggregate, segregated mixtures, mixtures with lumps, mix which is not of the proper temperature, excessive moisture, color and general appearance of the mixtures. Any loads found deficient shall be brought to the attention of the Contractor and rejected by the Director. Also, no trucks will be accepted without a haul ticket.

(9) Observe weather conditions and advise the Contractor of weather limitations when they apply.

C743.04 ROADWAY BASE & SUB-BASE COURSES:

(a) Soil materials, whether from required excavation or borrow excavation, which are to be incorporated in the project as fill or backfill, shall have been tested and classified by the Testing Laboratory prior to their use. Tests shall be conducted in accordance with the latest applicable standards of A.S.T.M., A.A.S.H.T.O., or La. D.O.T.D., and shall comply with the requirements of Section C302.

(b) Tests.

(1) Obtain a composite sample of base and sub-base material at source in accordance with A.S.T.M. D75 or A.A.S.H.T.O. T2.

(2) Perform Laboratory tests as follows:

A.S.T.M. C136 Sieve analysis of fine and coarse aggregates.
A.S.T.M. D4318 Test for liquid limit and plasticity index of soils.
A.S.T.M. D698, D1557, A.A.S.H.T.O. T99, T180, La. D.O.T.D. TR-418E, TR 418G Moisture-Density relations of soils and soil-aggregate mixtures (Proctor).
A.S.T.M. D2922, D1556, A.A.S.H.T.O. T191, T238 Density of soils and soil aggregate mixtures in place by nuclear or sand-cone methods.

(c) Field density tests shall be made on the completed base or sub-base courses and the depth of test recorded.

Frequency for Soil tests shall be as follows:

Trenches - 1 per 100 linear feet.

Backfill is to be placed and tested in 12" lifts when sand is compacted with a mechanical device, and in 3 foot lifts when flooding method is used.

Base Course - Six (6) tests per block.

Concrete roadway - 3 per side evenly spaced Asphalt/Conc. Curb - 4 under curb (2/side) and 2 in the roadway (1/side).

Depth - One (1) at each density test

C743.05 PAYMENT: Payment for all testing shall be made at the unit prices as detailed in the testing Contract between the City and the testing laboratory.

SECTION C744
STREETLIGHTS

C744.01 DESCRIPTION: This work consists of providing and installing streetlights and establishing all lines and grades as provided on the plans or as directed. The Contractor shall be responsible for the accuracy of all measurements.

C744.02 REFERENCED SPECIFICATIONS:

Street Lighting Handbook, City of New Orleans
New Orleans Street Light Maps, City of New Orleans
Street Light System, City of New Orleans
Street Light Circuit Schematics, City of New Orleans

C744.03 COORDINATION WITH OTHER CONTRACTORS AND UTILITIES: The Contractor shall conduct his operations to work with other entities on the project site. The Contractor shall not delay, endanger, or avoidably interfere with the activities of others and shall provide access to the site as required by the Director.

C744.04 DAMAGE TO STRUCTURES: The Contractor shall save and hold harmless the City of any damage to structures resulting from activities under this contract. The Contractor shall take reasonable precautions (e.g. maintaining vibrations within state mandated limits) to reduce seismic stresses on building structures.

C744.05 SALVAGABLE MATERIALS: The City reserves the right to retain any demolished items that the Director deems salvageable prior to the Contractor removing any items from the site. The Contractor shall deliver all salvaged materials, at the Contractor's expense, to an approved City location.

C744.06 INSTALLING/REPLACING LUMINAIRES: The Contractor shall install Light Emitting Diodes (LED) fixtures for all new street light installations. If a mercury vapor ballast fails within a NEMA or Cobra Head fixture, the Contractor shall replace the luminaire and convert it to a comparable LED fixture.

C744.07 PAINTING STREET LIGHTS: All painting operations shall be conducted in accordance with the requirements of Section 811 of the LA DOTD Standard Specifications for Roads and Bridges, latest edition.

The Contractor shall be responsible for preparing and finishing all metal parts, fittings, pedestals, mast arms, and luminaires.

Type of Paint:

Primers:
Exterior rust inhibitive ferrous-metal primer for ferrous metal,
Exterior galvanized metal primer for zinc-coated metal,
Exterior aluminum primer under alkyd finishes for aluminum.

Finish Coat: Exterior full-gloss alkyd enamel. Gloss refers to high sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

Standard colors are Bronze, Black, and “Jungle Green” FSTT-C-595, Color No. 14036.

Substitute products must be equal to specified paints for all qualitative requirements applicable to their use and must be approved by the Director.

Application: The preparation for finishing of new equipment shall be as follows:

Remove any hardware that is not to be painted. If removal is impractical or impossible, provide surface applied protection before surface preparation and painting.

Before applying paint, clean and prepare surfaces to manufacturer’s written instructions for each particular substrate condition as specified. Remove grease, oil, mill scale, and loose and flaking paint back to solid substrate.

Provide barrier coats over incompatible primers or remove and reprime.

Standards and posts shall have at least one coat of primer (the greater of 2.0 mils minimum or as recommended by the manufacturer) and two finish coats (the greater of 2.0 mils per coat, or as recommended by the manufacturer). Sand standards and posts lightly between each succeeding enamel coat.

If a prime coat has been applied by the supplier, prime coat shall not be required.

Factory enameled equipment and materials shall be examined for damaged paint after installation, and such damaged surfaces shall be repainted to the satisfaction of the Director. Factory-applied enamel finish in good condition and of appropriate color will be acceptable.

Do not paint concealed surfaces, finished metal surfaces, operating parts, and labels. Finished metal surfaces include the following:

Anodized aluminum
Stainless steel
Chromium plate

At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from work area.

Provide Wet Paint signs to protect newly painted finishes.

Apply paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F.

Do not apply paint in rain, fog, or mist; or when relative humidity exceeds 85 percent, or at a temperature less than 5 deg F above the dew point; or to a damp or wet surface. Painting may

continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

Provide primer and finish coat materials that are compatible with one another and with the substrates.

C744.08 TREE TRIMMING AROUND STREET LIGHTS: Tree trimmers shall be licensed arborists, authorized to perform tree trimming by the Department of Parks and Parkways. Tree trimming shall consist of pruning the foliage of one or more trees that restricts visible light of the luminaire. The upper branches shall be pruned a distance of three (3) feet from the top and sides of the luminaire. Branches and foliage below the luminaire shall be pruned below a 150-degree cone (75 degrees each side of a vertical line). No tree trimming shall be performed that will permanently damage the tree. All costs will be provided under C719(60) Tree Trimming.

PART VIII - STRUCTURES

This part shall conform to Part VIII of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, latest edition. In case of conflict, the City Specifications shall govern.

PART IX - PORTLAND CEMENT CONCRETE

This part shall conform to Part IX of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, latest edition. In case of conflict, the City Specifications shall govern.

PART X - MATERIALS

Unless otherwise stated and covered in previous sections and the following sections C1002, C1003 and C1018 of the Department of Public Works, City of New Orleans specifications, this part shall conform to Part X of the LaDOTD Louisiana Standard Specifications for Roads and Bridges, latest edition.
In case of conflict, the City specifications shall govern**.**

SECTION C1002
ASPHALTIC MATERIALS AND ADDITIVES

C1002.01 GENERAL: Asphalt shall be prepared by the refining of petroleum. Asphalt shall be uniform in character, free from water, and shall not foam when heated to 350°F. Asphalt shall be from an approved source listed in the LaDOTD QPL 41.

Refinery or supplier storage tanks, piping, retorts, booster tanks and other equipment used in delivering, storing or handling asphaltic materials shall be kept clean and in good operating condition and shall be operated so as to avoid contamination of the contents with foreign materials.

Final test results for asphaltic materials will be applied to the proper table in this Section for conformance to specifications. Any deviation from the specifications will result in a payment adjustment as specified.

Samples taken at the refinery or supplier shall conform to specification requirements. When the refinery or supplier sample fails to meet these requirements, the material will be rejected and shall not be shipped to the jobsite.

When asphaltic materials sampled at the point of delivery do not conform to requirements for 100 percent pay, and in the opinion of the Director have resulted in an unsatisfactory product, the materials shall be removed and replaced or otherwise corrected at no direct pay. The adjustment in pay for asphaltic materials shall be applied only to samples taken at the point of delivery. When test results are such that a payment adjustment would result from more than one test value, the payment adjustment for the greatest reduction shall apply.

C1002.02 ASPHALTIC MATERIAL ADDITIVES:

(a) Anti-Strip: Anti-strip additives for asphaltic materials shall be approved products listed in QPL 57 and will be tested in accordance with DOTD TR 317.

(b) Silicone: Silicone additives for asphaltic materials shall be approved products listed in QPL 22.

SECTION C1003
AGGREGATES

C1003.01 GENERAL: Aggregates shall be from an approved source. For a source to be approved, each sample shall conform to the requirements specified and in the appropriate subsection. In addition to the test methods given in each subsection, the following methods shall be used in testing aggregates.

Property	Test Method
Deleterious materials	DOTD TR 119
Foreign Matter in Shell	DOTD TR 109
Unit Weight	AASHTO T 19
Sp1xific Gravity & Absorption of Fine Aggregate	AASHTO T 84
Specific Gravity & Absorption of Coarse Aggregate	AASHTO T 85
Polish Value	AASHTO T 278
Amount of Material Finer than the No. 200 Sieve	DOTD TR 112
Sieve Analysis (Gradation)	DOTD TR 113
Specific Gravity of Aggregate for Asphaltic Mixtures	DOTD TR 300
Liquid Limit and Plasticity Index	DOTD TR 428

When the No. 200 sieve is included in the gradation requirements, the results obtained by washing in accordance with DOTD TR 112 shall be added to that obtained by dry sieving in accordance with DOTD TR 113, unless otherwise specified.

(a) Source Approval:

(1) Soundness: The soundness loss of recycled portland cement concrete and aggregates listed in LaDOTD QPL 2 shall not exceed 15 percent when subjected to 5 cycles of the magnesium sulfate soundness test in accordance with AASHTO T 104.

(2) Abrasion: Coarse aggregate listed in LaDOTD QPL 2, and recycled portland cement concrete, except lightweight aggregate shall show an abrasion loss of not more than 40 percent when tested in accordance with AASHTO T 96.

Lightweight aggregate shall be expanded clay or expanded shale and shall show an abrasion loss of not more than 40 percent when tested in accordance with DOTD TR 111.

(3) Recycled portland cement concrete shall be approved in dedicated stockpiles and shall be free of asphaltic concrete overlay material, reinforcing steel, joint material and other debris. After processing, recycled portland cement concrete shall conform to the requirements specified in the appropriate Subsections. When a stockpile has been approved no other material shall be added without prior approval.

(4) Reclaimed asphaltic pavement shall be cold planed in accordance with Section C509 or crushed. Reclaimed asphaltic concrete shall be approved either at the time of removal from the roadway or in stockpiles. Stockpiled materials shall be uniform and reasonably free of lightweight aggregate, asphaltic concrete friction course, debris, soil, and other foreign matter.

(5) During source approval, aggregates for use in portland cement concrete will be tested in accordance with ASTM C 33 Appendix XI for alkali reactivity properties. Aggregates found to be potentially reactive with cement alkalies will be restricted for use with cement or a combination of cement and fly ash containing 0.6 percent or less alkalies (sodium oxide equivalent).

Fine aggregate for portland cement concrete that produces a color darker than the Organic Color No. 3 when tested in accordance with AASHTO T 21, will be subjected to the mortar strength test in accordance with AASHTO T 71. The minimum compressive strength shall be at least 95 percent of the reference mortar compressive strength.

(b) Acceptance Testing: Acceptance of aggregates shall be based on consistent conformation to the requirements for source approval in Heading (a).

C1003.02 AGGREGATES FOR ASPHALTIC MIXTURES: Aggregates for asphaltic mixtures shall conform to the requirements of Subsection C1003.01 except that reclaimed asphaltic pavement, recycled portland cement concrete, crushed shell, sand gravel and fine sand are not required to be from sources listed on LaDOTD QPL 2 but shall be from approved sources.

(1) Gravel, Stone and Crushed Slag: These aggregates shall conform to Subsection C1003.05 for deleterious substances.

These aggregates shall be assigned a Friction Rating as follows:

FRICTION RATING	DESCRIPTION
I	Aggregates that have a Polish Value of greater than 37 and demonstrate the ability to retain acceptable friction numbers for the life of the pavement.
II	Aggregates that have a Polish Value of 35 to 37 and demonstrate the ability to retain acceptable friction numbers for the life of the pavement.
III	Aggregates that have a Polish value of 30 to 34 and demonstrate that ability to retain acceptable friction numbers for the life of the pavement.
IV	Aggregates with a Polish Value of 20 to 29.

(2) Coarse Sand: Coarse sand shall be natural occurring sand processed to meet asphaltic mixture requirements, shall be graded from coarse to fine, and shall be free from vegetative and other foreign matter.

(3) Fine Sand: Fine sand shall be natural occurring sand processed to meet asphaltic mixture requirements, and shall be free from vegetative and other foreign matter.

The fine sand shall be non plastic and no clay balls or clay lumps shall be incorporated into the asphaltic mixture. The gradation shall have a maximum of 35 percent passing the No. 200 sieve. Clay lumps shall not exceed 1.00 percent by weight when sampled from the stockpile and tested in accordance with DOTD TR 119.

(4) Natural Sand: Natural sand shall be coarse sand or a combination of coarse sand and fine sand which is used in the asphaltic concrete mixture. Natural sand shall consist of clean, hard, durable, siliceous grains graded from coarse to fine and shall be reasonably free from vegetative matter or other deleterious materials.

The sand equivalent of the fraction passing the No. 4 sieve of the natural sand in the asphaltic concrete mixture shall be less than 35 when tested in accordance with DOTD TR 120.

(5) Crushed Shell: Shell material shall consist of clam or reef shell. Foreign matter (DOTD TR 109) such as silt and clay shall not exceed 5 percent, and such material shall be dispersed throughout the mass.

(6) Screenings: Screenings, when used, shall be made by crushing aggregates which conformed to the requirements for coarse aggregates in Subsection C1003.01. Screenings shall meet the following gradation requirements.

U.S. Sieve	Percent Passing
3/8"	100
No. 4	80 - 100

(7) Pit Run Sand-Gravel: Pit run sand gravel may be used in Type 5 mixes provided the material is separated into 2 sizes prior to final mixing. The separation shall be done by using a No. 4 screen or other approved sizes. For batch plants the screening process shall be adequate to satisfy this requirement. Pit run sand-gravel shall be non-plastic. No clay balls or clay lumps shall be incorporated into the asphaltic mixture. Clay lumps shall not exceed 1.00 percent by weight when tested in accordance with DOTD TR 119.

(8) Recycled Portland Cement Concrete: Recycled portland cement concrete source shall meet the requirements of Subsection C1003.02(b)(4). The maximum amount of deleterious materials shall conform to Subsection C1003.05.

(9) Reclaimed Asphaltic Pavement (RAP): Reclaimed asphaltic material shall conform to Subsection C1003.01.

(10) Mineral Filler: Mineral filler shall be an approved product listed on LaDOTD QPL 10 and shall consist of limestone dust, pulverized hydrated lime, shell dust, portland cement, or cement stack dust. Mineral dust collected in bag houses or by other dust collectors at asphaltic concrete plants is not classified as mineral filler. Cement stack dust shall consist of material collected form waste rotary kiln gases discharged through a collector of a cement plant. Mineral filler shall conform to the following gradation:

U.S. Sieve	Percent Passing
No. 30	100
No. 80	95 - 100
No. 200	70 - 100
No. 270	60 - 100

Mixtures of aggregate, filler and asphalt, in proportions to meet the requirements of mixes being used, shall have an index of retained Marshall Stability (DOTD TR 313) of at least 85 percent, and a maximum of 1.0 percent volumetric swell (DOTD TR 313).

SECTION C1018
MISCELLANEOUS MATERIALS

C1018.01: Lime shall be hydrated lime or quicklime from an approved source listed in QPL 34.

(a) Hydrated Lime shall conform to ASTM C 207, Type S, except that maximum free moisture shall be 1.5 percent.

(b) Quicklime shall conform to the following chemical requirements:

Minimum CaO + MgO: 90 percent by weight of total material.
Maximum MaO: 8 percent by weight of total material.

Quicklime shall be protected from contact with moisture prior to testing, shall be free flowing and graded so that 100 percent will pass a 3/8 inch sieve. When the quicklime is to be used in a slurry, the gradation shall be a minimum of 95 percent passing the 3/4 inch sieve.

C1018.02 FORM RELEASE AGENT: Form release agent for concrete shall be an approved product listed in QPL 29.

PART XI - SYSTEMS OF MEASUREMENT (FOR FUTURE USE)

PART XII - STANDARD BID ITEMS

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS
	SECTION C201 CLEARING AND GRUBBING		
C201(01)	CLEARING AND GRUBBING	LUMP SUM	0
	SECTION C202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS		
C202(52)(C)	REMOVAL AND DISPOSAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT	SQUARE YARD	1
C202(52)(D)	REMOVAL AND DISPOSAL OF EXISTING SIDEWALK DRIVEWAY, FOOT LAP (CONCRETE, BRICK, ASPHALT, ETC.)	SQUARE YARD	1
C202(52)(E)	REMOVAL AND DISPOSAL OF EXISTING CURB (CONCRETE,ASPHALT,BRICK,ETC.)	LINEAR FOOT	1
C202(52)(F)	REMOVAL OF EXISTING CURB AND GUTTER BOTTOM	LINEAR FOOT	1
C202(52)(G)	REMOVAL AND DISPOSAL OE EXISTING GUTTER BOTTOM OR ROLLING STRIP	LINEAR FOOT	1
C202(52)(I)	REMOVAL AND DISPOSAL OF EXISTING ASPHALTIC CONCRETE PAVEMENT	SQUARE YARD	1
C202(53)(C)	REMOVAL AND DISPOSAL OF EXISTING CONCRETE BUS PAD	SQUARE YARD	1
C202(54)(A)	REMOVAL AND DISPOSAL OF CONCRETE. OR STONE HEADERS	LINEAR FOOT	1
C202(54)(B)	REMOVAL AND SALVAGE OF STONE HEADERS	LINEAR FOOT	1
C202(55)	SAW CUT CONCRETE CURB, PAVEMENT, SIDEWALK, DRIVEWAY, ETC. ACCORDING TO PLANS ("DEPTH)	LINEAR FOOT	0
C202(56)	SAW CUT, WHEEL CUT OR SPADE CUT EXISTING ASPHALT, ACCORDING TO PLANS	LINEAR FOOT	0
	SECTION C203 - PREPARATION OF ROADWAY PAVEMENT SUBGRADE		
C203(51)	ROADWAY EXCAVATION	CUBIC YARD (THEO. SECT.)	0
C203(53)	SHAPE DITCHES	LINEAR FOOT	0
C203(58)	UNSUITABLE SUBGRADE & EXCAVATION & FILLING	CUBIC YARD (TRUCK MEA.)	0
C203(59)	GEOTEXTILE FABRIC FOR STABILIZATION	SQUARE YARD	0
C203(60)	GEOGRID	SQUARE YARD	0
C204(01)	TEMPORARY SANDBAGGING	CUBIC YARD	0
C204(02)	TEMPORARY HAY OR STRAW BAILES	EACH	0
C204(03)	TEMPORARY SLOPE DRAINS	LINEAR FOOT	0
C204(04)	TEMPORARY SEDIMENT BASINS	EACH	0

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS
C204(05)	TEMPORARY SEDIMENT CHECK DAMS	EACH	0
C204(06)	TEMPORARY SILT FENCING	LINEAR FOOT	0
C204(07)	TEMPORARY STONE CONSTRUCTION ENTRANCE	CUBIC YARD	0
C204(08)	CURB INLET DRAIN FILTER (9" Diam. X 8 Ft. Long)	EACH	0
C204(09)	CURB INLET DRAIN FILTER (6" Diam. X 6 Ft. Long)	EACH	0
	SECTION C302 - BASE AND SUBBASE COURSE		
C302(51)	BASE COURSE	CUBIC YARD (NET SECT.)	1
C302(53)	SUBBASE COURSE	CUBIC YARD (NET SECT.)	1
	SECTION C306 - SCARIFYING AND COMPACTING ROAD BED		
C306(52)	SCARIFYING AND COMPACTING ROAD BED	SQUARE YARD	0
	SECTION C402 - TRAFFIC MAINTENANCE AGGREGATE		
C402(51)	TRAFFIC MAINTENANCE AGGREGATE	CUBIC YARD (TRUCK MEA.)	0
	SECTION C501 - ASPHALTIC CONCRETE MIXTURES		
C501(51)	ASPHALTIC CONCRETE	TON	1
C501(52)	ASPHALTIC CONCRETE	CUBIC YARD	1
C501(53)	ASPHALTIC CONCRETE (___" THICK)	SQUARE YARD	1
C501(54)	GEOTEXTILE FABRIC FOR PAVING	SQUARE YARD	0
	SECTION C502 – SUPERPAVE ASPHALTIC CONCRETE PAVEMENT		
C502(51)	SUPERPAVE ASPHALTIC CONCRETE	TON	1
C502(52)	SUPERPAVE ASPHALTIC CONCRETE	CUBIC YARD	1
C502(53)	SUPERPAVE ASPHALTIC CONCRETE (___" THICK)	SQUARE YARD	1
	SECTION C506 - POROUS ASPHALTIC PAVEMENT		
C506(51)	POROUS ASPHALTIC CONCRETE	TON	1
C506(52)	POROUS ASPHALTIC CONCRETE	CUBIC YARD	1
C506(53)	POROUS ASPHALTIC CONCRETE (___" THICK)	SQUARE YARD	1
	SECTION C507 - ASPHALTIC BINDERS		
C507(51)	ASPHALTIC BINDER	SQUARE YARD	1
	SECTION C509 - COLD PLANING ASPHALTIC PAVEMENT		
C509(51)	COLD PLANING ASPHALTIC PAVEMENT (___" AVERAGE THICK)	SQUARE YARD	0

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS

SECTION C601 - PORTLAND CEMENT CONCRETE PAVEMENT

C601(54)	REINFORCED CONCRETE PAVEMENT (___" THICK)	SQUARE YARD	1
C601(55)	SURCHARGE FOR HIGH EARLY STRENGTH	SQUARE YARD	1
C601(56)	REINFORCED CONCRETE BUS PAD (___" THICK)	SQUARE YARD	1

SECTION C604 - PERVIOUS CONCRETE PAVEMENT

C604(54)	PERVIOUS CONCRETE PAVMENT (___" THICK)	SQUARE YARD	1

Letter designations for pavement thickness shall be:

A..... 5"	F ....7-1/2"	K..... 10"	P .....12-1/2"
B..... ..5-1/2"	G.....8"	L ..... 10-1/2"	Q.....13"
C ..... 6"	H..... ..8-1/2"	M ..... 11"	R.....13-1/2"
D ....6-1/2"	I.....9"	N ..... 11-1/2"	S .....14"
E..... 7"	J..... ..9-1/2"	O ..... 12"	T .....14-1/2"

Example:

C601(03)(K) PORTLAND CEMENT CONCRETE 25.4 C.M. THICK (10" THICK)

SECTION C701 - CULVERTS AND STORM DRAINS

C701(53)	REINFORCED CONCRETE PIPE (SIZE)	LINEAR FOOT	0
C701(54)	REINFORCED CONCRETE ARCH PIPE (SIZE)	LINEAR FOOT	0
C701(57)	YARD DRAIN SERVICE LINE (SIZE & TYPE)	LINEAR FOOT	0
C701(58)	RESET CULVERT PIPE (SIZE)	LINEAR FOOT	0
C701(59)	REINFORCED CONCRETE WYE OR ARCH EQUIVALENT - NEW (SIZE)	EACH	0
C701(65)	REINFORCED CONCRETE WYE OR ARCH EQUIVALENT - EXISTING (SIZE)	EACH	0
C701(66)	CONCRETE TEE (SIZE).	EACH	0
C701(67)	CLEAN AND FLUSH CULVERT	LINEAR FOOT	0
C701(68)	POINT REPAIR OF EXISTING DRAIN LINES UP TO 10 FEET (SIZE)	EACH	0
C701(69)	POINT REPAIR OF EXISTING DRAIN LINES BEYOND 10 FEET	LINEAR FOOT	0
C701(70)	DRAIN HOUSE CONNECTIONS (SIZE & TYPE)	EACH	0
C701(72)	COLLECTOR LINE TO CATCH BASINS FOR DRAIN HOUSE CONNECTIONS (SIZE)	LINEAR FOOT	0
C701(73)	ABANDONING EXISTING DRAINAGE PIPES IN PLACE AND FILL WITH FLOWABLE MATERIAL (SIZE)	LINEAR FOOT	0
C701(74)	REMOVAL AND DISPOSAL OF EXISTING DRAIN LINES NOT IN SAME TRENCH) INCLUDING	LINEAR FOOT	0

BACKFILING WITH RIVER SAND AND COMPATION

Letter Designations shall be used for the various pipe sizes as follows:

Circular Pipe (Inches)	
4 ...A	60 ...Q
6 ...B	66 ...R
8 ...C	72 ...S
10 ...D	78 ...T
12 ...E	84 ...U
15 ...F	90 ...V
18 ...G	96... W
21 ...H	102 ...X
24 .. I	108 ...Y
27 ... J	114 ...Z
30 ...K	120....1
33 ... L	126....2
36 .. M	132....3
42 ...N	138....4
48 ...O	144....5
54 ...P	

Arch Pipe (Inches)		
Concrete (RCPA)	**Equivalent Diameter**	**Letter Designation**
18 X 11	15	F
22 X 13	18	G
26 X 15	21	H
28 X 18	24	I
36 X 22	30	K
43 X 26	36	M
51 X 31	42	N
58 X 36	48	O
65 X 40	54	P
73 X 45	60	Q
-	66	R
88 X 54	72	S
-	78	T
102 X 62	84	U
115 X 72	90	V
122 X 77	96	W
-	102	X
138 X 87	108	Y
-	114	Z
154 X 96	120	1

Examples:

C701(54)(Y) Reinforced Concrete Arch Pipe (138 X 87).

C701(57)(C) PVC Yard Drain service line (8").

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS
	SECTION C702 - MANHOLES, CATCH BASINS, DROP INLETS AND CLEAN OUTS		
C702(52)(J)	NO. 1 STANDARD DRAIN MANHOLE...	FOOT HEIGHT	1
C702(52)(K)	NO. 1 STANDARD DRAIN MANHOLE...	FOOT HEIGHT	1
C702(52)(L)	NO. 3 STANDARD DRAIN MANHOLE...	FOOT HEIGHT	1
C702(52)(M)	SPECIAL DRAIN MANHOLE	EACH	0
C702(52)(N)	SPECIAL CONFLICT MANHOLE...	EACH	0
C702(52)(J)	TYPE A CATCH BASINS ADJUSTMENT	EACH	0
C702(53)(K)	TYPE B CATCH BASINS ADJUSTMENT	EACH	0
C702(53)(L)	TYPE C CATCH BASINS ADJUSTMENT	EACH	0
C702(53)(M)	NO. 1 STANDARD CATCH BASIN	EACH	0
C702(53)(N)	DOUBLE NO. 1 CATCH BASIN	EACH	0
C702(53)(O)	NO. 2 STANDARD CATCH BASIN	EACH	0
C702(53)(P)	NO. 3 STANDARD CATCH BASIN	EACH	0
C702(53)(Q)	NO. 4 STANDARD CATCH BASIN	EACH	0
C702(53)(R)	NO. 5 STANDARD CATCH BASIN	EACH	0
C702(53)(S)	24" X 30" CLEAR OPENING STANDARD DROP INLET.....	EACH	0
C702(53)(T)	SINGLE MOUNTABLE CATCH BASINS	EACH	0
C702(53)(U)	DOUBLE MOUNTABLE CATCH BASINS	EACH	0
C702(53)(V)	REHABILITATE EXISTING CATCH BASIN	EACH	0
C702(54)(I)	REHABILITATE EXISTING MANHOLE..	FOOT HEIGHT	1
C702(54)(K)	TAP-IN TO EXISTING DRAINLINE	EACH	0
C702(54)(A)(1)	ADJUST MANHOLE OR DROP INLET UP TO 6" WITH BRICK AND MORTAR	EACH	0
C702(54)(A)(2)	ADJUST MANHOLE WITH RINGS UP TO 4"	EACH	0
C702(54)(A)(3)	ADJUST MANHOLE OR DROP INLET OVER 6" WITH BRICK AND MORTAR	EACH	0
C702(55)(C)	6" DRAIN CLEAN OUT FOR ROOF DRAINS.	EACH	0
C702(56)	CLEAN OUT BOX EXISTING CULVERT	EACH	0
C702(57)	CLEAN OUT BOX NEW CULVERT	EACH	0
	SECTION C706 - DRIVEWAYS AND SIDEWALKS		
C706(51)	CONCRETE SIDEWALK (___" THICK)..	SQUARE YARD	1
C706(52)	CONCRETE DRIVEWAY (___" THICK)	SQUARE YARD	1
C706(54)	SIDEWALK AT INTERSECTION INCLUDING HANDICAPPED RAMPS (___" THICK)	SQUARE YARD	1
C706(55)	SIDEWALK IN MEDIAN INCLUDING..... .... HANDICAPPED RAMPS	SQUARE YARD	1
C706(56)	HANDICAPPED RAMP (SPECIFY CONCRETE .... BRICK OR STONE)	SQUARE YARD	1
C706(57)	BRICK SIDEWALK.	SQUARE YARD	1
C706(58)	RELAYING BRICK SIDEWALK.....	SQUARE YARD	1
C706(59)	STONE SIDEWALK	SQUARE YARD	1
C706(60)	RELAYING STONE SIDEWALK	SQUARE YARD	1
C706(61)	LETTER OR NUMBER FOR TILE STREET NAME	EACH	0

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS
C706(62)	RESETTING TILE STREET NAME	EACH	0

Letter Designations for various thickness shall be used as follows:

4"...A 7"..D
5"...B 8"..E
6"...C 9"..F

Example: ITEM C706(52)(E) CONCRETE DRIVEWAY 8"

SECTION C707 - CURBS AND GUTTERS

C707(54)	ASPHALTIC CURB	LINEAR FOOT	1
C707(55)	CONCRETE MOUNTABLE CURB WITH OR. .... WITHOUT DOWELS (STRAIGHT, CIRCULAR OR DEPRESSED)	LINEAR FOOT	1
C707(56)	6" CONCRETE BARRIER CURB WITH OR... .... WITHOUT DOWELS (STRAIGHT, CIRCULAR OR DEPRESSED)	LINEAR FOOT	1
C707(57)	8" CONCRETE BARRIER CURB WITH OR... .... WITHOUT DOWELS (STRAIGHT, CIRCULAR OR DEPRESSED)	LINEAR FOOT	1
C707(58)	CONCRETE GUTTER BOTTOM OR ROLLING..... ..... STRIP	LINEAR FOOT	1
C707(59)	MOUNTABLE CURB AND GUTTER BOTTOM.....	LINEAR FOOT	1
C707(60)	6" BARRIER CURB & GUTTER BOTTOM OR..... ..... ROLLING STRIP	LINEAR FOOT	1
C707(61)	8" BARRIER CURB & GUTTER BOTTOM OR..... ..... ROLLING STRIP	LINEAR FOOT	1
C707(62)	STONE CURB INCLUDING BASE (STRAIGHT, ... CIRCULAR OR DEPRESSED)	LINEAR FOOT	1
C707(63)	RESET EXISTING CURB (PRECAST.... .... CONCRETE, STONE, ETC.) INCLUDING BASE	LINEAR FOOT	1
C707(64)	TIMBER CURB	MBFM	2

SECTION C713 - TEMPORARY SIGNS, BARRICADES AND PAVEMENT MARKINGS

C713(51)	TEMPORARY SIGNS, BARRICADES AND ... . PAVEMENT MARKINGS	LUMP SUM	0

SECTION C714 - SODDING

C714(51)	SODDING	SQUARE YARD	1

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS
	SECTION C717 - SEEDING		
C717(51)	SEEDING	LUMP SUM	0
	SECTION C719 - LANDSCAPING		
C719(55)	GRAVEL BED AND FILTER CLOTH OVER TREE ROOTS	SQUARE YARD	1
C719(56)	TREE PROTECTION	LINEAR FOOT	0
C719(57)	TREE REMOVAL (DBH SIZE, TYPE)	EACH	0
C719(58)	TREE REPLACEMENT (DBH SIZE, TYPE)	EACH	0
C719(59)	TREE RELOCATION (DBH SIZE TYPE)	EACH	0
C719(60)	TREE TRIMMING	LUMP SUM	0
C719(61)	ROOT PRUNING	EACH	0
C719(62)	ROOT TRENCHING	EACH	0
	SECTION C723 - GRANULAR MATERIAL		
C723(52)	BATTURE SAND FOR DRESSING, GRANULAR MATERIAL FOR OTHER ADJUSTMENTS	CUBICYARD (T.M.)	0
	SECTION C724 - PAVEMENT REPAIR, JOINT REPAIR AND CRACK REPAIR		
C724(51)(A)	ASPHALTIC CONCRETE REPAIR	SQUARE YARD	0
C724(51)(B)	CONCRETE FOUNDATION REPAIR WITH ASPHALT OVERLAY	SQUARE YARD	0
C724(51)(C)	CONCRETE PAVEMENT REPAIR	SQUARE YARD	0
C724(53)(A	CONCRETE JOINT REPAIR.	SQUARE YARD	0
C724(53)(B)	JOINT RESEALING	LINEAR FOOT	0
C724(54)(A)	CRACK REPAIR BETWEEN 1/8" AND 1/2" WIDE	LINEAR FOOT	0
C724(54)(B)	CRACK REPAIR GREATER THAN 1"	LINEAR FOOT	0
C724(55)	POT HOLE REPAIR ON ACCESS ROUTE	TON	1
	SECTION C727 - MOBILIZATION		
C727(51)	MOBILIZATION	LUMP SUM	0
	SECTION C728 - JACKED AND BORED PIPE		
C728(51)	JACKED OR BORED PIPE (SIZE, TYPE, CLASS OR THICKNESS)	LINEAR FOOT	0
	SECTION C729 - TRAFFIC SIGNS AND DEVICES		
C729(51)	TRAFFIC SIGN	EACH	0
C729(54)	DELINEATOR ASSEMBLY	EACH	0

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS
C729(66)	OBJECT MARKER ASSEMBLY	EACH	0
C729(71)(A)	STREET NAME SIGN ON EXISTING POST	EACH	0
C729(71)(B)	STREET NAME SIGN ON NEW POST	EACH	0
C729(72)	PROJECT SIGN	EACH	0

SECTION C731 - RAISED PAVEMENT MARKERS

C731(52)	REFLECTORIZED RAISED PAVEMENT MARKERS	EACH	0

SECTION C732 - PLASTIC PAVEMENT MARKINGS

C732(52)	PLASTIC PAVEMENT STRIPING (SOLID LINE)	LINEAR FOOT	0
C732(53)	PLASTIC PAVEMENT STRIPING (BROKEN LINE)	LINEAR FOOT	0
C732(54)	PLASTIC PAVEMENT LEGENDS & SYMBOLS	EACH	0
C732(55)	PLASTIC PAVEMENT STRIPING REMOVAL	LINEAR FOOT	0

Letter designations for various widths shall be used as follows:

4"...A, 6"...B, 8"...C, 12"...D, 24"...E

SECTION C736 - RESTORATION OF TRAFFIC SIGNAL LOOP DETECTORS

C736(59)	LOOP DETECTOR	LINEAR FOOT	0

SECTION C740 – CONSTRUCTION LAYOUT

C740(51)	Construction Layout	LUMP SUM	0

SECTION C741 - WATER MAINS UP TO 12" IN DIAMETER

C741(51)	(SIZE) (MATERIAL) NEW WATER MAIN WITH MAIN LINE FITTINGS	LINEAR FOOT	0
C741(51)	8” PVC NEW WATER MAIN WITH MAIN LINE FITTINGS BY DIRECTIONAL DRILLING	LINEAR FOOT	0
C741(52)	NEW (SIZE)" VALVE	EACH	0
C741(53)	TAPPING SLEEVE & VALVE ASSEMBLY TO NEW MAIN (SIZE)	EACH	0
C741(54)	NEW FIRE HYDRANT	EACH	0
C741(55)(A)	REPLACE 5/8" TO 1” WATER HOUSE WITH 1” WATER HOUSE CONNECTION (FROM MAIN TO METER)	EACH	0
C741(55)	REPLACE (SIZE) WATER HOUSE CONNECTION (FROM MAIN TO METER)	EACH	0
C741(55)(G)	REMOVE AND REPLACE WATER HOUSE CONNECTION FROM METER TO PROPERTY LINE 5/8” TO 1”	EACH	0

ITEM NO.	PAY ITEM	PAY UNIT	DECIMALS
C741(56)	RELOCATION OF FIRE HYDRANT (IN EXISTING MAIN)	EACH	0
C741(70)	ADDITIONAL CAST IRON FITTINGS	TON	2
C741(71)(B-01)	6" WATER LINE OFFSET UP TO 24"	EACH	0
C741(71)(C-01)	8" WATER LINE OFFSET UP TO 24"	EACH	0
C741(71)(E-01)	12" WATER LINE OFFSET UP TO 24"	EACH	0
C741(72)(B-02)	6" WATER LINE OFFSET OVER 24"	EACH	0
C741(72)(C-02)	8" WATER LINE OFFSET OVER 24"	EACH	0
C741(72)(E-02)	12" WATER LINE OFFSET OVER 24"	EACH	0
C741(73)	ADJUST WATER VALVE BOX	EACH	0
C741(74)	NEW WATER VALVE MANHOLE (SIZE)	EACH	0
C741(75)	REMOVE MUD AND DEBRIS FROM INSIDE OF WATER METER BOX	EACH	0
C741(76)	ADJUST COMPLETE WATER METER BOX TO GRADE	EACH	0
C741(77)	REPLACE BROKEN WATER METER BOX (5/8") TO (1")	EACH	0
C741(78)	PLUG EXISTING WATER MAIN (SIZE) AND.FILL WITH FLOWABLE MATERIAL (SAND/CEMENT MIXTURE)	LINEAR FOOT	0
C741(79)	(SIZE) WATER MAIN CHLORINATIN	LINEAR FOOT	0

SECTION C742 - SEWER LINES

C742(51)	INSTALL SEWER MAINS (SIZE & DEPTH)	LINEAR FOOT	0
C742(55)	INSTALL SEWER MANHOLE	FOOT HIGH	1
C742(56)	REPLACE SEWER MANHOLE CASTING	EACH	0
C742(57)	SEWER POINT REPAIR UP TO 10 FEET (SIZE & DEPTH).	EACH	0
C742(58)	SEWER POINT REPAIR BEYOND 10 FEET(SIZE & DEPTH)	LINEAR FOOT	0
C742(59)	NEW SEWER HOUSE CONNECTIONS FROM MAIN TO BACK OF CURB (SIZE)	EACH	0
C742(60)	REPLACE EXISTING SEWER HOUSE CONNECTION FROM EXISTING MAIN TO BACK OF CURB	EACH	0
C742(61)	RE-CONNECT EXISTING SEWER HOUSE CONNECTION TO NEW MAIN UP TO 3 FEET	EACH	0
C742(62)	RE-CONNECT EXISTING SEWER HOUSE CONNECTION TO NEW MAIN AND EXTEND TO BACK OF CURB	EACH	0
C742(63)	REPLACE EXISTING SEWER HOUSE CONNECTION BEYOND BACK OF CURB	LINEAR FOOT	0
C742(64)	ADJUST SEWER HOUSE CONNECTION	EACH	0
C742(65)	PIPE LINING (SIZE & METHOD)	LINEAR FOOT	0
C742(66)	CUT LINER TO RESTORE EXISTING SEWER HOUSE CONNECTION (SIZE & METHOD)	EACH	0

Letter designations shall be used for various pipe sizes as follows:

4". .....A	15" .....F
6". .....B	18" .....G
8". C	21" .....H
10".....D	24" I
12".....E	27" .....J

Letter designations shall be used for various depth brackets, as follows:

0' - 6.0' ..... A
6.1' - 8.0' ..... B
8.1' - 10.0'..... C
10.1' - 12.0'..... D
12.1' - 14.0'..... E
14.1' - 16.0'..... F

INTENTIONALLY LEFT BLANK

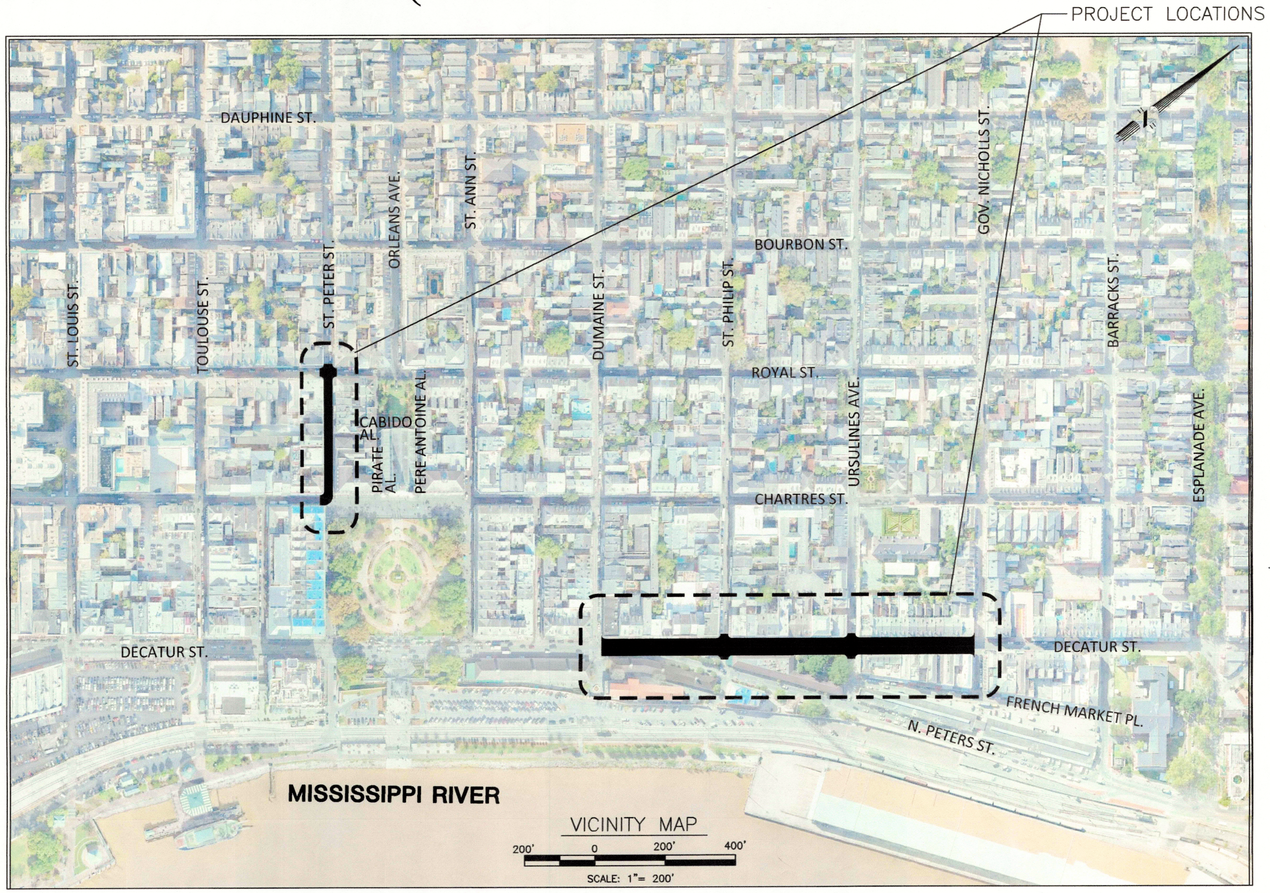
SEWERAGE AND WATER BOARD OF NEW ORLEANS

CONTRACT No. 2154

24" WATERLINE REPLACEMENT

DECATUR ST. (DUMAINE ST. - GOVERNOR NICHOLLS ST.)
ST. PETER ST. (CHARTRES ST. - ROYAL ST.)

DRAWING INDEX		
DRAWING No.	SHEET No.	TITLE
	T1	TITLE SHEET AND INDEX
	G1	GENERAL NOTES
	G2	DRAINAGE NOTES
	G3	SEWER NOTES
	G4	WATER NOTES
	BQ-1	BID QUANTITY SHEET
	PL-1	PROJECT PLAN LAYOUT
	TS-1	TYPICAL SECTIONS
	TS-2	TYPICAL SECTIONS
	P-P 01	PLAN AND PROFILE – 900 BLOCK OF DECATUR ST.
	P-P 02	PLAN AND PROFILE – 1000 BLOCK OF DECATUR ST.
	P-P 03	PLAN AND PROFILE – 1100 BLOCK OF DECATUR ST.
	P-P 04	PLAN AND PROFILE – 600 BLOCK ST. PETER ST.
	J-1	JOINT LAYOUT – DECATUR STREET
	J-2	JOINT LAYOUT – ST. PETER STREET
	ST-1	STRIPING AND MIN. TRAFFIC SIGNS
	ST-2	STRIPING AND MIN. TRAFFIC SIGNS
	D-1	WL DETAILS
	D-2	SUGGESTED SEQUENCE OF CONSTRUCTION & WATER DETAILS
	D-3	SUGGESTED SEQUENCE OF CONSTRUCTION & WATER DETAILS
	SP-01	S&WB STANDARD PLAN 5730-B-06 MANHOLE FOR VALVES
	CS-1thru23	CROSS SECTIONS



STATE OF LOUISIANA
Constantine F. Nicoladis
REG. No. 27095
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Engineering Firm — Date: 8/6/2024

Recommended By:

Chief Engineer of Public Works — Date: 8/21/2024

Recommended By:

for Traffic Engineer Public Works — Date: 8/21/2024

Recommended By:

Director of Public Works — Date: 8/21/2024

Approved By:

General Superintendent — Date: 8/15/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

IN ASSOCIATION WITH: Infinity Engineering Consultants, LLC, NEW ORLEANS, LA, 504-304-0548, IEC JOB No.

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

TITLE SHEET AND INDEX

CONTRACT NO. 2154

DR.	
TRC.	
CK.	
AP.	GENERAL SUPERINTENDENT
SCALE: AS NOTED	DWG. NO. 8958-W
DATE: AUGUST 2024	SET NO. / SHEET NO. X OF X

T-1

A	B	C	D	E	F	G	H	J	K	L	M

1.0 ENGINEERING LAYOUT

1.1 ALL ELEVATIONS SHOWN ON THE PLANS ARE NAVD 1988, UNLESS NOTED OTHERWISE.

1.2 THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE PROJECT TEMPORARY BENCH MARKS SHOWN ON PLAN WITH THE PERMANENT BENCH MARK INDICATED ON THE INDEX SHEET.

1.3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT THE WORK AND VERIFYING ALL MEASUREMENTS, EXISTING ELEVATIONS, AND GRADES PRIOR TO BEGINNING OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE PROJECT CENTERLINE AND ADDITIONAL TEMPORARY BENCH MARKS FOR CONSTRUCTION PURPOSES BEFORE DESTROYING EXISTING MONUMENTS/NAILS/CROSS CUTS, ETC..

1.4 THE LINES AND GRADES SHOWN ON THE PLANS MAY BE VARIED SLIGHTLY BY THE ENGINEER IN THE FIELD IF CONDITIONS JUSTIFY SUCH A VARIATION. THE CONTRACTOR SHALL NOT BE ENTITLED TO AN EXTRA PAYMENT OTHER THAN WHATEVER INCREASE IN CONTRACT QUANTITIES IS INVOLVED.

1.5 THE CONTRACTOR SHALL BE RESPONSIBLE TO ESTABLISH GRADES FOR ALL ROADS TO MAINTAIN POSITIVE DRAINAGE TO THE NEAREST CATCH BASINS OR DROP INLETS WITHOUT PONDING WATER IN ROADWAYS. IF DRAINAGE CONFLICT IS OBSERVED, CONTRACTOR SHALL INITIATE A REQUEST FOR INFORMATION TO ENGINEER FOR REVIEW. CONTRACTOR SHALL EVALUATE CATCH BASIN ADJUSTMENT IN LIEU OF ROADWAY ELEVATION ADJUSTMENT, WHEN FEASIBLE.

1.6 THE CONTRACTOR SHALL CONTACT DEPT OF PUBLIC WORKS (STREET LIGHTING) TO MARK STREETLIGHT AND TRAFFIC SIGNAL UTILITY LINES AT LEAST 48 HOURS PRIOR TO SAW-CUTTING OR EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR ANY COSTS IN MARKING AT NO DIRECT COST, THE FEE IS BASED ON PROJECT LIMITS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGED LINES IN 5-DAYS FOR STREET LIGHTS, AND IMMEDIATELY FOR TRAFFIC SIGNALS. IF THE CONTRACT HAS THE AREA MARKED AND DAMAGE OCCURS BECAUSE THE LINES WERE IMPROPERLY MARKED, THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR THE COST ASSOCIATED WITH THE REPAIR.

2.0 ROADWAYS

2.1 ALL ROADWAY CONSTRUCTION TO BE PERFORMED IN ACCORDANCE WITH THE CITY OF NEW ORLEANS GENERAL SPECIFICATIONS FOR STREET PAVING, CURRENT EDITION, AND THE CITY STANDARD DRAWINGS. PLEASE REFER TO https://www.nola.gov/dpw/construction-engineer-resources/

2.2 UNLESS SPECIFIED OTHERWISE, PROPERTY LINES INDICATED ON THE PLANS ARE APPARENT PROPERTY LINES.

2.3 ROADWAY RADII ARE MEASURED TO THE FACE OF CURB.

2.4 CONTRACTOR SHALL COMPACT AND SHAPE THE TOP 9 INCHES OF THE SUBGRADE PRIOR TO PLACING GEOTEXTILE FABRIC AND/OR GEOGRID. (NO DIRECT PAYMENT)

2.5 ASPHALT TRANSITIONS, RESHAPED DITCHES, AND CRUSHED STONE SHOULDERS FOR SIDE STREETS, IF REQUIRED, SHALL BE DONE PER DIRECTION OF THE FIELD ENGINEER AND PAID FOR AT THE CONTRACT UNIT PRICE.

2.6 WHENEVER NEW PAVING INTERSECTS OR MEETS EXISTING PAVING THAT IS TO REMAIN, THE GRADES OF THE NEW PAVING SURFACE SHALL MATCH THE GRADE OF THE EXISTING PAVING.

2.7 FOR CONCRETE BASE ROADWAY, THE CONTRACTOR SHALL NOT OVERLAY OVER EXPANSION JOINTS. AN APPROVED JOINT SEALER SHALL BE USED OVER EXPANSION JOINTS.

2.8 WHENEVER REMOVAL OF EXISTING PAVEMENT SURFACING IS REQUIRED IN CONJUNCTION WITH PROPOSED PROFILE GRADE LINE SHOWN ON THE DRAWINGS, THE EXISTING ASPHALT CONCRETE PAVEMENT IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE GUTTER SHALL BE MILLED TO A MINIMUM DEPTH OF ONE (1") TO OBTAIN A SMOOTH TIE-IN BETWEEN EXISTING AND PROPOSED CONSTRUCTION.

2.9 WHENEVER ADDITIONAL PAVEMENT SURFACING MATERIAL IS REQUIRED, THE ADJACENT CONCRETE GUTTER BOTTOM WILL NOT BE COVERED WITH ASPHALT SURFACING IF THE PROPOSED PROFILE GRADE LINE SHOWN ON THE DRAWINGS IS WITHIN ONE (1") INCH. IN AREAS WHERE THE PROPOSED PROFILE GRADE LINE IS HIGHER THAN THE EXISTING GUTTER BOTTOM BY MORE THAN ONE (1") INCH, THE SURFACE OF THE EXISTING GUTTER BOTTOM OR ROLLING STRIP SHALL BE OVERLAID WITH ASPHALT SURFACING TO THE FACE OF THE CURB.

2.10 THE CONTRACTOR SHALL REMOVE ALL CULVERT PIPES IN DITCHES, METAL GRATES, AND ANY OTHER OBSTRUCTIONS THAT ARE WITHIN THE LIMITS OF THE PROPOSED ROADWAY. (NO DIRECT PAYMENT)

2.11 ALL SALVAGEABLE ROADWAY MATERIALS, AS DETERMINED BY THE ENGINEER SHALL BE DELIVERED TO THE APPROPRIATE LOCATION AS SHOWN BELOW, AND DOCUMENTED IN ACCORDANCE TO CNO REQUIREMENTS. (NO DIRECT PAYMENT)

a) STONE CURB, COBBLESTONE, ETC. SHALL BE DELIVERED TO THE PUBLIC WORKS/MAINTENANCE YARD AT 838 SOUTH GENOIS STREET.

b) STREET SIGNS, TRAFFIC CONTROL DEVICES (SIGNS & SIGNALS) TO THE PUBLIC WORKS/SIGN SHOP AT 2832 LAFITTE STREET.

2.12 WHENEVER REMOVAL OF EXISTING PAVEMENT SURFACING, CURB OR SIDEWALK IS REQUIRED IN CONJUNCTION WITH WATER SERVICE REPLACEMENT SHOWN ON THE DRAWINGS THE CONTRACTOR SHALL VERIFY METER SERVICE LOCATION AND/OR FINAL WATER SERVICE ALIGNMENT PRIOR TO SAWCUTING. CURBS SHALL BE STAMPED WITH A "W," TO DESIGNATE WATER SERVICE LINES, AS DEPICTED IN DWG NO 7134A-W. CURBS SHALL BE STAMPED WITH A "S," TO DESIGNATE SEWER SERVICE CONNECTIONS, AS DEPICTED IN DWG NO 6312-E5-A.

2.13 CONTRACTOR SHALL COORDINATE WITH OWNER OF PRIVATE UTILITIES FOR ADJUSTMENT OF VALVES, BOXES, METERS, CLEANOUTS AND OTHER MISCELLANEOUS STRUCTURES LOCATED WITHIN OR CONFLICTING WITH AREAS TO BE RECONSTRUCTED AND ACCOMMODATING ADJUSTMENTS SHALL BE AT NO DIRECT PAYMENT. ADJUSTMENT OF PUBLIC UTILITIES VALVES, BOXES, METERS, CLEANOUTS, MANHOLES AND OTHER MISCELLANEOUS STRUCTURES SHALL BE MADE AT NO DIRECT PAYMENT UNLESS SPECIFIED FOR PAYMENT UNDER RESPECTIVE ITEMS ON THE UNIT PRICE FORM.

2.14 UPON REQUEST, DPW RESERVES THE RIGHT TO REQUEST FROM THE CONTRACTOR UP TO 50% OF THE RECYCLED ASPHALT PAVEMENT (RAP). CONTRACTOR SHALL DELIVER RAP TO A LOCATION SPECIFIED BY THE DIRECTOR WITHIN A 30 MILE RADIUS OF OF PROJECT SITE AT NO DIRECT PAY.

3.0 DRIVEWAYS, SIDEWALKS, & INCIDENTAL PAVEMENT

3.1 ALL LEGAL DRIVEWAYS REMOVED SHALL BE REPLACED IN KIND UNLESS OTHERWISE NOTED.

3.2 THE EXACT LIMITS OF REMOVAL AND REPLACEMENT OF DRIVEWAYS AND SIDEWALKS SHALL BE DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL NOT REMOVE ANY DRIVEWAY OR SIDEWALK WITHOUT PRIOR APPROVAL OF THE ENGINEER.

3.3 AT INTERSECTIONS WHERE THE SIDEWALK PAVEMENT IS TO REMAIN, HANDICAPPED RAMPS SHALL BE INSTALLED BY SAW CUTTING AND REMOVING ONLY THAT PORTION OF SIDEWALK REQUIRED TO ALLOW FOR CONSTRUCTION OF THE HANDICAPPED RAMPS.

3.4 THE CONTRACTOR IS REQUIRED TO SAW CUT (1" MINIMUM DEPTH) SIDEWALKS, DRIVEWAYS, CURBS, CONCRETE PAVEMENT, TO INSURE A STRAIGHT LINE BETWEEN OLD AND NEW WORK.

3.5 ALL SIDEWALKS AND DRIVEWAYS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION, WHICH IN THE OPINION OF THE ENGINEER ARE OUTSIDE THE LIMITS OF THE ROADWAY CONSTRUCTION, SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.

3.6 THE CONTRACTOR SHALL ADJUST THE ELEVATIONS OF THE NEW SIDEWALKS SO AS TO ALLOW DRAINAGE AWAY FROM THE PROPERTY AT ALL TIMES. SIDEWALK ELEVATIONS MAY BE ADJUSTED TO ALLOW DRAINAGE THROUGH DRIVEWAYS WITH DEPRESSED CURBS, UPON ENGINEER APPROVAL.

3.7 PAYMENT FOR EXCAVATION ASSOCIATED WITH CONSTRUCTION OF NEW SIDEWALKS, DRIVEWAYS, FOOTLAPS, AND HANDICAP RAMPS SHALL BE INCLUDED IN THE RESPECTIVE ITEM.

3.8 PAYMENT FOR GRADING OF FILL MATERIAL BETWEEN BACK OF CURB AND SIDEWALK SHALL BE INCLUDED IN THE RESPECTIVE ITEM.

3.9 CONTRACTOR SHALL OBSERVE ALLOWABLE TIME LIMITS OF OPEN ROADWAY PANELS AND SIDEWALKS, AND MAINTAIN PEDESTRIAN SAFETY, AS SPECIFIED IN GENERAL SPECIFICATIONS C724.04, C706.01, AND C706.02.

3.10 CRUSHED STONE OR CRUSHED CONCRETE USED FOR TEMPORARY SURFACING OF UTILITY TRENCHES, DRIVEWAYS, AND ROADWAYS BEFORE PAVING, INCLUDING THE COST OF MATERIALS, LABOR, AND EQUIPMENT SHALL BE PROVIDED AND PLACED AT NO DIRECT PAY.

4.0 UTILITIES

4.1 IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES BEFORE STARTING CONSTRUCTION. THE DEPARTMENT OF PUBLIC WORKS IS NOT RESPONSIBLE FOR ACCURACY OF THE LOCATION OF THESE UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR IS CAUTIONED THAT MANY OF THE UNDERGROUND UTILITY PIPES, LINES, CONDUITS, CABLES, ETC., ARE LOCATED IMMEDIATELY BELOW THE EXISTING GRADE.

4.2 EXISTING POWER POLES SHALL BE RELOCATED BY OWNER AFTER THE CURB LINE HAS BEEN STAKED OUT IN THE FIELD FOR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE RESPECTIVE UTILITY COMPANIES FOR THE REMOVAL OR RELOCATION OF THE EXISTING UTILITIES WHICH INTERFERE WITH WORK.

4.3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES WHICH OCCURS DURING CONSTRUCTION AND SHALL IMMEDIATELY REPORT ANY DAMAGE TO THE UTILITY ENTITIES. ALL REPAIRS OF THE DAMAGED UTILITIES SHALL BE DONE BY THE RESPECTIVE UTILITY ENTITY, EXCEPT S&WB POWER FEEDER, WHICH SHALL BE REPAIRED BY THE CONTRACTOR. ALL REPAIR COSTS SHALL BE BORNE BY THE CONTRACTOR.

4.4 ALL PRIVATELY OWNED UTILITY MANHOLES AND OTHER STRUCTURES WILL BE ADJUSTED BY THE UTILITY COMPANIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE UTILITY COMPANIES AND REQUEST THE NECESSARY ADJUSTMENTS. THE ABOVE REQUEST SHALL BE MADE AT LEAST 2 WEEKS PRIOR TO CONSTRUCTION IN AREA OF CONFLICT TO ALLOW THE REQUIRED UTILITY COMPANY SUFFICIENT TIME FOR PERFORMING THE WORK.

5.0 SEWERAGE & WATER BOARD ITEMS

5.1 ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE CURRENT GENERAL SPECIFICATIONS; DRAWING NUMBERS 7260-S, 7260-W & 7260-D; AND THE STANDARD DRAWINGS OF THE S&WB OF NEW ORLEANS, LOUISIANA EXCEPT WHERE OTHERWISE NOTED IN THE CONSTRUCTION DOCUMENTS.

5.2 THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE SAME AND SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THEM.

5.3 THE CONTRACTOR SHALL VERIFY ELEVATION OF EXISTING INVERTS THAT ARE A PART OF THIS JOB. PRIOR TO INSTALLING NEW UTILITY, CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER.

5.4 ALL CHANGES FROM THESE DRAWINGS MUST BE APPROVED BY THE S&WB PRIOR TO BEGINNING THE CONSTRUCTION WITH WHICH THEY ARE CONCERNED.

5.5 THE CONTRACTOR SHALL NOTIFY THE CHIEF OF ENGINEERING OF THE S&WB IN WRITING NOT LESS THAN THREE (3) OR MORE THAN TEN (10) WORKING DAYS IN ADVANCE OF STARTING THE CONSTRUCTION.

5.6 FINAL ACCEPTANCE OF THE SYSTEM WILL BE SUBJECT TO A ONE (1) YEAR MAINTENANCE PERIOD FOLLOWING ACCEPTANCE OF THE PROJECT BY THE S&WB. BEFORE FINAL INSPECTION OF THE WORK, THE CONTRACTOR SHALL SUBMIT AN "AS-BUILT" DRAWING TO THE S&WB SHOWING CHANGES IN LINE OR GRADE FROM THE ORIGINAL DRAWINGS, AND THE LOCATION AND DEPTH OF ALL HOUSE CONNECTIONS AS PER S&WB REQUIREMENTS.

5.7 IN CASE OF CONFLICT BETWEEN THE NEW DRAIN LINES AND THE SEWER HOUSE CONNECTIONS, THE CONTRACTOR SHALL ADJUST THE SEWER HOUSE CONNECTIONS TO AVOID THE CONFLICTS. ALL APPLICABLE S&WB SPECIFICATIONS AND GUIDELINES SHALL BE FOLLOWED BY THE CONTRACTOR DURING THESE ADJUSTMENTS.

5.8 ALL NEW MANHOLES, CATCH BASINS, AND DROP INLETS, SHALL BE PLACED ON A 6" LAYER OF CRUSHED STONE OR APPROVED EQUAL (NO DIRECT PAYMENT)

5.9 THE INSTALLATION OF THE WATER MAINS CLOSER TO A SEWER HAS BEEN DESIGNED TO BE LAID IN A SEPARATE TRENCH LOCATED ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE GRAVITY SEWER.

5.10 THE CONTRACTOR IS HEREBY ADVISED THAT CONTINUOUS OPERATION OF THE DRAINAGE, SEWER AND WATER SYSTEMS ARE VITAL TO THE HEALTH, SAFETY AND WELFARE OF THE CITY OF NEW ORLEANS. THE CONTRACTOR SHALL PERFORM NO WORK OR CAUSE ANY SYSTEM OUTAGE WHICH MAY JEOPARDIZE THE OPERATION OF THE DRAINAGE, SEWER AND WATER SYSTEM. AS SUCH, THE SWBNO POWER DISPATCHER ON DUTY WILL HAVE FULL AUTHORITY TO DENY ANY NEW OUTAGE REQUESTS OR REQUIRE THE RETURN INTO SERVICE, ANY SWBNO POWER CABLES, WHICH MAY DELAY THE PROGRESS OF THE WORK.

5.11 FEEDER OUTAGES ARE REQUIRED FOR SAFETY OF THE PERSONNEL AND EQUIPMENT IN ANY AREAS WHERE THE NEW CONSTRUCTION COMES WITHIN 10 FEET OF SWBNO UNDERGROUND OR AERIAL MEDIUM VOLTAGE POWER CABLES. CONTRACTOR SHALL COORDINATE HIS WORK LEADING UP TO AND DURING SAID OUTAGE WITH THE BOARD ENGINEER, MR. CELSO ANTUNEZ, WHO SHALL BE GIVEN 48 HOURS MINIMUM ADVANCED NOTICE OF HIS DESIRE TO SCHEDULE AN OUTAGE AND SHALL ABIDE BY THE PARTICULAR CAUTIONS, REQUIREMENTS AND POSSIBLE RESTRICTIONS SET BY THE BOARD ENGINEER.

5.12 THE CONTRACTOR SHALL COORDINATE HIS WORK LEADING UP TO AND DURING SAID OUTAGES WITH THE SWBNO POWER DISPATCHER AT (504) 865-0575, ONLY AFTER CONTACTING MR. CELSO ANTUNEZ AT (504) 583-0263 OR (504) 865-0456, WHO SHALL BE GIVEN 48 HOURS MINIMUM ADVANCED NOTICE. SPECIAL PERMISSION MUST BE GRANTED FOR FEEDERS TO BE LEFT DE-ENERGIZED FOR MORE THAN AN EIGHT HOUR WORKDAY.

5.13 THE CONTRACTOR IS REQUIRED TO CONTACT IMMEDIATELY VIA PHONE CALL, THE BOARD ENGINEER, IF ANY EXISTING SWBNO CABLES ARE DAMAGED OR ASSUMED DAMAGED IN CONNECTION WITH THIS PROJECT. THE BOARD WILL HAVE TO INSPECT THE DAMAGES TO DETERMINE, SPECIFIC APPROVED REPAIR METHODS AND PARTS. THE CONTRACTOR IS REQUIRED TO PAY FOR ALL CABLE REPAIRS AS A DIRECT RESULT OF THE WORK PERFORM UNDER THIS PROJECT.

6.0 DRAIN LINES

6.1 THE COST FOR DRAINAGE EXCAVATION, BEDDING MATERIAL, SHEETING, BRACING, BACK FILLING, GRADING, AND HAULING AWAY SURPLUS MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE FOR DRAINAGE PIPES BEING INSTALLED.

6.2A ALL EXISTING HOUSE CONNECTIONS ARE TO BE RECONNECTED TO NEW DRAIN LINES WITH 6" PVC DRAIN LINE. THE HOUSE CONNECTIONS WILL BE ATTACHED TO NEW RCP BY DRILLING THE RCP (NO 7.2A TAPPING WILL BE ALLOWED) AND USING A RUBBER BOOT OR SAND-IMPREGNATED PVC BELL TO CONNECT TO THE NEW PVC PIPE. AN ALTERNATE METHOD COULD UTILIZE AN RCP TEE IN THE MAIN LINE WITH A RUBBER BOOT (I.E. KOR-N-SEAL BOOT, OR APPROVED EQUAL) TO CONNECT THE 6" PVC TO THE LATERAL STUB OF THE TEE.

6.2B IN LIEU OF THE ABOVE, AN ALTERNATIVE METHOD MAY BE UTILIZED BY TYING THE 6" DRAIN HOSE CONNECTIONS INTO AN 8" COLLECTOR LINE LOCATED BEHIND THE CURB AND TIED INTO THE CATCH BASINS. TO BE INSTALLED AS DIRECTED BY THE D.P.W. REPRESENTATIVE. NO 90 DEGREE BENDS WILL BE ALLOWED IN DRAIN HOUSE CONNECTION PIPES.

6.3 ON DRAIN POINT REPAIRS, NO BRICK OR CONCRETE COLLARS WILL BE ALLOWED.

6.4 FOR ALL DRAIN REPAIRS, THE CONNECTION OF ANY TWO DISSIMILAR MATERIALS SHALL BE ACCOMPLISHED BY INSTALLATION OF A "NO-HUB" COUPLING CONSISTING OF A NEOPRENE SLEEVE AND BUSHING ADAPTER, TWO STAINLESS STEEL BANDS, AND STAINLESS STEEL SCREWS. THE COUPLING SHALL BE MANUFACTURED IN STRICT ACCORDANCE WITH THE CAST IRON SOIL PIPE INSTITUTE SPECIFICATIONS C301, LATEST REVISION, AS MANUFACTURED BY TYLER CLAY PRODUCTS CORP., FERNCO, OR APPROVED EQUAL. DRAIN LINES INDICATED FOR REMOVAL WILL BE REMOVED AND DISPOSED IN A PROPER MANNER. THE CONTRACTOR SHALL BACKFILL THE RESULTING VOID WITH APPROVED COMPACTED BACKFILL MATERIAL AT NO DIRECT PAY. MANHOLES AND CATCH BASINS INDICATED TO BE ABANDONED IN PLACE, SHALL BE REMOVED TO THREE (3) FEET BELOW GRADE AND THEN PLUGGED AND FILLED WITH SAND.

6.5 THERE WILL BE NO DIRECT PAYMENT FOR TIE-IN NEW OR EXISTING LINES TO ANY MANHOLES.

7.0 HORTICULTURE REQUIREMENTS

7.1 THE CONTRACTOR SHALL COMPLY WITH ALL "HORTICULTURE REQUIREMENTS" SPECIFIED BY THE DEPARTMENT OF PARKS & PARKWAYS. HORTICULTURE CONSTRUCTION CONFLICTS OBSERVED DURING CONSTRUCTION LAYOUT SHALL BE PROVIDED TO ENGINEER OF RECORD TO ASSESS PROJECT IMPACT. CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION, WITH JUSTIFICATION FOR PROPOSED CHANGE.

7.2 THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PARKWAYS & PARKS PRIOR TO REPLACING ANY UTILITY LINES LOCATED NEAR TREES. IF NECESSARY THE CONTRACTOR SHALL SHORE THE AREA NEAR TREES, USE ROOT GUARDS, AND OTHER PRECAUTIONS NECESSARY TO PROTECT THE TREES.

7.3 ALL TREE REMOVALS, BRANCH PRUNING, OR ROOT CUTTING, SHALL BE PERFORMED BY A LICENSED ARBORIST, APPROVED BY THE DEPARTMENT OF PARKWAYS & PARKS.

7.4 ALL TREE GRATES, ETC., SHALL BE DELIVERED TO THE DEPARTMENT OF PARKWAYS & PARKS NURSERY AT 2829 GENTILLY BLVD. (NO DIRECT PAYMENT)

7.5 ALL EXISTING TREES, SHRUBS, AND VEGETATION DISTURBED BY THE CONTRACTOR'S OPERATION, SHALL BE REPLACED IN-KIND OR REPAIRED AT NO DIRECT PAY.

7.6 THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS PRIOR TO TRIMMING ANY TREES LOCATED ON PRIVATE PROPERTY.

7.7 ALL HOUSE CONNECTIONS AND CURBS WHICH ARE LOCATED WITHIN THE TREE DRIP LINES SHALL BE AIR SPADED AT NO DIRECT PAY, NO MECHANICAL TRENCHING WILL BE ALLOWED. ARBORIST MUST BE PRESENT DURING EXCAVATION.

7.8 THE CONTRACTOR SHALL BE REQUIRED TO RESTORE ALL GREEN SPACES THAT ARE DISTURBED BY CONSTRUCTION TO ITS PRE-EXISTING CONDITIONS. (NO DIRECT PAYMENT) SEEDING AND SODDING SHALL COMPLY WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS SECTION C717 AND SECTION C714 RESPECTIVELY.

8.0 TRAFFIC CONTROL

8.1 PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE CITY TRAFFIC ENGINEER FOR REVIEW AND APPROVAL A COMPLETE CONSTRUCTION SIGNAGE, TRAFFIC MAINTENANCE, AND PUBLIC SAFETY PLAN, PER SECTION C129 OF THE GENERAL SPECIFICATIONS, WHICH, AT A MINIMUM, INCLUDE THE FOLLOWING:

1. A SIGN INVENTORY - A LIST OF ALL EXISTING TRAFFIC CONTROL DEVICES (SIGNS, SIGNALS, RAISED MARKERS, PAVEMENT MARKINGS, ETC.) ACCURATELY LOCATED ON THE PLANS (NO DIRECT PAY).
2. A PLAN FOR THE PROPOSED ROUTE ON WHICH CONSTRUCTION MATERIALS AND EQUIPMENT ARE TO BE TRANSPORTED TO OR FROM THE CONSTRUCTION SITE.
3. A DETOUR PLAN SHOWING PROPOSED ROUTES FOR LOCAL AND TRANSIENT TRAFFIC ON WHICH LOCATIONS OF DETOUR TRAFFIC CONTROL DEVICES AND CONSTRUCTION ZONE OR WORK ZONE TRAFFIC CONTROL DEVICES ARE SHOWN. TRAFFIC CONTROL DEVICE APPLICATIONS AND METHODS SHALL BE IN COMPLIANCE WITH PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. THE NAME AND TELEPHONE NUMBER OF THE RESPONSIBLE PERSON IN CHARGE OF THE PROJECT.
5. TRAFFIC CONTROL PLAN SHALL BE PROVIDED TO IDENTIFY ALL INTERSECTION AND ROADWAY DETOURS AND CLOSURES. ALL DETOURS AND CLOSURES MUST BE REVIEWED AND APPROVED BY THE DIRECTOR OR CHIEF TRAFFIC ENGINEER.
6. TRAFFIC CONTROL PLANS MUST BE PROVIDED TO DEPARTMENT OF PARKS AND PARKWAYS, WHEN TREE CANOPIES ARE TO BE DISTURBED. CONTRACTOR SHALL OBTAIN PERMIT FROM PARKS AND PARKWAYS AT LEAST 7 BUSINESS DAYS PRIOR TO TREE TRIMMING, TO BE PERFORMED BY A LOUISIANA LICENSED ARBORIST.

8.2 THE CONTRACTOR SHALL SEEK APPROVAL OF THE CITY TRAFFIC ENGINEER FOR ANY TRAFFIC RELATED PLAN CHANGE, INCLUDING REMOVAL, RELOCATION OR ADDITION OF TRAFFIC CONTROL DEVICES BEFORE OR DURING THE COURSE OF CONSTRUCTION.

8.3 ALL EXISTING TRAFFIC CONTROL DEVICES THAT ARE IN CONFLICT WITH THE CONSTRUCTION OR WORK ZONE TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED BY THE CONTRACTOR, AND THE REMOVED DEVICES RETURNED TO THE CITY SIGNAL SHOP OR SIGN SHOP AT 2832 LAFITTE STREET. ALL EXISTING DEVICES LEFT IN THE CONSTRUCTION OR WORK ZONE SHALL BE MAINTAINED IN GOOD CONDITION BY THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION.

8.4 ALL REMOVED TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO THEIR ORIGINAL POSITION AND ORIENTATION BY THE CONTRACTOR PRIOR TO THE TIME OF FINAL INSPECTION.

8.5 ALL TRAFFIC CONTROL DEVICES AND ASSOCIATED HARDWARE (SIGNS, SIGNALS, CONDUITS, CABLES, MARKINGS, ETC.) REMOVED OR DAMAGED DURING THE EXECUTION OF THIS CONTRACT, OTHER THAN AS PROVIDED FOR IN THIS CONTRACT SHALL BE REPLACED AT NO COST TO THE CITY.

8.6 ANY DAMAGE CAUSED BY THE CONTRACTOR'S WORK SHALL BE IMMEDIATELY REPORTED BY THE CONTRACTOR TO THE CITY TRAFFIC ENGINEER. REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR OR BY CITY FORCES, AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER, WITH ALL ASSOCIATED COSTS BEING PAID BY THE CONTRACTOR.

8.7 THE CONTRACTOR SHALL CONTACT THE CITY'S TRAFFIC SIGNAL SHOP THROUGH THE TRAFFIC ENGINEERING DIVISION (504-658-8040) PRIOR TO THE START OF THE JOB FOR TRAFFIC SIGNAL UTILITY MARKINGS AND COORDINATION.

9.0 GENERAL

9.1 CONTRACTOR IS TO NOTIFY RESIDENTS OF CONSTRUCTION A MINIMUM OF ONE WEEK PRIOR TO START OF CONSTRUCTION.

9.2 CONTRACTOR SHALL TAKE REASONABLE MEASURES TO AVOID UNNECESSARY NOISE APPROPRIATE FOR THE AMBIENT SOUND LEVELS IN THE AREA DURING WORKING HOURS. ALL CONSTRUCTION MACHINERY AND VEHICLES SHALL BE EQUIPPED WITH PRACTICAL SOUND MUFFLING DEVICES, AND OPERATED IN A MANNER TO CAUSE THE LEAST NOISE, CONSISTENT WITH EFFICIENT PERFORMANCE OF THE WORK.

9.3 CONTRACTOR SHALL TAKE REASONABLE MEASURES TO AVOID UNNECESSARY DUST. SURFACES SUBJECT TO CREATING DUST SHALL BE KEPT MOIST WITH WATER OR BY APPLICATION OF CHEMICAL DUST SUPPRESSANT. DUSTY MATERIAL IN PILES OR IN TRANSIT SHALL BE COVERED TO PREVENT BLOWING.

9.4 CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST THREE (3) WORKING DAYS PRIOR TO BEGINNING OF CONSTRUCTION AROUND THEIR RESPECTIVE UTILITIES:

a)	S&WB:	INSPECTION:	MR. HADI AMINI	(504) 865-0445
		ELECTRICAL ENGINEERS:	MR. CELSO ANTUNEZ	(504) 583-0263
b)	DEPARTMENT OF PUBLIC WORKS:	MAINTENANCE:	MR. JEROME CASBY	(504) 658-8150
		TRAFFIC:	MR. KEVIN GIROIR	(504) 658-8006
		ENGINEERING:	MR. NGUYEN PHAN	(504) 658-8030
		STREET LIGHTING:	MR. JORDAN HELVESTON	(504) 658-8067
c)	ENTERGY:	ELECTRICAL:	MR. VIET TRAN	(504) 401-5472
		GAS:	MR. WILLIAM ARMSTRONG	(504) 595-3855
		AFTER HOURS		1-800-368-3749
d)	AT&T:		MR. OTIS FORD	(504) 254-1331
e)	COX CABLE:		MR. DENNIS LACOMBE	(504) 358-6079
f)	DEPARTMENT OF PARKS & PARKWAYS:	CHIEF URBAN FORESTER:	MR. MICHAEL DENNIS	(504) 658-3224
g)	LOUISIANA ONE CALL:			1-800-272-3020
h)	HISTORIC PRESERVATION SPECIALIST		MR. PHILIP GILMORE	(504) 658-8698
j)	ARCHEOLOGIST		MR. MICHAEL GODZINSKI	(504) 658-8632

9.5 CONTRACTOR SHALL DEVELOP AND SUBMIT SITE-SPECIFIC SAFETY AND HEALTH PLAN, TO INCLUDE SAFE WORK PRACTICES FOR REVIEW.

LEGEND

EXISTING (FINE LINE)

NEW CONSTRUCTION (BROAD LINE)

REQUIRED REMOVAL AND/OR PLACEMENT OF CONCRETE PAVEMENT, SIDEWALK, OR ADA RAMP CNO DPW (HEX)

REQUIRED REMOVAL AND/OR PLACEMENT OF CONCRETE PAVEMENT, SIDEWALK, OR ADA RAMP SWBNO (TRIANG)

REQUIRED REMOVAL AND/OR PLACEMENT OF ASPHALT ROADWAY CNO DPW (ANSI 131)

REQUIRED REMOVAL AND/OR PLACEMENT OF ASPHALT ROADWAY SWBNO (ANSI 131)

REQUIRED REMOVAL AND/OR PLACEMENT OF ASPHALT/CONCRETE COMPOSITE ROADWAY CNO DPW (ANSI 131/HEX)

REQUIRED REMOVAL AND/OR PLACEMENT OF ASPHALT/CONCRETE COMPOSITE ROADWAY SWBNO (ANSI 131/TRIANG)

REQUIRED COLD MILL/COLD PLANING AND PLACEMENT OF ASPHALT SURFACE COURSE CNO DPW (ANSI 133)

REQUIRED COLD MILL/COLD PLANING AND PLACEMENT OF ASPHALT SURFACE COURSE SWBNO (ANSI 133)

REQUIRED REMOVAL AND PLACEMENT OF ASPHALT OR CONCRETE ROADWAY FOR SWBNO ESSA

REMOVE/CONSTRUCT BARRIER CURB

REMOVE/CONSTRUCT MOUNTABLE CURB

REMOVE/CONSTRUCT TIMBER CURB

BRIDGE

RAILROAD

LEVEE

FENCE LINE

TREE

HEDGE

BUILDING

CULVERT

BASE LINE

EXISTING RIGHT OF WAY

CENTER LINE

UNDERGROUND PIPING MUST BE SHOWN AS A SINGLE LINE WHEN PIPE SIZES ARE LESS THAN 36" FOR DRAINS & 12" FOR SEWER, WATER & GAS. DOUBLE LINES WHEN SIZES ARE/ OR EXCEEDS 36" FOR DRAINS, 12" FOR SEWER, WATER & GAS

D12"	EXISTING DRAIN LINE	D36"	36"ø & UP
D12"	PROPOSED DRAINLINE	D36"	36"ø & UP
S8"	EXISTING SEWER	S12"	12"ø & UP
S8"	PROPOSED SEWER	S12"	12"ø & UP
W8"	EXISTING WATER	W12"	12"ø & UP
W8"	PROPOSED WATER	W12"	12"ø & UP
G2"	EXIST GAS	G12"	12"ø & UP
G8"	PROPOSED GAS	G12"	12"ø & UP

LEGEND (CONT.)

UGT — UNDERGROUND TELEPHONE CABLE

UGE — UNDERGROUND ELECTRIC LINE (SPECIFY S&WB OR OTHER)

TV — UNDERGROUND TELEVISION CABLE

PROPOSED VERTICAL CATCH BASIN (VCB)

PROPOSED MOUNTABLE CATCH BASIN (MCB)

PROPOSED MANHOLE (MH)

EXISTING CATCH BASIN (EXISTCB)

or / or DROP INLET EXISTING/PROPOSED (DI)

WATER VALVE/MANHOLE (CIRCULAR)(WVMC)

WATER VALVE/MANHOLE (RECTANGULAR)(WVMR)

(D) DRAIN MANHOLE (DRAINMH)

(S) SEWER MANHOLE (SEWERMH)

(W) WATER MANHOLE (WATERMH)

(G) GAS MANHOLE (GASMH)

(TR) TRAFFIC MANHOLE (TRMH)

(T) TELEPHONE MANHOLE (TELMH)

(U) TELEGRAPH MANHOLE (TGMH)

(E) ELECTRIC MANHOLE (ELECMH)

(R) TRASH RECEPTACLE (SUB-SURFACE) (TRASH)

UTILITY VALVE (UV)

WATER METER (WM)

RESIDENTIAL MAIL BOX (RMB)

TELEPHONE INTERFACE BOX (TIB)

CLEAN OUT FOR SEWER (COS)

CLEANOUT FOR DRAIN (COD)

TV CABLE TV BOX (TVB)

TSB TRAFFIC SIGNAL BOX (TSB)

TCB TRAFFIC CONTROL BOX (TCB)

UTILITY POLE (UP)

GUY POLE (GP)

GUY WIRE & ANCHOR (GWA)

POWER POLE (PP)

EXISTING CURB (SPECIFY TYPE)

LIGHT STANDARD (LS)

TRAFFIC SIGNAL STANDARD (TSS)

EXISTING FIRE HYDRANT (EFH)

PROPOSED FIRE HYDRANT (PFH)

TRAFFIC SIGN (TS)

IRON PIPE OR IRON ROD (IP)

CROSS CUT IN CONCRETE (CROSS)

—X —D24"— X— REMOVE EXIST. DRAIN LINE

REMOVE EXIST. MANHOLE (SEWER, DRAIN OR WATER)

ADJ. ADJUSTMENT

T.T. TREE TRIMMING

R.P. ROOT PRUNING

WATER METER/MANHOLE

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
IN
ENGINEERING

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

GENERAL NOTES AND LEGEND

CONTRACT NO. 2154

DR.	A.H.M.	
TRC.	A.H.M.	GENERAL SUPERINTENDENT
CK.	MAJI	
AP.	C.F.N.	**DWG. NO.** A1040STA
SCALE: AS NOTED		
DATE: AUGUST 2024	SET NO.	SHEET NO. 2

G1

DRAIN NOTES

I. GENERAL

1. It is to be understood that all references to "The Sewerage and Water Board (S&WB) Engineer" throughout this document shall refer to the General Superintendent of the S&WB or his appointed representative, and all references to "The S&WB Inspector" throughout this document shall refer to the inspector assigned to the project by the S&WB Engineer. The S&WB Inspector shall represent the S&WB Engineer in his/her absence. It is also to be understood that all references to S&WB drawings and specifications refer to the latest edition or revision.

2. The Contractor shall furnish all labor, supervision, materials, and equipment required for installation of new main drains, manholes, catch basins, connections, etc., required by the project drawings and specifications.

3. All workmanship and materials shall conform to the General Specifications of the S&WB. Any modification from the design drawings pertaining to S&WB facilities must be approved by the S&WB Engineer prior to construction.

4. Prior to the installation of any S&WB facilities, the entire area within the public right-of-way, including the entire width of any servitude adjacent to the front property line, plus an additional 3 ft. must be filled to the finished grade.

5. All elevations shown on the drawings refer to Cairo Datum in which 0.00 ft. NGVD is equal to 20.43 ft. Cairo Datum.

6. It is to be understood that wherever sand is stipulated in the specifications or drawings, it shall refer to pumped Mississippi River sand or any natural sand deposit meeting the requirements of AASHTO A-3 or ASTM-SP.

7. The Contractor shall notify the General Superintendent (625 St. Joseph St. N.O. LA 70165), with copies to the Chief of Engineering (8800 S. Claiborne Ave N.O. LA 70118), and the Chief of Construction Administration and Inspection (8800 S. Claiborne Ave N.O. LA 70118) of the S&WB in writing not less than three, nor more than ten days in advance of starting the project so as to schedule the inspection of any S&WB work. If the Contractor fails to do so prior to starting his work the Contractor will be required to expose the bedding on all pipe, or any other concealed work previously installed in order to obtain the approval of the S&WB Inspector. Any work performed without a S&WB Inspector's approval, will not be accepted by the S&WB, nor tied into the S&WB's drainage system.

8. The location of existing utilities shown on the drawings should be considered approximate. The Contractor shall verify the elevation of all existing structure inverts and the location of all existing utilities prior to the start of work, and shall be responsible for any negligence on his part in protecting them. The location of sewer and water house connections can be obtained from the S&WB.

9. All S&WB maintained drainage work performed by the Contractor will be subject to the approval of the S&WB Inspector. The Contractor shall provide the S&WB Inspector full access to the work throughout construction and abide by any justifiable S&WB Inspector's request to expose any and all work installed by the Contractor.

10. Backfill material for all utilities shall be sand either compacted mechanically in 6 in. lifts or flooded in 3 ft. lifts. Compaction shall be performed to 95% maximum dry density, near optimum water content, and shall meet the compaction characteristics of ASTM D-1557.

II. PIPE MATERIAL

1. All new drain pipe shall be reinforced concrete conforming to ASTM C-76, Class III, IV or V. All concrete drain pipe shall have a minimum cover of 2.5 ft. below the gutter line and 2 ft. of compacted native material outside of the paved road surface. Class IV RCP must be used when cover over the pipe within the roadway is less than 2.5 ft. Reinforced concrete pipe for drains 12 in. through 48 in. diameter shall be of the bell and spigot type. Drains above 48 in. in diameter shall be of the tongue and groove type.

2. All main drain lines shall be a minimum of 15 in. in diameter.

3. At points of tie-ins to the existing system, where the existing material is not concrete, or the connection is not made at a standard concrete joint, the connection shall be made with the use of a coupling and bushing adapter (Mission Rubber Co., Fernco or equal) conforming to ASTM C- 1173.

III. DRAIN MAIN INSTALLATION

1. The main drain shall be laid in a separate trench from all other utilities. The trench bottom shall be smooth and free from rocks, roots, etc. The minimum allowable horizontal distance between the main drain and other utilities shall be 3 ft. and a minimum vertical separation from all other utilities of 12 in. unless otherwise noted on the plans. All dimensions between utilities shall be measured from outside diameter to outside diameter.

2. Mains, manholes, and catch basins shall be installed at elevations indicated on the plans unless changed by the S&WB Engineer. All mains must be laid continuously from manhole to manhole, laid from the low end of the system with the bells facing upstream, and must be of the same size pipe diameter.

3. After the sheeting and/or foundation lumber is placed, the pipe shall be laid on a smooth bed of approved bedding material. The bedding material shall be extended under, around, and over the top of the pipe and compacted in layers not greater than 6 in. by a mechanical vibrating compactor approved by the S&WB Engineer until a minimum of 95% standard proctor density is attained for the full width of the trench. The bedding material shall be placed and compacted under the pipe haunches to provide maximum side support to the pipe in order to avoid displacement and misalignment of the pipe. The S&WB Engineer reserves the right to approve the type of bedding material to be used.

4. Bedding and foundations for mains shall conform to the latest revision of S&WB Dwg. Nos. D-3809, D-3810, D-3933, or D-3934. Standard sheeting & bracing when required, shall comply with S&WB Dwg. No. 4697-E5A.

5. Concrete storm drainage shall be installed in accordance with ASTM C1479-01.

6. All concrete pipe 36 in. in diameter and smaller shall be connected to the main drain or box canal with a stub that has been grouted into the wall in accordance with S&WB Dwg. No. 8178-SD.

7. Tapping of pipe smaller than 42 in. in diameter shall not be allowed when laying new lines, and shall be permitted on existing lines only with the approval of the S&WB Engineer, and only when the diameter of the hole does not exceed 1/3 the diameter of the pipe that is being tapped. The spigot end must be set into the main, trimmed flush on the inside, and grouted properly inside and out. Coring of reinforced concrete drain mains will be allowed only with the use of a hole saw that is equipped with a circular blade capable of cutting the exact size of the hole required. The inside of the existing main shall remain smooth after the core is complete. For either coring or tapping, only one connection will be allowed for each length of pipe, the core or tap must be made in the central one-half of the main, and the hole that is made must have a minimum edge distance of one foot from the end of the joint. All branch drains shall be tied in using factory-fabricated fittings. If plastic pipe is connected into concrete pipe, a sand impregnated PVC bell, approved by the S&WB Engineer, must be set into the concrete pipe, trimmed on the inside, and properly grouted in place.

8. When laying new drains, filter fabric shall be used around the joints of drain lines for all new construction or repair work on an existing line. Edges of fabric shall be wrapped around the entire joint with 12 in. minimum overlap and 12 in. minimum on each side of the joint, and shall be secured to the pipe in a manner acceptable to the S&WB Engineer. The filter fabric shall be DOTD Class C or D, non-woven pervious sheets of plastic yarn MiraFi 170N, or an equal approved by the S&WB Engineer.

9. Rub-R-Nek as manufactured by K.T. Snyder Co. or equal shall be used as the jointing material for all arch pipe and all other pipe that does not have rubber gasket joints. Two layers of Rub-R-Nek (or other approved material) per joint shall be used to provide a double seal. Products that are submitted as equals must be approved by the S&WB Engineer prior to installation.

IV. MANHOLES

1. Manholes shall conform to Section E of the General Specifications and the latest edition of S&WB Dwg. No. D-870. Short sections of pipe (maximum of 18 in.) with bell fittings and water stops, as recommended by the manufacturer and as shown on S&WB Dwg. No. 8178-SD, shall be used as connectors for brick manholes. KOR-N-SEAL Boots, or approved equal as shown on S&WB Dwg. No. 8178-SD, shall be used for precast manhole connections.

2. Manhole steps shall conform to S&WB Dwg. No. D-1359.

3. Abandoned mains must be plugged in the manhole. Walls of abandoned manholes shall be removed to a minimum of 2 ft. below finished grade and the abandoned manholes must be filled with pumped sand and flooded. Castings and covers are to be removed and returned to the S&WB Central Yard, 2900 Peoples Ave N.O. LA 70122.

4. All manhole foundation slabs shall be placed on a 6 in. layer of Class 57 bedding material in accordance with S&WB Dwg. No. D-870.

V. CATCH BASINS

1. Catch basins shall be of the type required by the S&WB Dwg. Nos. D-873 and D-873A. All single catch basin leads shall be a minimum of 12 in. diameter. All leads from single catch basins shall be connected to the main line with a wye fitting or manhole unless otherwise approved by the the S&WB Engineer.

2. All double catch basins shall have a 15 in. diameter lead terminating in a manhole or a wye. The two sections of the double catch basin shall be connected with a 15 in. pipe through the center wall as shown in S&WB Dwg. No. D-873A.

3. All abandoned catch basin leads must be plugged at the main line.

VI. CONNECTIONS

1. Tie-ins from existing private connections to the main shall be installed using 6 in. solid wall SDR 26 PVC pipe and shall connect to the concrete wye using a FERNCO or equal coupling. The use of saddles will not be permitted. Private connections shall have a minimum of 2.5 ft. of cover, measured at the gutter line. Collector lines shall be allowed on a case-by-case basis to provide for the collection and delivery of storm drainage flow from private property to a tie-in point in the storm drain system, such as a catch basin. These lines shall be a minimum of 8 in. in diameter to provide for maintenance access and shall comply in all other areas with these specifications.

VII. TESTING AND INSPECTION

1. All installation of drain work will be performed under the inspection of, and to the satisfaction of the S&WB inspector throughout the course of the work.

2. The S&WB is responsible for the inspection and maintenance only on drainage lines 36 in. diameter and larger.

3. All S&WB maintained drain work must be accepted by the S&WB Inspector at the completion of installation and prior to backfilling. At the direction of, and physically eye witnessed by the S&WB Inspector, the Contractor shall inspect the installed drainage utilizing a remote operated close circuit camera. Acceptance of any portion of the drainage system by the S&WB Inspector is also subject to the results of any required video inspection.

4. An infiltration test that does not exceed a rate of 250 gallons per in. of diameter per mile, per 24 hours shall be conducted by the Contractor and observed by the S&WB representative. This test shall be performed only after the backfilled trench has remained flooded for at least 12 hours prior to the test. The trench shall remain flooded during the test. The Contractor shall furnish all material, labor and equipment necessary for this test. If an infiltration test is not performed prior to paving, an exfiltration test may be required as directed by the S&WB Engineer.

VIII. FINAL ACCEPTANCE

1. Before final inspection of the system, the Contractor shall submit an "AS-BUILT" drawing to the Engineer showing any changes in line or grade from the original drawings, as well as showing the location of all house connections, in accordance with S&WB requirements. It will be the Contractor's responsibility to certify that the "AS-BUILT" drawings are correct. Any inaccuracy as determined by the S&WB Engineer in the "AS-BUILT" drawings shall be corrected at the cost of the Contractor.

2. The Contractor must contact the S&WB to set a date for final inspection. In the event the Contractor calls for an inspection and the work is not adequately complete, a new inspection date will then be set at the discretion of the S&WB Inspector.

3. Final acceptance of the system will be subject to a 1 year maintenance period following final acceptance of the project by the S&WB.

REV.	DATE	DESCRIPTION	BY
		SEWERAGE AND WATER BOARD OF NEW ORLEANS	
		SPECIFICATIONS FOR INSTALLATION OF DRAIN MAINS	

DR.	O. FENG	
TRC.		
CK.	B. JONES	GENERAL SUPERINTENDENT
AP.	J. BECKER	DWG. NO. 7260-D
SCALE	NONE	
DATE	05-05-05	SET NO. / SHEET NO.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

DRAINAGE NOTES

CONTRACT NO. 2154

DR.	A.H.M.
TRC.	A.H.M.
CK.	MAJI
AP.	C.F.N.
SCALE:	AS NOTED
DATE:	AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. A1040STA

SET NO. / SHEET NO. 2

G2

SEWER NOTES

I. GENERAL

1. It is to be understood that all references to "The Sewerage and Water Board (S&WB) Engineer" throughout this document shall refer to the General Superintendent of the S&WB or his appointed representative, and all references to "The S&WB Inspector" throughout this document shall refer to the inspector assigned to the project by the S&WB Engineer. The S&WB Inspector shall represent the S&WB Engineer in his/her absence. It is also to be understood that all references to S&WB drawings and specifications refer to the latest edition or revision.

2. The Contractor shall have an individual with a Wastewater Collection Class IV license, obtained through the Louisiana Department of Health and Hospitals, on site at all times during the installation of the sewer lines and appurtenances.

3. The Contractor shall furnish all labor, supervision, materials, and equipment required for the installation of new sewer mains, manholes, house connections, etc., required by the project drawings and specifications.

4. All workmanship and materials shall conform to the General Specifications of the S&WB. Any modification from the design drawings must be approved by the S&WB Engineer prior to construction.

5. Prior to the installation of any S&WB facilities, the entire area within the public right-of-way, including the entire width of any servitudes adjacent to the front property line, plus an additional 3 ft. must be filled to the finished grade.

6. All elevations shown on the drawings refer to Cairo Datum in which 0.00 ft. NGVD is equal to 20.43 ft. Cairo Datum.

7. It is to be understood that wherever sand is stipulated in the specifications or drawings, it shall refer to pumped Mississippi River sand or any natural sand deposit meeting the requirements of AASHTO A-3 or ASTM-SP.

8. The Contractor shall notify the General Superintendent (625 St. Joseph St. N.O. LA 70165), with copies to the Chief of Engineering (8800 S. Claiborne Ave N.O. LA 70118), and the Chief of Construction Administration and Inspection (8800 S. Claiborne Ave N.O. LA 70118) of the S&WB in writing not less than three nor more than ten days in advance of starting the project so as to schedule the inspection of any S&WB work. Failure to do so prior to starting this work shall require the Contractor to expose the bedding on all pipe, or any other concealed work previously installed in order to obtain the approval of the S&WB Inspector. Any work performed without an S&WB Inspector's approval will not be accepted by the S&WB nor tied into the S&WB's collection system.

9. The location of existing utilities shown on the drawings should be considered approximate. The Contractor shall verify the elevation of all existing structure inverts and the location of all existing utilities prior to the start of work, and shall be responsible for any negligence on his part in protecting them. The location of sewer and water house connections can be obtained from the S&WB.

10. All S&WB maintained sewer work performed by the Contractor would be subject to the approval of the S&WB Inspector. The Contractor shall provide the S&WB Inspector full access to the work throughout construction and abide by any justifiable S&WB Inspector's request to expose any and all work installed by the Contractor.

11 Backfill material for all utilities shall be sand either compacted mechanically in 6 in. lifts or flooded in 3 ft. lifts. Compaction shall be performed to 95% maximum dry density, near optimum water content, and shall meet the compaction characteristics of ASTM D-1557.

12. Specifications for sewer force main pipe shall be job specific.

II. PIPE MATERIAL

1. Material for sewer mains shall be solid wall PVC pipe, manufactured in accordance with ASTM D-3034 specifications and to a SDR (strength dimension ratio) of 26 with elastomeric gaskets. The elastomeric gaskets and retainer rings shall be installed by the manufacturer in accordance with ASTM D-3212 and F-477.

2. The fittings for solid wall PVC pipe shall be the same inside diameter as the solid wall PVC with an SDR of 35.

3. PVC sewer mains, sizes 18 in. through 27 in. shall be solid wall PVC pipe conforming to ASTM F-679.

4. The maximum allowable compression for installed PVC sewer pipe is 7.5 percent (7.5%) of its original vertical inside diameter. Pipe exceeding this allowable compression shall be removed and replaced with new pipe, reinstalled at the Contractor's expense.

5. At points of tie-ins to the existing system, the new pipe material should match the existing. If the new material does not match the existing material, the connection shall be made with the use of a coupling and bushing adapter intended for that purpose, ARC (Mission Rubber Co.), FERNCO, or equal, conforming to ASTM C-425.

6. Ductile iron pipe shall be used where specified on the construction drawings and shall conform to Section II-B, "Ductile Iron" of the S&WB 7260 Water Notes except that the interior lining shall be polyethylene, "Polybond", or approved equal, and must be factory installed with 40 mils nominal thickness.

III. SEWER MAIN INSTALLATION

1. The sewer main must be laid in a separate trench from all other utilities. The minimum allowable horizontal distance between the sewer main and the water main shall be 6 ft., and a minimum vertical separation of 18 in. as stipulated in Louisiana Administrative Code Title Fifty-One (51) Public Health-Sanitary Code Part XII Water Supplies. The minimum allowable horizontal distance between the sewer main and other utilities shall be 3 ft., and a minimum vertical clearance of 12 in. above or 12 in. below other utilities. For payment purposes, depths of sewer mains shall be determined by the average measurements from inverts to the top of castings at finished grade of connecting manholes. All dimensions between utilities shall be measured from outside diameter to outside diameter.

2. Sewer mains and interconnecting manholes shall be installed at elevations indicated on the plans unless changed by the S&WB Engineer. All mains must be laid continuously from manhole to manhole, laid from the low end of the system with the bell facing upstream, and must be of the same size pipe diameter. The minimum depth of a sewer main shall be 5.5 ft. from surface to invert.

3. Installation of the solid wall PVC pipe shall conform to Section D, "The Construction of Sewers," of the General Specifications of the S&WB. The trench bottom shall be smooth and free from rocks, roots, etc. After the sheeting and/or foundation lumber is placed, the pipe shall be laid on a smooth bed of approved bedding material. Bedding and foundations for mains and standard sheeting and bracing shall comply with S&WB Dwg. No. 4697-E5A. The bedding material shall be extended under, around, and over the top of the pipe and compacted in layers not greater than 6 in. by a mechanical vibrating compactor approved by the S&WB Engineer until a minimum of 95% standard proctor density is attained at or near optimum moisture content for the full width of the trench. The bedding material shall be Class I Angular Material (1/4 in. to 1-1/2 in.), ASTM D2321 or ASTM C33. The S&WB Engineer reserves the right to approve the type of bedding material to be used.

4. Filter fabric shall be installed around the bedding and under the backfill in all sewer installations as shown in S&WB Dwg. No 4697-E5A, and conform by weight to ASTM D1910. The filter fabric shall be DOTD Class C or D, non-woven pervious sheets of plastic yarn MiraFi 170N, or an equal approved by the S&WB Engineer, constructed so the yarns will retain their relative position with respect to each other. Edges of the fabric shall be finished to prevent the outer yarn from pulling away from the fabric. The fabric shall be installed as follows:

   a. After the trench is excavated, the foundation lumber shall be placed in the bottom of the trench as shown on the standard drawings. The filter fabric shall be cut to the needed width, including allowances for "loose" placement in the trench, with a double overlap on top of the bedding material after placement. The fabric shall be laid over the foundation lumber in the trench along the pipes alignment with an 18 in. minimum overlap at the ends of subsequent lengths. Care should be taken to place the fabric tightly against the soil so that no voids occur outside the fabric. Wrinkles or folds should be avoided. The sides of the fabric which will be used as a double-top overlap should temporarily be pinned to the sides of the trench.

   b. After installing the fabric, an initial 6 in. layer of bedding material shall be placed and compacted to the proper grade before placing the sewer pipe. The remainder of the bedding material shall then be placed around and above the pipe and compacted. Compaction is required to seat the fabric and bedding material against the trench wall and to reduce settlement.

   c. After compaction, the two edges of the filter fabric shall be unfastened and overlapped for the full width of the trench on top of the bedding material. The backfill material shall then be placed on top of the filter fabric and compacted.

IV. MANHOLES

1. Manholes shall conform to Section D of the General Specifications and S&WB Dwg. Nos. D-870. Short sections of pipe with bell fittings and water stops, as recommended by the manufacturer and as shown on S&WB Dwg. No. 8178-SD, shall be used as connectors for brick manholes. As an alternative, a sand impregnated PVC stub, approved by the S&WB Engineer, may be used and grouted in place using a type three high early strength cement, or quick setting EMBECO, or similar material approved by the S&WB Engineer. KOR-N-SEAL Boots, or approved equal, as shown on S&WB Dwg. No. 8178-SD, shall be used for precast manhole pipe connections.

2. Manhole steps shall conform to S&WB Dwg. No. D-1359.

3. Abandoned sewer mains must be plugged in the manhole. Walls of abandoned manholes shall be removed to a minimum of 2 ft. below finished grade and the abandoned manholes must be filled with sand and flooded. Castings and covers are to be removed and returned to the S&WB Central Yard, 2900 Peoples Ave N.O. LA 70122.

4. All manhole foundation slabs shall be placed on a 6 in. layer of crushed stone or approved equal bedding material in accordance with S&WB Dwg. No. D-870.

V. HOUSE CONNECTIONS

1. House Connections shall be installed using 6 in. solid wall SDR 26 PVC pipe extended to the property line as shown on S&WB Dwg. No. 6312-E5. The use of saddles will not be permitted; all such connections shall be made with the use of approved fittings. All pipe and fittings shall be the same material as the sewer main unless otherwise approved by the S&WB Engineer. House Connections shall have a minimum of 3.5 ft. and a maximum of 4.5 ft. of cover, measured from the gutter line and from the ground surface at the property line. The house connection shall end at the property line or extend through any proposed servitudes adjacent to the property line with a rubber gasketed plastic cap. House connections shall not require bracing, foundation lumber, or bedding. The location of all sewer house connections shall be imprinted on the curb with an "S", 3 in. high and ¼ in. deep as shown on S&WB Dwg. No. 6312-E5.

VI. TESTING AND INSPECTION

1. All installation of sewer mains and related appurtenances will be performed under the inspection of, and to the satisfaction of the S&WB Inspector throughout the course of the work.

2. Infiltration rate for newly installed gravity mains shall be zero gallons. Infiltration test rates for force mains shall not exceed a rate of 250 gallons per in. of diameter per mile, per 24 hours, shall be conducted by the Contractor and observed by the S&WB representative. This test shall be performed only after the backfilled trench has remained flooded for at least 12 hours prior to the test. The trench shall remain flooded during the test. The Contractor shall furnish all material, labor and equipment necessary for this test. If an infiltration test is not performed prior to paving, an exfiltration test may be made as directed by the S&WB Engineer. Any detectable leak shall be repaired by the Contractor at the Contractor's expense. The infiltration test is to be performed by the Contractor and shall be witnessed by the S&WB Inspector.

3. At the completion of backfilling, and prior to final acceptance of the sewer, 100% of the sewer main must be mandreled. This mandrel work shall be witnessed by the S&WB Inspector and performed by the Contractor at no direct pay. The S&WB will provide the mandrels for all tests and the Contractor shall place the pull lines in the mains. The Contractor will have the option of passing the mandrels at any time after final backfill of the trenches but prior to final acceptance. It is required that a S&WB Representative and the Contractor witness the actual mandreling test(s).

4. The sewer line shall be cleaned and videoed prior to the installation of the wearing course. It is required that a S&WB Representative and the Contractor physically eye-witness the actual cleaning and TV/video test(s).

5. The Contractor will be required to repair, at his own expense and in an approved manner, all defects in workmanship or material disclosed by these inspections prior to obtaining final acceptance. The Contractor shall also bear all cost associated with the re-testing, including any cost incurred by the S&WB.

VII. FINAL ACCEPTANCE

1. Before final inspection of the system, the Contractor shall submit an "AS-BUILT" drawing to the Board showing any changes in line or grade from the original drawings, as well as showing the location of all house connections, in accordance with S&WB requirements. It will be the Contractor's responsibility to certify that the "AS-BUILT" drawings are correct. Any inaccuracy as determined by the S&WB in the "AS-BUILT" drawings shall be corrected at the cost of the Contractor.

2. The Contractor must contact the S&WB to set a date for final inspection. In the event the Contractor calls for an inspection and the work is not adequately complete, a new inspection date will then be set at the discretion of the S&WB Inspector.

3. Final acceptance of the system will be subject to a 1-year maintenance period following final acceptance of the project by the S&WB.

REV.	DATE	DESCRIPTION	BY
		SEWERAGE AND WATER BOARD OF NEW ORLEANS	
		SPECIFICATIONS FOR INSTALLATION OF SEWER MAINS	

DR.	G. FENG	GENERAL SUPERINTENDENT	
TRC.			
CK.	B. JONES		
AP.	J. BECKER	DWG. NO.	7260-S
SCALE	NONE	SET NO.	SHEET NO.
DATE	05-05-05		

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

SEWER NOTES

CONTRACT NO. 2154

DR.	A.H.M.	GENERAL SUPERINTENDENT	
TRC.	A.H.M.		
CK.	MAJI		
AP.	C.F.N.	**DWG. NO.**	A1040STA
SCALE:	AS NOTED	SET NO.	SHEET NO. 2
DATE:	AUGUST 2024		

G3

WATER NOTES

I. GENERAL

1. It is to be understood that all references to "The Sewerage and Water Board (S&WB) Engineer" throughout this document shall refer to the General Superintendent of the S&WB or his appointed representative and all references to "The S&WB Inspector" throughout this document shall refer to the inspector assigned to the project by the S&WB Engineer. The S&WB Inspector shall represent the S&WB Engineer in his/her absence. It is also to be understood that all references to S&WB drawings and specifications refer to the latest edition or revision.
2. The Contractor shall have an individual with a Water Distribution Class IV license, obtained through the Louisiana Department of Health and Hospitals, on site at all times during the installation of the water lines and appurtenances.
3. The Contractor shall furnish all labor, supervision, materials and equipment required for the installation of new water mains, valves, manholes, hydrants, and house connections required by the project drawings and specifications.
4. The S&WB forces shall be responsible for the closure of all water valves. The Contractor shall contact the Chief of Networks at 2900 Peoples Ave., NOLA 70122, two weeks in advance of any required water closures to schedule the closures.
5. All workmanship and materials shall conform to the General Specifications of the S&WB. Any modification from the design drawings pertaining to S&WB facilities must be approved by the S&WB Engineer prior to construction.
6. Prior to the installation of S&WB facilities, the entire area within the public right-of-way, including the entire width of any servitudes adjacent to the front property line, plus an additional 3 ft. must be filled to the finished grade.
7. All elevations shown on the drawings refer to Cairo Datum in which 0.00 ft. NGVD is equal to 20.43 ft. Cairo Datum.
8. It is to be understood that wherever sand is stipulated in the specifications or drawings, it shall refer to pumped Mississippi River sand or any natural sand deposit meeting the requirements of AASHTO A-3 or ASTM-SP.
9. The Contractor shall notify the General Superintendent (625 St. Joseph St. N.O. LA 70165), with copies to the Chief of Engineering (8800 S. Claiborne Ave N.O. LA 70118), and the Chief of Construction Administration and Inspection (8800 S. Claiborne Ave N.O. LA 70118) of the S&WB in writing not less than 3, nor more than 10 days in advance of starting the project so as to schedule the inspection of any S&WB work. If the Contractor fails to do so prior to starting his work, the Contractor shall be required to expose the bedding on all pipe or any other concealed work previously installed in order to obtain the approval of the S&WB Inspector. Any work performed without a S&WB Inspector's approval will not be accepted by the S&WB, nor tied into the S&WB's distribution system.
10. The location of existing utilities shown on the drawings should be considered approximate. The Contractor shall verify the elevation of all existing structure inverts and the location of all existing utilities prior to the start of work, and shall be responsible for any negligence on his part in protecting them. The location of sewer and water house connections can be obtained from the S&WB.
11. All S&WB maintained water facilities installed by the Contractor will be subject to the approval of the S&WB Inspector. The Contractor shall provide the S&WB Inspector full access to the work throughout construction and abide by any justifiable S&WB Inspector's request to expose any and all work installed by the Contractor.
12. Backfill material for all utilities shall be sand either compacted mechanically in 6 in. lifts or flooded in 3 ft. lifts. Compaction shall be performed to 95% maximum dry density, near optimum water content, and shall meet the compaction characteristics of ASTM D-1557.
13. All removed valves, hydrants and castings shall be returned to the Central Yard Warehouse at 2900 Peoples Ave.

II. PIPE MATERIAL

A. POLYVINYL CHLORIDE (PVC)

1. All new water mains 6 in. through 12 in. shall be solid wall DR 18 PVC pipe manufactured in accordance with AWWA Standard C900 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 12 in. for Water Distribution." Pipe shall be furnished in standard lengths (min. 16 ft.) with integral cast bells or couplings using elastomeric gaskets conforming to AWWA Standard C900, ASTM D3212 or F477. New water mains 16 in. and larger shall be solid wall DR 18 PVC pipe manufactured in accordance with AWWA Standard C905.
2. For PVC water lines, all pipefitting shall be ductile iron and shall conform to the following section on "Ductile Iron." All nuts, bolts, and washers shall be manufactured of stainless steel.

B. DUCTILE IRON

1. Ductile iron pipe shall be manufactured in accordance with AWWA Standard C150, "Thickness Design of Ductile-Iron Pipe" and AWWA Standard C151, "Ductile Iron Pipe, Centrifugally Cast, for Water," Special Thickness Class 52. Ductile iron pipe for above ground exposed applications such as canal crossings, etc., shall be Special Thickness Class 56. Ductile iron pipe to be installed inside of an underground drainage box canal shall be Special Thickness Class 56. No joints will be allowed inside the box canal.
2. Ductile iron fittings shall be manufactured in accordance with AWWA Standard C110, "Ductile-Iron and Gray-Iron Fittings for Water" or C153, "Ductile-Iron Compact Fittings, 3 in. through 24 in. and 54 in. through 64 in. for Water Service."
3. All ductile iron pipe and fittings shall have an asphaltic coating in accordance with AWWA Standards C151 and C110. All ductile iron pipe and fittings shall be installed in a polyethylene encasement, 8 mils in thickness, in accordance with AWWA Standard C105, "Polyethylene Encasement for Ductile Iron Pipe Systems." This polyethylene encasement shall cover all ductile iron pipe and fittings, including joints, and shall be overlapped a minimum of 12 in. between sections and sealed with black polyethylene tape.
4. Ductile iron pipe and fittings shall be lined with cement mortar. The cement mortar lining shall comply with AWWA Standard C104, "Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water."
5. Joints for ductile iron pipe and fittings for below ground applications shall be push-on type or mechanical joints with rubber gaskets in accordance with AWWA Standard C111, "Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings." Joints for ductile iron pipe and fittings for above ground exposed applications such as canal crossings, etc., shall be American "Flex-Ring" or U. S. Pipe "TR Flex" or approved equal. (U. S. Pipe "Field Lok 350 Gasket" and American "Fast-Grip Gasket" are not allowed.) All joints shall be restrained per manufacturers recommendations. Any required ductile iron flanges shall be in accordance with AWWA Standard C115, "Flanged Ductile Iron Pipe with Ductile Iron or Gray Iron Threaded Flanges." Stainless steel bolts and nuts shall be used on bolted fittings, valves, saddles, etc.

C. OTHER MATERIALS

1. Steel, fiberglass reinforced pipe (FRP), and high density polyethylene (HDPE) are materials that have been approved for installation within the water system. The specifications for these materials will be job specific.

III. WATER MAIN INSTALLATION

1. The water main must be laid in a separate trench from all other utilities. The minimum allowable horizontal distance between the water main and the sewer main shall be 6 ft., and a minimum vertical separation of 18 in. as stipulated in Louisiana Administrative Code Title Fifty-One (51) Public Health-Sanitary Code Part XII Water Supplies. The minimum allowable horizontal distance between the water main and all other utilities shall be 3 ft., and a minimum vertical clearance of 6 in. above and 12 in. below other utilities. In instances where a new water main is replacing an existing, the new main must be a minimum of 3 ft. from the existing main and the existing main must be kept in service until the new main is tied in. The minimum cover for a water main is at 3.5 ft. All dimensions between utilities shall be measured from outside diameter to outside diameter.
2. The curvature of the water mains in cul-de-sacs shall be accomplished with Polyethylene PE 3406 or PE 3408 tubing material with brass fittings, usually a 2 in. minimum diameter line.
3. The installation of all pipe shall conform to the manufacturers recommendations and the applicable requirements of Section F of the S&WB General Specifications. The trench bottom shall be smooth and free from roots, rocks, etc. The pipe shall be laid on a 6 in. bed of sand for the full width of the trench and compacted to 95% standard proctor density at or near the optimum moisture content. The sand shall be placed and consolidated under the pipe haunches to provide adequate side support to the pipe avoiding displacement and misalignment. The remainder of the trench shall be filled with sand compacted to the specified grade as required by the S&WB General Specifications.
4. The Contractor will be responsible for the cleanliness of the main until completion of the work and final acceptance of the Contract. At the end of each day's work, or stoppage of work, the Contractor must provide an approved temporary watertight plug at each open end. When work is resumed, the trench must be free of water and dirt before the plug is removed.
5. The Contractor shall make all tie-ins and shall provide all material for tie-ins as specified in the contract drawings. Tie-ins shall only be made once the chlorination process has been approved.
6. The Contractor shall obtain approval from the S&WB prior to making tie-ins, and shall work continuously until completion on all tie-ins and water services are restored. Water services will not be interrupted until all crews and equipment are on site with the connection exposed, and prepared to begin the tie-in. In addition, the Contractor must show that the N.O. Fire Dept. and affected residents have been notified 24 hours in advance of any interruption of service. The Contractor shall make every effort to limit residential closures.

IV. METER MANHOLES, VAULTS & BOXES

1. Where manholes or vaults are required within the public right-of-way, the Contractor shall be responsible for installation and construction of the meter manhole or vault in accordance with the S&WB General Specifications Section F-12. Meter sizes 1 in. and smaller shall be installed within the public right-of-way in a meter box as shown on S&WB Dwg. No. 7134-W. Meter sizes 1 1/2 and 2 in. installed within the public right-of-way shall be installed in manholes as shown on S&WB Dwg. No. 7332-W. Meter sizes 4 in. to 10 in. installed within the public right-of-way shall be installed in vaults as shown on S&WB Dwg. No. 7531-W.
2. All manhole foundation slabs shall be placed on a 6 in. layer of crushed stone or approved equal bedding material.
3. Meter boxes shall be adjusted to final grade. There shall be no separation between the barrel and lower meter pan. No adjustment rings are allowed.

V. HOUSE CONNECTIONS

1. Water house connections shall be installed at the center of each lot unless otherwise approved by the S&WB Engineer. When the water main is located outside of the roadway and service connections are required on the opposite side of the street, the Contractor shall furnish and install PVC conduit pipe (min 0.216 in. wall thickness, min. 3 in. diameter) with ends temporarily sealed. For new construction, the location of all water house connections shall be imprinted on the curb with the letter "W" not less than 3 in. high and 1/4 in. deep. Size of connection shall be 1 in. polyethylene pipe for 5/8 in. to 1 in. meters as shown on S&WB Dwg. No. 7134-W.
2. No direct tapping of the pipe will be permitted for making house connections. Service saddles shall be bronze Clow No. 3407 G, J. Jones J-996, Mueller Series H-13400, S90 Ford Brass Saddle, or Ford FC202. The Contractor shall use only shell type hole cutters that will retain the coupon. Depth of house connections at the property line shall be between 2.5 ft. and 3.5 ft.

VI. METERS

1. Required meters will be furnished by the S&WB at no additional cost to the Contractor. The Contractor shall be responsible for installation and construction of the meter box, and meter manhole or vault.
2. The meter shall be installed as received from the S&WB Meter Department and may not be modified in any manner. Any modifications will void the UL warranty and, as such, may subject the owner to financial penalty and loss of service.
3. Meters installed on private property shall meet the requirements of the S&WB House Connection Department.

VII. VALVES AND HYDRANTS

1. Valves 4 in. to 12 in. installed in the public right of way shall be S&WB R.D. Wood Gate valves as shown in S&WB Dwg. 11897-W-62. Valves 16 in. and larger shall be American R/D gate valves. All valves must be installed in manholes, and located at the projection of the property line.
2. Hydrants shall be 5 in. Breakaway Fire Hydrant Bronze Trim, as detailed in S&WB Dwg. No. 11825-W-62 or 5 ¼ in. American Darling Fire Hydrant B-62-B. For details of setting hydrants see S&WB Dwg. No. 6179-F-2. Hydrant leads shall be solid wall PVC pipe Class 150, AWWA Standard C-900. All hydrant lead joints shall be restrained. Hydrants shall be installed with wood blocking and be spaced not more than 350 ft. apart, 6 ft. off the projected property line on corner lots, and within 5 ft. of the center of the lot for interior lots.

VIII. TESTING, CHLORINATION AND FLUSHING

1. All new mains, valves, hydrants and services shall be installed prior to pressure testing. The system shall be pressure tested by the Contractor in the presence of the S&WB Inspector and in accordance with Paragraph F-15 of the General Specifications. The test shall be scheduled by the S&WB Inspector. All air shall be bled from the system prior to testing. The Contractor shall be responsible for all costs incurred as a result of test failures, including repairs to defects.
2. Throughout the test, the pressure will be maintained at 100 psi. If the pressure drops to 95 psi it must be increased back to 100 psi by adding additional water to the pipe. Each subsequent "pump up" must use less water per hour than was used previously, or the main will not be accepted. If the Contractor allows the pressure to fall below 95 psi at any point, the main will not be accepted. The test shall be performed for a minimum of 3 hours and a maximum of 24 hours. Allowable leakage shall not exceed 20 gallons of water per 24 hours, for each mile of pipe, per inch of inside diameter for pipes 12 in. and smaller. For pipes larger than 12 in., the allowable leakage shall be 10 gallons of water per 24 hours, for each mile of pipe, per inside inch diameter.
3. The Contractor shall install the flushing apparatus in accordance with S&WB Dwg. Nos. 7004-W and 7005-W. The Contractor shall flush the newly installed piping system with maximum flow prior to the chlorination by the S&WB.
4. The Contractor shall notify the S&WB 1 week in advance of the desired chlorination date. Chlorination of the water mains shall be performed by the S&WB in accordance with Par. F-16 of the General Specifications. The S&WB forces will require approximately 4 working days, weather permitting, to conduct and provide test results of the system. If the initial disinfection does not produce satisfactory samples, the process shall be repeated and the Contractor shall be assessed as stated below.
5. The S&WB will perform the initial chlorination of the mains at no charge to the Contractor. If it is observed that the Contractor had not taken proper precautionary measures to prevent contamination during the installation, the S&WB will cease operation until the system is flushed and made clean by the Contractor. The Contractor shall bear any and all costs associated with rechlorination of the system.
6. The new main must be connected to the S&WB's system within 72 hours of notification of passing the chlorination test. Failure to complete the tie-ins within this time limitation will result in retesting the new main at the expense of the Contractor.

IX. INSPECTION

1. All installation of water mains and related appurtenances will be performed under the inspection of, and to the satisfaction of the S&WB Inspector throughout the course of the work.

X. FINAL ACCEPTANCE

1. The new water mains and appurtenances must be installed level, at proper grade, have passed all required tests, and must be tied into the existing water system prior to obtaining final acceptance.
2. Before final inspection of the system, the Contractor shall submit an "AS-BUILT" drawing to the S&WB showing any changes in line or grade from the original drawings, as well as showing the location of all house connections, in accordance with S&WB requirements. It will be the Contractor's responsibility to certify that the "AS-BUILT" drawings are correct. Any inaccuracy as determined by the S&WB in the "AS-BUILT" drawings shall be corrected at the cost of the Contractor.
3. The Contractor must contact the S&WB to set a date for final inspection. In the event the Contractor calls for an inspection and the work is not adequately complete, a new inspection date will then be set at the discretion of the S&WB Inspector.
4. Final acceptance of the system will be subject to a 1 year maintenance period following final acceptance of the project by the S&WB.

REV.	DATE	DESCRIPTION	BY
		SEWERAGE AND WATER BOARD OF NEW ORLEANS	
		SPECIFICATIONS FOR INSTALLATION OF WATER MAINS	
DR. Q. FENG		GENERAL SUPERINTENDENT	
TRC.			
CK. B. JONES			
AP. J. BECKER		DWG. NO. 7260-W	
SCALE NONE			
DATE 05-05-05		SET NO.	SHEET NO.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

WATER NOTES

CONTRACT NO. 2154

DR.	A.H.M.	
TRC.	A.H.M.	GENERAL SUPERINTENDENT
CK.	MAJI	
AP.	C.F.N.	**DWG. NO.** A1040STA
SCALE:	AS NOTED	
DATE:	AUGUST 2024	SET NO. SHEET NO. 2

G4

SUMMARY OF ESTIMATED QUANTITIES

BASE BID ITEMS

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
C202(52)(C)	REMOVAL AND DISPOSAL OF EXISTING PORTLAND CEMENT CONCRETE		
	PAVEMENT (COMPOSITE)	SY	5427
C202(52)(D)	REMOVAL AND DISPOSAL OF EXISTING SIDEWALK, DRIVEWAY, FOOT LAP		
	(CONCRETE, BRICK, ASPHALT, ETC.)	SY	760
C202(52)(F)	REMOVAL AND DISPOSAL OF EXISTING CURB AND GUTTER BOTTOM	LF	2525
C202(55)	SAW CUT CONCRETE CURB, PAVEMENT, SIDEWALK, ETC.	LF	70
C203(51)	ROADWAY EXCAVATION	CY	1222
C203(58)	UNSUITABLE SUBGRADE EXCAVATION AND SAND FILLING	CY	150
C203(59)	GEOTEXTILE FABRIC FOR STABILIZATION	SY	5885
C203(60)	GEOGRID	SY	5570
C302(51)	BASE COURSE	CY	1268
C402(51)	TRAFFIC MAINTENANCE AGGREGATE	CY	170
C501(53)	ASPHALTIC CONCRETE (2" THICK)	SY	6117
C601(54)	REINFORCED CONCRETE PAVEMENT (7" THICK)	SY	6117
C701(53)(F)	REINFORCED CONCRETE PIPE (15")(CLASS IV)	LF	1500
C701(53)(G)	REINFORCED CONCRETE PIPE (18")(CLASS IV)	LF	100
C701(53)(E)	REINFORCED CONCRETE PIPE (12")(CLASS IV)	LF	20
C701(59)	REINFORCED CONCRETE WYE (15")(CLASS IV)	EA	8
C701(72)	COLLECTOR LINE TO CATCH BASINS FOR DRAIN HOUSE CONNECTIONS (8")	LF	40
C702(52)(J)	NO. 1 STANDARD DRAIN MANHOLE	FTHT	64
C702(53)(M)	NO. 1 STANDARD CATCH BASIN	EA	6
C702(54)(A)(1)	ADJUST MANHOLE OR DROP INLET TO GRADE 6" WITH BRICK AND MORTOR	EA	36
C702(54)(A)(3)	MANHOLE REPAIR OR VERTICAL ADJUSTMENT UP TO GRADE 6" REUSING		
	EXISTING METAL CASTING	EA	32
C702(54)(I)	REHABILITATION EXISTING MANHOLE	FTHT	144
C706(57)	BRICK SIDEWALK	SY	80
C706(58)	RELAYING BRICK SIDEWALK	SY	280
C706(59)	STONE SIDEWALK	SY	20
C706(60)	RELAYING STONE SIDEWALK	SY	703
C706(61)	LETTER OR NUMBER FOR TILE STREET NAME	EA	28
C706(62)	RESETTING TILE STREET NAME	EA	6
C707(56)	6" CONCRETE BARRIER CURB WITH DOWELS	LF	1233
C707(62)	STONE CURB INCLUDING BASE (STRAIGHT, CIRCULAR OR DEPRESSED)	LF	150
C707(63)	RESET EXISTING CURB (PRECAST, CONCRETE, STONE, ETC.) INCLUDING BASE	LF	2041
C713(51)	TEMPORARY SIGNS, BARRICADES AND PAVEMENT MARKINGS	LS	1
C727(51)	MOBILIZATION	LS	1
C729(51)	TRAFFIC SIGNS	EA	32
C732(52)(A)	PLASTIC PVMT STRIPING (SOLID)(4IN W)(THERMO 90 MIL)	LF	1750
C732(52)(B)	PLASTIC PVMT STRIPING (SOLID)(6IN W)(THERMO 90 MIL)	LF	225
C732(52)(E)	PLASTIC PVMT STRIPING (24IN W)(THERMO 125 MIL)	LF	1360
C732(54)	PLASTIC PVMT LEGENDS & SYMBOLS	EA	4
C740(51)	CONSTRUCTION LAYOUT	LS	1
C741(51)(B)	6" PVC NEW WATER MAIN WITH MAIN LINE FITTINGS	LF	30
C741(51)(C)(1)	8" PVC NEW WATER MAIN WITH MAIN LINE FITTINGS	LF	144
C741(51)(E)	12" PVC NEW WATER MAIN WITH MAIN LINE FITTINGS	LF	170
C741(51)(I)(2)	24" DUCTILE IRON (RESTRAINED JOINT) NEW WATER MAIN WITH MAIN LINE FITTINGS	LF	1582
C741(52)	NEW 2" VALVE	EA	2
C741(52)(B)	NEW 6" VALVE	EA	2
C741(52)(C)	NEW 8" VALVE	EA	14
C741(52)(E)	NEW 12" VALVE	EA	5
C741(52)(I)	NEW 24" VALVE	EA	5
C741(54)	NEW FIRE HYDRANT	EA	5
C741(55)(A)	REPLACE 5/8" TO 1" WATER HOUSE CONNECTION WITH 1" WATER HOUSE		
	CONNECTION (FROM MAIN TO METER)	EA	68
C741(55)(B)	REPLACE 1-1/2" WATER HOUSE CONNECTION (FROM MAIN TO METER)	EA	6
C741(55)(C)	REPLACE 2" WATER HOUSE CONNECTION (FROM MAIN TO METER)	EA	13
C741(55)(D)	REPLACE 4" WATER HOUSE CONNECTION (FROM MAIN TO METER)	EA	10
C741(55)(E)	REPLACE 6" WATER HOUSE CONNECTION (FROM MAIN TO METER)	EA	1
C741(55)(F)	REPLACE 8" WATER HOUSE CONNECTION (FROM MAIN TO METER)	EA	2

SUMMARY OF ESTIMATED QUANTITIES

BASE BID ITEMS

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
C741(71)(C-01)	8" WATERLINE OFFSET UP TO 24"	EA	4
C741(74)(A)	NEW WATER VALVE MANHOLE (4" THROUGH 12" VALVES)	EA	4
C741(75)	REMOVE MUD AND DEBRIS FROM INSIDE OF WATER METER BOX	EA	47
C741(76)	ADJUST COMPLETE WATER METER BOX TO GRADE	EA	47
C741(77)	REPLACE BROKEN WATER METER BOX (5/8") TO (1")	EA	10
C742(57)	SEWER POINT REPAIR UP TO 10 FEET (8" AT 6.1'- 8.0')	EA	6
C742(58)	SEWER POINT REPAIR BEYOND 10 FEET (8" AT 6.1'- 8.0')	LF	20
C742(59)	NEW SEWER HOUSE CONNECTIONS FROM MAIN TO BACK OF CURB	EA	50
C742(65)(C)	PIPE LINING (8" & CIPP LINING)	LF	1565
C742(66)(B)	CUT LINER TO RESTORE EXISTING SEWER HOUSE CONNECTION (6", CIPP)	EA	48
CF-05	REMOVAL OF HANDICAP RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS		
	AT INTERSECTIONS INCLUDING SAW CUTTING	SY	40
CF-06	HANDICAP RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS		
	AT INTERSECTIONS	SY	100
CF-14	SURFACE APPLIED TACTILE / DETECTABLE WARNING SURFACE TILES	SF	12
CF-315	SINGLE VERTICAL CATCH BASIN REPAIR OR VERTICAL ADJUSTMENT REUSING		
	EXISTING METAL CASTING	EA	9
CF-371	MANHOLE COVER	EA	4
CF-372	MANHOLE FRAME	EA	4
CF-375	MANHOLE REPAIR OR VERTICAL ADJUSTMENT UP TO 6" REUSING EXISTING		
	METAL CASTING	EA	20
CSS-742(X9)	MANHOLE REHABILITATION CEMENTITOUS LINER FULL DEPTH (SEWER)	FTHT	96
EXTRA ITEM 01	TEMPORARY 2" WATERMAIN	LF	392
EXTRA ITEM 02	TEMPORARY 6" WATERMAIN	LF	427
EXTRA ITEM 03	TEMPORARY 8" WATERMAIN	LF	2322
EXTRA ITEM 04	TEMPORARY 12" WATERMAIN	LF	80
EXTRA ITEM 05	TEMPORARY TIE TO EXISTING WATERLINE	EA	4
EXTRA ITEM 06	BACKFILL TRENCH AND TEMPORARY ASPHALT CONCRETE	SY	1236
EXTRA ITEM 07	TEMPORATY 2" GATE VALVE AND VALVE BOX	EA	2
EXTRA ITEM 08	TEMPORATY 6" GATE VALVE AND VALVE BOX	EA	2
EXTRA ITEM 09	TEMPORATY 8" GATE VALVE AND VALVE BOX	EA	8
EXTRA ITEM 10	TEMPORARY HOUSE CONNECTION TO EXISTING WATER METER	EA	80
EXTRA ITEM 11	24" LINE STOP	LS	1
EXTRA ITEM 12	REMOVE EXISTING 24" WATERLINE (STORE/DISPOSAL)	LF	1582
EXTRA ITEM 13	ADJUST SEWER CLEAN OUT TO GRADE	EA	8
EXTRA ITEM 14	TIE TO EXISTING DRAINAGE STRUCTURE	EA	8
EXTRA ITEM 15	REMOVE AND STORE EXISTING GRANITE CURBS	LF	761
EXTRA ITEM 16	ADJUST MISCELLANEOUS UTILITY BOX TO GRADE IN SIDEWALK(ELECT, GAS, TEL. ETC)	EA	15
EXTRA ITEM 17	INSTALL NEW WATER METER AND METER BOX	EA	8
EXTRA ITEM 18	HDPE COMPRESSION	LF	400
EXTRA ITEM 19	DE - MOBILIZATION	EA	3
EXTRA ITEM 20	RE - MOBILIZATION	EA	3
EXTRA ITEM 21	TEMPORARY SIDEWALK	SY	400

STATE OF LOUISIANA
FRED C MORTALI
License No. 35111
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
9/13/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

BID QUANTITY SHEET

CONTRACT NO. 2154

DR.
TRC.
CK.
AP.
SCALE:
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

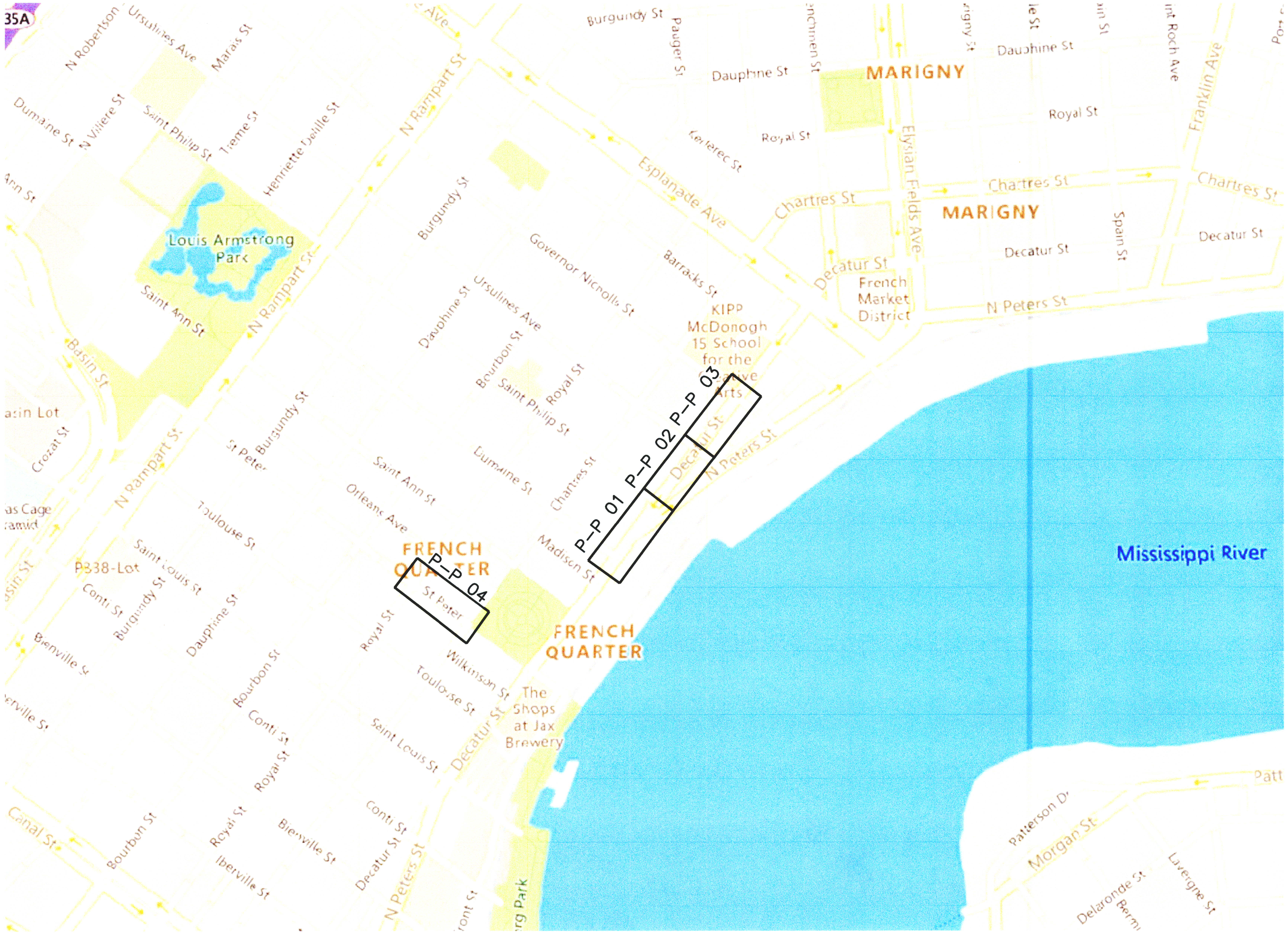
DWG. NO. 8958-W

SET NO.

SHEET NO. X OF XX

BQ-1

0 300' 600'
SCALE: 1" = 300'



PROJECT PLAN LAYOUT

SCALE: 1" = 300'

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

PROJECT PLAN LAYOUT

CONTRACT NO. 2154

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

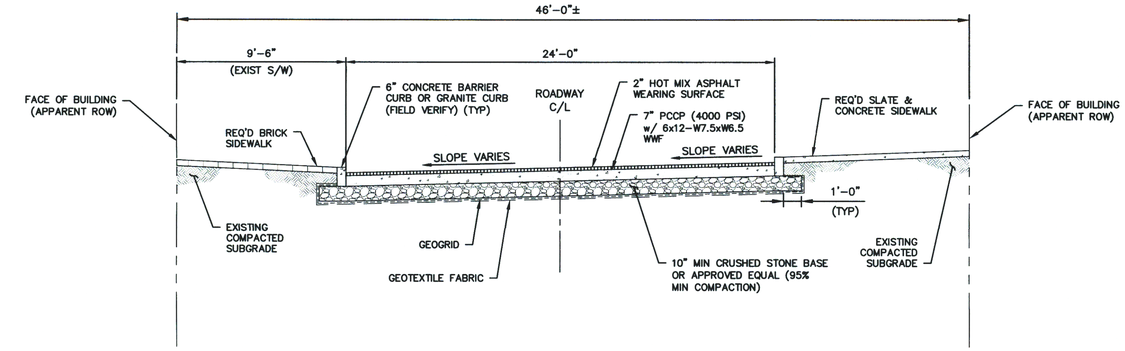
DWG. NO. 8958–W

SET NO. SHEET NO. 7 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil~Structural~Mechanical~Electrical~Marine~Transportation
Metairie, LA www.infinityec.com 504-304-0548

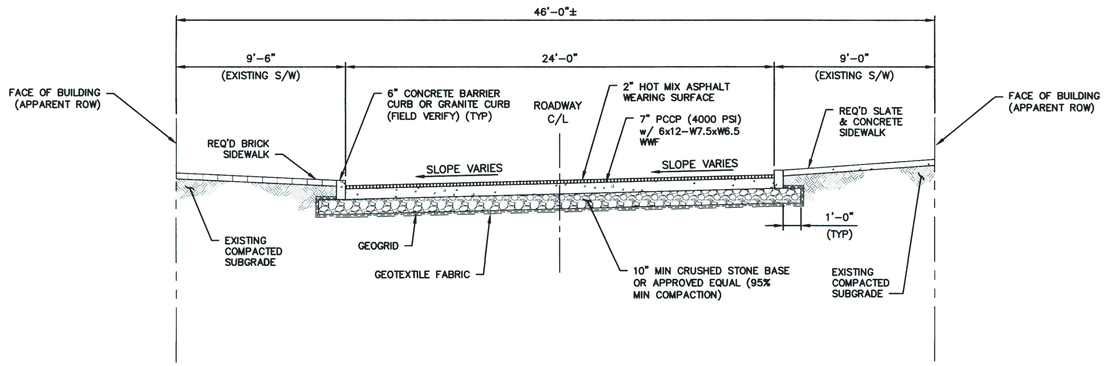
PL–1

STATE OF LOUISIANA RICARDO CONTRERAS REG. No. PROFESSIONAL ENGINEER CIVIL ENGINEERING



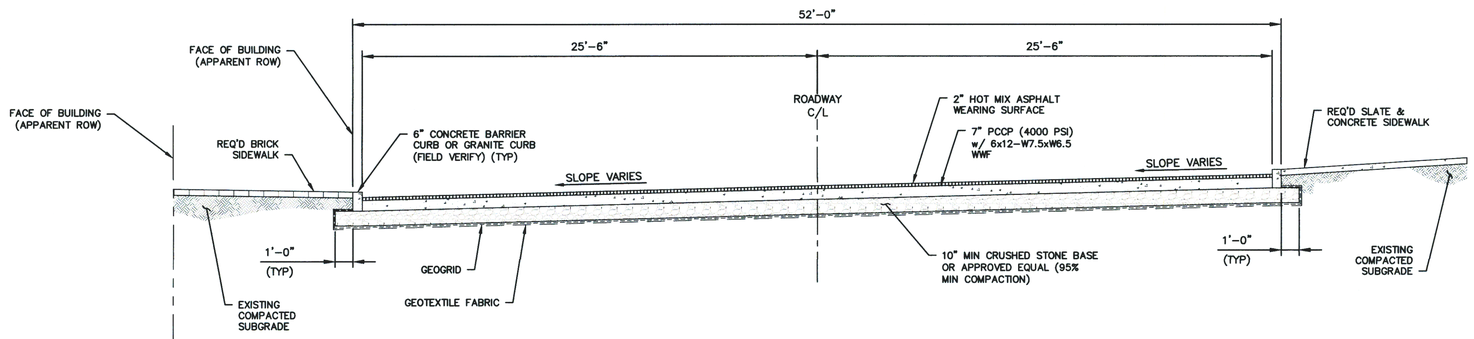
TYPICAL COMPOSITE ROADWAY SECTION
(DECATUR ST. FROM DUMAINE ST. TO ST. PHILIP ST.)
(STA 100+05 TO 102+35)

SCALE: 1"=4'



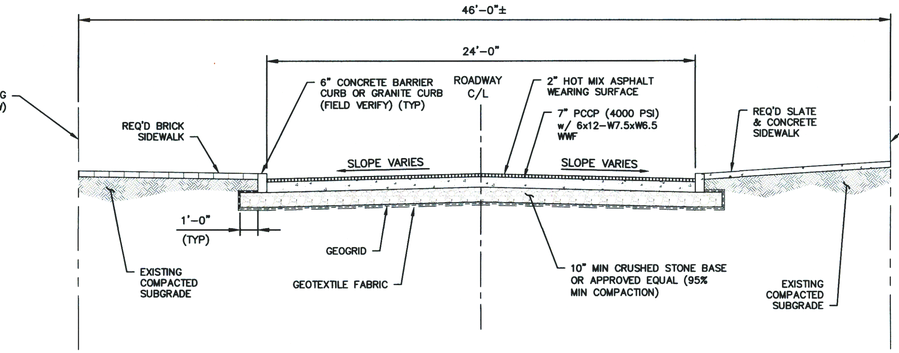
TYPICAL COMPOSITE ROADWAY SECTION
(DECATUR ST. FROM ST. PHILIPS TO URSULINE AVE.)
(STA 102+35 TO STA 104+40)

SCALE: 1"=4'



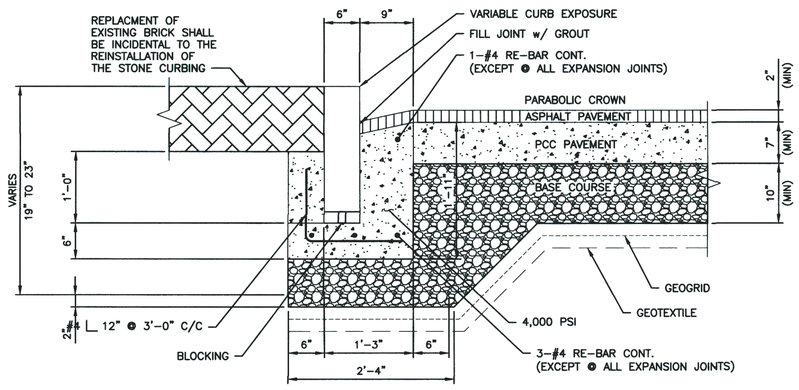
TYPICAL COMPOSITE ROADWAY SECTION
(DECATUR ST. FROM DUMAINE ST. TO N. PETERS SPLIT)
(STA 100+05 TO STA 102+35)

SCALE: 1"=4'



TYPICAL COMPOSITE ROADWAY SECTION
(DECATUR ST. FROM URSULINE AVE. TO GOV. NICHOLLS ST.)

SCALE: 1"=4'



APPROX 19" TO 23" (ASSUME EXIST GRANITE CURB IS 19" HIGH)

TYPICAL GRANITE BLOCK CURBING

SCALE: 1"=1'

STATE OF LOUISIANA
RICARDO J. CONTRERAS
REG. 36611
PROFESSIONAL ENGINEER
CIVIL ENGINEERING

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

TYPICAL SECTIONS

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC — IEC Project No 20-103
Civil ∞ Structural ∞ Mechanical ∞ Electrical ∞ Marine ∞ Transportation
Metairie, LA www.infinityec.com 504-304-0548

TS-1

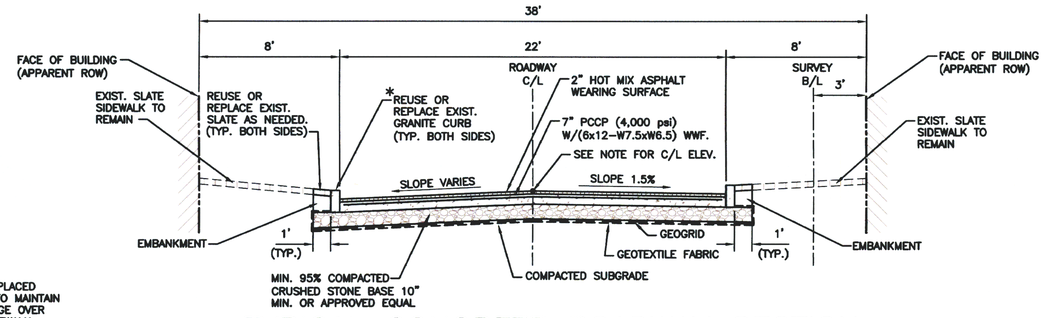
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.

SHEET NO. 8 OF 32



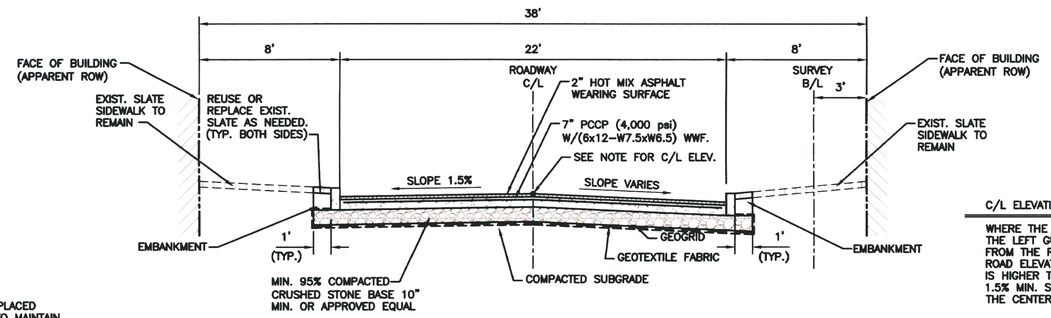
* SET TOP OF REPLACED GRANITE CURB TO MAINTAIN POSITIVE DRAINAGE OVER CURB FROM SIDEWALK.

TYPICAL CONCRETE ROADWAY SECTION

ST. PETERS ST. FROM CHARTERS ST. TO ROYAL ST.)

RIGHT GUTTERLINE ELEV. HIGHER THAN LEFT GUTTERLINE ELEV.

SCALE: $\frac{1}{4}$" = 1'–0"



* SET TOP OF REPLACED GRANITE CURB TO MAINTAIN POSITIVE DRAINAGE OVER CURB FROM SIDEWALK.

C/L ELEVATION NOTE:

WHERE THE RIGHT GUTTERLINE PROFILE ELEV. IS HIGHER THAN THE LEFT GUTTERLINE PROFILE ELEV., USE A 1.5% MIN. SLOPE FROM THE RIGHT GUTTERLINE ELEV. TO SET THE CENTERLINE ROAD ELEVATION. WHEN THE LEFT GUTTERLINE PROFILE ELEV. IS HIGHER THAN THE RIGHT GUTTERLINE PROFILE ELEV., USE A 1.5% MIN. SLOPE FROM THE LEFT GUTTERLINE ELEV. TO SET THE CENTERLINE ROAD ELEVATION.

TYPICAL CONCRETE ROADWAY SECTION

ST. PETERS ST. FROM CHARTERS ST. TO ROYAL ST.)

LEFT GUTTERLINE ELEV. HIGHER THAN RIGHT GUTTERLINE ELEV.

SCALE: $\frac{1}{4}$" = 1'–0"

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
IN RESPONSIBLE CHARGE

0 4 8 12 16
1"= 4'–0"

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

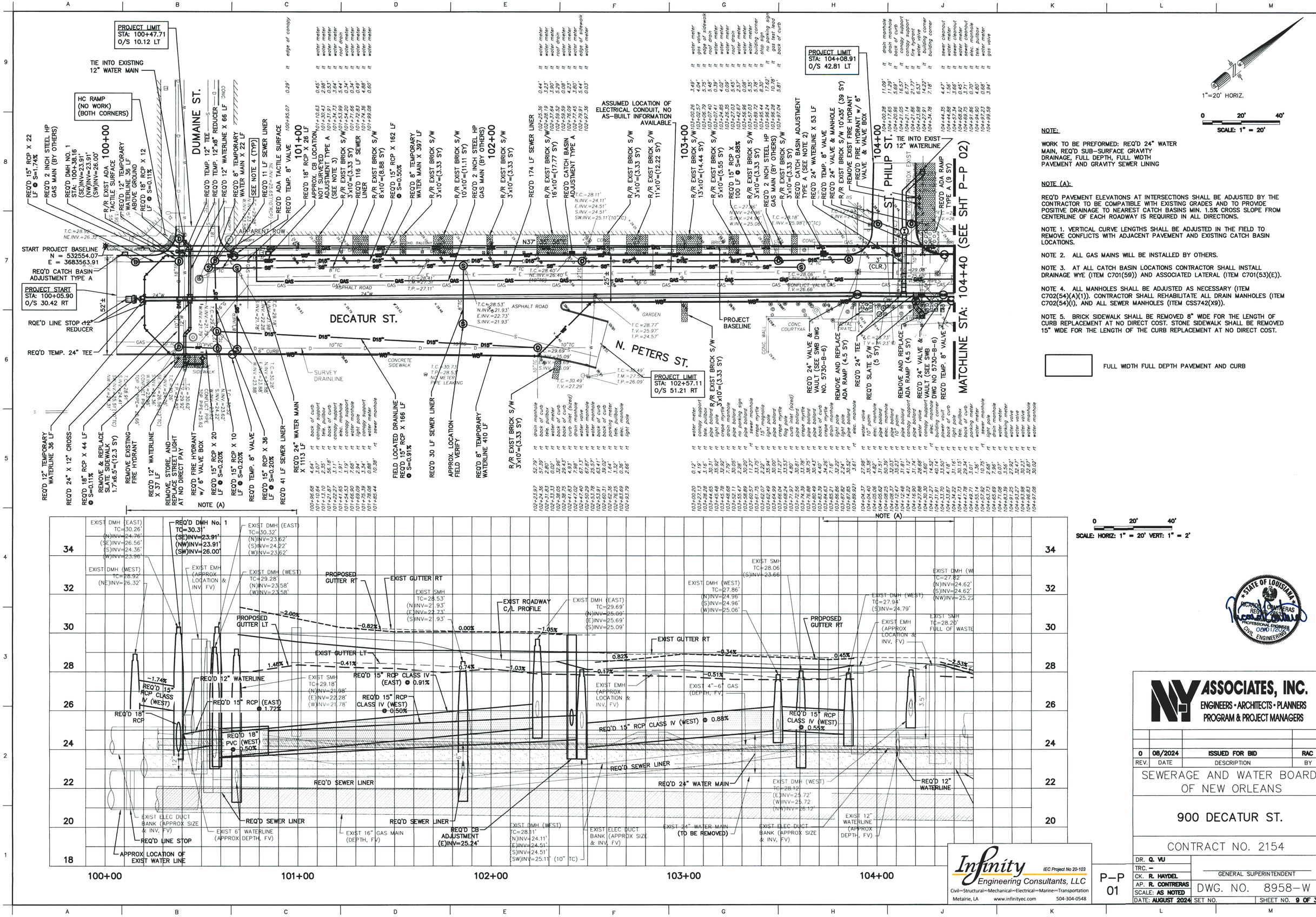
SEWERAGE AND WATER BOARD OF NEW ORLEANS

TYPICAL ROADWAY SECTIONS FOR STREET CONSTRUCTION

CONTRACT NO. 2154

DR. D.V.	GENERAL SUPERINTENDENT
TRC.	
CK.	
AP.	**DWG. NO. 8958-W**
SCALE: 1/4" = 1'	SHEET NO. X OF XX
DATE: AUGUST 2024	SET NO.

TS–2



STATE OF LOUISIANA
RICARDO A. CONTRERAS
REG. 28981
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
OCT 1, 2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

900 DECATUR ST.

CONTRACT NO. 2154

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

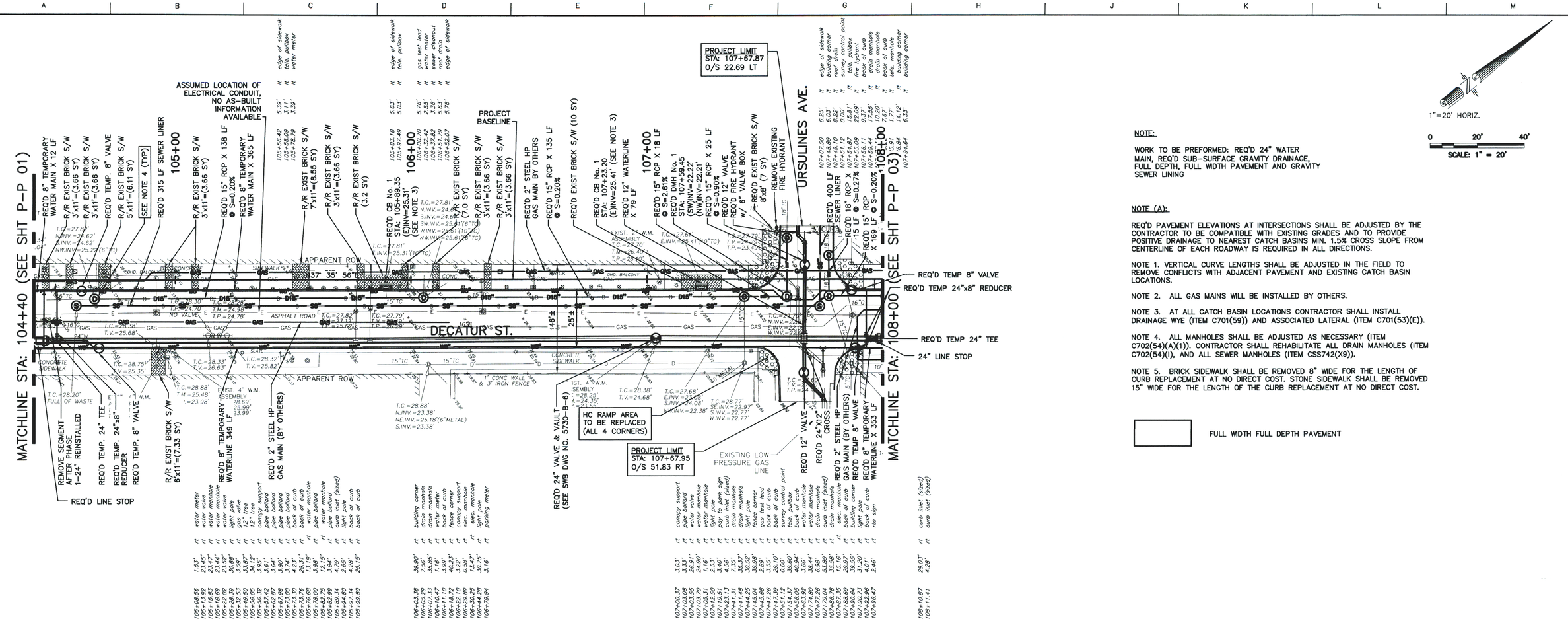
DWG. NO. 8958–W

SET NO.

SHEET NO. 9 OF 32

P–P 01

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548



NOTE:

WORK TO BE PREFORMED: REQ'D 24" WATER MAIN, REQ'D SUB-SURFACE GRAVITY DRAINAGE, FULL DEPTH, FULL WIDTH PAVEMENT AND GRAVITY SEWER LINING

NOTE (A):

REQ'D PAVEMENT ELEVATIONS AT INTERSECTIONS SHALL BE ADJUSTED BY THE CONTRACTOR TO BE COMPATIBLE WITH EXISTING GRADES AND TO PROVIDE POSITIVE DRAINAGE TO NEAREST CATCH BASINS MIN. 1.5% CROSS SLOPE FROM CENTERLINE OF EACH ROADWAY IS REQUIRED IN ALL DIRECTIONS.

NOTE 1. VERTICAL CURVE LENGTHS SHALL BE ADJUSTED IN THE FIELD TO REMOVE CONFLICTS WITH ADJACENT PAVEMENT AND EXISTING CATCH BASIN LOCATIONS.

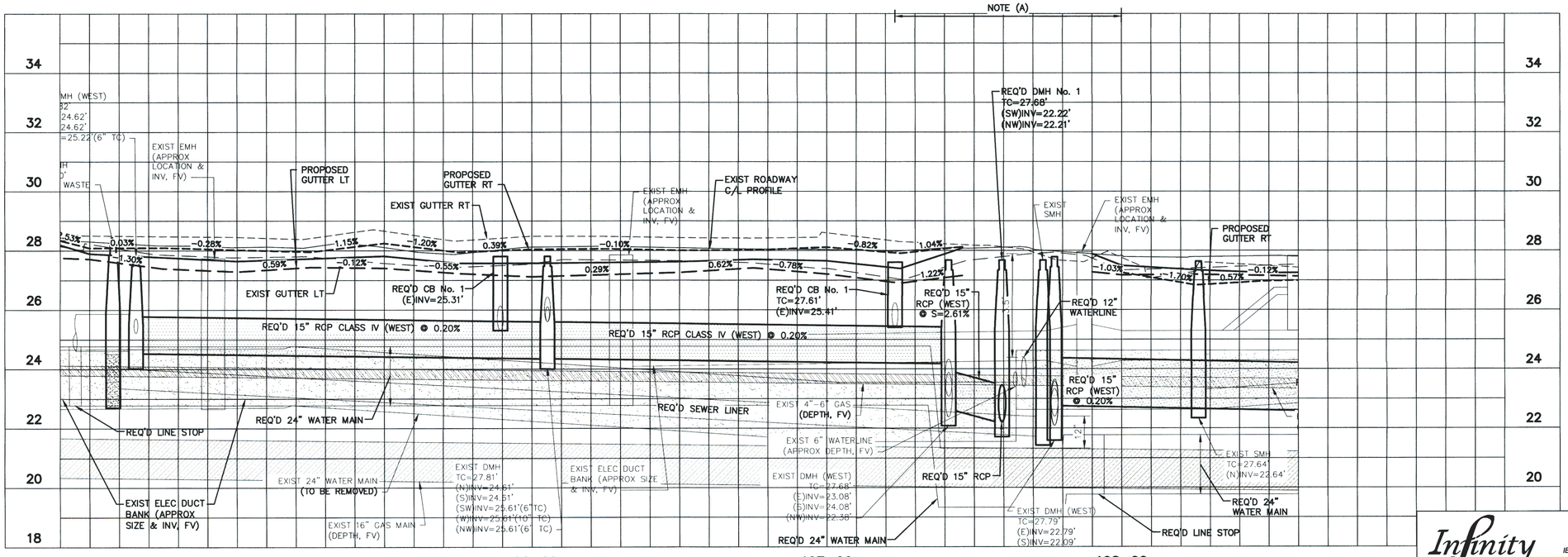
NOTE 2. ALL GAS MAINS WILL BE INSTALLED BY OTHERS.

NOTE 3. AT ALL CATCH BASIN LOCATIONS CONTRACTOR SHALL INSTALL DRAINAGE WYE (ITEM C701(59)) AND ASSOCIATED LATERAL (ITEM C701(53)(E)).

NOTE 4. ALL MANHOLES SHALL BE ADJUSTED AS NECESSARY (ITEM C702(54)(A)(1)). CONTRACTOR SHALL REHABILITATE ALL DRAIN MANHOLES (ITEM C702(54)(I), AND ALL SEWER MANHOLES (ITEM CSS742(X9)).

NOTE 5. BRICK SIDEWALK SHALL BE REMOVED 8" WIDE FOR THE LENGTH OF CURB REPLACEMENT AT NO DIRECT COST. STONE SIDEWALK SHALL BE REMOVED 15" WIDE FOR THE LENGTH OF THE CURB REPLACEMENT AT NO DIRECT COST.

FULL WIDTH FULL DEPTH PAVEMENT



0	08/2024	ISSUED FOR BID	RAC
REV.	DATE	DESCRIPTION	BY

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

SEWERAGE AND WATER BOARD OF NEW ORLEANS

1000 DECATUR ST.

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil ⇨ Structural ⇨ Mechanical ⇨ Electrical ⇨ Marine ⇨ Transportation
Metairie, LA www.infinityec.com 504-304-0548

P-P 02

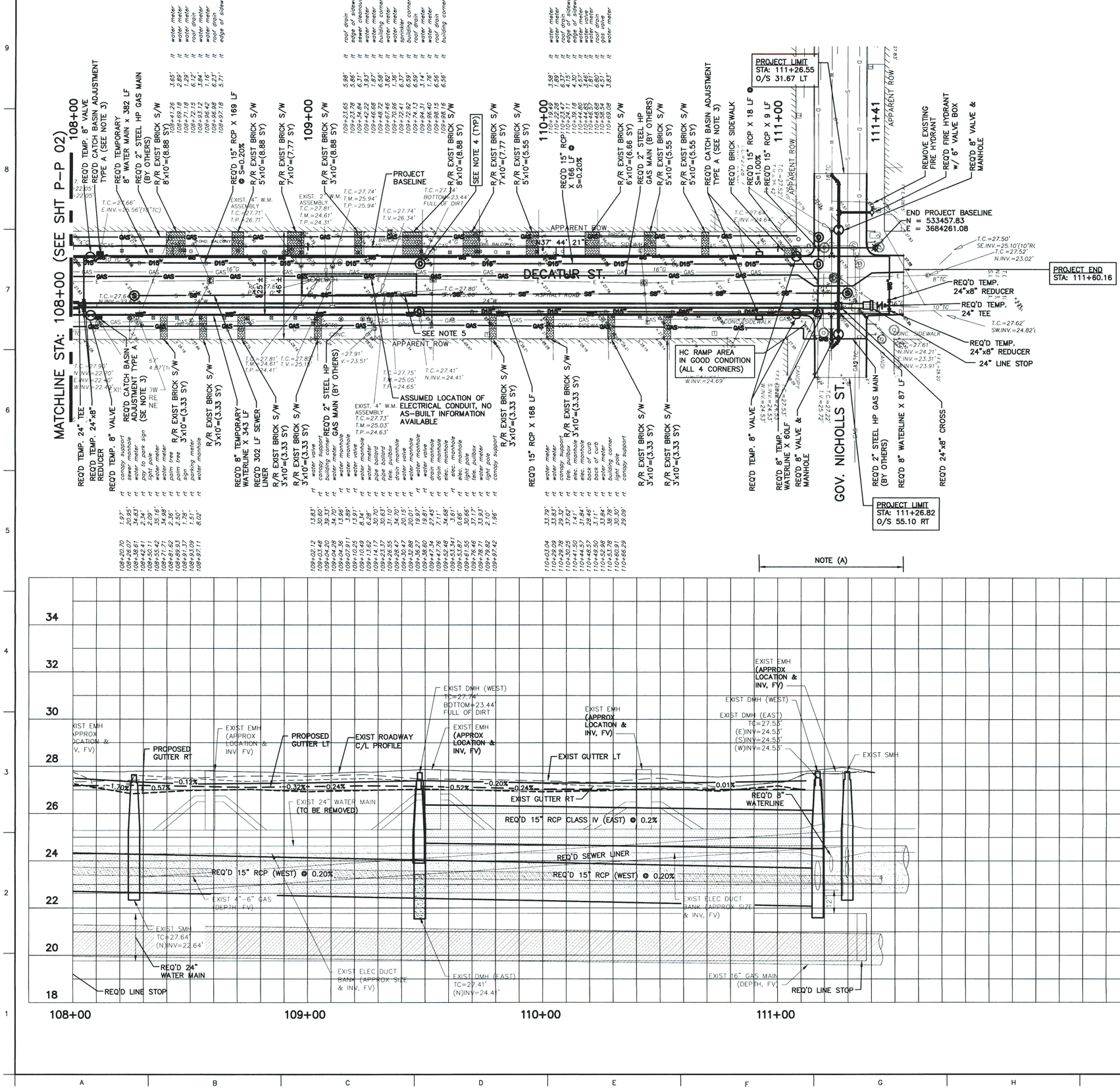
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.

SHEET NO. 10 OF 32



NOTES:

WORK TO BE PREFORMED: REQ'D 24" WATER MAIN, REQ'D SUB-SURFACE GRAVITY DRAINAGE, FULL DEPTH, FULL WIDTH PAVEMENT AND GRAVITY SEWER LINING

SEWER MANHOLE LOCATION IS APPROXIMATE. FIELD VERIFY.

NOTE (A):

REQ'D PAVEMENT ELEVATIONS AT INTERSECTIONS SHALL BE ADJUSTED BY THE CONTRACTOR TO BE COMPATIBLE WITH EXISTING GRADES AND TO PROVIDE POSITIVE DRAINAGE TO NEAREST CATCH BASINS MIN. 1.5% CROSS SLOPE FROM CENTERLINE OF EACH ROADWAY IS REQUIRED IN ALL DIRECTIONS.

NOTE 1. VERTICAL CURVE LENGTHS SHALL BE ADJUSTED IN THE FIELD TO REMOVE CONFLICTS WITH ADJACENT PAVEMENT AND EXISTING CATCH BASIN LOCATIONS.

NOTE 2. ALL GAS MAINS WILL BE INSTALLED BY OTHERS.

NOTE 3. AT ALL CATCH BASIN LOCATIONS CONTRACTOR SHALL INSTALL DRAINAGE WYE (ITEM C701(59)) AND ASSOCIATED LATERAL (ITEM C701(53)(E)).

NOTE 4. ALL MANHOLES SHALL BE ADJUSTED AS NECESSARY (ITEM C702(54)(A)(1)). CONTRACTOR SHALL REHABILITATE ALL DRAIN MANHOLES (ITEM C702(54)(I), AND ALL SEWER MANHOLES (ITEM CSS742(X9)).

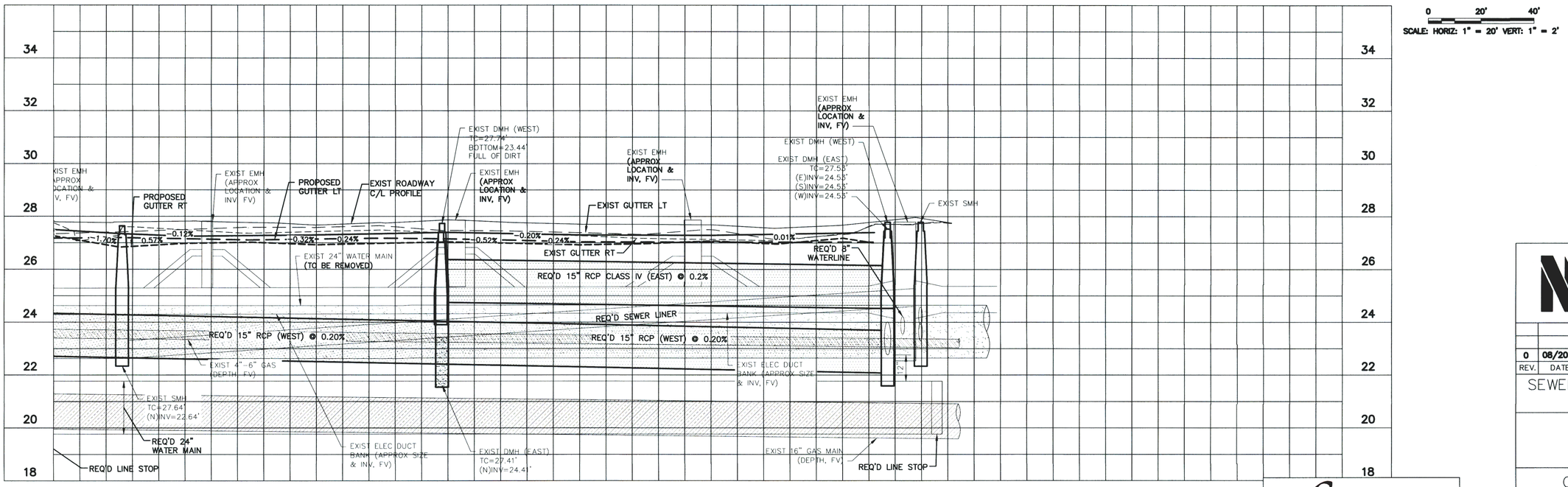
NOTE 5. BRICK SIDEWALK SHALL BE REMOVED 8" WIDE FOR THE LENGTH OF CURB REPLACEMENT AT NO DIRECT COST. STONE SIDEWALK SHALL BE REMOVED 15" WIDE FOR THE LENGTH OF THE CURB REPLACEMENT AT NO DIRECT COST.

FULL WIDTH FULL DEPTH PAVEMENT

20 0 10 20 40 80

SCALE 1" = 20'-0" HORIZ.

NOTE (A)



0 20' 40'

SCALE: HORIZ: 1" = 20' VERT: 1" = 2'

NICHOLAS J. CONTRERAS REG. NO. 28637 PROFESSIONAL ENGINEER CIVIL ENGINEERING

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

1100 DECATUR ST.

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC — IEC Project No 20-103
Civil•Structural•Mechanical•Electrical•Marine•Transportation
Metairie, LA www.infinityec.com 504-304-0548

P-P 03

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SHEET NO. 11 OF 32

TEMPORARY 2" AND 6" WATERLINES TO BE ABOVE GROUND BETWEEN APPARANT PROPERTY LINES

TEMPORARY WATERLINE SEE SHEET D-2 FOR DETAILS

REQ'D. 24" WATERLINE STOP

REMOVE & REPLACE EXIST. 12" WATERLINE

BP: 100+00.00

REQ'D. 24"X12" CROSS

NEW 12" WATER VALVE AND VALVE BOX

TIE TO EXIST. 12" WATERLINE

REMOVE AND REPLACE DRAIN MANHOLES

NEW 12" VALVE AND VALVE BOX

TIE TO EXIST. 12" WATERLINE

REMOVE AND REPLACE DRAIN

REMOVE AND REPLACE CATCH BASIN AND LATERAL PIPE

LINE EXIST. 15" RCP WITH COMPRESSION HDPE FROM ROYAL ST. TO CHARTRES ST.

PROJECT BASELINE

INSTALL HOUSE CONNECTIONS

REMOVE EXIST. 24" WATERLINE AND REPLACE WITH NEW 24" LINE

REQ'D. TEMPORARY 2" WATERLINE INSTALLED ALONG GUTTERLINE. TIE-IN HOUSE CONNECTIONS TO TEMPORARY LINE.

REMOVE AND REPLACE CATCH BASIN & DRAIN MANHOLE

REQ'D. 6" WATER VALVE AND VALVE BOX AS REQUIRED

RELOCATE EXIST. 6" WATER LINE AS REQUIRED

REQ'D. PH TO NEW WATERLINE WITH 6" LEAD, LOCATE AS REQUIRED

INSTALL SEWER CIPP MANHOLE TO MANHOLE

LINE EXIST. 15" RCP WITH COMPRESSION HDPE FROM ROYAL ST. TO CHARTRES ST.

REMOVE AND REPLACE DRAIN MANHOLE

REMOVE & REPLACE EXIST. 12" WATERLINE

REMOVE AND REPLACE 15" RCP

REMOVE AND REPLACE DRAIN MANHOLE

REQ'D. 24"X12" TEE

INSTALL SEWER CIPP MANHOLE TO MANHOLE

TIE TO EXIST. 24" WATERLINE

NEW 12" WATER VALVE AND VALVE BOX

JACKSON SQUARE

24" WATERLINE STOP

TEMPORARY WATERLINE SEE SHEET D-2 FOR DETAILS

REMOVE AND REPLACE DRAIN MANHOLE

TIE TO EXIST. 12" WATERLINE

REMOVE AND REPLACE 12" PVC

NEW 12" VALVE AND VALVE BOX

ROYAL ST.

CHARTRES ST.

ST. PETER ST.

LOUISIANA STATE MUSEUM

EHP BOUNDARY

S53°03'55"E 418.86'

PLAN VIEW
SCALE: 1" = 20'-0"

1"=20' HORIZ.
1"=2' VERT.

0 20 40 60
SCALE IN FEET

NOTE:

WORK TO BE PREFORMED: NEW 24" WATER MAIN, NEW SUB-SURFACE GRAVITY DRAINAGE, FULL DEPTH, FULL WIDTH PAVEMENT AND GRAVITY SEWER LINING

STA. 100+53.853, 30.39'LT.
REQ'D DHM No. 1
N. INV.= 22.67
E. INV.= 21.87
W. INV.= 21.87'

STA. 100+33.24, 6.46'LT.
REQ'D DHM No. 1
NW. INV.= 20.49'
SE. INV.= 20.49'
SE. INV.= 20.49'

STA. 100+53.58, 6.67'LT.
REQ'D. DHM No. 1
NW. INV.= 21.87' (15")
SE. INV.= 23.65' (15")
SE. INV.= 21.26' (15")

STA. 102+17.98, 7.15'LT.
REQ'D. DMH NO. 1
NW. INV.= 21.26'
SE. INV.= 23.65'
SE. INV.= 21.26'

STA. 103+85.98, 7.27'LT.
REQ'D. DMH NO. 1
W. INV.= 21.94'
E. INV.= 21.94'
S. INV.= 23.64'

STA. 103+79.73, 29.25'LT.
REQ'D. DMH NO. 1
W. INV.= 22.49'
E. INV.= 22.79'

STA. 103+96.82, 31.60'LT.
REQ'D DHM No. 1
W. INV.= 23.34'
N. INV.= 23.74'
E. INV.= 23.34'

PROFILE VIEW
SCALE: 1" = 20'-0"

100+00 101+00 102+00 103+00 104+00

31.00 30.00 29.00 28.00 27.00 26.00 25.00 24.00 23.00 22.00 21.00 20.00 19.00 18.00 17.00 16.00 15.00 14.00

WATER STRUCTURE (155) STA: 100+38.95 3.56'(R) T.C.= 26.12' NE. INV.= 22.59' W (Pipe 179)

WATER STRUCTURE (156) STA: 100+39.59 -35.61'(L) T.C.= 25.99' SW. INV.= 22.59' 12" W (Pipe 179)

WATER STRUCTURE (151) STA: 100+68.59' -24.46'(L) T.C.= 25.89' NW. INV.= 21.99' 24" W (Pipe 180) SE. INV.= 21.99' W (Pipe 181)

WATER STRUCTURE (152) STA: 101+81.29 -8.97'(L) T.C.= 25.93' T.V.= 25.03' T.P.= 24.83'

WATER STRUCTURE (153) STA: 102+31.46 -8.29'(L) T.C.= 26.12' T.V.= 24.22'

WATER STRUCTURE (154) STA: 102+58.17 -8.70'(L) T.C.= 26.01' T.M.= 24.81' T.P.= 24.51'

SEWER STRUCTURE (119) STA: 100+50.57 -12.32'(L) T.C.= 26.27' SE. INV.= 18.27' TC (Pipe 127)

SEWER STRUCTURE (120) STA: 103+91.00 -12.35'(L) T.C.= 27.23' NW. INV.= 20.03' 8" TC (Pipe 127) SW. INV.= 20.03' 12" TC (Pipe 129) SE. INV.= 20.03' TC (Pipe 128)

SEWER STRUCTURE (121) STA: 104+18.02 -12.05'(L) T.C.= 27.08' NW. INV.= 20.18' 8" TC (Pipe SW. INV.= 20.28' 12" TC (Pipe SE. INV.= 20.18' TC (Pipe 130

EXIST. ENTERGY MANHOLE

EXIST. ENTERGY

ASSUMED LOCATION OF EXIST. FO DUCT BANK

ASSUMED LOCATION OF EXIST. ELEC. DUCT BANK

PROPOSED GUTTER PROFILE RIGHT

PROPOSED GUTTER PROFILE LEFT

EXIST. GUTTER RIGHT

EXIST. GUTTER LEFT

EXIST. ROAD CENTERLINE

4'-0" MIN COVER

24' OF 15" TC @ 1.00% RT.

20' OF 12" TC @ 0.88% RT.

ASSUMED LOCATION (CONTRACTOR TO FIELD VERIFY BEFORE TIE-IN)

OFFSET W/L W/45° BENDS TO AVOID CONFLICT

REQ'D. 24" WATERLINE

128' OF 15" TC/RCP @ 0.44% LT.

164' OF 15" TC/RCP @ 0.57% RT.

340' OF 8" PVC @ 0.52% (Pipe - (127))

155' OF 15" RCP @ 0.01% LT.

168' OF 15" RCP @ 0.30% RT.

18" OF 12" RCP @ 6.27% RT.

17' OF 15" RCP @ 3.19% LT.

40' OF 15" RCP @ 2.68% LT.

27' OF 8" TC @ 0.56% (Pipe 128)

ASSUMED LOCATION (CONTRACTOR TO FIELD VERIFY BEFORE TIE-IN)

FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
IN ENGINEERING
DATE: 2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

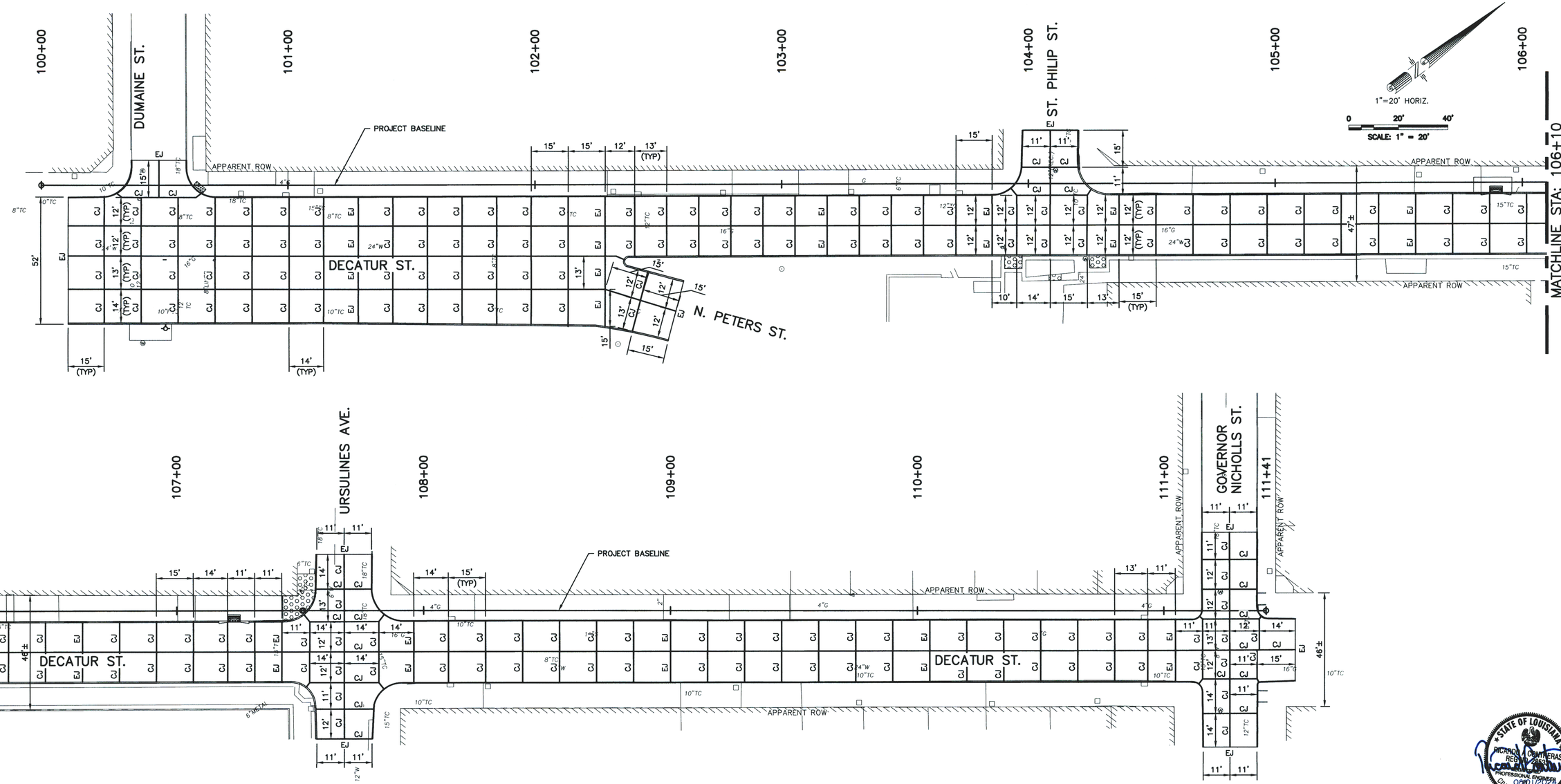
SEWERAGE AND WATER BOARD OF NEW ORLEANS

PLAN AND PROFILE
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

DR. A.M.,C.L.,&D.V.	
TRC.	
CK.	GENERAL SUPERINTENDENT
AP.	
SCALE: AS NOTED	DWG. NO. 8958-W
DATE: AUGUST 2024	SET NO. / SHEET NO. X OF XX

P-P 04



STATE OF LOUISIANA
RICARDO A. CONTRERAS
REG. NO. 28634
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
OCT 1/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

JOINT LAYOUT

CONTRACT NO. 2154

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

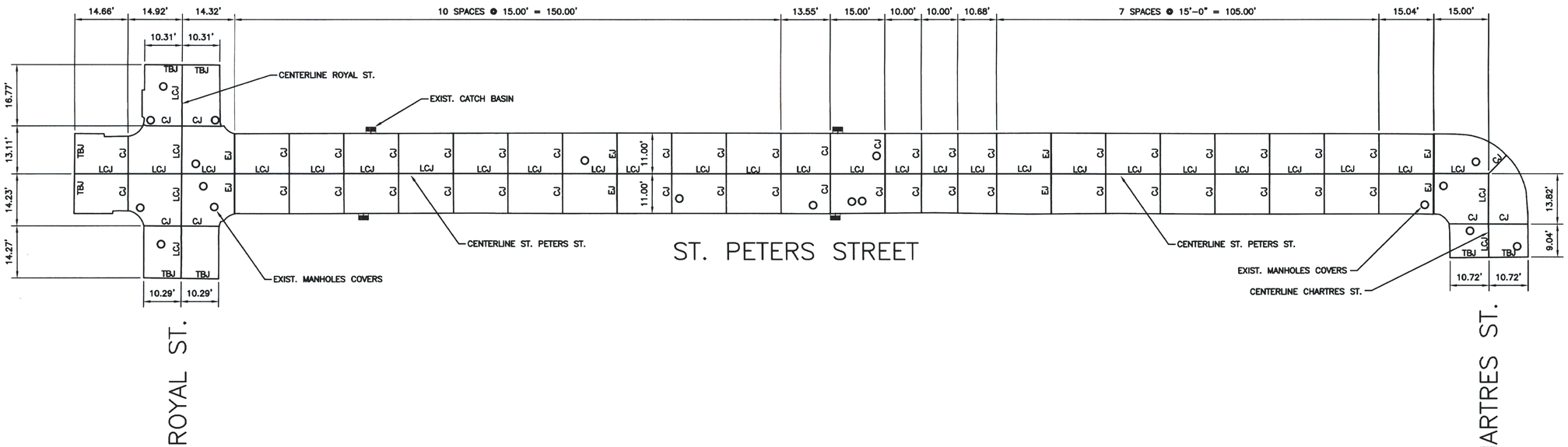
DWG. NO. 8958–W

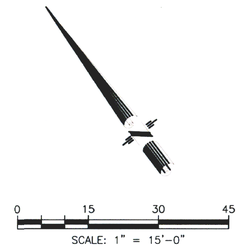
SET NO.

SHEET NO. 13 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

J–1





JOINT LEGEND:

TBL – TRANSVERSE BUTT JOINT WITH EXISTING ASPHALT PAVEMENT. SEE SECTION I–I SHEET RW3 DEPT. OF PUBLIC WORKS STANDARD PLANS

LCJ – LONGITUDINAL CONSTRUCTION JOINT

EJ – TRANSVERSE EXPANSION JOINT

CJ – TRANSVERSE CONTRACTION JOINT OR TRANSVERSE CONSTRUCTION JOINT

JOINT LAYOUT
ST. PETERS STREET

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
8/14/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

JOINT LAYOUT
ST. PETER STREET

CONTRACT NO. 2154

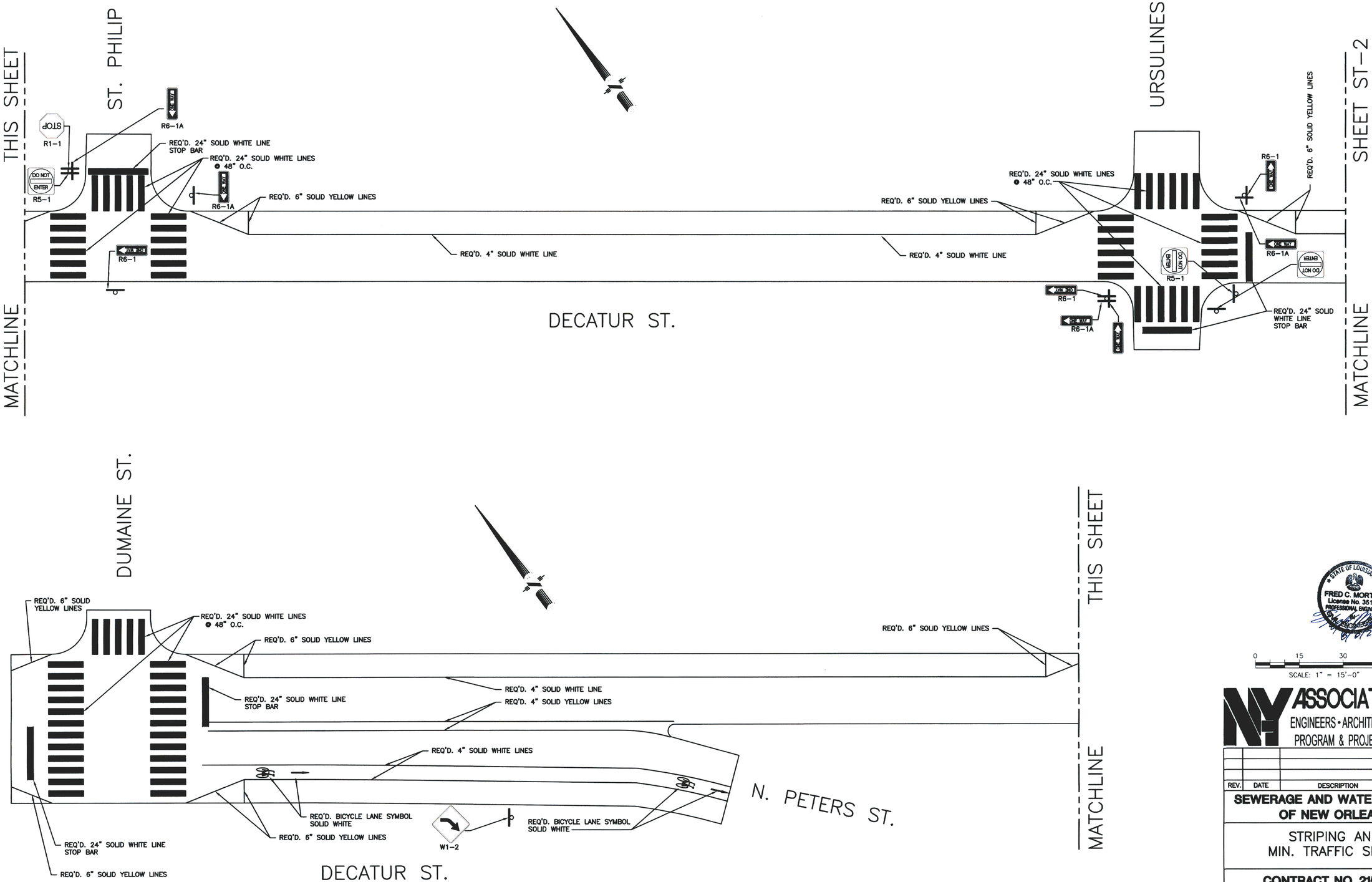
DR. D.V.
TRC.
CK.
AP.
SCALE: 1"=15'-0"
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.
SHEET NO. X OF XX

J-2



STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
8/7/2024

0 15 30 45
SCALE: 1" = 15'-0"

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

STRIPING AND MIN. TRAFFIC SIGNS

CONTRACT NO. 2154

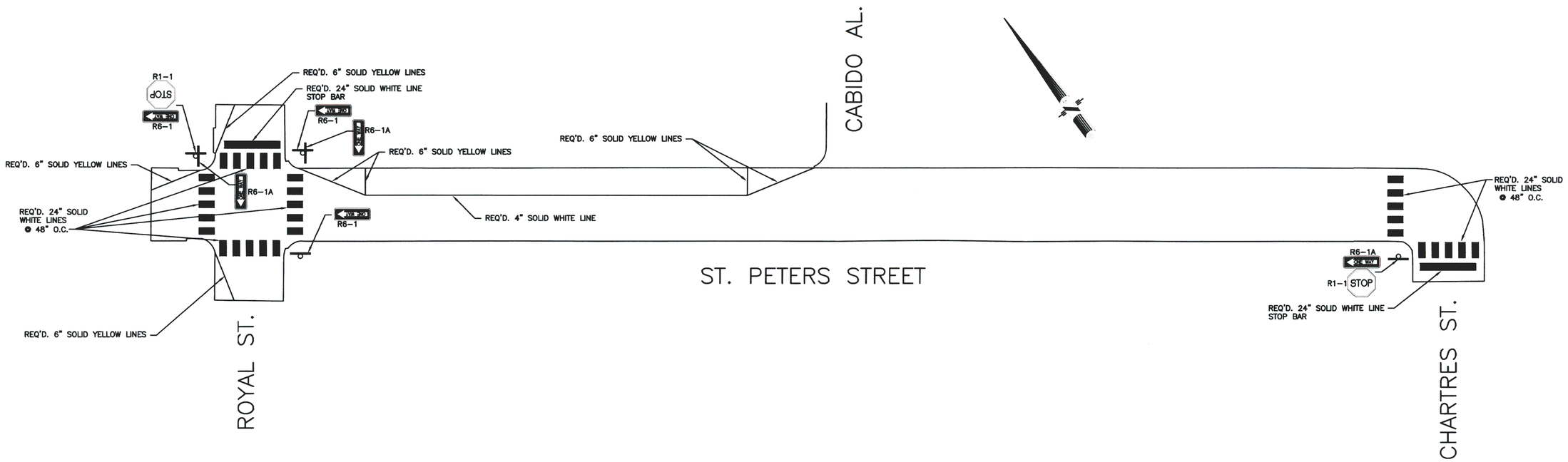
DR. D.V.
TRC.
CK.
AP.
SCALE: 1"=15'-0"
DATE: AUGUST 2024

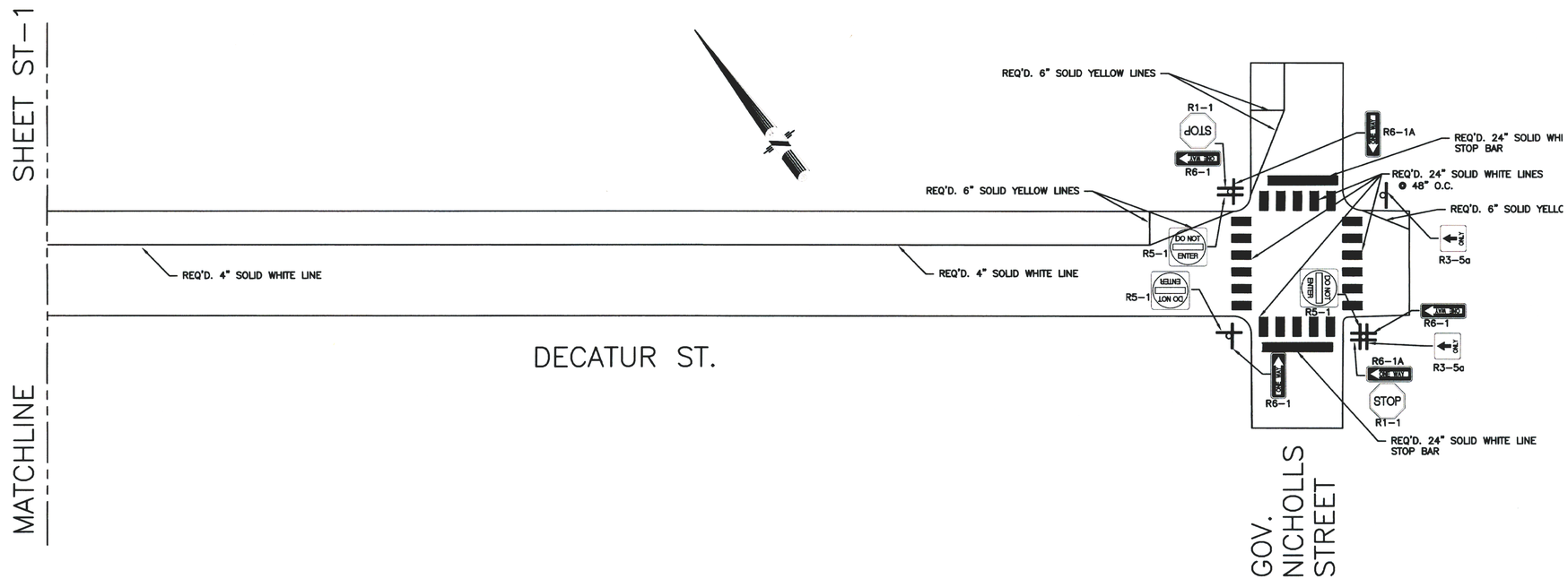
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.
SHEET NO. X OF XX

ST-1





STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
BY GOVERNOR'S EXECUTIVE ORDER
2027

0 15 30 45
SCALE: 1" = 15'-0"

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

STRIPING AND MIN. TRAFFIC SIGNS

CONTRACT NO. 2154

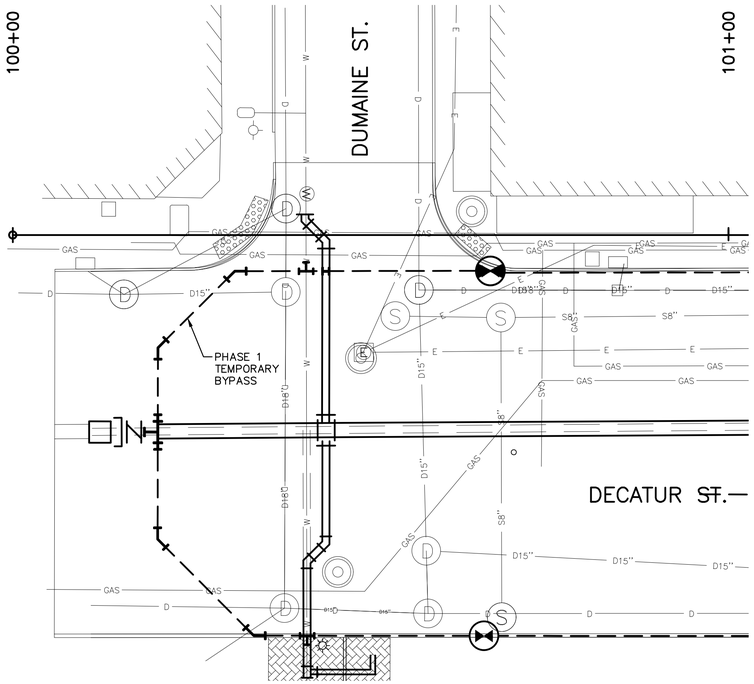
DR. D.V.
TRC.
CK.
AP.
SCALE: 1"=15'-0"
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

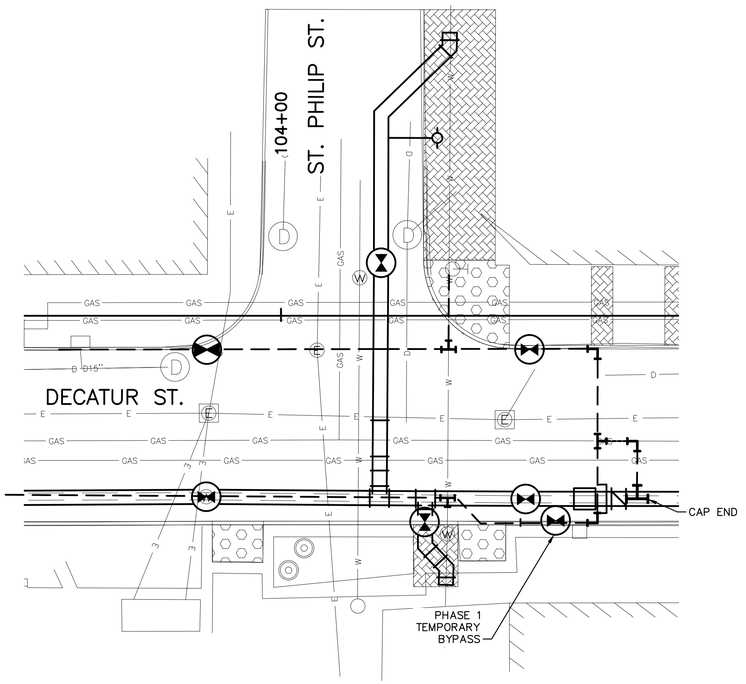
SET NO.
SHEET NO. X OF XX

ST-2



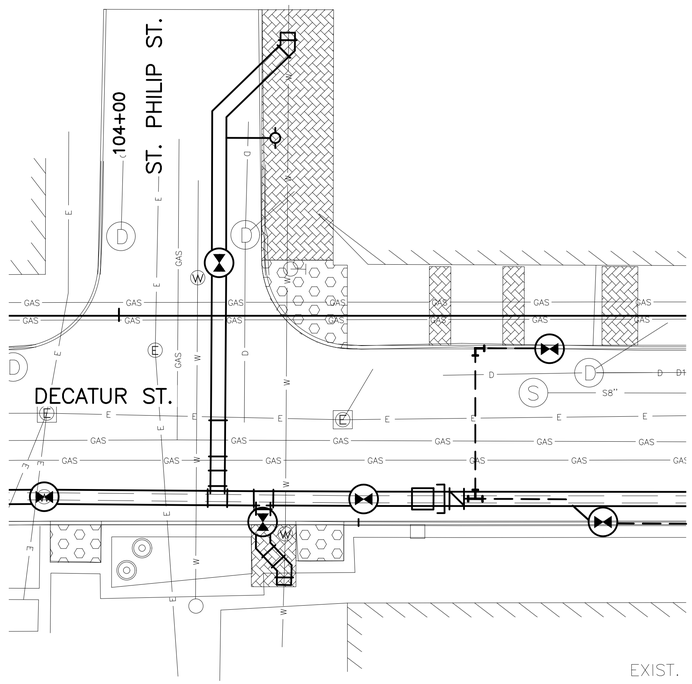
PHASE 1 DECATUR ST. AND DUMAINE ST.

SCALE: 1" = 10'



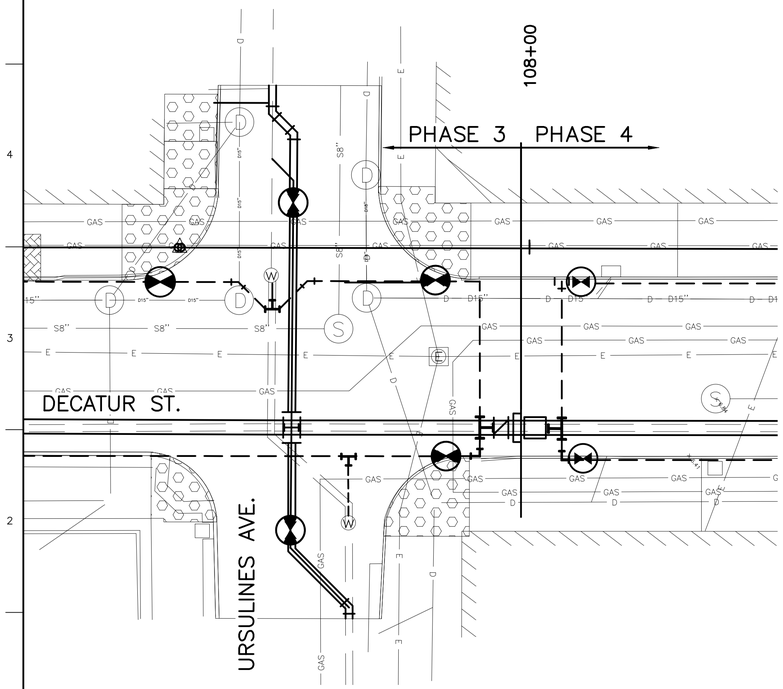
PHASE 1 DECATUR ST. AND ST. PHILLIP ST.

SCALE: 1" = 10'



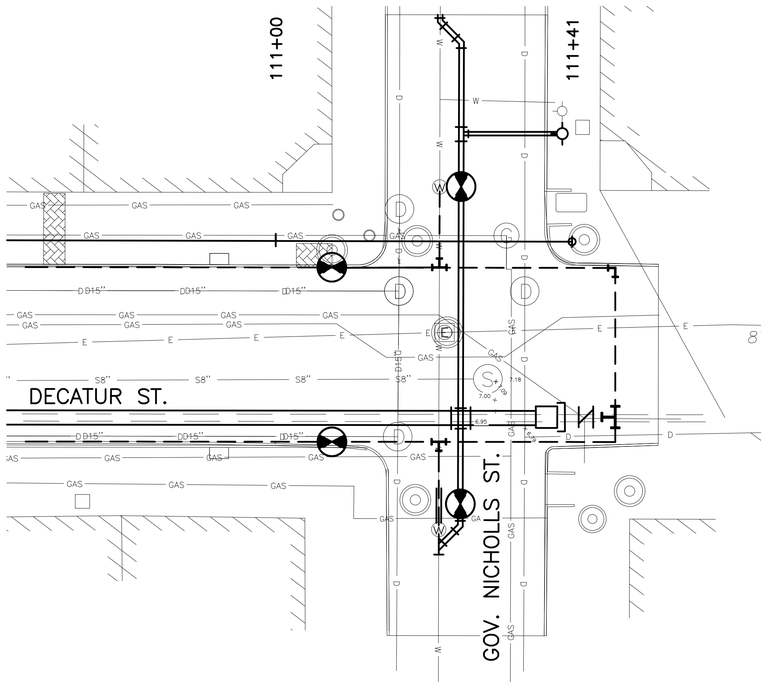
PHASE 3 DECATUR ST. AND ST. PHILLIP ST.

SCALE: 1" = 10'



PHASE 3&4 DECATUR ST. AND URSULINES AVE.

SCALE: 1" = 10'



PHASE 4 DECATUR ST. AND GOV. NICHOLLS ST.

SCALE: 1" = 10'

LEGEND:

PERMANENT WATERLINE

TEMPORARY WATERLINE

STATE OF LOUISIANA
RICARDO A CONTRERAS
REG. NO. 28936
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
DWD 11/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
1	08/2024	UPDATED PHASE #'S, SHOW WL PHASE 4	RAC
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

WL DETAILS

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil ▫ Structural ▫ Mechanical ▫ Electrical ▫ Marine ▫ Transportation
Metairie, LA www.infinityec.com 504-304-0548

D-1

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

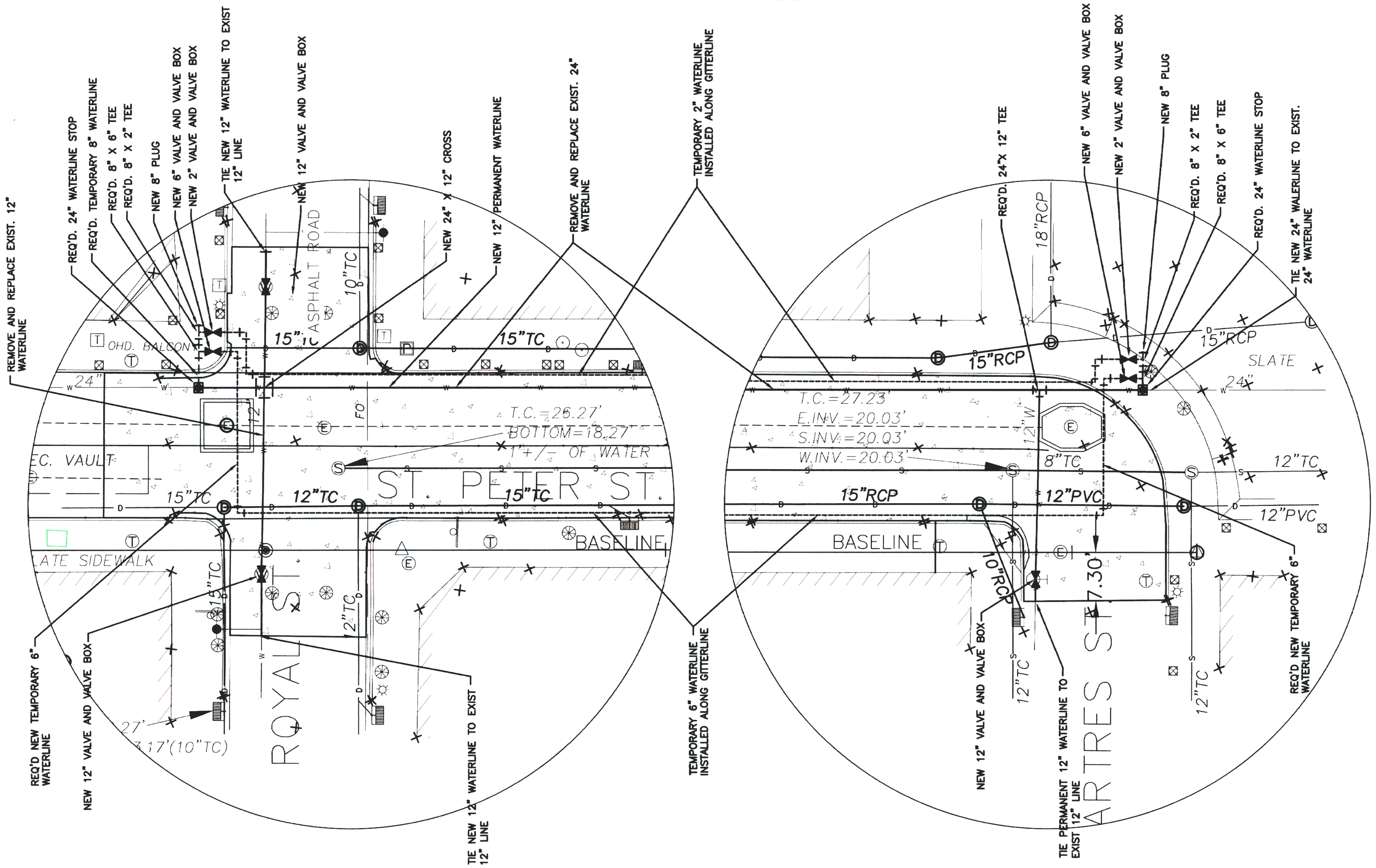
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.

SHEET NO. 17 OF 32

NOTE:
ELECTRICAL, GAS, TELEPHONE AND FIBER OPTIC LINES
EXTRAPOLATED FROM ONE CALL FIELD MARKINGS. TOPO SURVEY UNABLE TO PICK UP SUBSURFACE DEPTH.



ST. PETERS STREET DETAILS

DECATUR STREET
PHASE I: DUMAINE ST. TO ST. PHILIP ST.

(100 CALENDAR DAYS)

1. CLOSE ROAD WITH APPROPRIATE TRAFFIC CONTROL
2. REMOVE PAVEMENT & SIDEWALK AS REQUIRED, ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.
3. EXCAVATE AND EXPOSE WATER LINES.
4. INSTALL WATER LINE STOPS ON 24" LINE BUT KEEP VALVES OPEN. INSTALL A LINE STOP JUST WEST OF DUMAINE ST. AND A LINE STOP JUST EAST OF ST. PHILIP ST. ENSURE ALL REQUIRED VALVES ON THE SIDE STREETS ARE WORKING.
5. LAYOUT TEMPORARY 8" WATER LINE AND CONNECT TO 8" TEMPORARY VALVES WITHOUT CONNECTING TO EXISTING 24-INCH WATER MAIN. INSTALL PET COCKS (CLOSED) FOR SERVICE CONNECTIONS TO TEMPORARY WATER LINE.
6. CHLORINATE AND PRESSURE TEST TEMPORARY WATER PIPE AND TEMPORARY VALVES.
7. LAYOUT TEMPORARY SERVICE CONNECTIONS IMMEDIATELY ADJACENT TO THE EXISTING SERVICE CONNECTIONS, CLEANED AND PREPPED FOR A "QUICK" TIE INTO THE EXISTING SERVICE (METER).
8. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
9. CLOSE WATER LINE STOPS AND APPROPRIATE WATER VALVES ON SIDE STREETS.
10. REMOVE THE REQUIRED LENGTH OF 24-INCH WATER LINE TO ALLOW FOR THE CONNECTION OF THE TEMPORARY WATER LINE TO THE LINE STOP.
11. OPEN THE TEMPORARY 8-INCH VALVES.
12. OPEN THE 24-INCH WATER LINE STOPS.
13. CONNECT THE TEMPORARY SERVICE LINES.
14. OPEN THE PETCOCKS FOR THE SERVICE CONNECTIONS. CHECK FOR LEAKS.
15. INSTALL A TEMPORARY WATER LINE FOR CROSS STREET IF NEEDED AND OPEN VALVES ON CROSS STREET AS REQUIRED.
16. REMOVE EXISTING WATER LINES AS REQUIRED.
17. BUILD THE NEW WATER LINES *IN THE SAME TRENCH AS THE EXISTING WATER LINES* INSTALLING VALVES, TEES AND FITTINGS AS REQUIRED.
18. CHLORINATE AND PRESSURE TEST NEW 24 INCH & 12-INCH & 8-INCH WATER LINES. INSTALL PETCOCKS FOR SERVICE CONNECTIONS. LAYOUT THE NEW SERVICE LINES FOR A "QUICK" TIE-IN AT THE METER
19. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
20. CLOSE LINE STOPS ON DECATUR AND WATER VALVES ON SIDE STREETS.
21. DISCONNECT TEMPORARY WATER LINES FROM THE 24 INCH WATER MAIN.
22. CONNECT THE NEW WATER MAIN LINES TO THE EXISTING WATER MAINS AND TIE-IN SERVICE LINES AT THE METER.
23. OPEN LINE STOPS AND VALVES ON CROSS STREETS. OPEN PETCOCKS AND CHECK FOR LEAKS.
24. BUILD ROADWAY PAVEMENT, CURB AND SIDEWALKS ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

SUGGESTED SEQUENCE OF CONSTRUCTION & WATERLINE TIE–IN DETAILS

CONTRACT NO. 2154

DR. A.M. & D.V.
TRC.
CK.
AP.
SCALE: N.T.S.
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.

SHEET NO. X OF XX

D–2

ST. PETER STREET
PHASE II: ROYAL ST. TO CHARTRES ST.

OVERLAPS WITH PHASES I & III (100 CALENDAR DAYS)

1. CLOSE ROAD WITH APPROPRIATE TRAFFIC CONTROL
2. REMOVE PAVEMENT & SIDEWALK AS REQUIRED, ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.
3. EXCAVATE AND EXPOSE WATER LINES.
4. INSTALL WATER LINE STOPS ON 24" LINE BUT KEEP VALVES OPEN. INSTALL A LINE STOP JUST NORTHWEST OF ROYAL ST. AND A LINE STOP JUST SOUTHEAST OF CHARTRES ST. ENSURE ALL REQUIRED VALVES ON THE SIDE STREETS ARE WORKING.
5. LAYOUT TEMPORARY 2" AND 6" WATER LINES AND CONNECT TO 2" AND 6" TEMPORARY VALVES WITHOUT CONNECTING TO EXISTING 24-INCH WATER MAIN. INSTALL PET COCKS (CLOSED) FOR SERVICE CONNECTIONS TO TEMPORARY WATER LINES.
6. CHLORINATE AND PRESSURE TEST TEMPORARY WATER PIPE AND TEMPORARY VALVES.
7. LAYOUT TEMPORARY SERVICE CONNECTIONS IMMEDIATELY ADJACENT TO THE EXISTING SERVICE CONNECTIONS, CLEANED AND PREPPED FOR A "QUICK" TIE INTO THE EXISTING SERVICE (METER).
8. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
9. CLOSE WATER LINE STOPS AND APPROPRIATE WATER VALVES ON SIDE STREETS.
10. REMOVE THE REQUIRED LENGTH OF 24-INCH WATER LINE TO ALLOW FOR THE CONNECTION OF THE TEMPORARY WATER LINE TO THE LINE STOP.
11. OPEN THE TEMPORARY 2, 6-INCH VALVES.
12. OPEN THE 24-INCH WATER LINE STOPS.
13. CONNECT THE TEMPORARY SERVICE LINES.
14. OPEN THE PETCOCKS FOR THE SERVICE CONNECTIONS. CHECK FOR LEAKS.
15. INSTALL A TEMPORARY WATER LINE FOR CROSS STREET IF NEEDED AND OPEN VALVES ON CROSS STREET AS REQUIRED.
16. REMOVE EXISTING WATER LINES AS REQUIRED.
17. BUILD THE NEW WATER LINES *IN THE SAME TRENCH AS THE EXISTING WATER LINES* INSTALLING VALVES, TEES AND FITTINGS AS REQUIRED.
18. CHLORINATE AND PRESSURE TEST NEW 24 INCH & 12-INCH & 8-INCH WATER LINES. INSTALL PETCOCKS FOR SERVICE CONNECTIONS. LAYOUT THE NEW SERVICE LINES FOR A "QUICK" TIE-IN AT THE METER
19. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
20. CLOSE LINE STOPS ON ST. PETER ST. AND WATER VALVES ON SIDE STREETS.
21. DISCONNECT TEMPORARY WATER LINES FROM THE 24 INCH WATER MAIN.
22. CONNECT THE NEW WATER MAIN LINES TO THE EXISTING WATER MAINS AND TIE-IN SERVICE LINES AT THE METER.
23. OPEN LINE STOPS AND VALVES ON CROSS STREETS. OPEN PETCOCKS AND CHECK FOR LEAKS.
24. BUILD ROADWAY PAVEMENT, CURB AND SIDEWALKS ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.

DECATUR STREET
PHASE III: ST. PHILIP ST. TO URSULINES AVE.

(100 CALENDAR DAYS)

1. CLOSE ROAD WITH APPROPRIATE TRAFFIC CONTROL
2. REMOVE PAVEMENT & SIDEWALK AS REQUIRED, ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.
3. EXCAVATE AND EXPOSE WATER LINES.
4. INSTALL WATER LINE STOP(S) ON 24" LINE BUT KEEP VALVES OPEN. USE THE LINE STOP JUST EAST OF ST PHILIP ST. (OR USE THE 24" VALVE AT STA. 104+34 INSTALLED IN THE PREVIOUS PHASE) AND INSTALL A LINE STOP JUST EAST OF URSULINES AVE. ENSURE ALL REQUIRED VALVES ON THE SIDE STREETS ARE WORKING.
5. LAYOUT TEMPORARY 8" WATER LINE AND CONNECT TO 8" TEMPORARY VALVES WITHOUT CONNECTING TO EXISTING 24-INCH WATER MAIN. INSTALL PET COCKS (CLOSED) FOR SERVICE CONNECTIONS TO TEMPORARY WATER LINE.
6. CHLORINATE AND PRESSURE TEST TEMPORARY WATER PIPE AND TEMPORARY VALVES.
7. LAYOUT TEMPORARY SERVICE CONNECTIONS IMMEDIATELY ADJACENT TO THE EXISTING SERVICE CONNECTIONS, CLEANED AND PREPPED FOR A "QUICK" TIE INTO THE EXISTING SERVICE (METER).
8. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
9. CLOSE WATER LINE STOP(S) (AND 24" VALVE IF APPLICABLE) AND APPROPRIATE WATER VALVES ON SIDE STREETS.
10. REMOVE THE REQUIRED LENGTH OF 24-INCH WATER LINE TO ALLOW FOR THE CONNECTION OF THE TEMPORARY WATER LINE TO THE LINE STOP.
11. OPEN THE TEMPORARY 8-INCH VALVES.
12. OPEN THE 24-INCH WATER LINE STOPS.
13. CONNECT THE TEMPORARY SERVICE LINES.
14. OPEN THE PETCOCKS FOR THE SERVICE CONNECTIONS. CHECK FOR LEAKS.
15. INSTALL A TEMPORARY WATER LINE FOR CROSS STREET IF NEEDED AND OPEN VALVES ON CROSS STREET AS REQUIRED.
16. REMOVE EXISTING WATER LINES AS REQUIRED.
17. BUILD THE NEW WATER LINES *IN THE SAME TRENCH AS THE EXISTING WATER LINES* INSTALLING VALVES, TEES AND FITTINGS AS REQUIRED.
18. CHLORINATE AND PRESSURE TEST NEW 24 INCH & 12-INCH & 8-INCH WATER LINES. INSTALL PETCOCKS FOR SERVICE CONNECTIONS. LAYOUT THE NEW SERVICE LINES FOR A "QUICK" TIE-IN AT THE METER
19. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
20. CLOSE LINE STOPS (AND 24" VALVE IF APPLICABLE) ON DECATUR AND WATER VALVES ON SIDE STREETS.
21. DISCONNECT TEMPORARY WATER LINES FROM THE 24 INCH WATER MAIN.
22. CONNECT THE NEW WATER MAIN LINES TO THE EXISTING WATER MAINS AND TIE-IN SERVICE LINES AT THE METER.
23. OPEN LINE STOPS (AND 24" VALVE IF APPLICABLE) AND VALVES ON CROSS STREETS. OPEN PETCOCKS AND CHECK FOR LEAKS.
24. BUILD ROADWAY PAVEMENT, CURB AND SIDEWALKS ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.

DECATUR STREET
PHASE IV: URSULINES AVE. TO GOV. NICHOLLS ST.

(100 CALENDAR DAYS)

1. CLOSE ROAD WITH APPROPRIATE TRAFFIC CONTROL
2. REMOVE PAVEMENT & SIDEWALK AS REQUIRED, ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.
3. EXCAVATE AND EXPOSE WATER LINES.
4. INSTALL WATER LINE STOP(S) ON 24" LINE BUT KEEP VALVES OPEN. USE THE LINE STOP JUST EAST OF URSULINES AVE. (OR USE THE 24" VALVE AT STA. 107+04 INSTALLED IN THE PREVIOUS PHASE) AND INSTALL A LINE STOP JUST EAST OF GOVERNOR NICHOLLS ST. ENSURE ALL REQUIRED VALVES ON THE SIDE STREETS ARE WORKING.
5. LAYOUT TEMPORARY 8" WATER LINE AND CONNECT TO 8" TEMPORARY VALVES WITHOUT CONNECTING TO EXISTING 24-INCH WATER MAIN. INSTALL PET COCKS (CLOSED) FOR SERVICE CONNECTIONS TO TEMPORARY WATER LINE.
6. CHLORINATE AND PRESSURE TEST TEMPORARY WATER PIPE AND TEMPORARY VALVES.
7. LAYOUT TEMPORARY SERVICE CONNECTIONS IMMEDIATELY ADJACENT TO THE EXISTING SERVICE CONNECTIONS, CLEANED AND PREPPED FOR A "QUICK" TIE INTO THE EXISTING SERVICE (METER).
8. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
9. CLOSE WATER LINE STOP(S) (AND 24" VALVE IF APPLICABLE) AND APPROPRIATE WATER VALVES ON SIDE STREETS.
10. REMOVE THE REQUIRED LENGTH OF 24-INCH WATER LINE TO ALLOW FOR THE CONNECTION OF THE TEMPORARY WATER LINE TO THE LINE STOP.
11. OPEN THE TEMPORARY 8-INCH VALVES.
12. OPEN THE 24-INCH WATER LINE STOPS.
13. CONNECT THE TEMPORARY SERVICE LINES.
14. OPEN THE PETCOCKS FOR THE SERVICE CONNECTIONS. CHECK FOR LEAKS.
15. INSTALL A TEMPORARY WATER LINE FOR CROSS STREET IF NEEDED AND OPEN VALVES ON CROSS STREET AS REQUIRED.
16. REMOVE EXISTING WATER LINES AS REQUIRED.
17. BUILD THE NEW WATER LINES *IN THE SAME TRENCH AS THE EXISTING WATER LINES* INSTALLING VALVES, TEES AND FITTINGS AS REQUIRED.
18. CHLORINATE AND PRESSURE TEST NEW 24 INCH & 12-INCH & 8-INCH WATER LINES. INSTALL PETCOCKS FOR SERVICE CONNECTIONS. LAYOUT THE NEW SERVICE LINES FOR A "QUICK" TIE-IN AT THE METER
19. *INFORM ALL BUSINESSES AND RESIDENTS OF WATER SERVICE INTERRUPTION.*
20. CLOSE LINE STOPS (AND 24" VALVE IF APPLICABLE) ON DECATUR AND WATER VALVES ON SIDE STREETS.
21. DISCONNECT TEMPORARY WATER LINES FROM THE 24 INCH WATER MAIN.
22. CONNECT THE NEW WATER MAIN LINES TO THE EXISTING WATER MAINS AND TIE-IN SERVICE LINES AT THE METER.
23. OPEN LINE STOPS (AND 24" VALVE IF APPLICABLE) AND VALVES ON CROSS STREETS. OPEN PETCOCKS AND CHECK FOR LEAKS.
24. BUILD ROADWAY PAVEMENT, CURB AND SIDEWALKS ALLOW FOR PEDESTRIAN (HANDICAP) / (COMMERCIAL & PRIVATE) ACCESS TO ALL ENTRANCES AND EXITS.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
8/16/2024

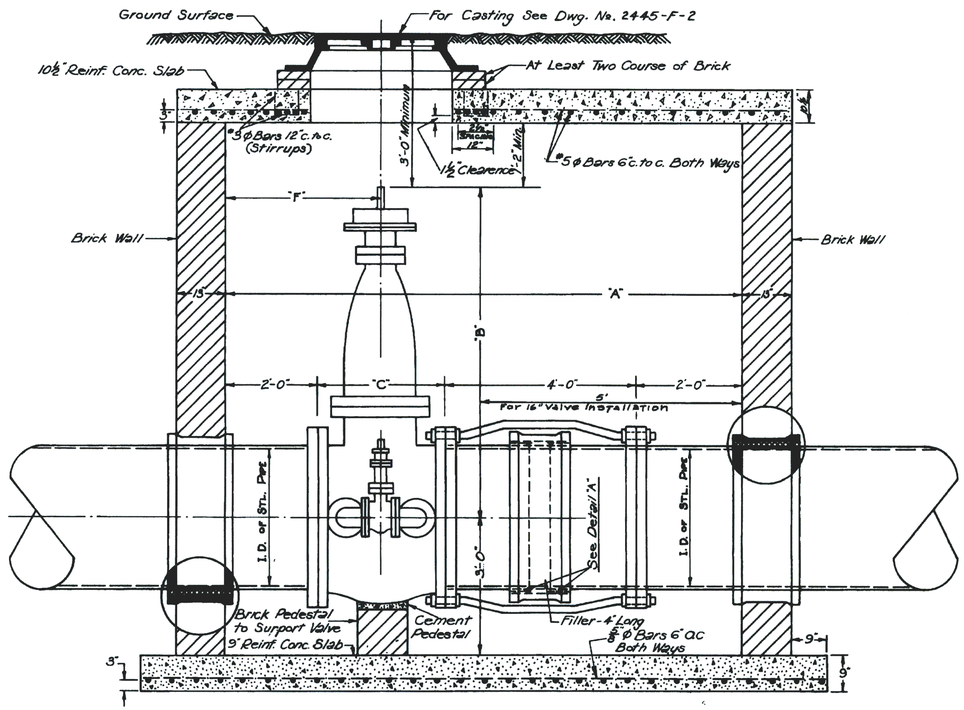
SEWERAGE AND WATER BOARD OF NEW ORLEANS

SUGGESTED SEQUENCE OF CONSTRUCTION & WATERLINE TIE-IN DETAILS

CONTRACT NO. 2154

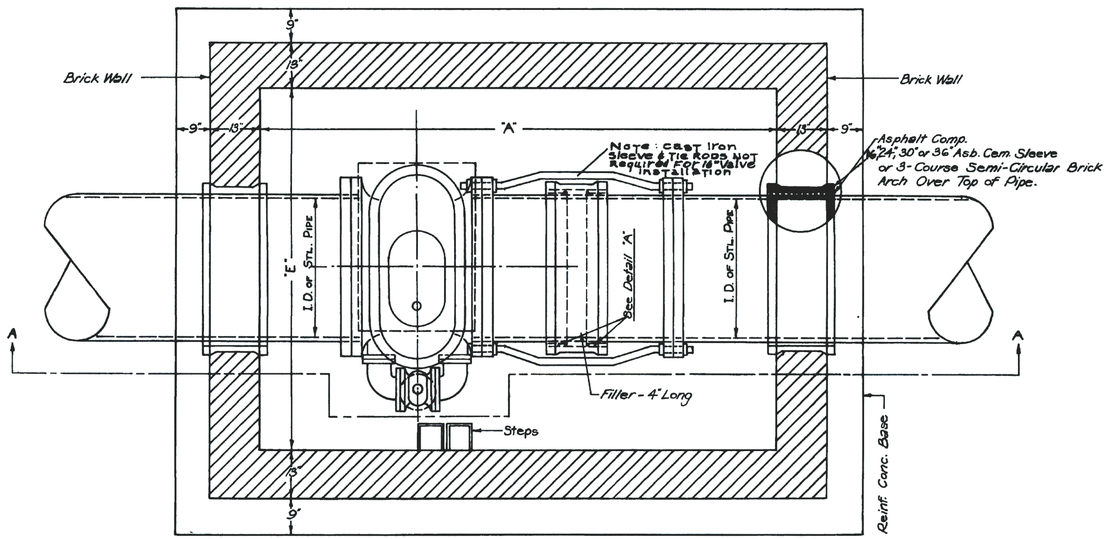
DR. A.M. & D.V.	
TRC.	
CK.	GENERAL SUPERINTENDENT
AP.	**DWG. NO. 8958-W**
SCALE: N.T.S.	
DATE: AUGUST 2024	SET NO. / SHEET NO. X OF XX

D-3

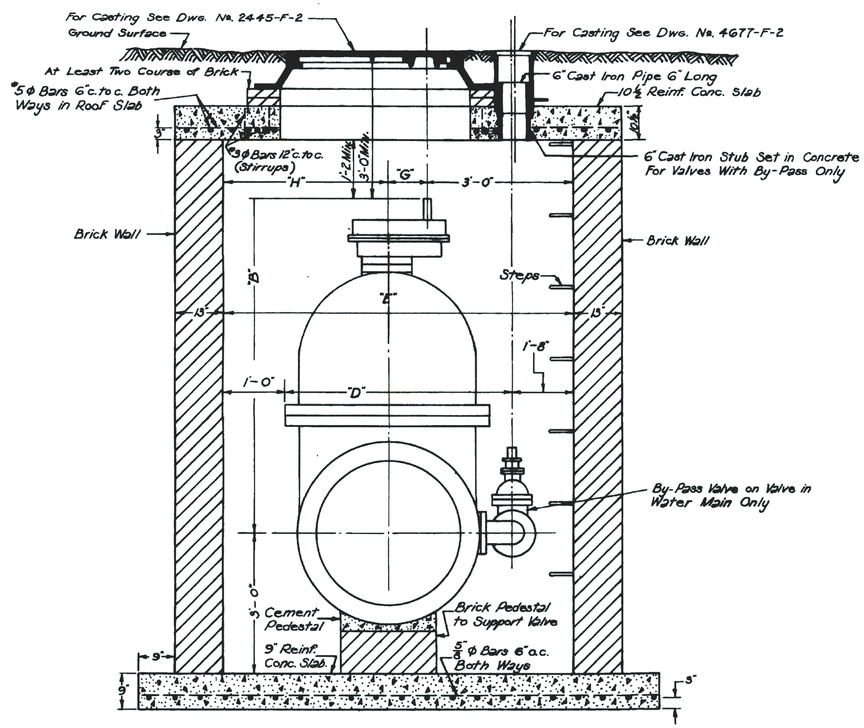


SECTION THRU A-A

NOTE:
⚠ Sleeve & Tie Rods Not Required Unless Otherwise Specified.

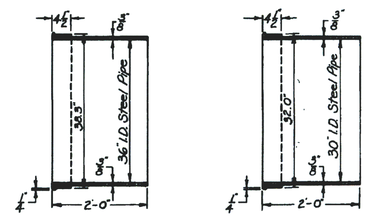


PLAN WITH ROOF REMOVED



SECTION THRU B-B

DETAIL "A"



Band And Bead to be Placed on Short Steel Pipes Under Cast Iron Sleeves in Valve Manholes.
Scale ½"=1'-0"

Pipe Dia.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
36"	10'-9"	7'-1"	2'-9"	4'-8"	7'-4"	3'-4½"	10"	3'-6"
30"	10'-4"	6'-2½"	2'-4"	4'-0"	6'-8"	3'-2"	10"	2'-10"
24"	9'-8"	5'-1½"	1'-8"	3'-5"	6'-1"	2'-10"	8"	2'-5"
16"	8'-6"	4'-1½"	1'-6"	——	5'-0"	——	——	——

FOR REFERENCE ONLY

REV.	DATE	DESCRIPTION	BY
⚠	9-6-63	ADDED NOTE	P.C.B.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

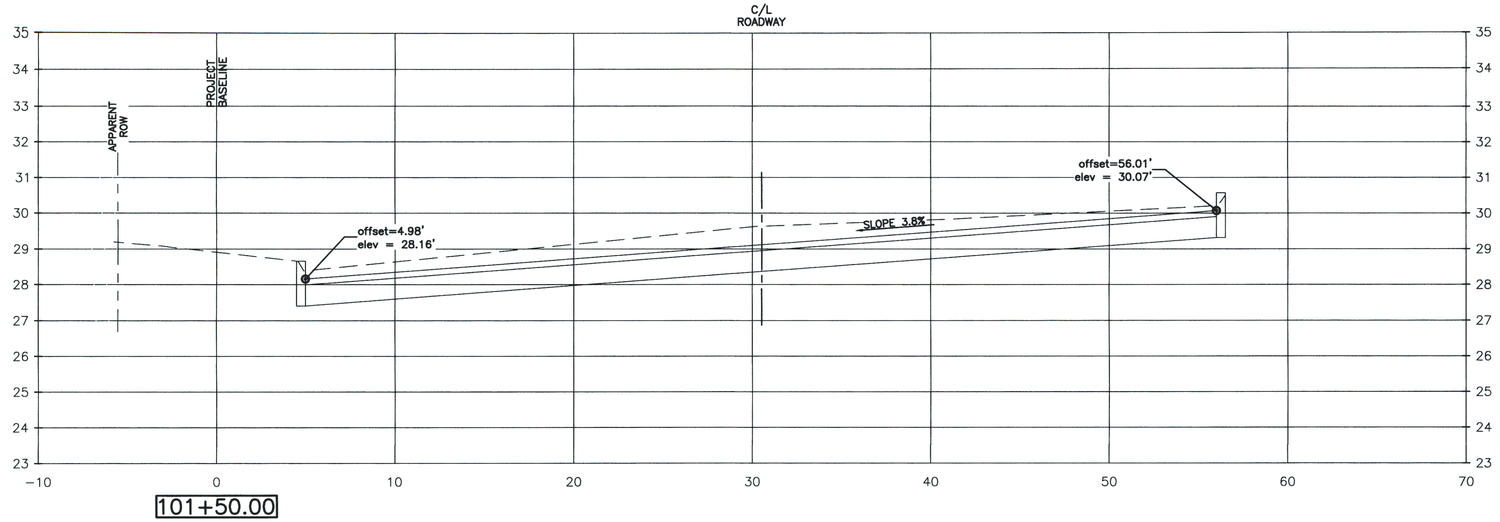
DETAIL OF MANHOLE FOR 36" & 30" VALVES IN STEEL PIPE LINE

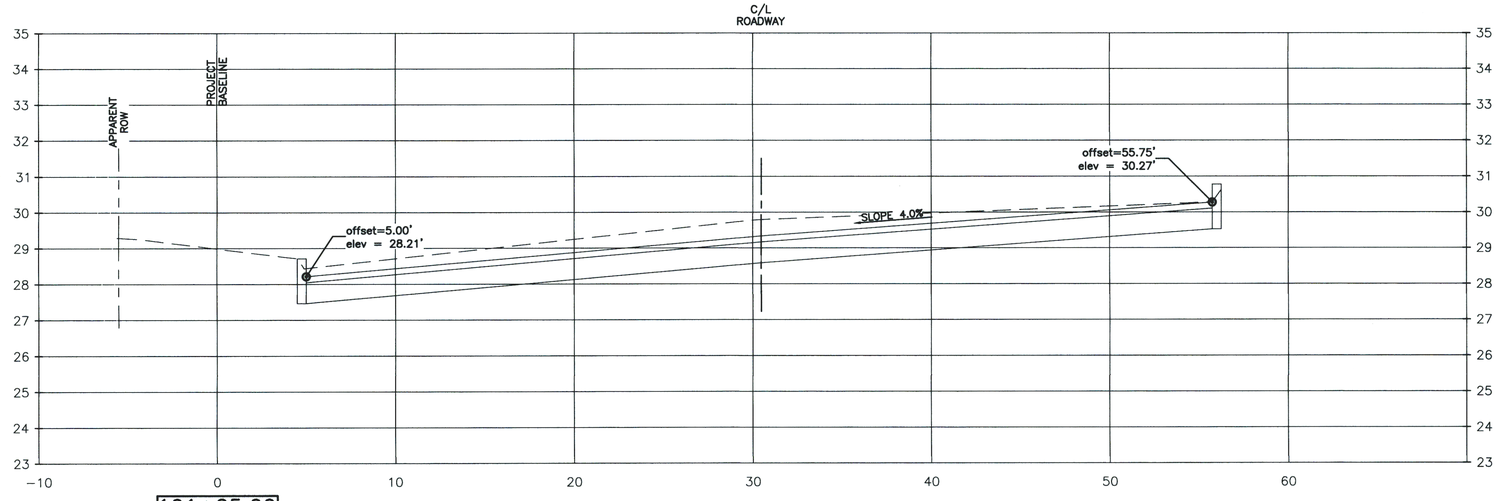
DR. R.J. Mailleur
CH. C.T. Williams
APP. A.J. Cox
SCALE 3/4"=1'-0"
DATE 9-16-60
SET NO.

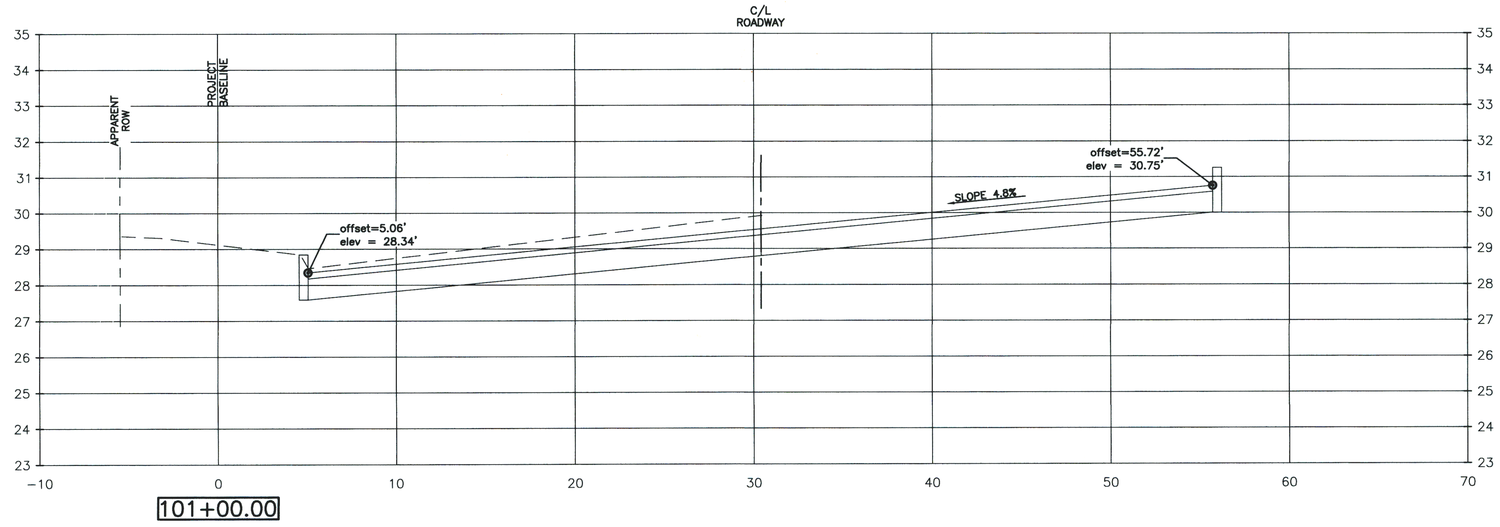
GENERAL SUPERINTENDENT

DWG. NO. 5730-B-6
SHEET NO.

Retraced 7-13-61 By R.J. Mailleur







10 0 5 10 20 40

SCALE: 1" = 4'-0" HORIZ.
1" = 2'-0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO A. CONTRERAS
REG. NO. 28901
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
08/01/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (1 OF 14)

CONTRACT NO. 2154

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

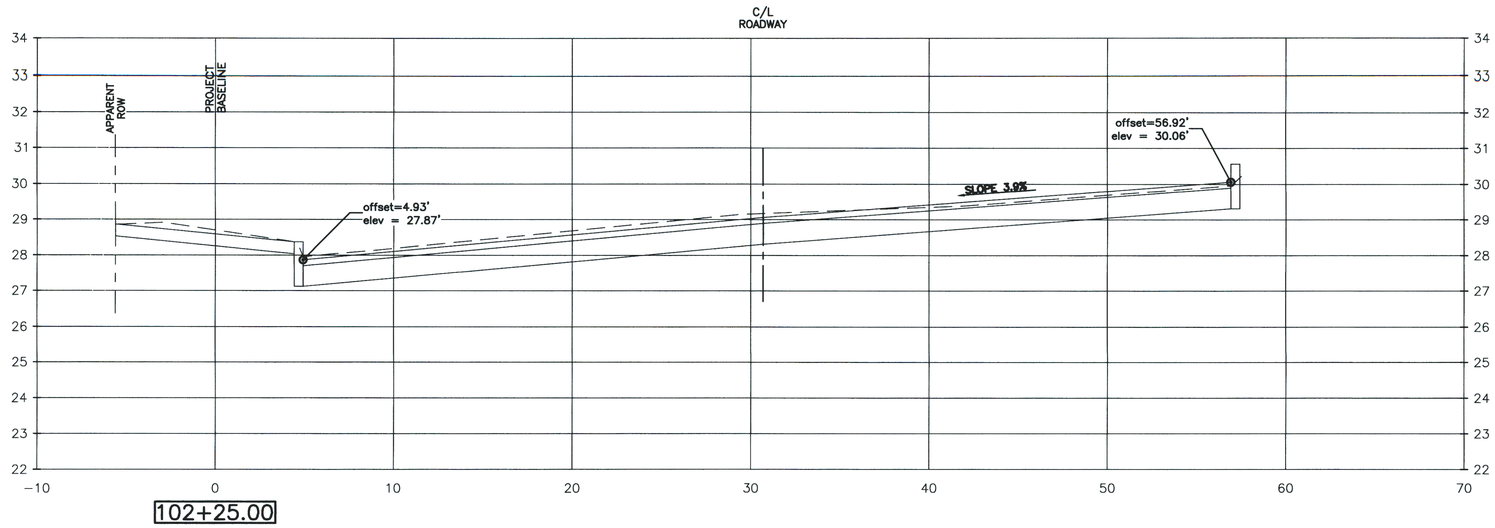
DWG. NO. 8958-W

SET NO.

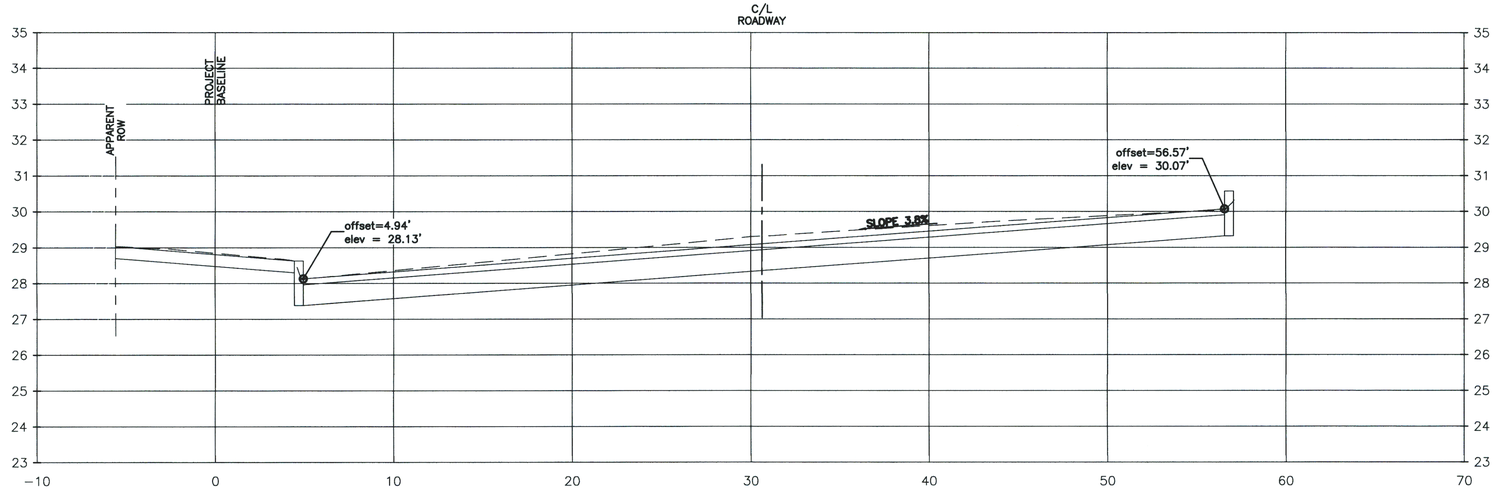
SHEET NO. 19 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

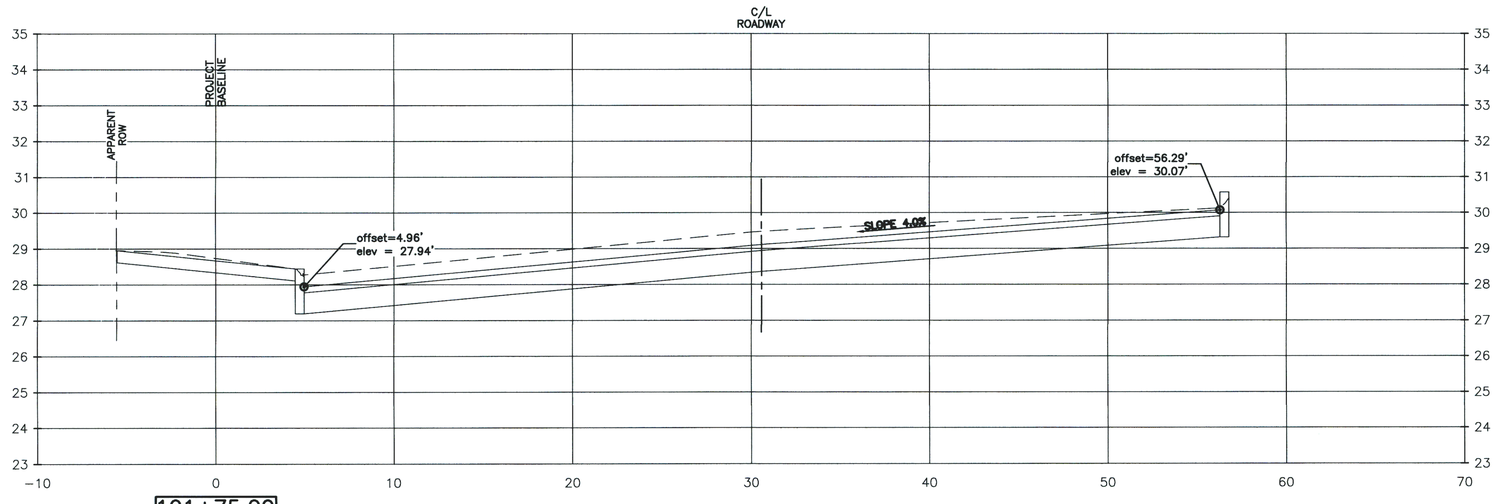
CS-1



102+25.00



102+00.00



101+75.00

SCALE: 1" = 4'–0" HORIZ.
1" = 2'–0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO A CONTRERAS
REG. 28551
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
08/01/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (2 OF 14)

CONTRACT NO. 2154

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

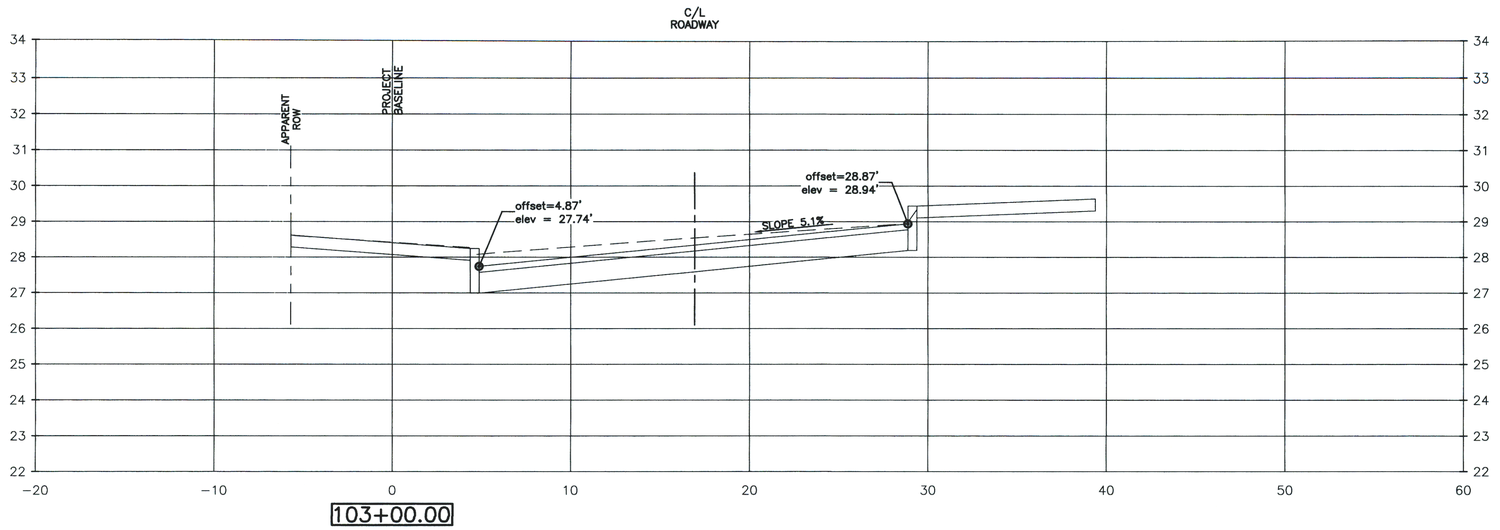
DWG. NO. 8958–W

SET NO.

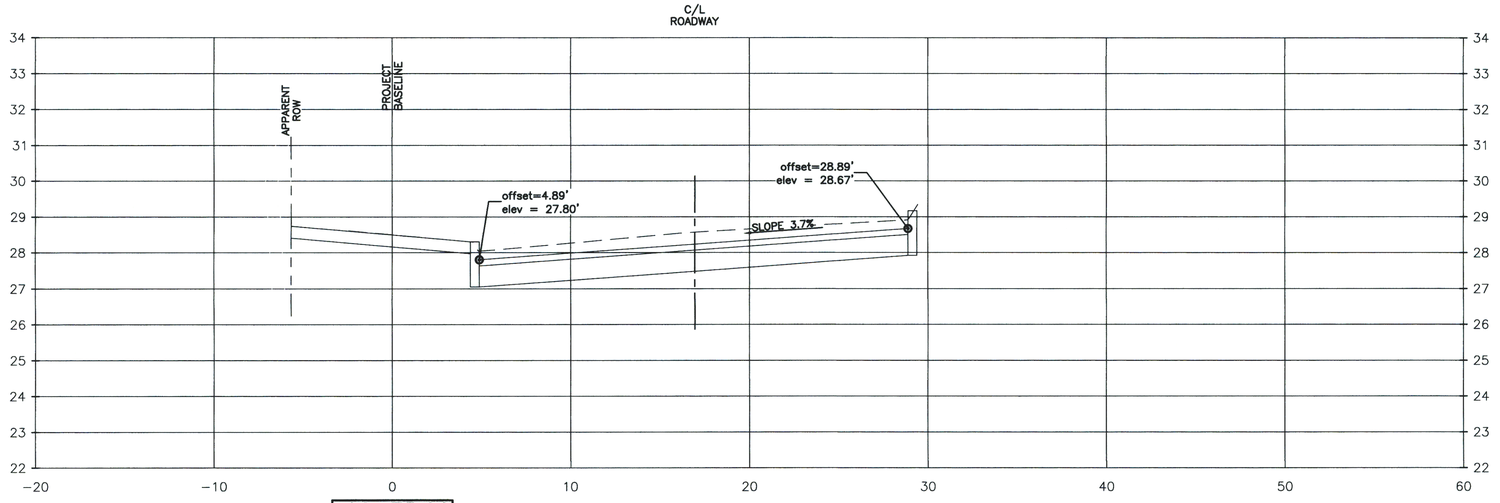
SHEET NO. 20 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

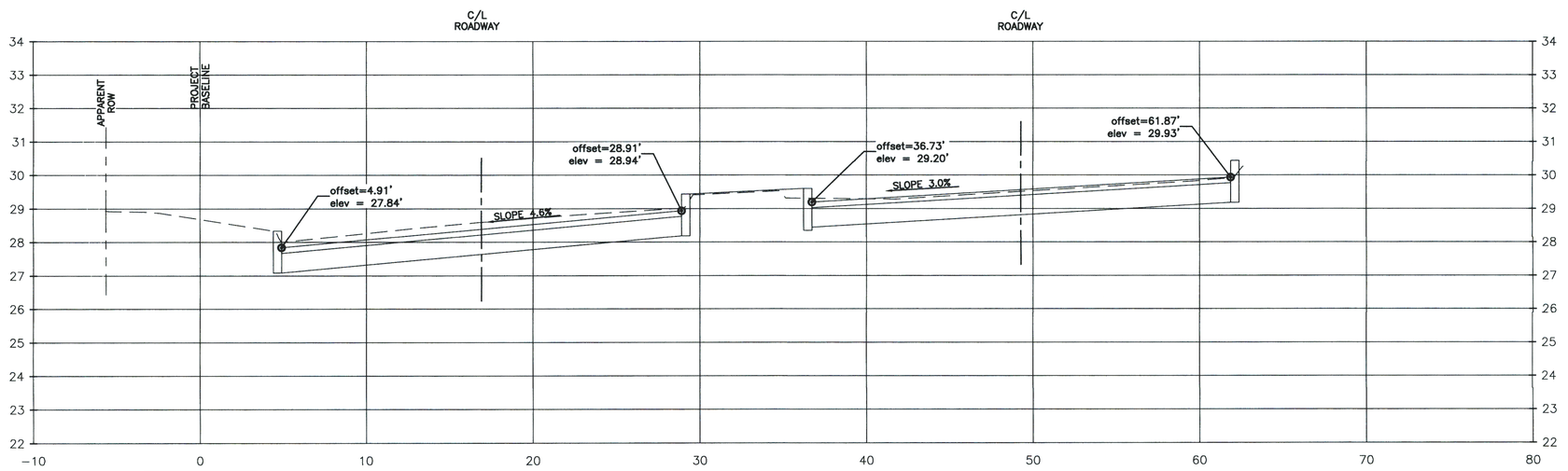
CS–2



103+00.00



102+75.00



102+50.00

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO J. CONTRERAS
REG. NO. 29888
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
08/01/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (3 OF 14)

CONTRACT NO. 2154

DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

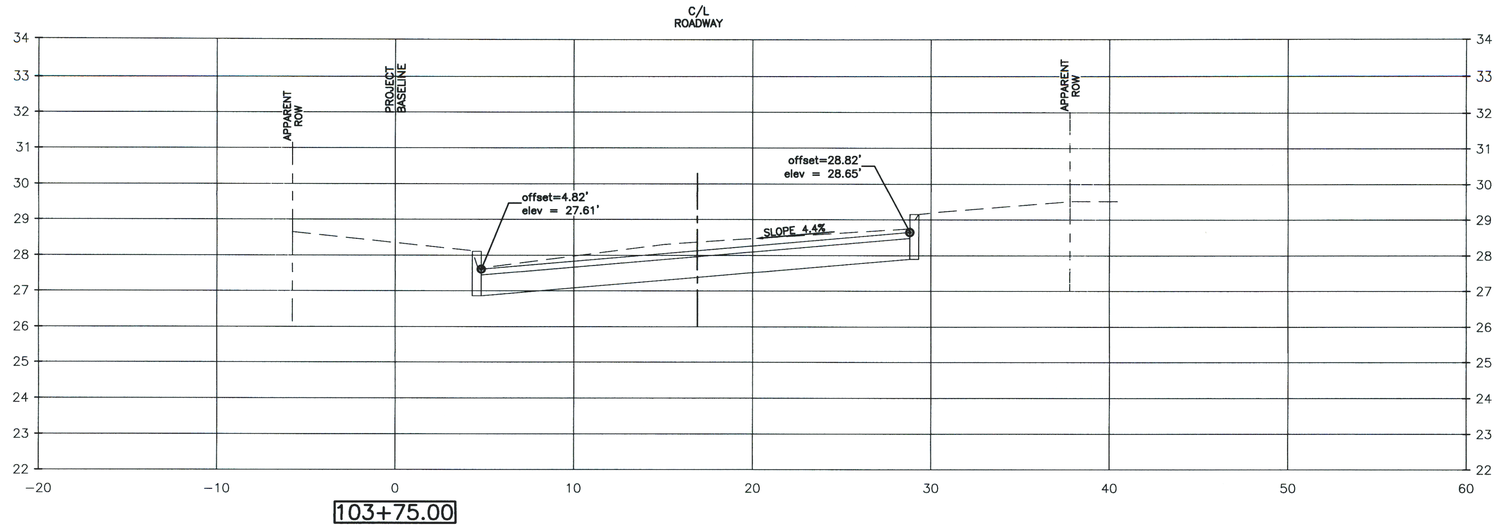
DWG. NO. 8958−W

SET NO.

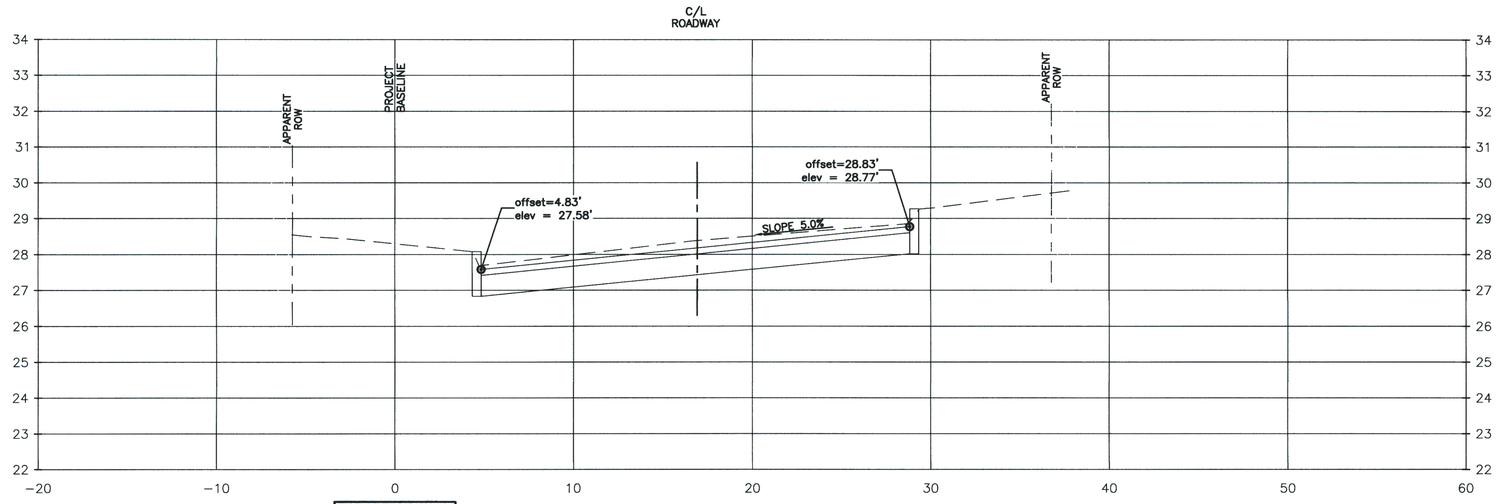
SHEET NO. 21 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

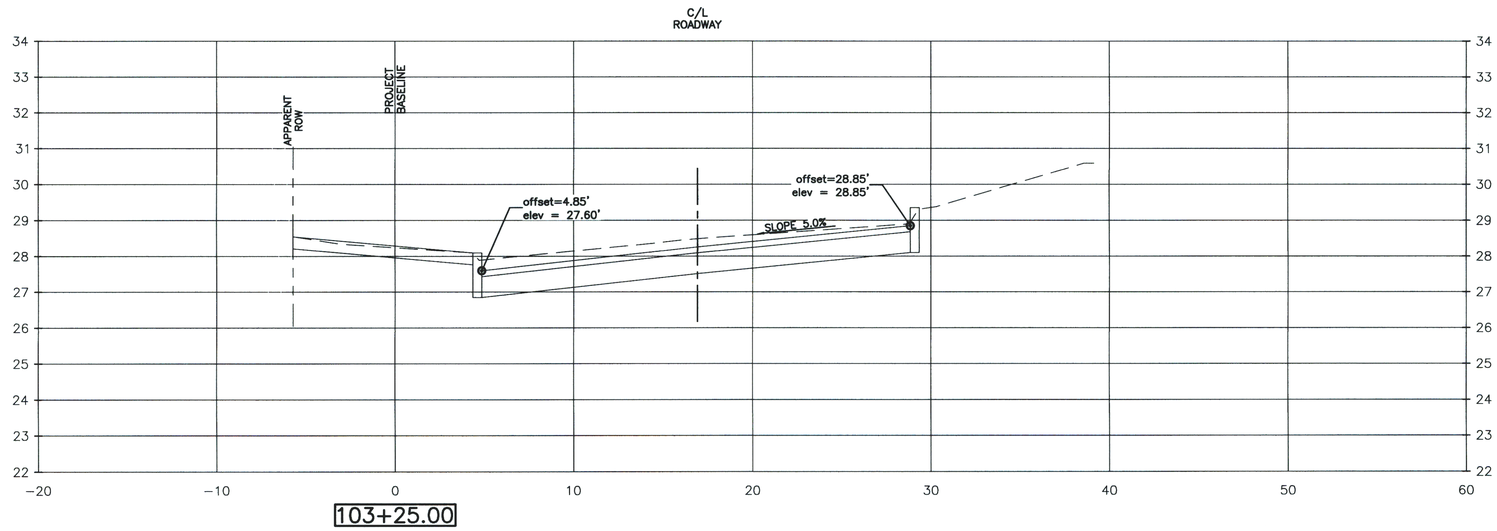
CS−3



103+75.00



103+50.00



103+25.00

10 0 5 10 20 40

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
NICANOR J. CONTRERAS
REG. NO. 26651
PROFESSIONAL ENGINEER
08/01/2024
CIVIL ENGINEERING

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

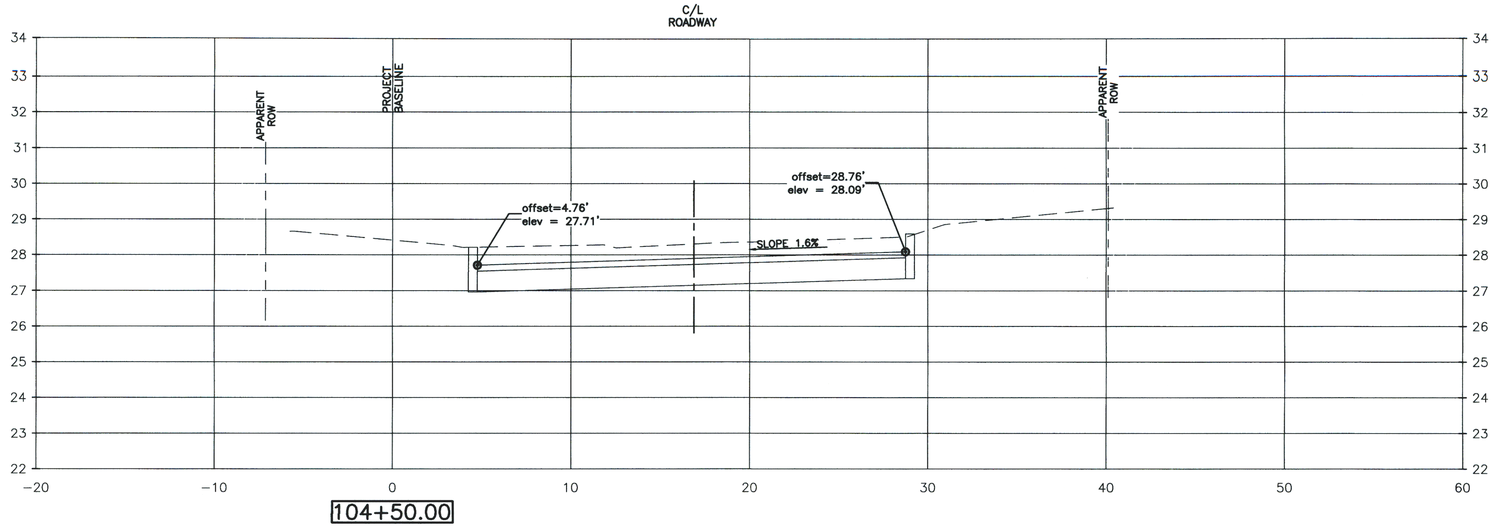
CROSS SECTIONS (4 OF 14)

CONTRACT NO. 2154

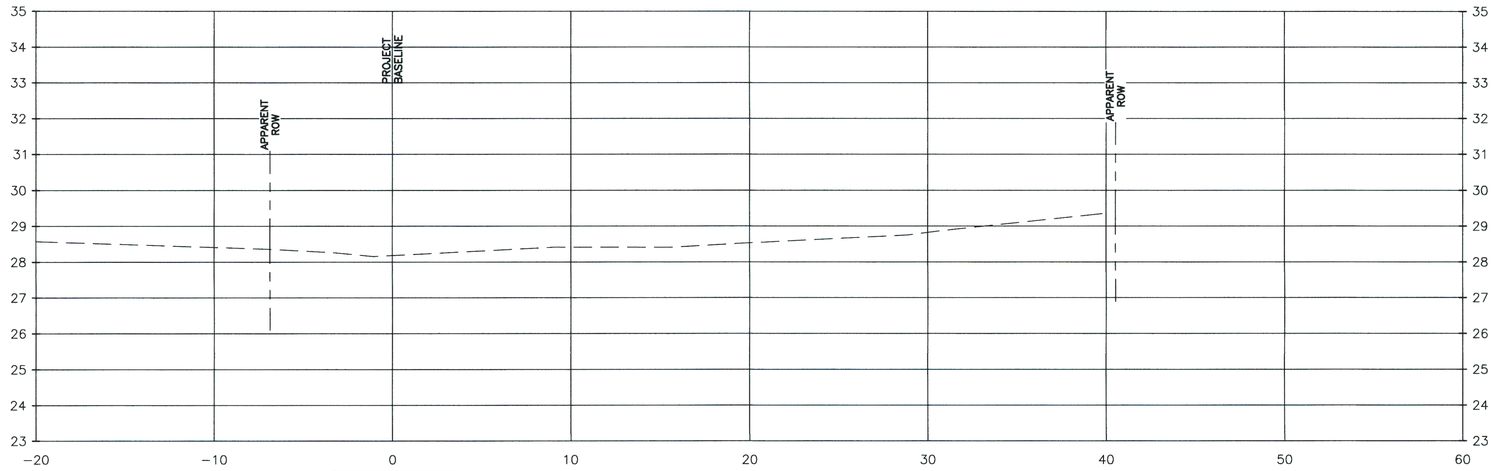
DR. Q. VU	
TRC. –	GENERAL SUPERINTENDENT
CK. R. HAYDEL	
AP. R. CONTRERAS	DWG. NO. 8958−W
SCALE: AS NOTED	
DATE: AUGUST 2024	SET NO. SHEET NO. 22 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∾Structural∾Mechanical∾Electrical∾Marine∾Transportation
Metairie, LA www.infinityec.com 504-304-0548

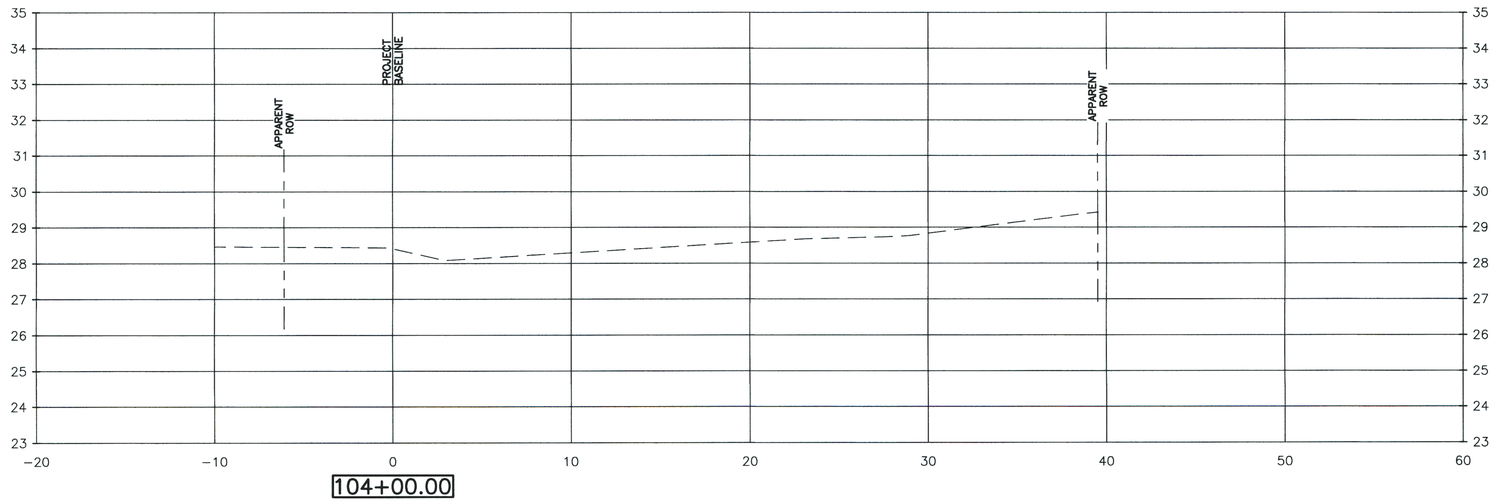
CS−4



104+50.00



104+25.00



104+00.00

10 0 5 10 20 40

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO CONTRERAS
REG. NO. 39552
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
DATE 8/20/24

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (5 OF 14)

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

CS−5

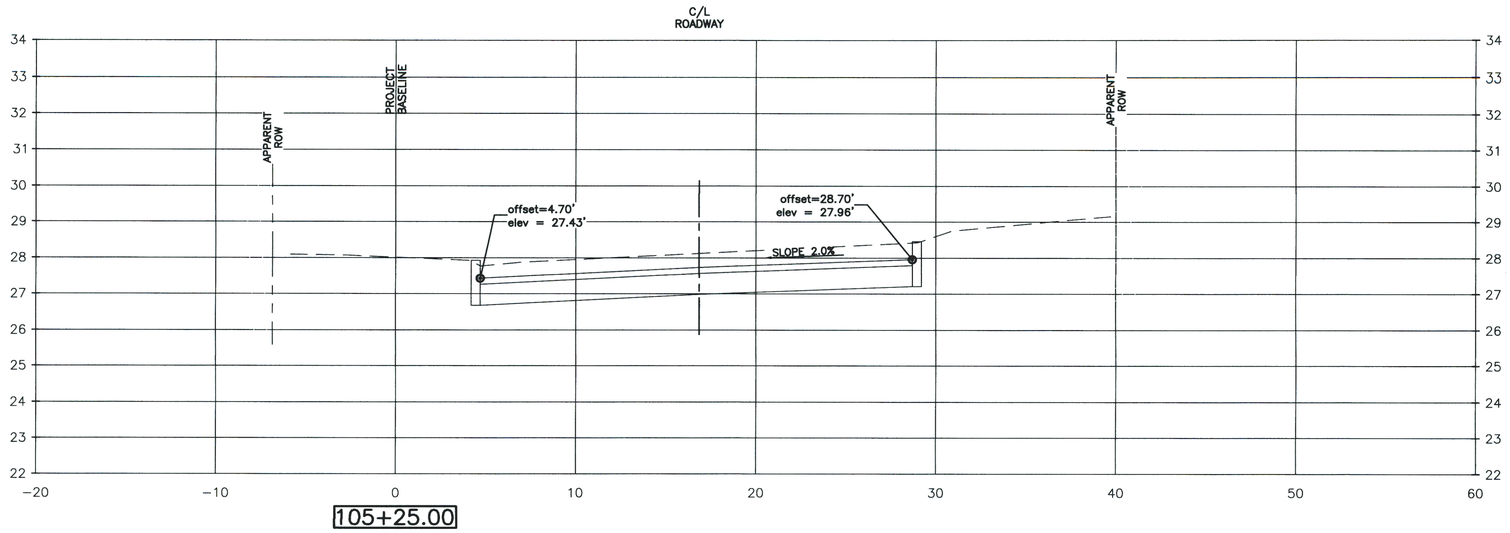
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

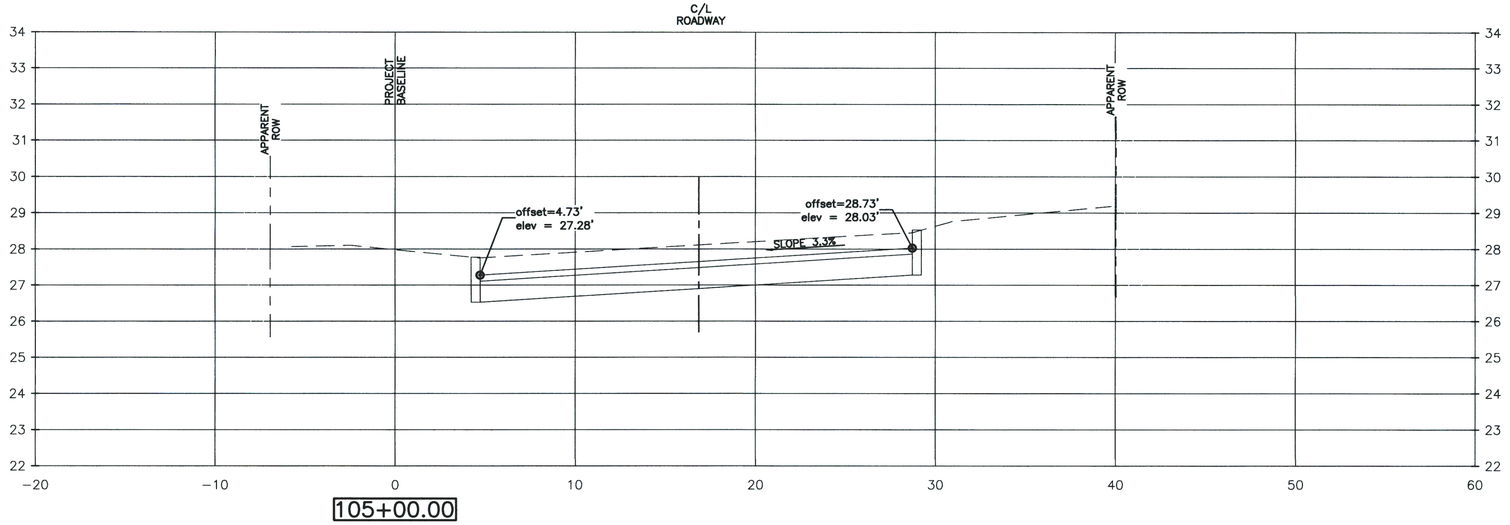
GENERAL SUPERINTENDENT

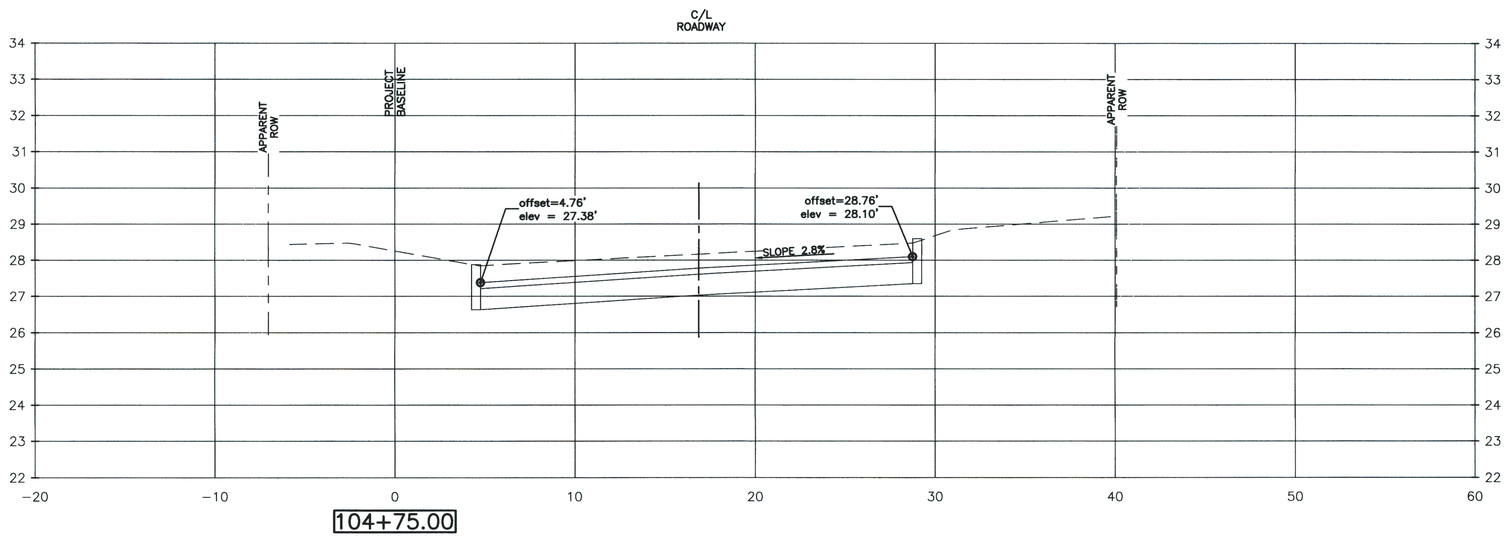
DWG. NO. 8958−W

SET NO.

SHEET NO. 23 OF 32







SCALE: 1" = 4'-0" HORIZ.
1" = 2'-0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (6 OF 14)

CONTRACT NO. 2154

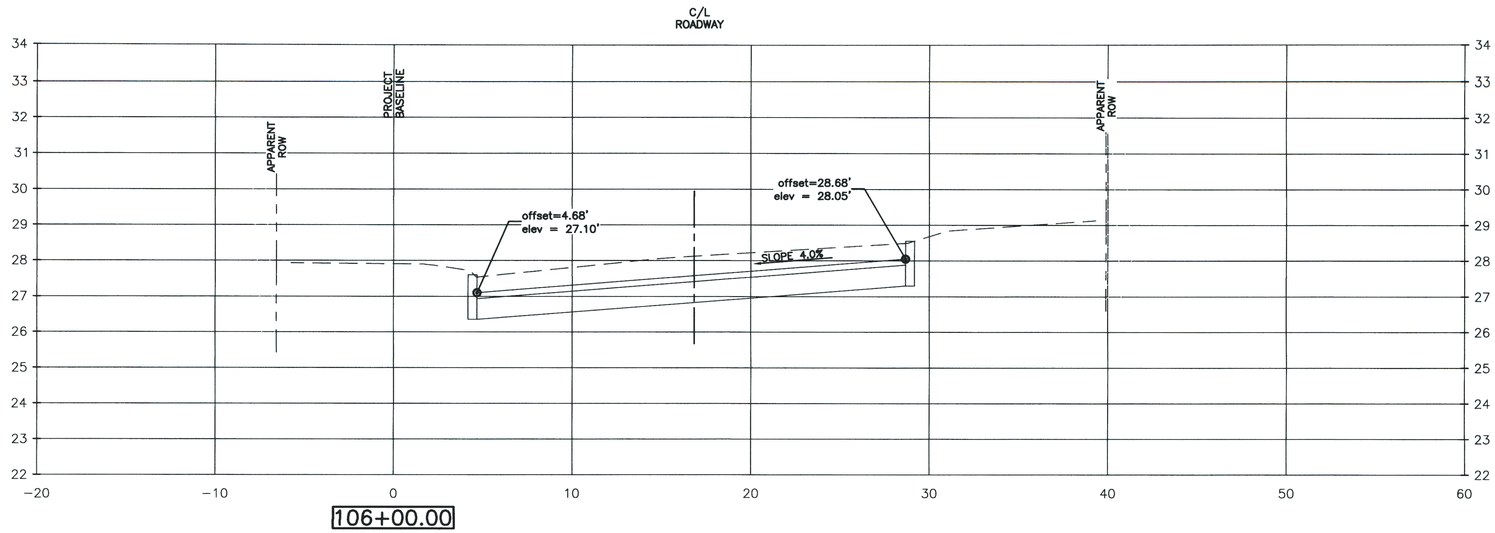
Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

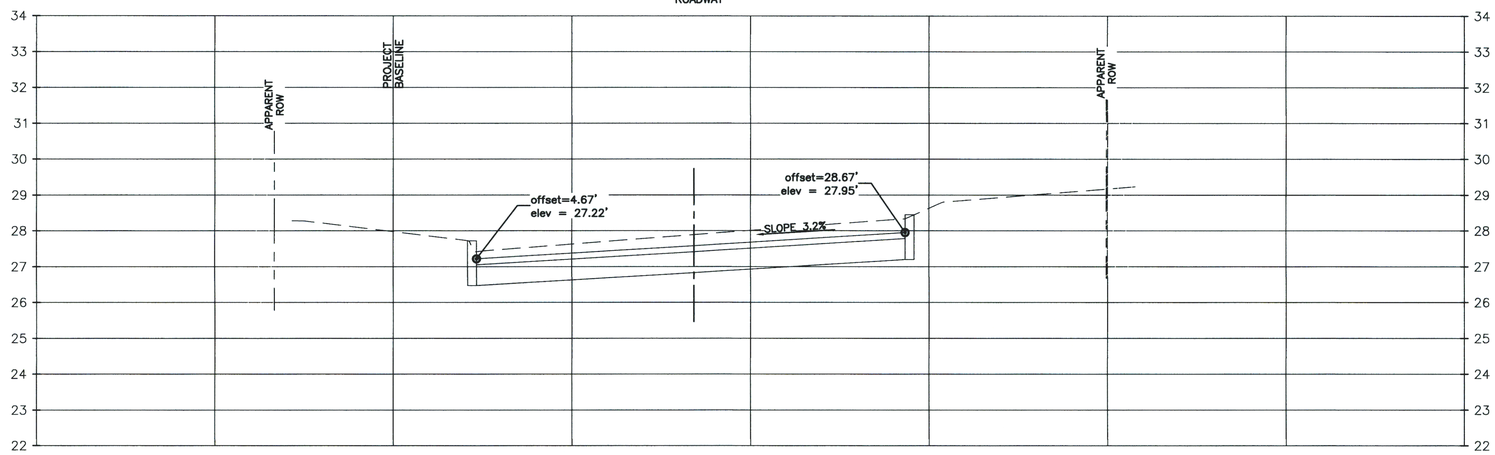
CS-6

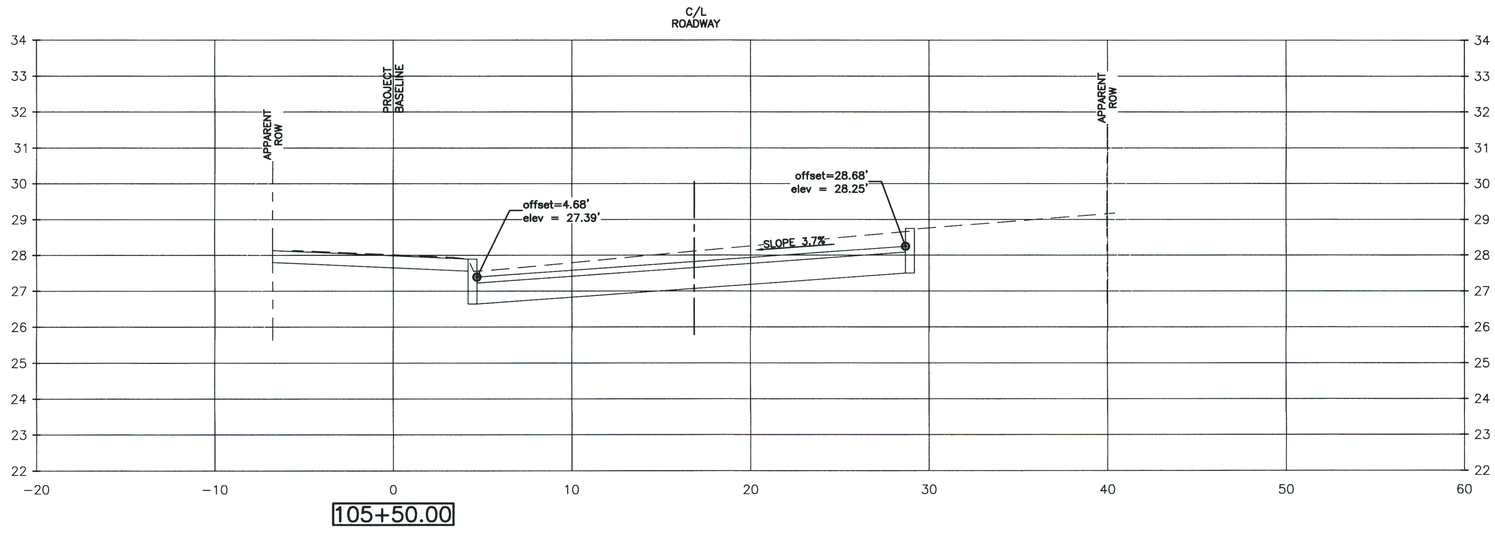
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W
SET NO. SHEET NO. 24 OF 32







SCALE: 1" = 4'–0" HORIZ.
1" = 2'–0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (7 OF 14)

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC — IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

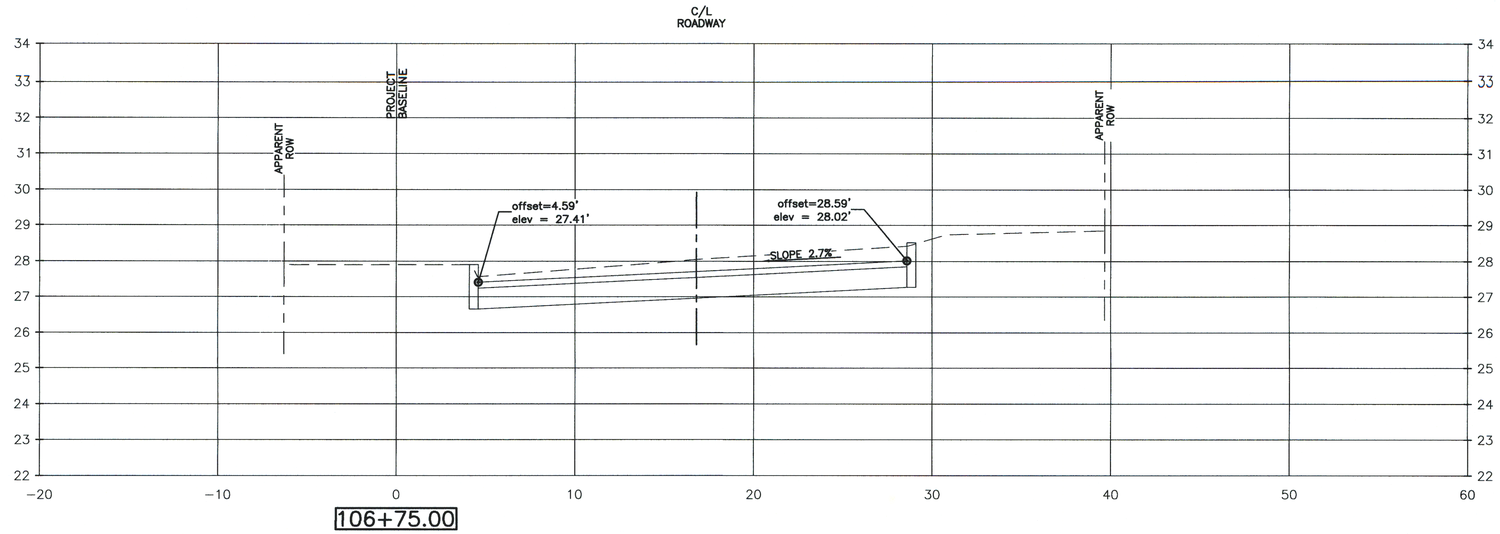
CS–7

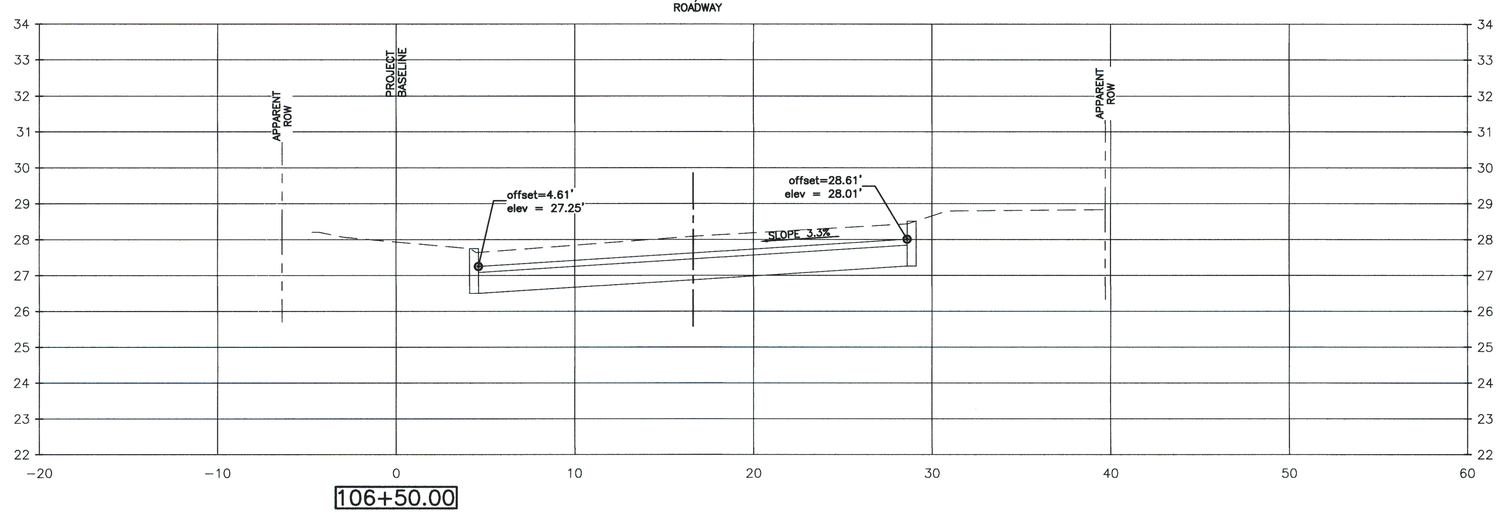
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

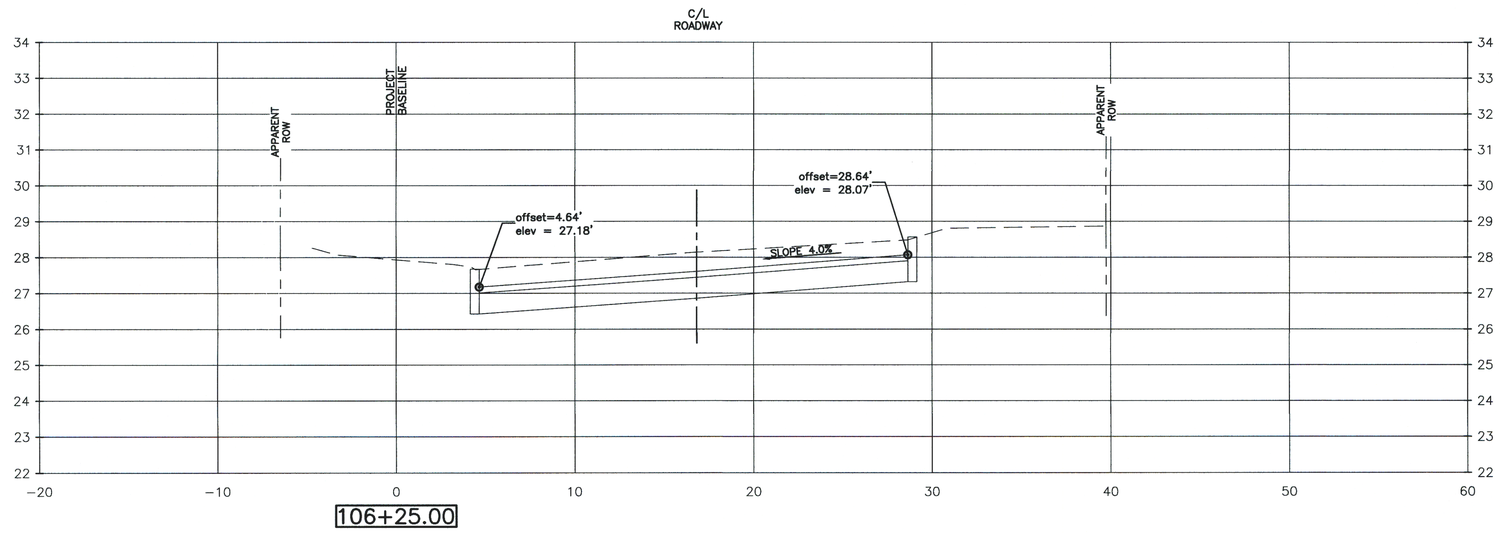
GENERAL SUPERINTENDENT

DWG. NO. 8958–W

SET NO. SHEET NO. 25 OF 32







10 0 5 10 20 40

SCALE: 1" = 4'-0" HORIZ.
1" = 2'-0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO M. CONTRERAS
REG. NO. 28631
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
08/01/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (8 OF 14)

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC — IEC Project No 20-103
Civil ∞ Structural ∞ Mechanical ∞ Electrical ∞ Marine ∞ Transportation
Metairie, LA www.infinityec.com 504-304-0548

CS-8

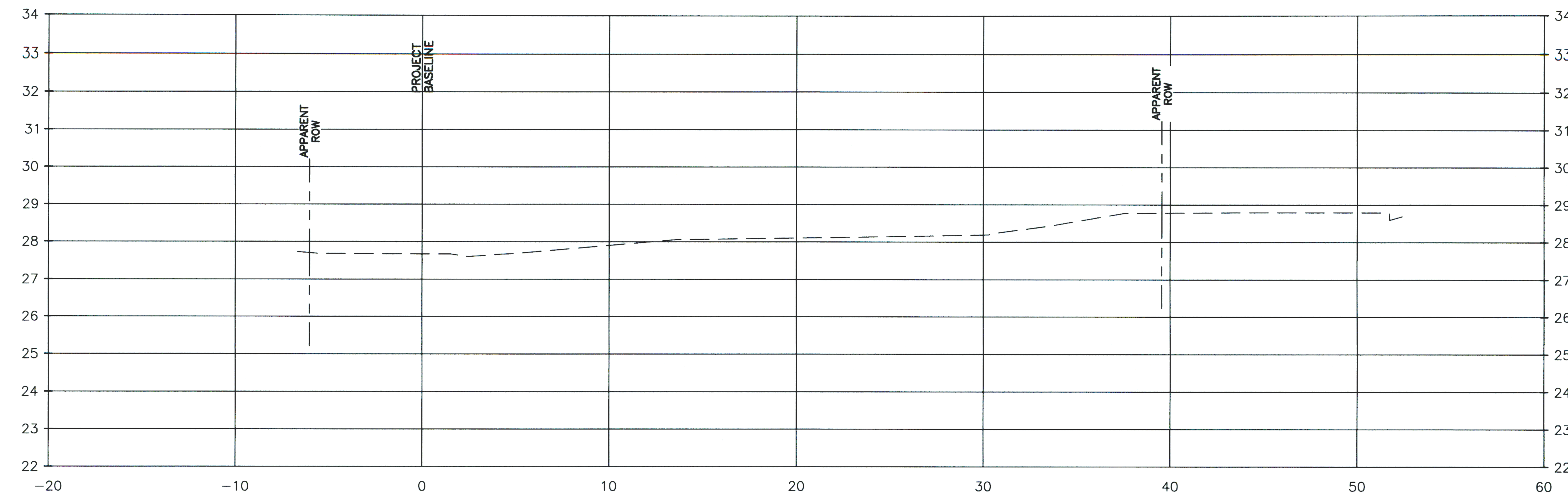
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

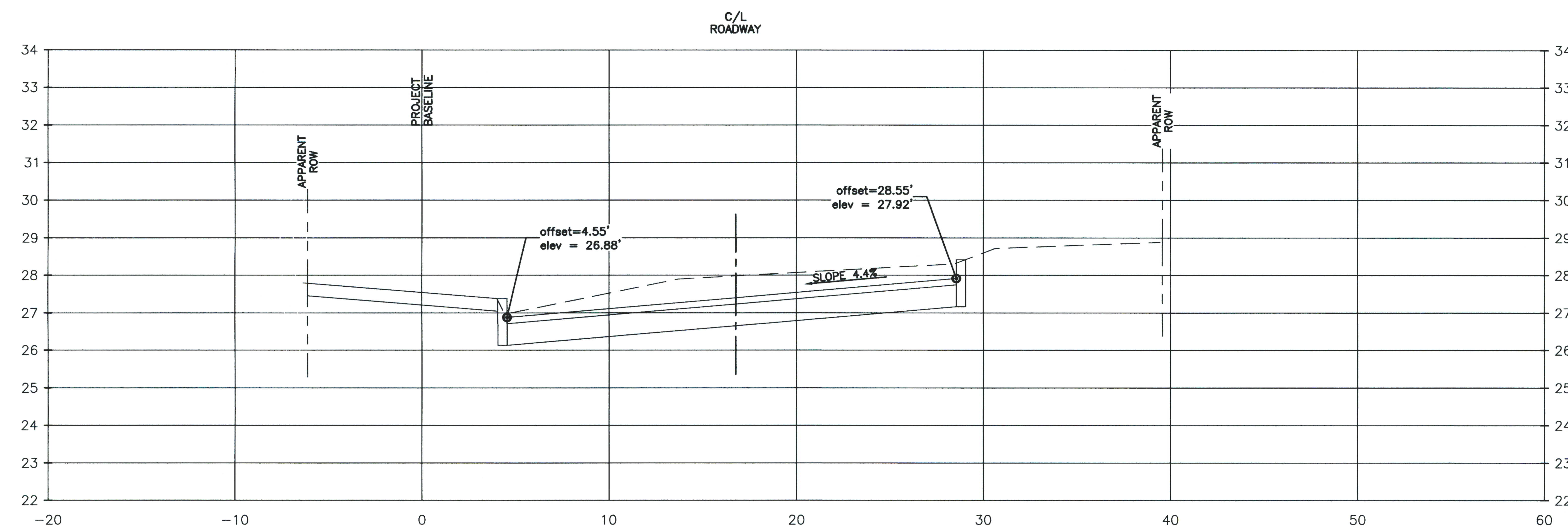
DWG. NO. 8958-W

SET NO.

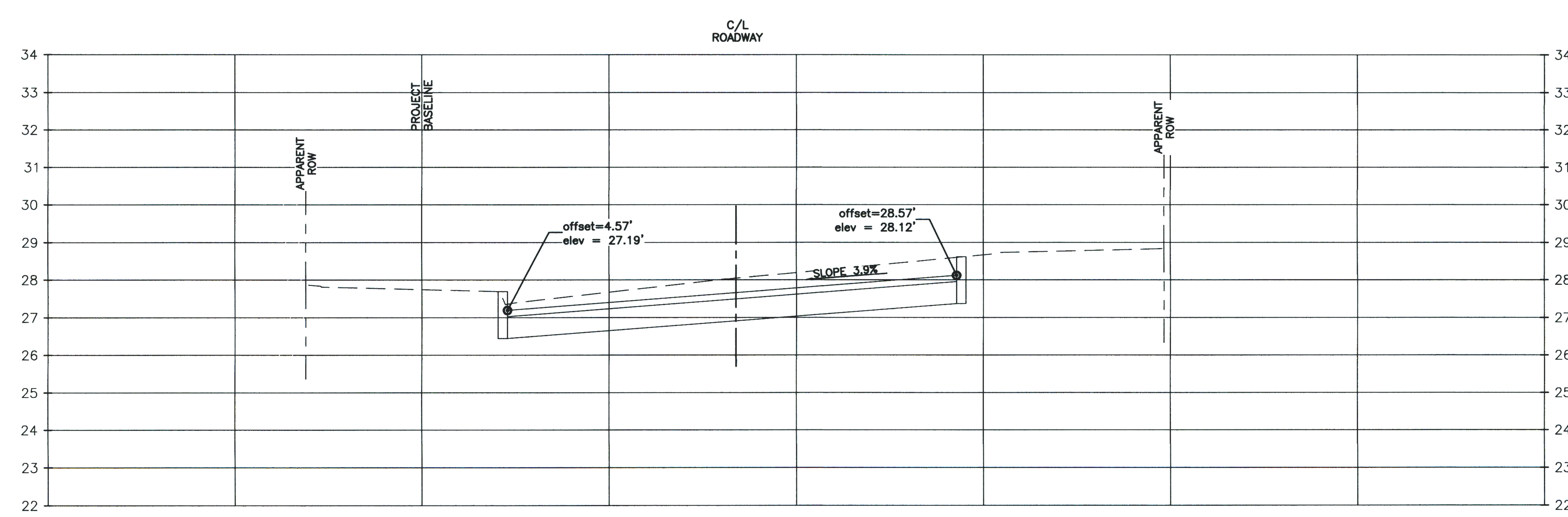
SHEET NO. 26 OF 32



107+50.00



107+25.00



107+00.00

SCALE: 1" = 4'-0" HORIZ.
1" = 2'-0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (9 OF 14)

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil~Structural~Mechanical~Electrical~Marine~Transportation
Metairie, LA www.infinityec.com 504-304-0548

CS-9

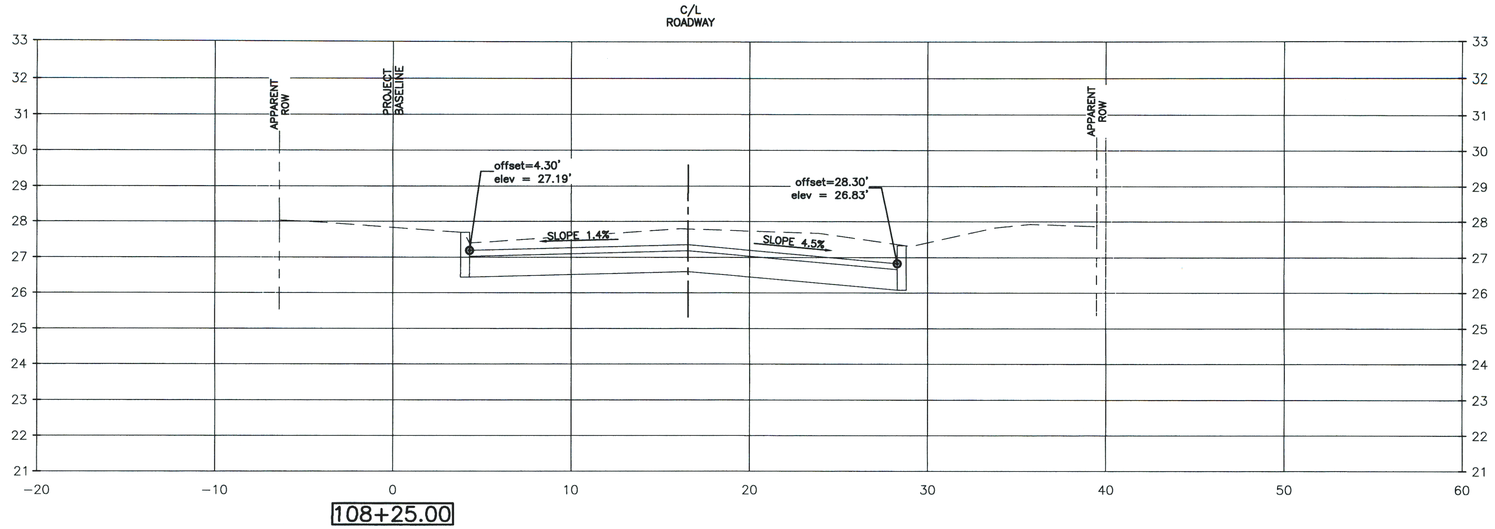
DR. Q. VU
TRC. –
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

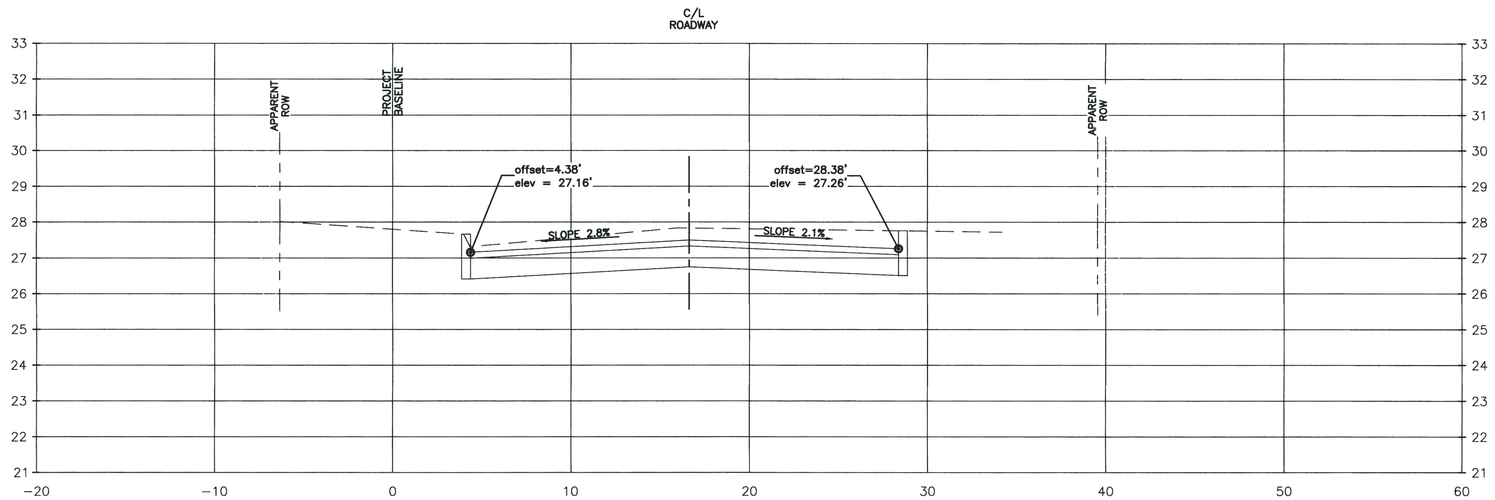
DWG. NO. 8958-W

SET NO.

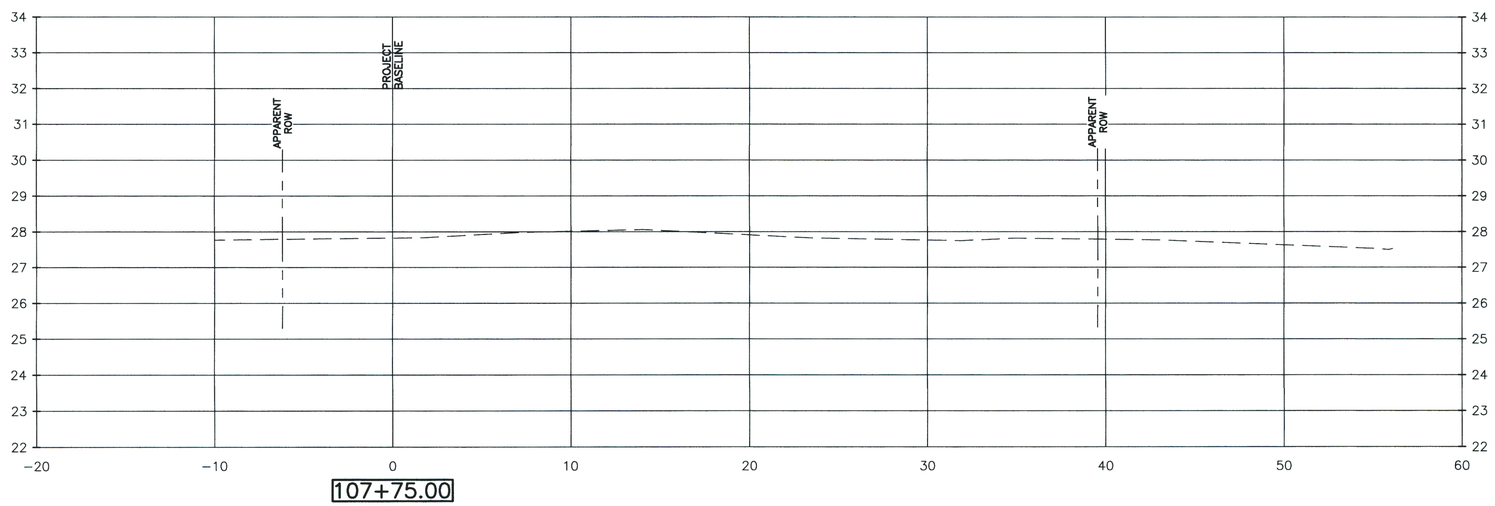
SHEET NO. 27 OF 32



108+25.00



108+00.00



107+75.00

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO CONTRERAS
REG. NO. 29841
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
10/01/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (10 OF 14)

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

CS−10

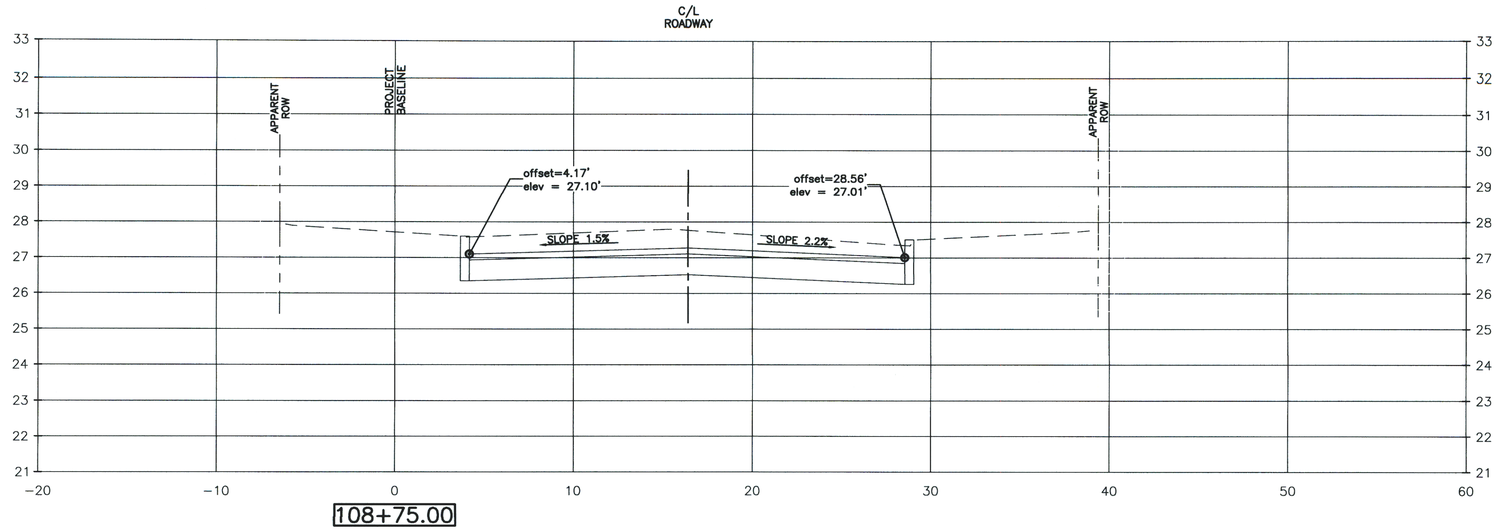
DR. Q. VU
TRC. −
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

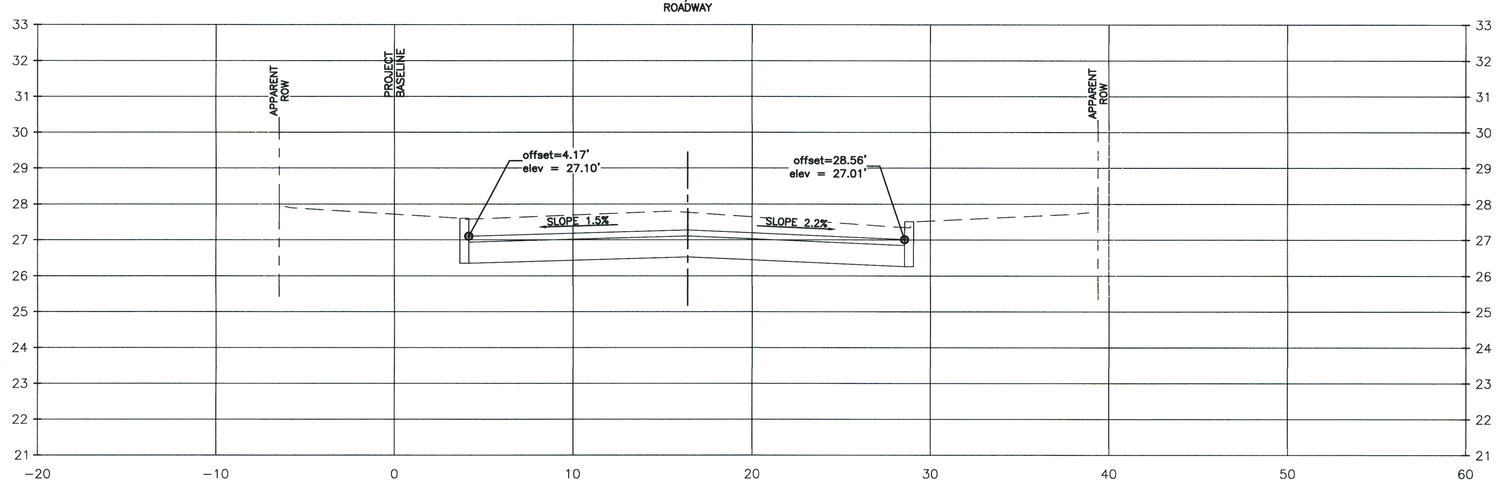
DWG. NO. 8958−W

SET NO.

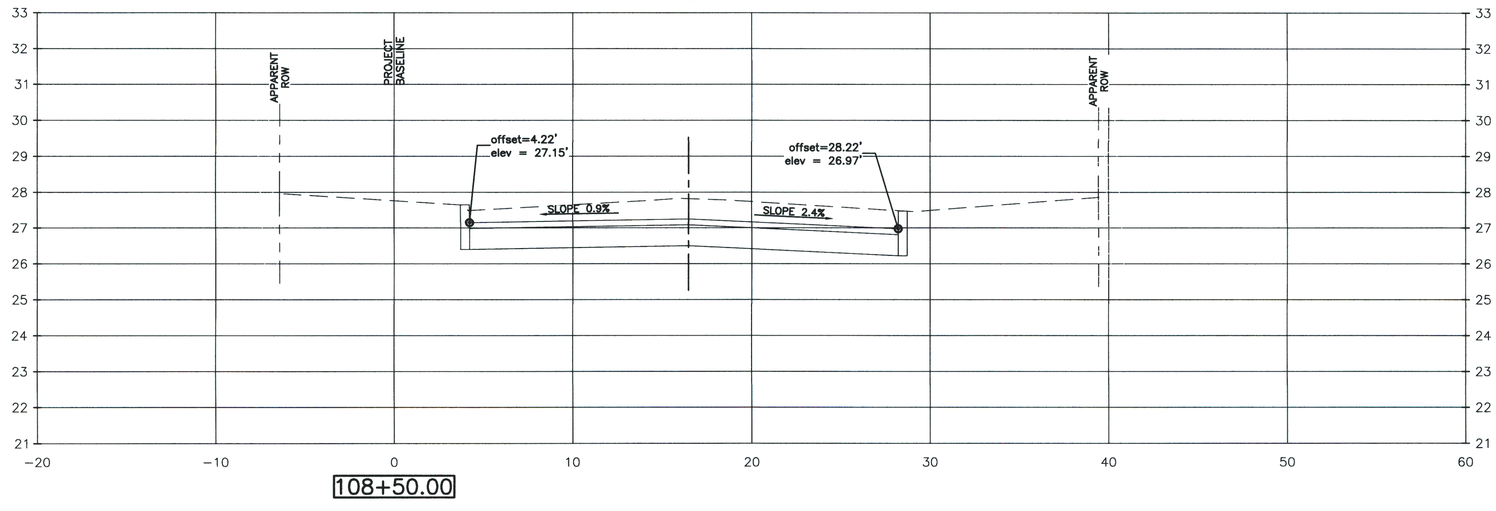
SHEET NO. 28 OF 32



108+75.00



108+75.00



108+50.00

10 0 5 10 20 40

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO A. CONTRERAS
REGISTERED
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
DATE 7/2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

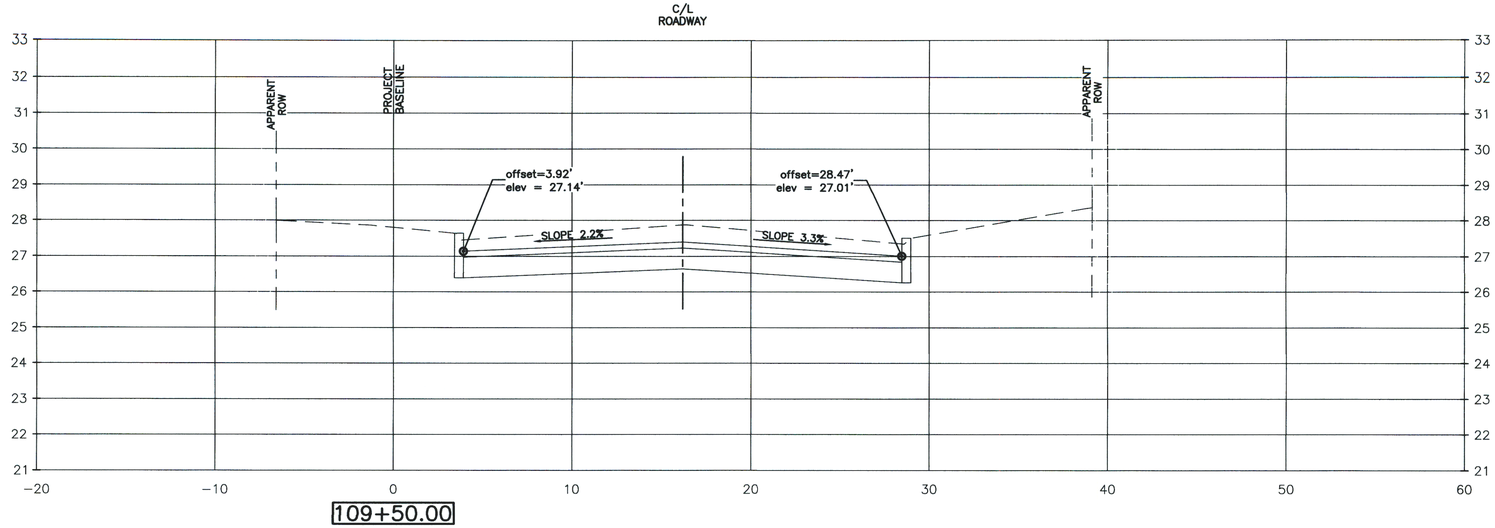
CROSS SECTIONS (11 OF 14)

CONTRACT NO. 2154

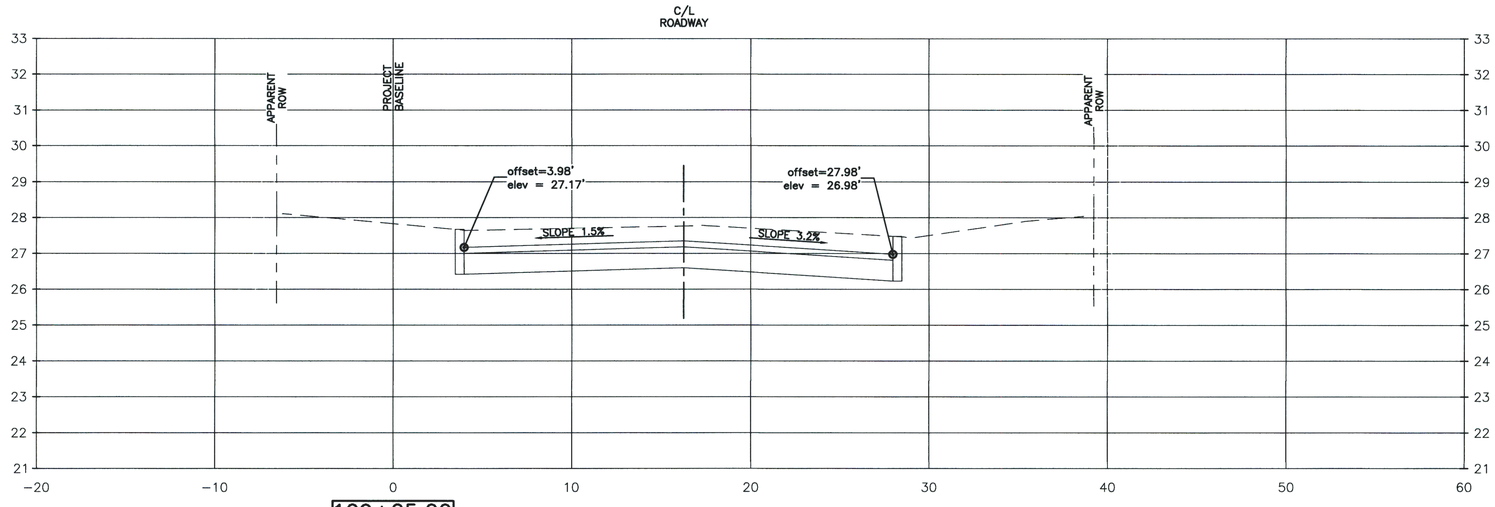
DR. Q. VU	
TRC. –	GENERAL SUPERINTENDENT
CK. R. HAYDEL	
AP. R. CONTRERAS	DWG. NO. 8958−W
SCALE: AS NOTED	
DATE: AUGUST 2024	SET NO. SHEET NO. 29 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

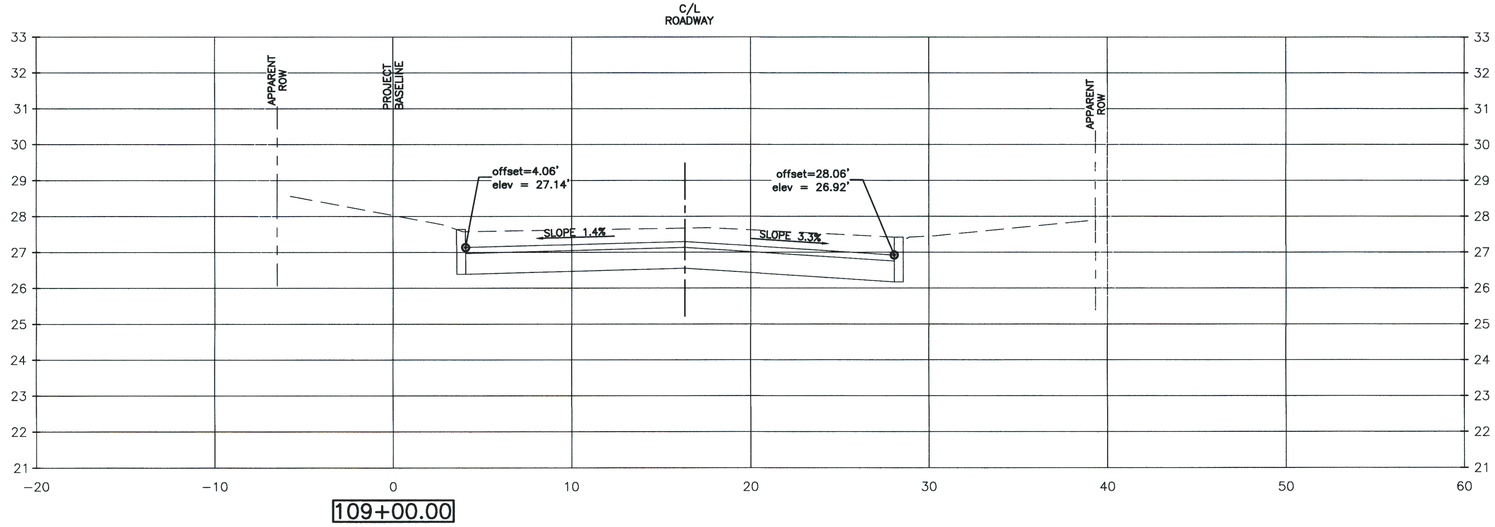
CS−11



109+50.00



109+25.00



109+00.00

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (12 OF 14)

CONTRACT NO. 2154

DR. Q. VU
TRC. —
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

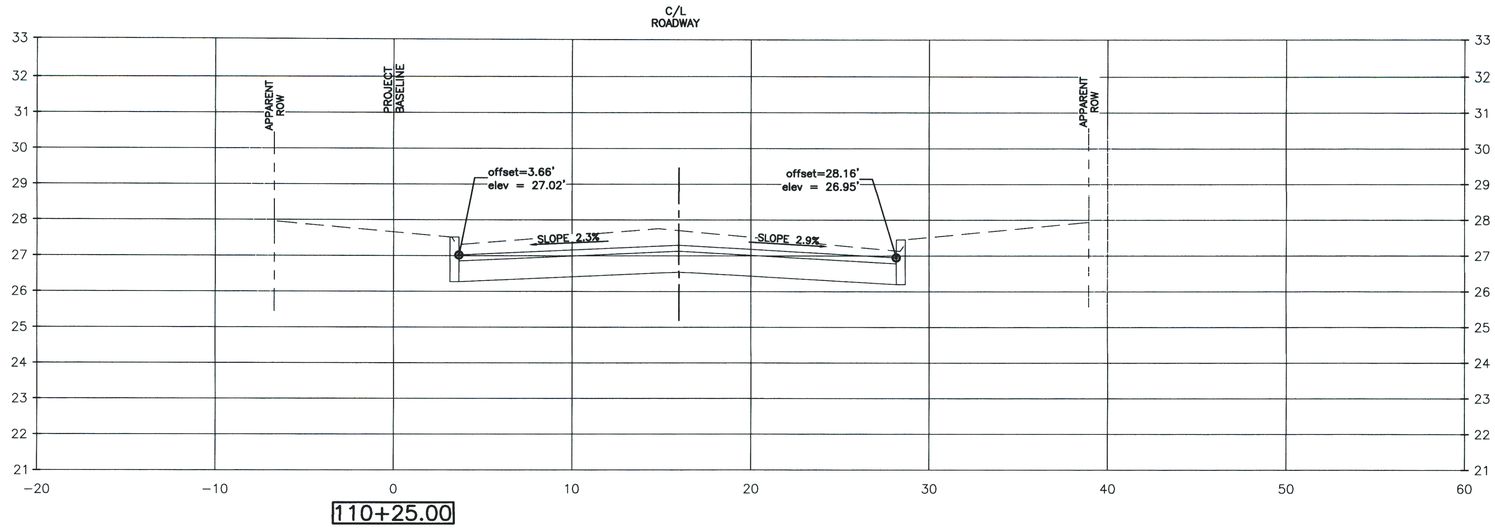
DWG. NO. 8958−W

SET NO.

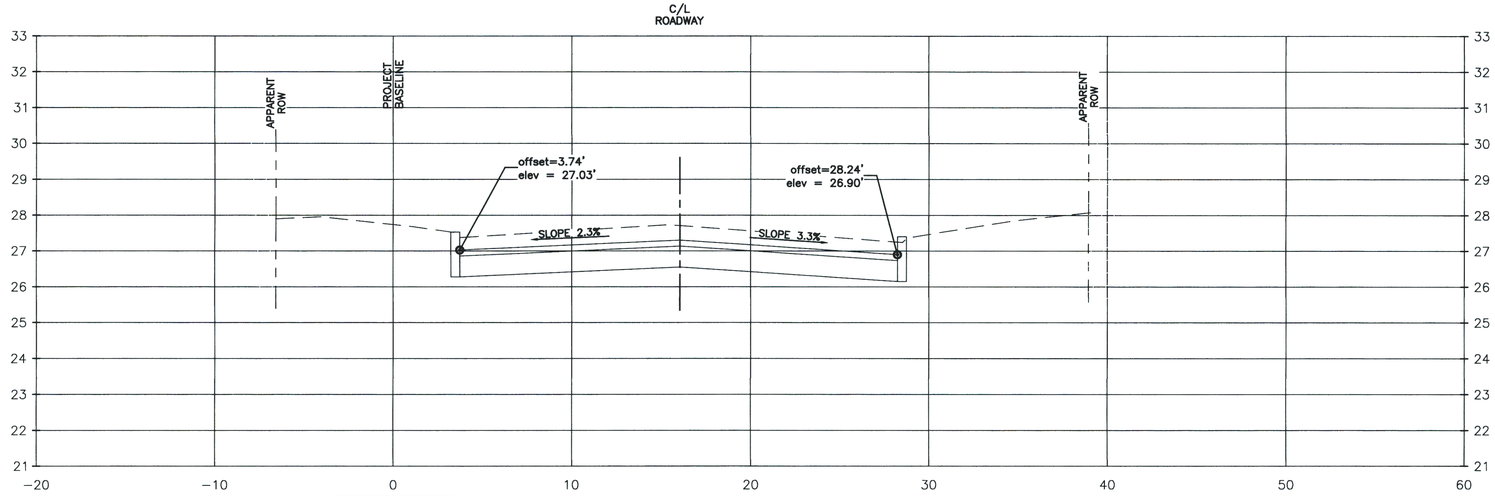
SHEET NO. 30 OF 32

Infinity Engineering Consultants, LLC
IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

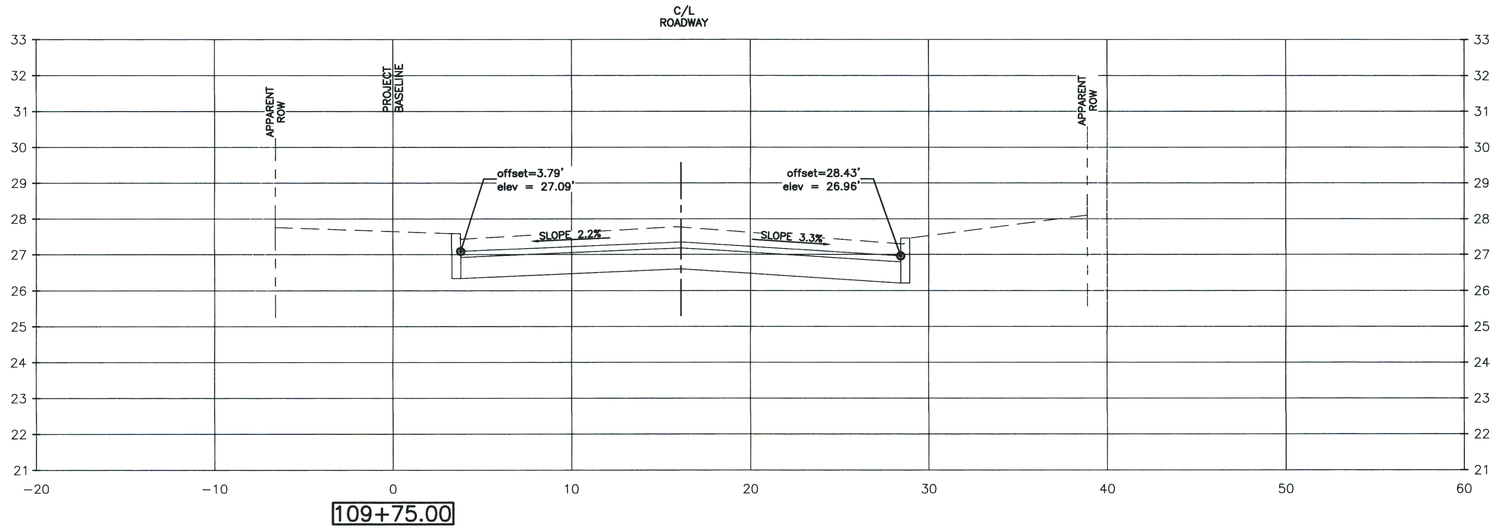
CS−12



110+25.00



110+00.00



109+75.00

10 0 5 10 20 40

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO A. CONTRERAS
REG. 28556
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
08/01/2024

N.Y. ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS (13 OF 14)

CONTRACT NO. 2154

Infinity Engineering Consultants, LLC — IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

CS−13

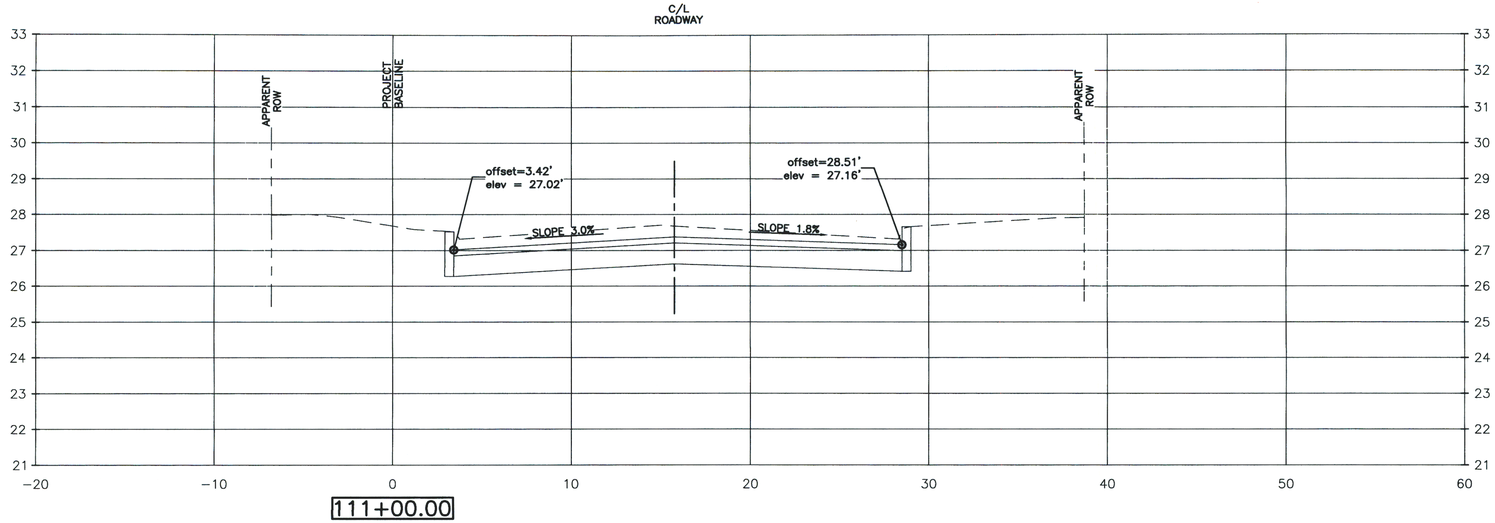
DR. Q. VU
TRC. −
CK. R. HAYDEL
AP. R. CONTRERAS
SCALE: AS NOTED
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

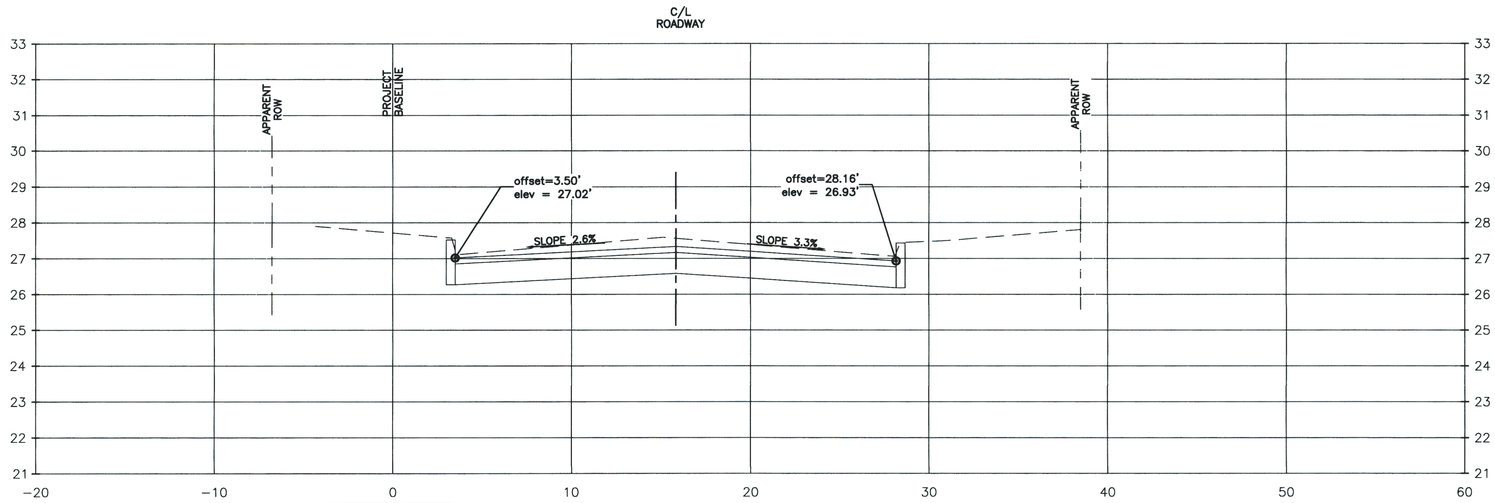
DWG. NO. 8958−W

SET NO.

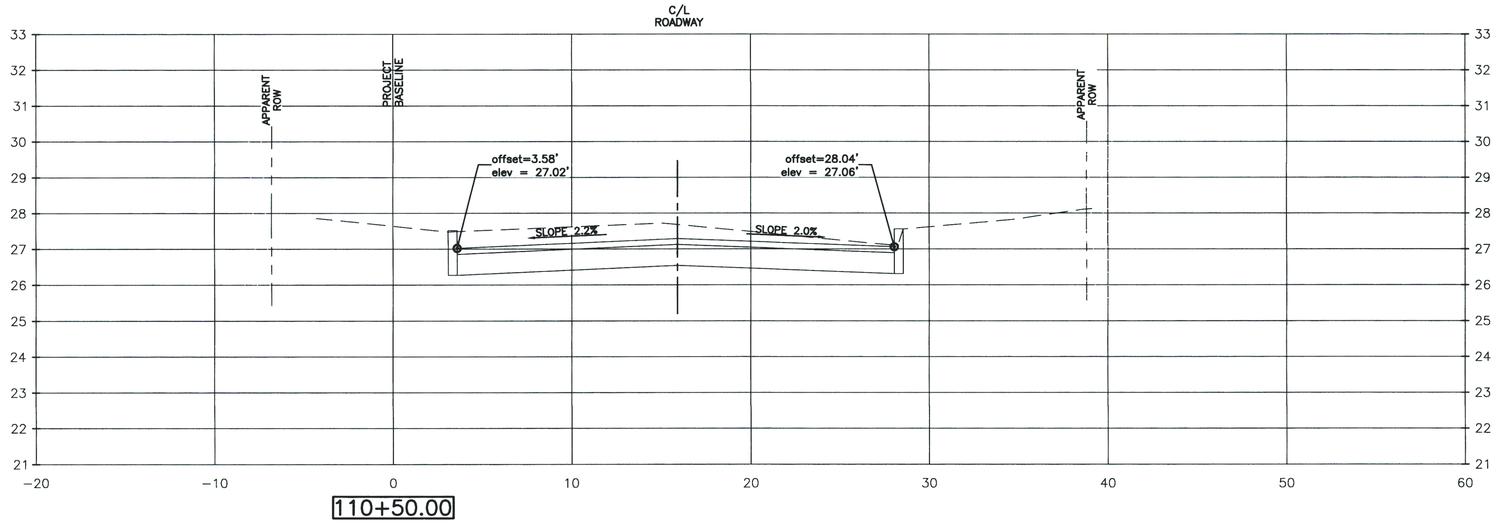
SHEET NO. 31 OF 32



111+00.00



110+75.00



110+50.00

10 0 5 10 20 40

SCALE: 1" = 4'−0" HORIZ.
1" = 2'−0" VERT.

NOTE:

THE SURVEY ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY AND MEET EXISTING TOP OF CURB ELEVATIONS.

STATE OF LOUISIANA
RICARDO J. CONTRERAS
REG. NO. 28958
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
OCT 17 2024

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY
0	08/2024	ISSUED FOR BID	RAC

SEWERAGE AND WATER BOARD OF NEW ORLEANS

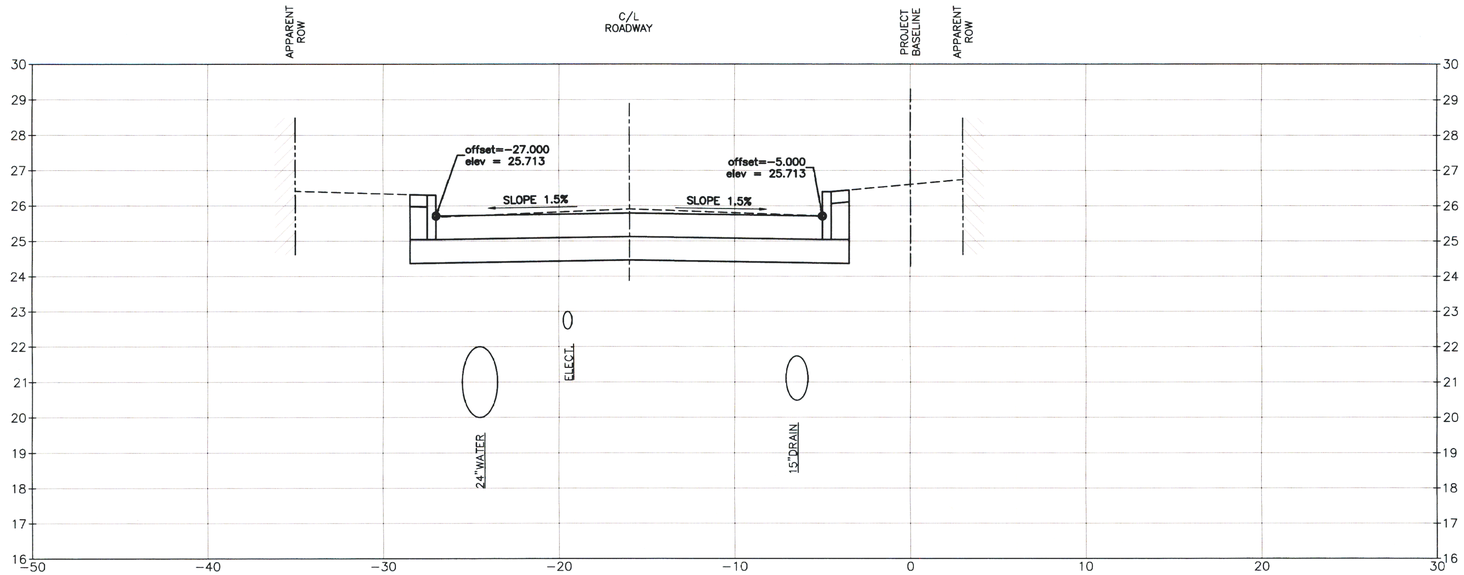
CROSS SECTIONS (14 OF 14)

CONTRACT NO. 2154

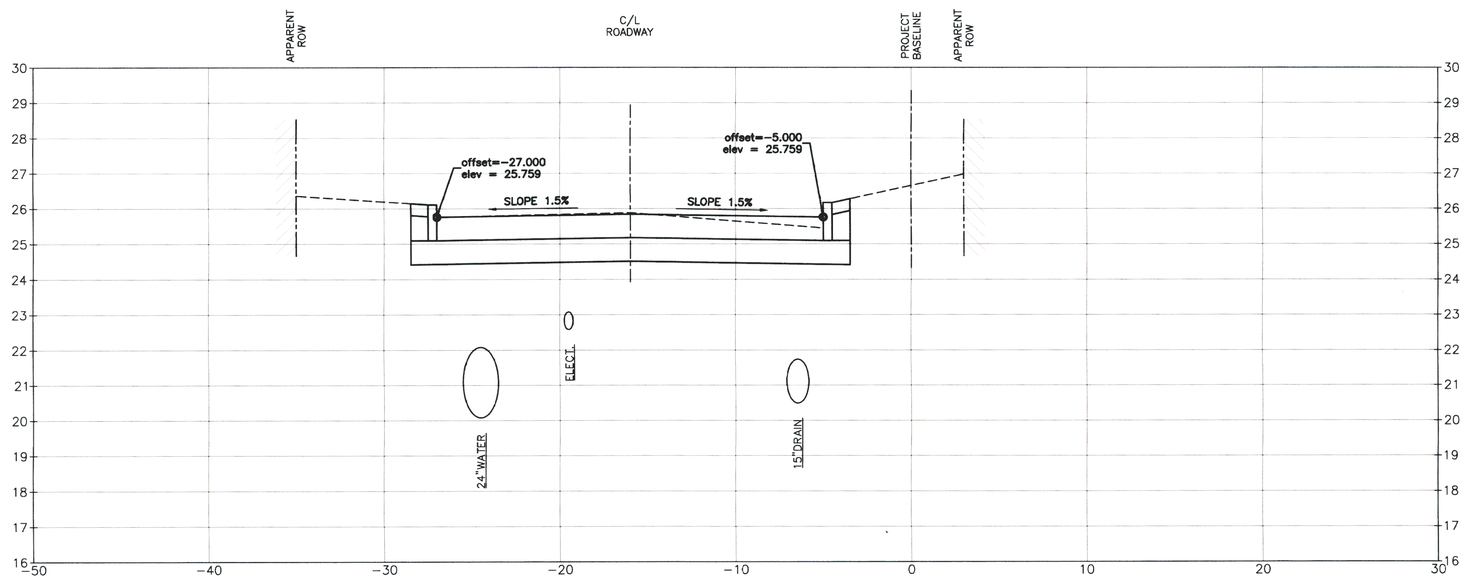
Infinity Engineering Consultants, LLC — IEC Project No 20-103
Civil∞Structural∞Mechanical∞Electrical∞Marine∞Transportation
Metairie, LA www.infinityec.com 504-304-0548

CS−14

DR. Q. VU	
TRC. –	GENERAL SUPERINTENDENT
CK. R. HAYDEL	
AP. R. CONTRERAS	DWG. NO. 8958−W
SCALE: AS NOTED	
DATE: AUGUST 2024	SET NO. SHEET NO. 32 OF 32



100+25.00



100+00.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
IN
ENGINEERING
8/6/2024

DR.
TRC.
CK.
AP.
SCALE: 1"=4'-0"
DATE: AUGUST 2024

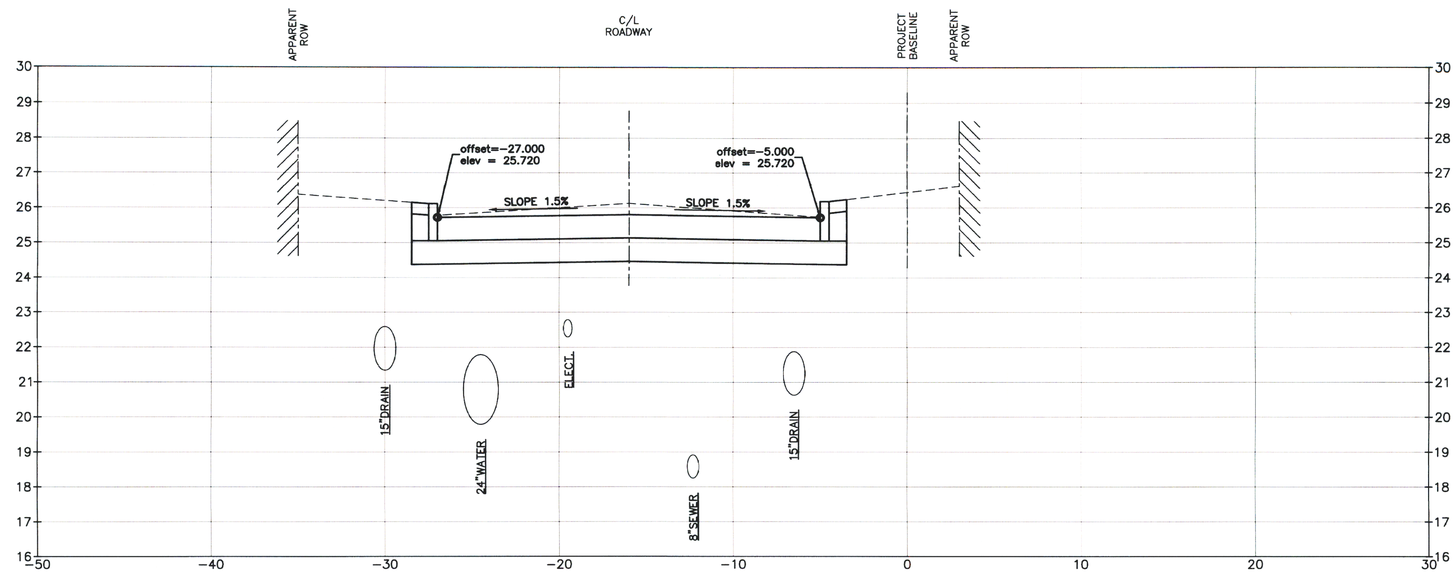
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

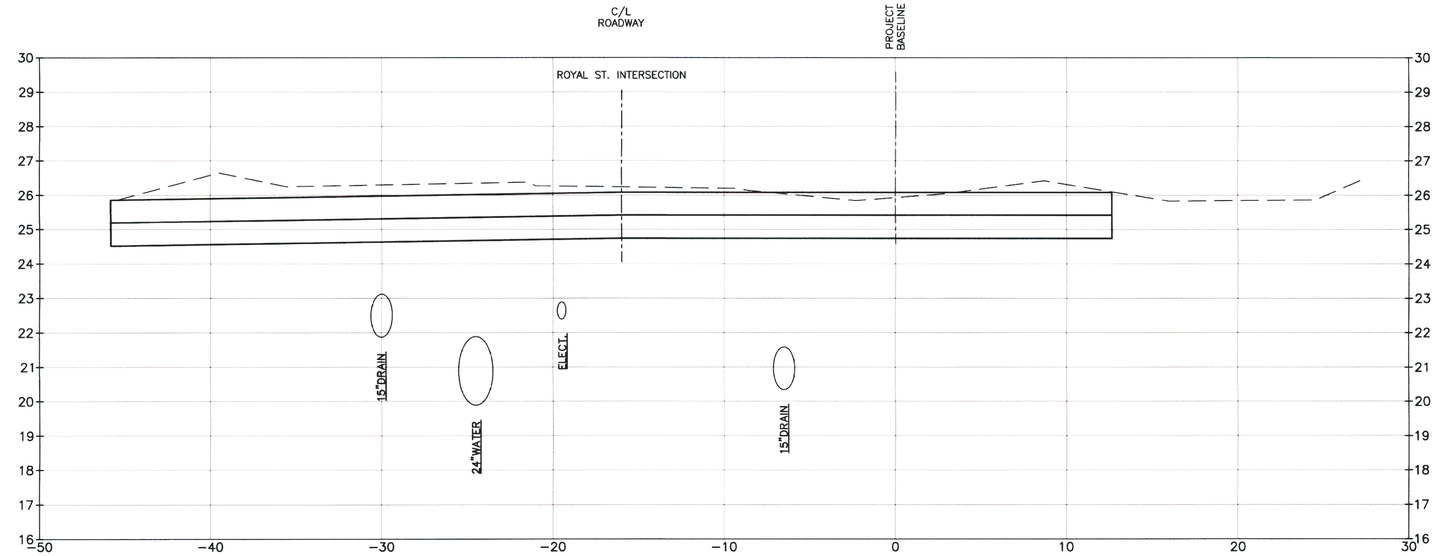
SET NO.

SHEET NO. X OF XX

CS-15



100+75.00



100+50.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

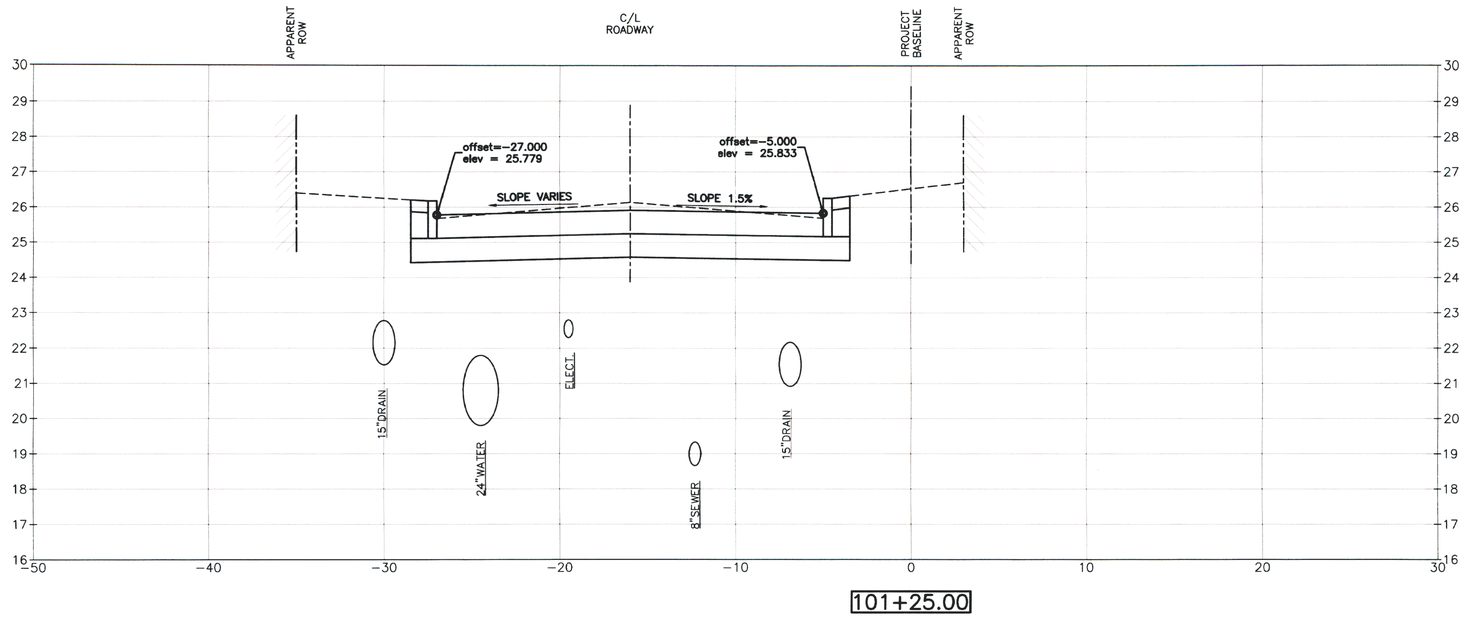
CROSS SECTIONS
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

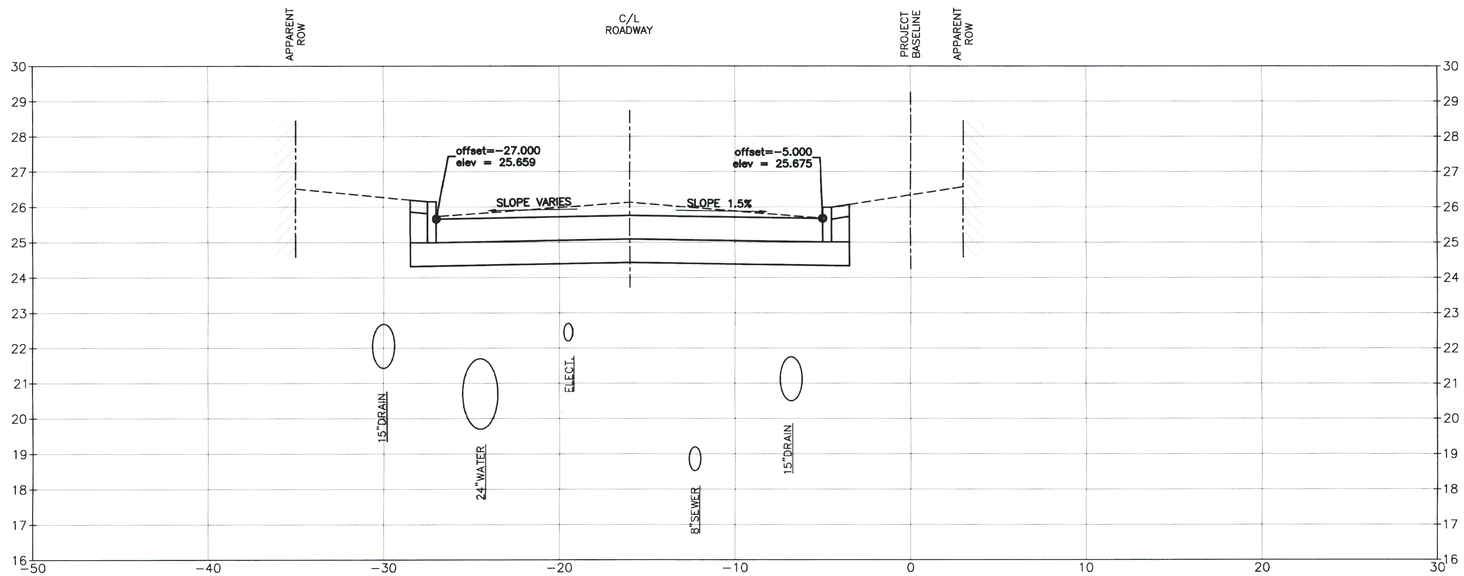
STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
ENGINEERING
8/27/2024

DR.	
TRC.	
CK.	GENERAL SUPERINTENDENT
AP.	**DWG. NO. 8958-W**
SCALE: 1"=4'-0"	
DATE: AUGUST 2024	SET NO. / SHEET NO.

CS-16



101+25.00



101+00.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
8/7/2024

DR.
TRC.
CK.
AP.
SCALE: 1"=4'-0"
DATE: AUGUST 2024

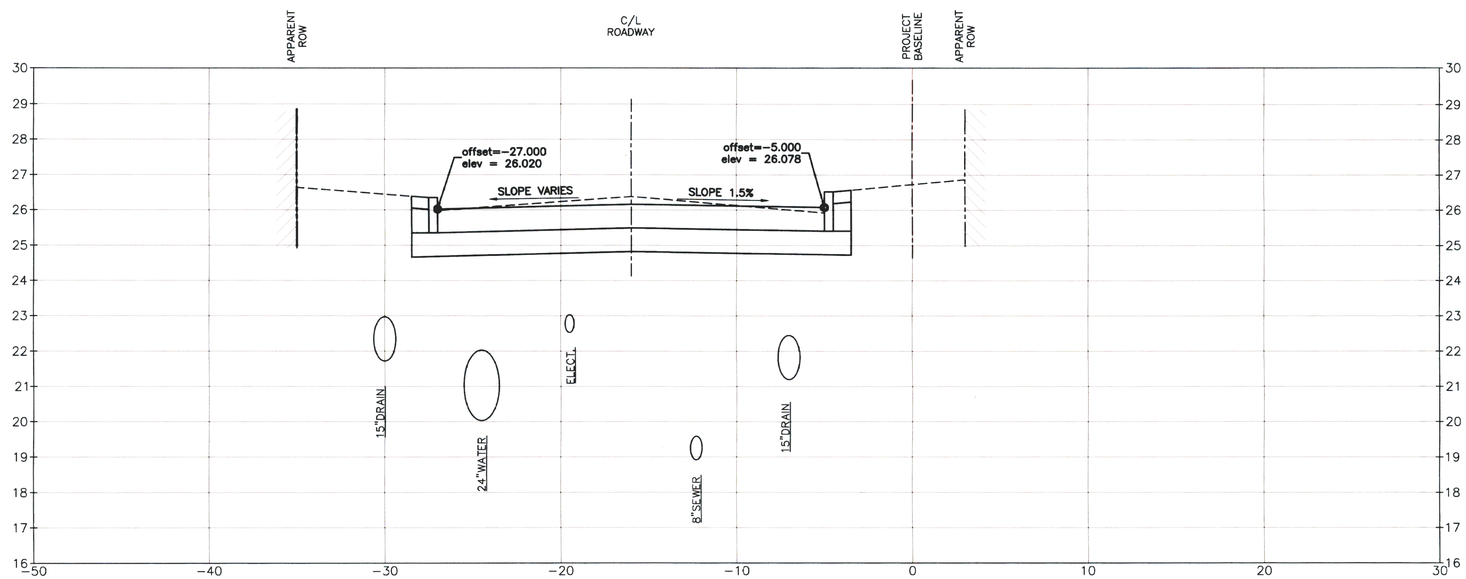
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

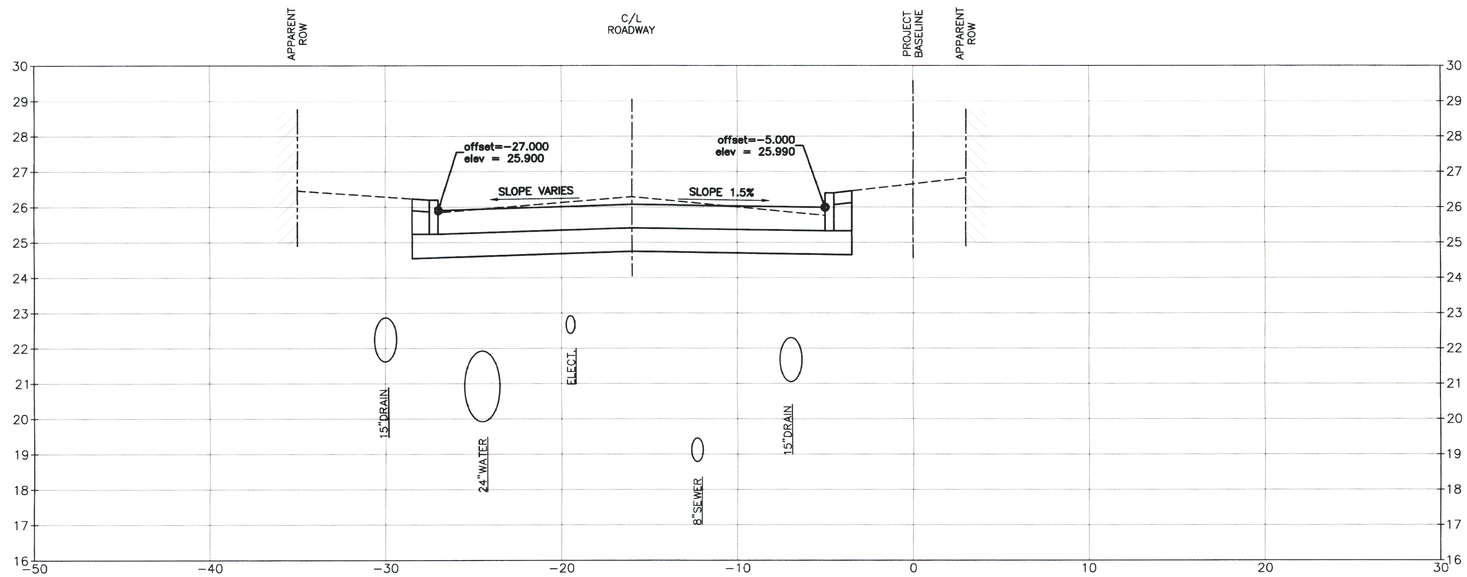
SET NO.

SHEET NO.

CS-17



101+75.00



101+50.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER

DR.
TRC.
CK.
AP.
SCALE: 1"=4'-0"
DATE: AUGUST 2024

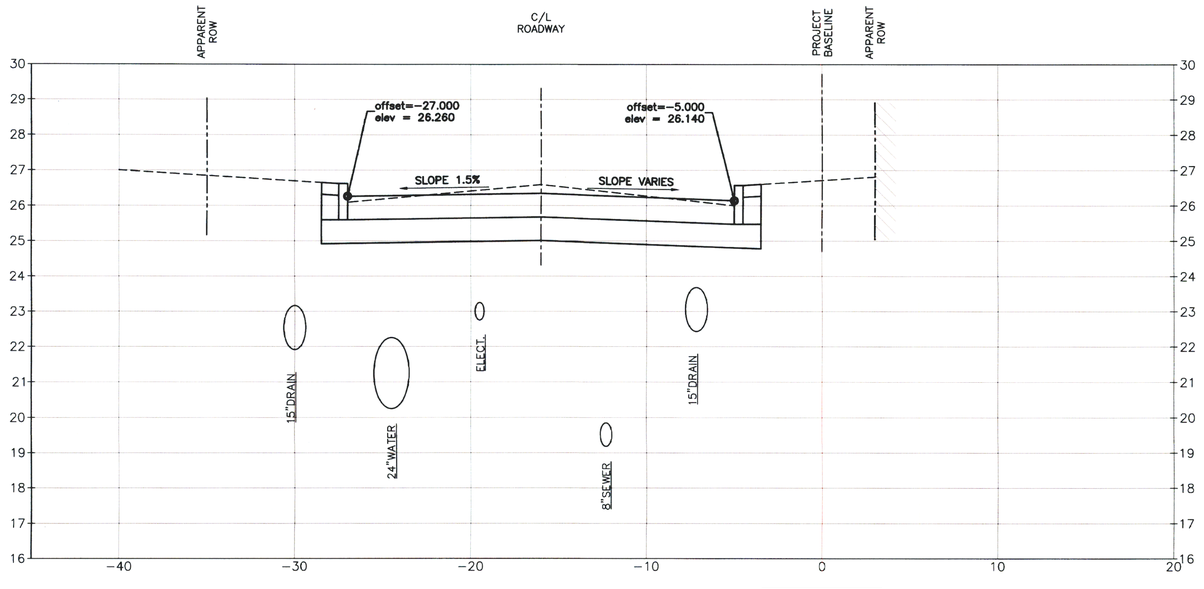
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

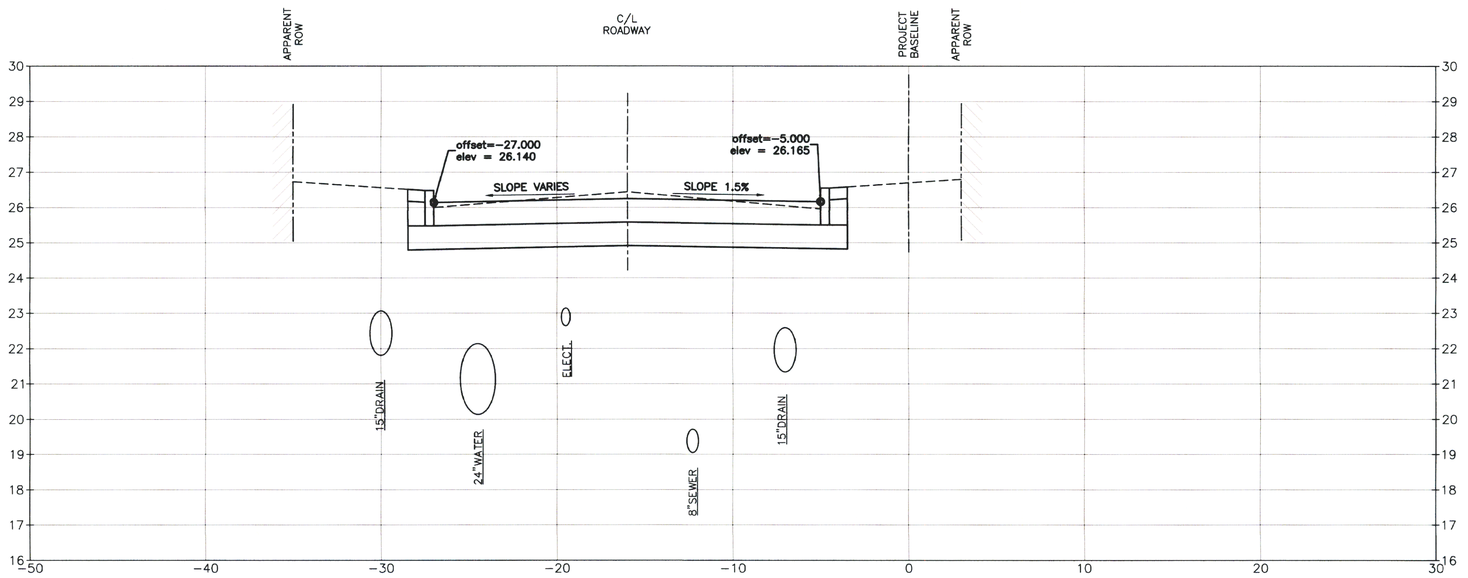
SET NO.

SHEET NO.

CS-18



102+25.00



102+00.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
8/9/2024

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS 600 BLOCK OF ST. PETER ST.

CONTRACT NO. 2154

DR.
TRC.
CK.
AP.

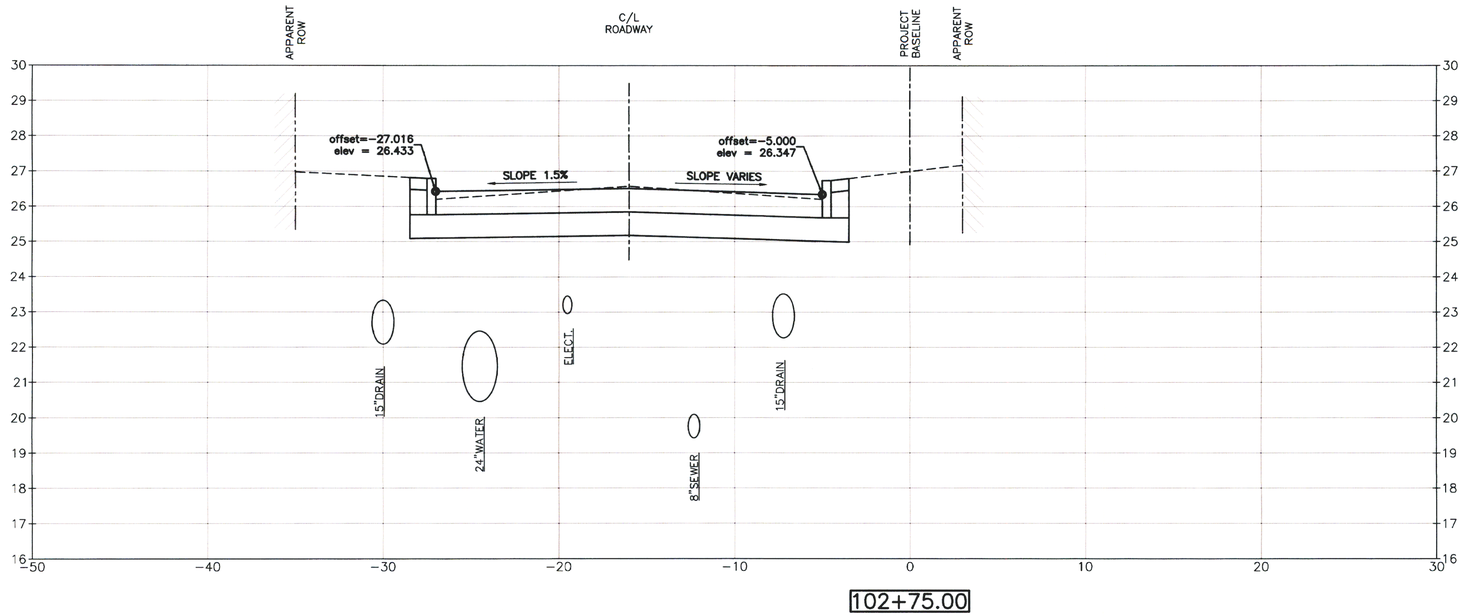
GENERAL SUPERINTENDENT

SCALE: 1"=4'-0"
DATE: AUGUST 2024

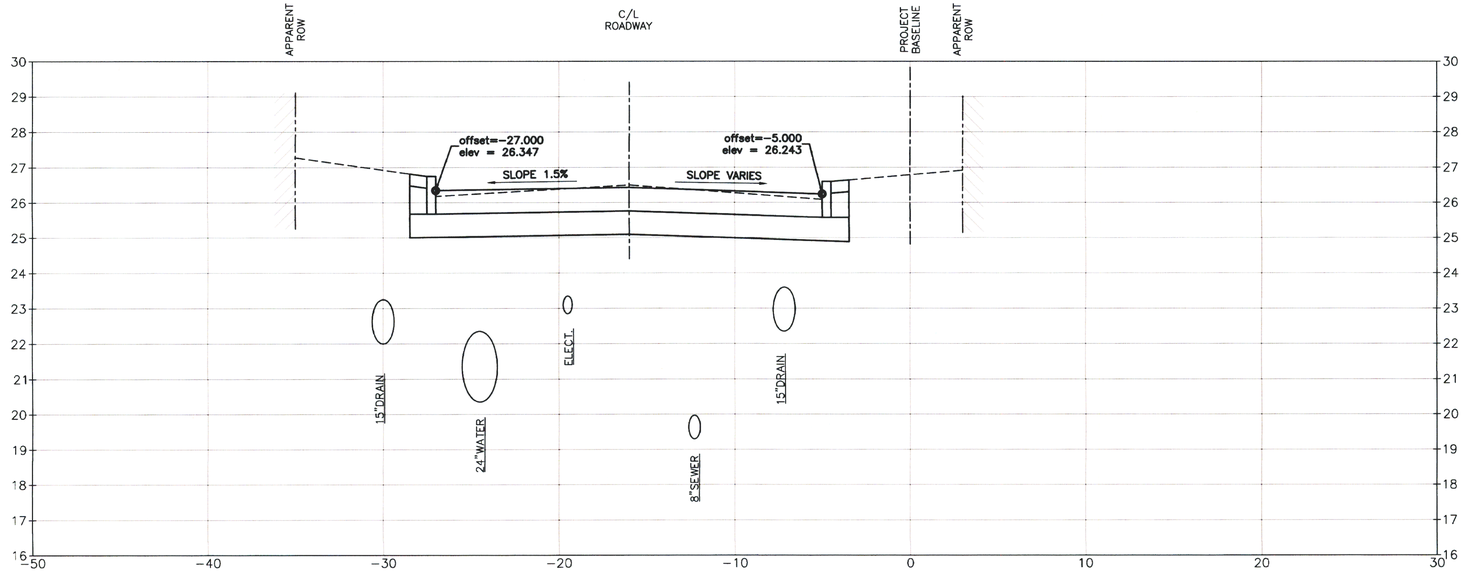
DWG. NO. 8958-W

SET NO.
SHEET NO.

CS-19



102+75.00



102+50.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
8/6/2024

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

DR.
TRC.
CK.
AP.
SCALE: 1"=4'-0"
DATE: AUGUST 2024

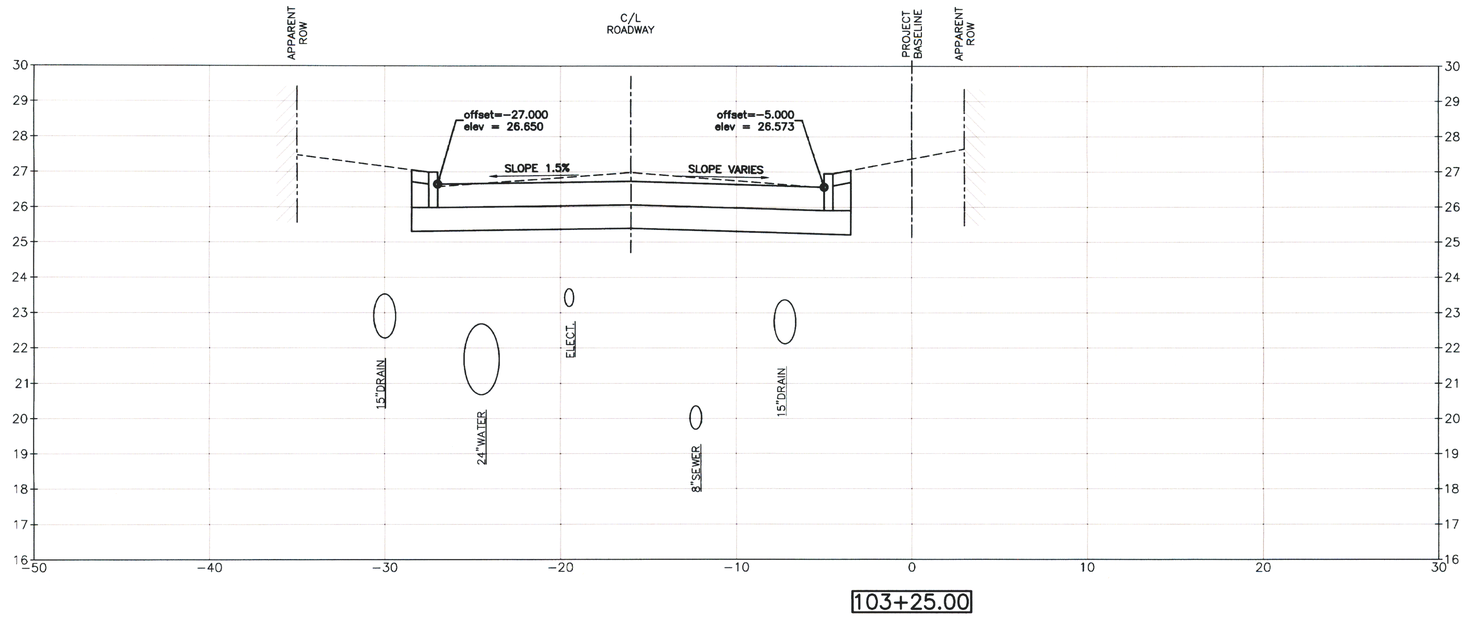
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

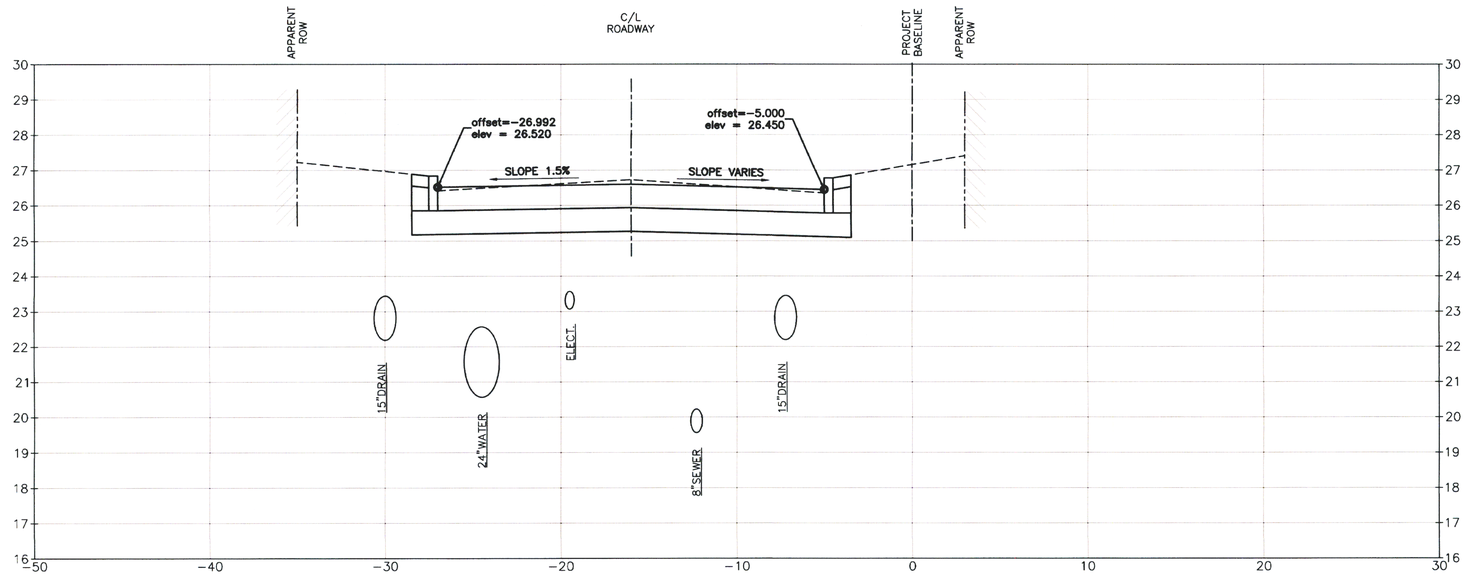
SET NO.

SHEET NO.

CS-20



103+25.00



103+00.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
9/10/24

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

DR.
TRC.
CK.
AP.
SCALE: 1"=4'-0"
DATE: AUGUST 2024

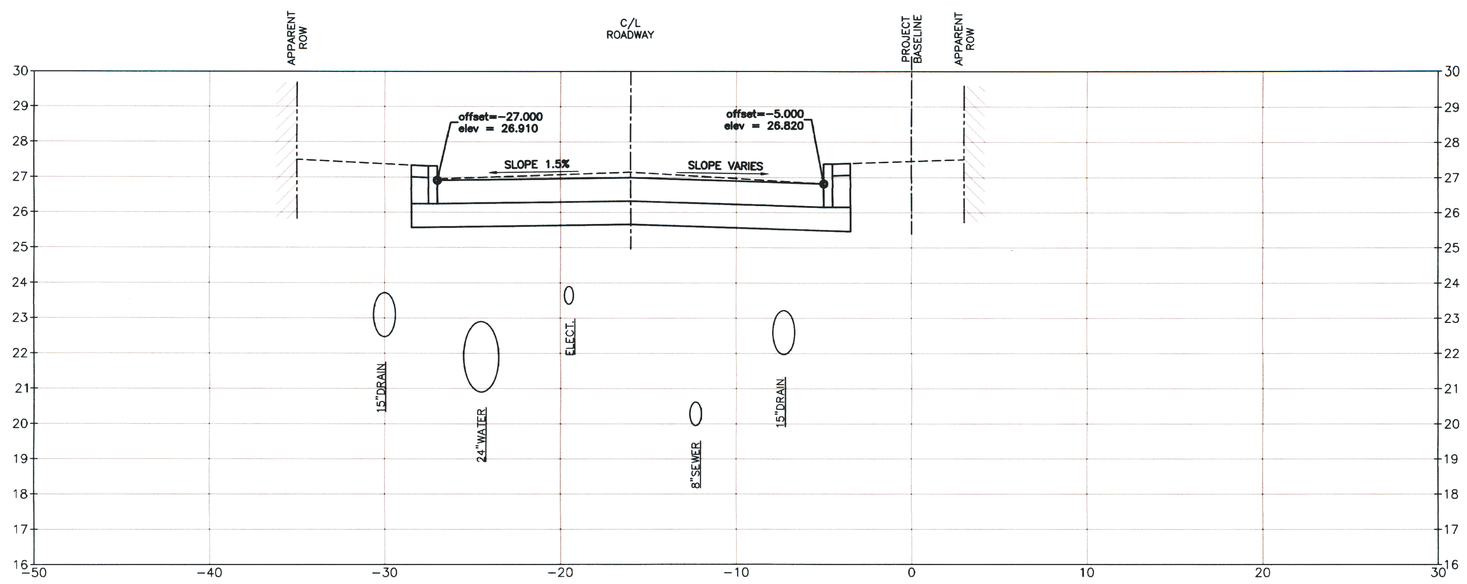
GENERAL SUPERINTENDENT

DWG. NO. 8958-W

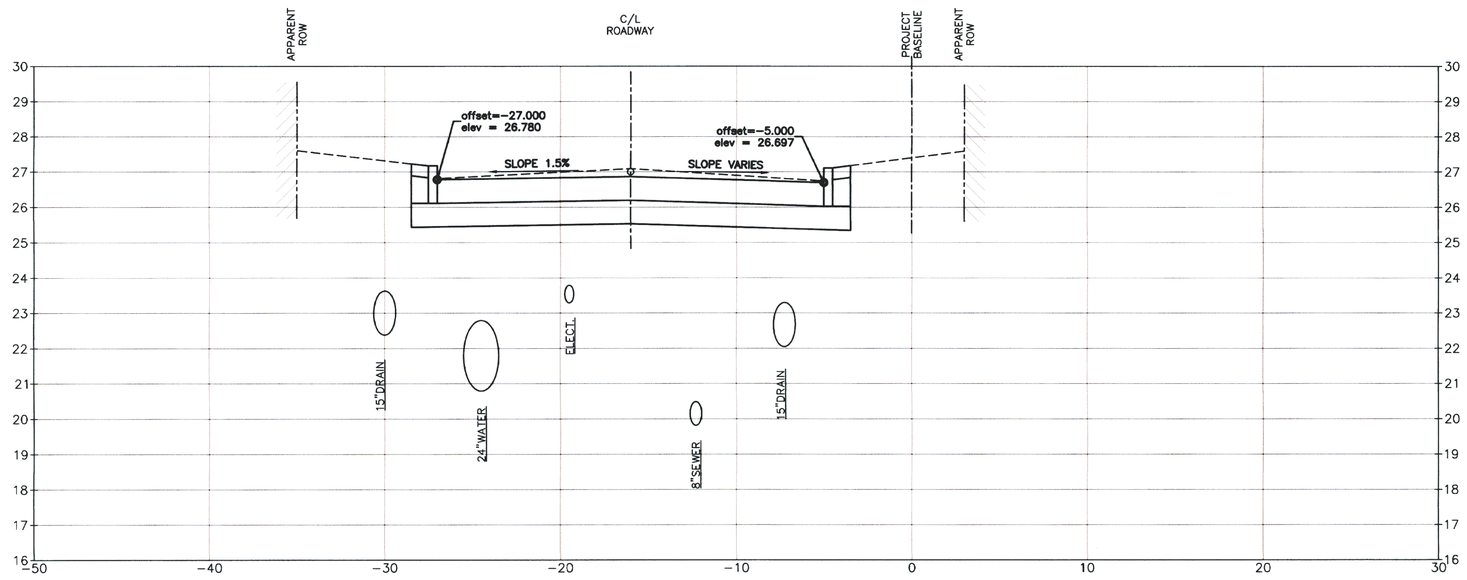
SET NO.

SHEET NO.

CS-21



103+75.00



103+50.00

0 4 8 12 16
1"= 4'-0" HORIZ.

0 2 4 6 8
1"= 2'-0" VERT.

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS

REV.	DATE	DESCRIPTION	BY

SEWERAGE AND WATER BOARD OF NEW ORLEANS

CROSS SECTIONS
600 BLOCK OF
ST. PETER ST.

CONTRACT NO. 2154

STATE OF LOUISIANA
FRED C. MORTALI
License No. 35111
PROFESSIONAL ENGINEER
07/09/2024

DR.
TRC.
CK.
AP.
SCALE: 1"=4'-0"
DATE: AUGUST 2024

GENERAL SUPERINTENDENT

DWG. NO. 8958-W

SET NO.

SHEET NO.

CS-22