Addendum No. _3_

Date: 8/6/2026

Your reference is directed at **Contract Number: 2026-SWB-40 (Contract 2171)** for TM 1789 Water Transmission Main Replacements which is scheduled to open at **11:30 a.m. CST** on **August 18, 2026.**

This addendum provides for the following:

1) Responses to Vendor Questions.

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1. Is there an estimated probable cost of construction for this project?
   The Engineer's Estimate for this project is $29,660,855.74
2. The contract time is 400 calendar days in the specifications and 365 calendar days in the "Instructions to Bidders". Which is correct? This addendum revises the duration to 420 calendar days.
3. Will you provide a set of plans stamped by the Sewer and Water Board of New Orleans? Plans will remain as advertised with exception of those pages noted in this addendum.
4. Proposal items C701(68)F and C701(68)A have the same description. See attached Revised UniformPublic Work Bid Form
5. Proposal items C719(61) and CF-10 have the same description. See attached Revised UniformPublic Work Bid Form
6. Proposal items CF-4 and C202(56) have similar descriptions. Is CF-4 only for concrete and C202(56) only for asphalt. See attached Revised UniformPublic Work Bid Form
7. 10" x 10" RCP wyes or no longer available as required in proposal item C701(59)(D)(D). See attached Revised UniformPublic Work Bid Form
8. Proposal item C202(52)(E) has a quantity of "0". Is that the correct quantity? See attached Revised UniformPublic Work Bid Form
9. Proposal item C203(53) has a quantity of "0". Is that the correct quantity? See attached Revised UniformPublic Work Bid Form
10. Proposal item C502(51) has a quantity of "0". Is that the correct quantity? See attached Revised UniformPublic Work Bid Form
11. Proposal item C701(68)H has a quantity of "0". Is that the correct quantity? See attached Revised UniformPublic Work Bid Form
12. Proposal items C701(68)H and C701(68)C have the same description. See attached Revised UniformPublic Work Bid Form
13. Proposal item C701(68)K has a quantity of "0". Is that the correct quantity? See

attached Revised UniformPublic Work Bid Form

14. Proposal items SP-02, “Extra Item 1“and “Extra Item 2” have similar and overlapping depth descriptions. Which one or ones will be used? See attached Revised UniformPublic Work Bid Form
15. Will an existing 4” water meter vault need to be demolished for proposal item SP-6. Will a new bottom slab need to be demolished and re-installed under existing valves and meter? The item is for a new meter vault. It is only required if the existing cannot be reused. Payment for a new includes removal of the existing.
16. “TM007 - 30” Transmission Main Replacement” plans show no pavement markings. Are there any pavement markings to be done on this portion of the project? If so, what is the scope of this work? The scope of pavement markings is to replace existing markings that are removed or damaged.
17. There is no proposal item for the 18” x 11” Class IV RCPA shown on Sixth St. See attached Revised UniformPublic Work Bid Form
18. There are plan notes to abandon drain lines and fill with flowable fill. There is no item for this work in the proposal form. See attached Revised UniformPublic Work Bid Form
19. The water service connection table on sheet 2A for TM007 shows a date for the “Service Size” for many services. Please clarify. That table has been revised in this addendum.
20. There is no proposal item for the 15” reinforced concrete class IV pipe shown on plan sheets for TM001 & TM008 Cohn Street. See attached Revised UniformPublic Work Bid Form
21. If the New 30” DI Sewer Line on Cohn Street is deleted, will the old 30” DI water main be removed or will it be filled with flowable fill? To be removed at no direct pay.
22. It appears the new 30” transmission line on Cohn Street has a tie-in beneath the controls for the nearby lift station. Is this correct? Will any work need to be done on the lift station controls or supporting accessories? If any work is required under the controls will payment be in addition to this contract work? The intent is for the tie-in to be beyond the lift station. No work on the lift station or controls is intended for this contract.
23. If any existing storm drainpipe and structures are removed and reinstalled due to the installation of new transmission lines, will they be paid for under the Reinforced Concrete Pipe and CB/MH items of the proposal? Required adjustments discovered during construction will be compensated. Adjustments for convenience of Construction or due to means and methods will be at Contractor’s cost.
24. Will the existing 50” pipe on Florida Ave be removed or will it be filled with flowable

fill? Contractor will have the option to plug and fill or remove and backfill, except where required to remove for construction of the new main. Removal or abandonment and associated work shall be at no direct pay.

25. The RCP Wyes for TM009 on plan sheets 9, 10 & 11, and elsewhere, are inserted into existing storm drainpipe. When this type of work is required will RCP point repairs be needed and paid for under the RCP point repair proposal items? The RCP linear foot Unit Price for RCP and unit price for Wyes will be paid for installation of identified work.
26. Can you provide cross section plans for project TM007? Unnecessary, all pavement is to be restored to existing elevations.
27. Please identify all materials to be furnished by the Owner under the 30-inch Compression Fit HDPE bid item, including pipe footage, DR, resin, fittings, transition assemblies, closure pieces, pull heads and spare material. Please also clarify the delivery location, unloading and storage responsibilities, responsibility for damaged or deficient material, and the exact limits of work included in the contractor's unit price. The requirements are included in the TM007 and TM009 specifications located within the Spec. Appendices.
28. There are two diferent afidavits; One in the bid documents (Afidavit of Non-Collusion) and one in the specification (Non-Collusion Afidavit). Please clarify which afidavit is accurate and to be submitted. The Form is being reissued in this addendum.
29. Please clarify who pays for the testing (geotechnical testing, vibration monitoring, etc.) SWBNO will pay for all testing (geotechnical testing, vibration monitoring, etc.) the SWBNO considers necessary for ensuring compliance. The contractor will pay for any testing the Contractor considers necessary to mitigate claims or for his convenience. This excludes testing of supplied materials required for compliance with specifications such as HDPE material testing.
30. Please review the unit price bid form for accuracy. There are a few items that are repeated and a few items that are similar (or clarify what will prevail). Additionally, it appears that there are some missing items based on the quantity summaries provided in the plan documents. See attached Revised UniformPublic Work Bid Form
31. SP 103.9 requires (for projects over $5M) that both a project manager and superintendent are onsite full time. Please confirm that this will be required on this project. The Special Provisions Section 01200 is deleted in its entirety and is being

reissued in this addendum.

32. The time allowed of 400 calendar days (or 365 whichever is correct) does not appear to be enough time (even considering multiple crews). Would the board consider adding additional contract time? This addendum revises the duration to 420 calendar days.

33. Would the board consider adding a line item from mobilization? Each of these sites will have a considerable mobilization due to the equipment requirements associated with large-diameter pipe installation and shoring. No.

34. Is the Contractor required to perform any work outside of normal working hours? Without knowing what work, if any, is required, by the S&WB, to be performed outside of normal working hours, bidders are unable to include the associated costs in their bids. If so, specifically, by location, what work is required to be performed outside of normal working hours? See guidelines under Section 00 50 01.

35. Is the "Consent Decree" applicable to this project? If the "Consent Decree" is applicable to this project, what work comes under the "Consent Decree"? The bid documents refer to "Milestones". What are the "Milestones" for this project? What, if any, of the work on this project is SSERP? If applicable to this project, please provide "Section 013513" "Special Project Procedures for Consent Decree." It is not contained in the bidding documents for this project. No.

36. The bidding documents contain references to task orders, but the plans do not delineate the task orders. The amount and type of work in the task orders directly relates to the costs in the bids. If there is no delineation of task orders in the bid documents, the only way to submit a bid is without any costs associated with task orders. ? The answers to these questions greatly impact the costs of the work and the more detailed the response the better the bidders can determine the costs to include in the bids and visa-versa. Will this project be divided into task orders? If so, what are the areas of the task orders, what are the time frames for the completion of the task orders, and will the contractors be allowed to work on multiple task orders simultaneously? Task Orders will not be part of this contract.

37. As stated in the "CONTRACT", "TIME IS OF THE ESSENCE". Our suppliers have informed us the lead time for the larger diameter valves are between 36 to 54 weeks depending on the manufacturer and the lead time for the ductile iron pipe had a lead time of 16 weeks. With a contract time of 400 calendar days or 57 weeks, it is virtually impossible to complete the job within the contract time given the lead time for the valves between 36 to 54 weeks.

Will the S&WB consider increasing the contract time to accommodate the lead times for these materials? This addendum revises the duration to 420 calendar days.

38. No. 6.2.3 of the "CONTRACT" states:

    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.

Upon "substantial completion" will the Owner record the "substantial completion" referred to in LA RS 38:2241.1.A or is the Contractor required record it? After forty-five (45) days from the date of recordation and upon presentation of a Clear Lien & Privilege Certificate will the Owner pay retainage less any dollars withheld for any incomplete "punch list" items per LA RS 38:2249? The Contractor will record the "substantial completion". The Owner will pay retainage as per the Contract and applicable laws.

39. Is the Contractor required to perform any water lines tie-ins and/or sewer lines tie-ins to the existing system within a certain number of hours? Without know what work, if any, is required by the S&WB, to be completed within a certain number of hours, the bidders are unable to include the associated costs in their bids? If so, what water lines tie-ins and sewer lines tie-ins, by type, pipe size and plan location, are required to be completed in a certain number of hours. What is the number of hours required for each of these tie-ins? See guidelines under Section 00 50 01.

40. No. 4.2.2. of the "CONTRACT" states:

    4.2.2. The 400 calendar days given in 4.2.1 includes 60 calendar days for which only ofsite work is allowed. See Special Provisions Section 1.27.

The "See Special Provisions Section 1.27" referred to in the Contract is titled "Payment for Stockpiled or Stored Material". This section does not contain any information regarding 4.2.2 of the "CONTRACT". What is the correct Section No. in the Special Provisions that refers to 4.4.2 of the "CONTRACT"? Both the Special Provisions Section 01200 and Sample Agreement section 00 52 13 are deleted in their entirety and are being reissued in this addendum. Note the actual contract for execution will be prepared by SWBNO Legal Department after receipt of acceptable bid proposals.

41. In the event of conflicting provisions, which document takes precedence, the "General Conditions" as amended by the "Supplemental Conditions" or the "General Specifications"? The Special Provisions Section 01200 is deleted in its entirety and is being reissued in this addendum. See Section 1.01 of the Special

Provisions.

The lead time for the 30", 36" & 48" pipe fittings and valves could be six (6) months. Will the Notice to Proceed (NTP) be delayed until the materials become available? This addendum revises the duration to 420 calendar days. Plans are to issue the NTP within the specified times after the contract is executed, without delays.

42. Assuming the S&WB will want to "use or occupy" the four (4) areas, TM001, TM007, TM008 and TM009 as the work is completed at diferent times during the contract period, LA Public Bid Law mandates substantial completion to be completed for any part of the contract before it is occupied or put into use. Will the S&WB issue substantial completions, as per LA Public Bid Law, for each of the four (4) areas listed above and in these bid documents when these are meet the criteria above. SWBNO will issue substantial completion for recording by the Contractor as per the Contract and applicable laws.

43. The four (4) set of plans are signed by design engineers and are not signed by the S&WB. Please provide plans signed the S&WB. Plans will remain as advertised with exception of those pages noted in this addendum.

44. In addition, since the work is taking place within the City of New Orleans right of ways, please provide plans signed and approved by the City of New Orleans. The following questions pertain to the "General Conditions" and the "Supplemental Conditions" of the bid documents. Plans will remain as advertised with exception of those pages noted in this addendum.

45. "General Conditions" and the "Supplemental Conditions", (hereinafter called "SC") of the bid documents, specifically, but not limited to, Article 10.5, dictates the conditions of which a Contractor can submit claims for additional work which can include claims for damages for delays caused in whole or in part by S&WB. In practice, these time limits do not reflect the nature of some types of claims that can start early in the project and run its course to the end of the project and take months for a Contractor to determine the costs. In addition, Article 14, says unless the "Engineer" acknowledges a claim in writing as unsettled before Final Payment, which would include retainage, all claims are waived. This is contrary the LA Public Bid, LA RS38:2291, regarding the payments under the contract and LA Public Bid below. Clearly the "General Conditions" and the "Supplemental Conditions" purport to extinguish the rights of a Contractor to submit a claim for damages due to delays within the timeframes as prescribed by LA Law and according to this provision it is void and unenforceable. Please remove these sections to conform with LA Public Bid or provide the legal basis for leaving the sections in these bidding

documents. General Conditions and Supplemental Conditions will remain as advertised with exception of those pages noted in this addendum.

Please furnish the bidders of the copies of the actual "Change Order" form referred to in the "General Conditions" and the "Supplemental Conditions" of the bid documents that will be used on this project. Change Orders will be prepared by the consultant administering the work as necessary for the work of the Contract. They will be in a form acceptable to both the Contractor and SWBNO.

46. Is any type of Builders Risk Insurance required for this Contract? Note Supplementary Conditions paragraph 5.04.C.3.f(1).

47. "Supplemental Conditions" no. SC-2.01 states:

    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.

The words "and Owner" and "each" do not exist in line 2. The word "other" does not exist on line 3 of Article 2.01A. The word "other" does exist in Article 2.01B. but replacing it the word "owner" makes the sentence nonsensical. What, if any, are the correct changes to Articles 2.01A and 2.01B? The wording is correct. The intent is that in both places Paragraph 2.01.B is referenced.

48. Please furnish the bidders of the copies of the "Field Order" form referred to in the "General Conditions" and the "Supplemental Conditions" of the bid documents that will be used on this project. Field Orders will be prepared by the consultant administering the work as necessary for the work of the Contract. They will be in a form acceptable to both the Contractor and SWBNO.

49. SC-14.02 states:

    14.02.D.4. Items entitling Owner to retain set-ofs from the amount recommended, including but not limited to:

    14.02.D.4.a.(5). Overtime worked by Contractor necessitating Engineer, and their oficers, directors, members, partners, employees, agents, and other consultants and subcontractors of each, Resident Project Representative or Resident Project Representative's Site staf, if any, to work extraordinary overtime in accordance with Paragraph 6.02.C. of these Supplementary Conditions.

If the Contractor is required to perform certain after normal working hours or within a certain number of hours, will the Owner be entitled to a "set-of" for the "overtime" costs mentioned above 14.02.D.4.a.(5)? If the answer is yes, please let the bidders know what work must be done after normal working hours and/ or work that must be within done a

certain time frame so that the associated costs can be included in the bids. No work done in compliance with SWBNO required scheduling times is considered extraordinary overtime for the Resident Project Representative or Resident Project Representative's Site staf.

50. SC-4.02 states:

    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:

There are no names after following the colon in the verbiage above. Please provide the report names the names, if any, of the reports referred to in 4.02.C. Otherwise, bidders are left to assume the there are no reports. Correct assumption.

51. In the supplemental conditions, under Article 5.07" Waiver of Rights", it states:

    SC-5.07. Delete third sentence of Paragraph 5.07.A in its entirety and insert the following in its place:

The third sentence referred to above is the last sentence of 5.07.A.

    SC-5.07. Delete the last sentence of Paragraph 5.07.A in its entirety and insert the following in its place:

This change says to delete the last sentence, which is the third sentence that was deleted and inserted in the first change above.

Please provide Article 5.07 Waiver of Rights as amended by the Supplemental Conditions. Note GC 5.07.A. consists of four (4) sentences before modification by the SC.

52. SC-6.11 says:

    SC-6.11. Add the following language to the end of Paragraph 6.11.D: …

Article 6.11.D. already exists

SC-6.11 refers to "D. Water and Other Utilities" and "E. Hydrant Connections" but Article 6.11 D refers to "Loading Structures". "Loading Structures" does not appear to go with "Water and Utilities" in the same section 6.11.D. Should these to insertions be renamed "E." and "F" maybe? If not provide Article 6.11, in its entirety, as amended by the "Special Conditions". Noted.

53. Please furnish the bidders of the copies of the “Work Change Directive” form referred to in the “General Conditions” and the “Supplemental Conditions” of the bid documents that will be used on this project. Work Change Directives will be prepared by the consultant administering the work as necessary for the work of the Contract. They will be in a form acceptable to SWBNO.

54. TM007 Plan sheet 4 of 30 - Page 17

a. 30" water crosses sewer. Ofset under? Need casing? The ofset shown near this sewer may need to be field adjusted based on the actual sewer location uncovered during construction. Plan is for sewer to remain undisturbed and not cased.

b. Required compression fit liner (HDPE Insert)? Not on this sheet

55. What is the correct contract time? This addendum revises the duration to 420 calendar days.

56. Is builder's risk required? Note Supplementary Conditions paragraph 5.04.C.3.f(1).

57. Is job tax exempt? N/A

58. How many consecutive intersections are allowed to be closed at one time? For how long? Proposed schedule, sequencing, trafic, and closure plans will be reviewed and consideration given for length of closures before specific number of intersections is set.

59. What's the funding source? SWBNO

60. On Spruce at Cambronne, at Dante and at Dublin, is the new 8" water main to be connected to the 30" Compression Fit line? No. The new 8” water main only connects to the new 30” water main at the Spruce/Monroe intersection.

61. Is pressure monitoring required for the existing transmission lines when line stops are installed? SWBNO will perform pressure monitoring as necessary for SWBNO to operate and maintain their system.

62. On Spruce at Monroe, it appears there is not enough space to install the new 30" water main along side the existing sewer manhole. Should this sewer manhole be removed and relocated? Will payment be made under item C742(55) Install Sewer Manhole? The intent is to remove the existing 30” water main and install the new 30” ductile iron water main in its same location. The trench can be modified around the sewer manhole to install the new 30” water main adjacent to the existing sewer manhole.

63. 57 Stone for bedding? Yes

64. On Florida Ave, Can 24" temporary line be installed above ground? If it must be buried, can the line be flowfilled once abandoned? The temporary line can be installed above ground. That line is to be removed when no longer needed.

65. How many transmission lines can be shut of at one time? See guidelines under Section 00 50 01.

66. How long can a transmission line be shut of for?

    See guidelines under Section 00 50 01.

67. There are numerous pay items with zero quantity, please provide the correct quantity for those pay items that are zero. See attached Revised UniformPublic Work Bid Form

68. TM008 uses “High Performance Geogrid” beneath the roadway. There is no proposal item for this work. See attached Revised UniformPublic Work Bid Form

69. Why is the driveway on sheet 19 of TM008 removed at no direct pay? There is an item to remove walks and drives. That callout is hereby being REVISED from “REQ’D REMOVE EX. DRIVEWAY, AT NO DIRECT PAY” to read “REQ’D REMOVE EX. DRIVEWAY”.

70. Plan sheet 4 legend note 4 for TM009 shows slab sodding at no direct pay, however there is a pay item C714(51) for sodding. Can you provide a quantity of all sod to be done at no direct pay? See attached Revised UniformPublic Work Bid Form Location of sodding will be determined on case-by-case basis and paid for at the established unit price. Estimated quantity is provided.

71. Proposal Item CSD701-02 Is Duplicated on the bid form. See attached Revised UniformPublic Work Bid Form

72. Do any existing curbs to be demoed have granite insets? None that we are aware of currently.

73. Site TM001 on Sixth Street calls for a RCPA 18x11. There is no bid item for 18x11 RCPA. Where is it to be paid? See attached Revised UniformPublic Work Bid Form

74. Site TM007 on Willow Street calls for approximately 559 LF of 18" RCP to be installed. There is no bid item for 18" RCP. Where is it to be paid? See attached Revised UniformPublic Work Bid Form

75. The bid item form appears to have duplicate items and missing items. Please clarify the bid item form. See attached Revised UniformPublic Work Bid Form

76. For open cut pipe installation, is there a certain depth at which steel sheeting TRS is required? Will timber sheeting and trench boxes be acceptable for all open cuts? All open cuts and trenching must comply with OSHA and any other existing regulations and requirements. Timber sheeting and trench boxes will not be allowed in place of steel sheeting for work on the TM-009 box culvert on Leonidas. Elsewhere, compliant timber sheeting and trench boxes are allowable for open cut pipe installation.

77. The pulling pit at TM009 Spruce St and Carrollton appears to have clearance issues for installation due to low hanging live oaks. Are the live oaks approved to be trimmed? Contractors may submit proposed locations of the pulling pits to avoid constructability issues. Trimming of live oaks has not been preapproved by Parks and Parkways.

78. Is it known if the existing 30" main to be removed has asbestos wrap at pipe joints? It is not known.

79. Will intermediate pits be required between pulling and receiving pits? Contractor may submit proposed locations of the pulling pits and intermediate pits.

80. For the compression line tie in at Cadiz St, will a pull or receiving pit be needed? Yes, see note on TM007 Sheet 11 of 30.

81. Is there a pressure/flow requirement for the bypass pumping? Preferred type of pipe for bypass pumping? Is the expectation to have bypass piping laid directly on the ground? Bypass piping will be pressure tested and chlorinated to the same requirements as any line being added to the SWB system. HDPE piping laid on the ground and protected from damage is expected to be submitted but other options presented by a contractor in the submittal process will be considered.

625 ST. JOSEPH STREET
NEW ORLEANS, LA 70165 • 504-529-2837 OR 52-WATER
www.swbno.org

82. Is the existing 50" water main at the TM008 Florida Ave & Elysian Fields Ave site to be dug out and removed or plugged and pumped with flowable fill? Contractor will have the option to plug and fill or remove and backfill, except where required to remove for construction of the new main. Removal or abandonment and associated work shall be at no direct pay.

The above revisions shall be incorporated in and take precedence over any conflicting part of the original proposal documents. This addendum is hereby officially made a part of the referenced proposal.

Receipt of this addendum shall be acknowledged by inserting its number and date in the space provided on the Louisiana Uniform Public Works Bid Form.

This addendum consists of one (12) pages.

*** END OF ADDENDUM ***

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SPECIAL PROVISIONS

APPENDIXES (Bound Separately)

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# _____

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.

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 1-6 – 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. 2171, TM1789
Water Transmission Main Replacements

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: Evans-Graves Engineers, Inc. and dated: June 11, 2026; Hartman Engineering, Inc and dated June 24, 2026; Neel-Schaffer, Inc. and dated June 23, 2026; and Linfield, Hunter & Junius, Inc. dated June 15, 2026

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, Rm 133
625 St. Joseph Street
New Orleans, LA 70165

BID FOR: **Contract No. 2171**
TM1789 - Water Tranmission Main Replacement
21031

NAME OF BIDDER: _____

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REMOVAL AND DISPOSAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(52)(C)	13698.0	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)	3772.6	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)	6872.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REMOVAL AND DISPOSAL OF EXISTING ASPHALTIC CONCRETE PAVEMENT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(52)(I)	5061.9	SY		

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)	6728.2	CY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE ARCHED PIPE (18" X 11")(CLASS IV)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(54)(F)	472.0	LF		

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)	2100.9	CY		

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LOUISIANA UNIFORM PUBLIC WORK BID FORM
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TO: Sewerage and Water Board of New Orleans
Purchasing Department, Rm 133
625 St. Joseph Street
New Orleans, LA 70165

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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)	20450.7	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)	19038.7	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)	4689.7	CY		

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)	629.0	CY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		2” THICK SUPERPAVE ASPHALTIC CONCRETE WEARING COURSE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C502(53)-1	16081.9	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		5” THICK SUPERPAVE ASPHALTIC CONCRETE BINDER COURSE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C502(53)-2	14961.9	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		COLD PLANING ASPHALTIC PAVEMENT (2.5" AVERAGE THICK)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C509(51)	1804.1	SY		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE PAVEMENT (8" THICK)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C601(54)	2670.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE PIPE (12")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(53(E)	64.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE PIPE (15")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(53(F)	1068.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		Collector Line to Catch Basins for Drain House Connections (6")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(72)	150.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE PIPE (24")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(53(I)	93.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAINLINES UP TO 10 FEET (12")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(68)E	4.0	EA		

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)(1)	406.0	LF		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REMOVAL AND DISPOSAL OF EXISTING DRAIN LINES (NOT IN SAME TRENCH) INCLUDING SAND BACKFILLING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(74)	605.0	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	40.5	FTHT		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SINGLE COMBINATION CATCH BASIN MANHOLE (8319-D)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(58)	10.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		TYPE C CATCH BASIN ADJUSTMENT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(53)L	31.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SINGLE VERTICAL CATCH BASIN	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(53)M	10.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CONCRETE SIDEWALK (4" THICK)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(51)	2415.1	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CONCRETE DRIVEWAY (6" THICK)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(52)	1018.1	SY		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		RELAYING BRICK PAVERS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(58)	70.0	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)	8.0	EA		

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)	12.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CONCRETE MOUNTABLE CURB WITH DOWELS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C707(55)	396.0	LF		

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)	236.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CONCRETE MOUNTABLE CURB AND GUTTER BOTTOM	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C707(59)	7701.4	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		6" CONCRETE BARRIER CURB & GUTTERBOTTOM OR ROLLING STRIP	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C707(60)	20.0	LF		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		PLASTIC PAVEMENT STRIPING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C732(52)	1.0	LS		

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)	4895.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		8" DUCTILE IRON 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)(2)	440.0	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)	209.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		12” DUCTILE IRON NEW WATER MAIN w/MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(51)(E)(1)	45.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		20” DUCTILE IRON NEW WATER MAIN w/MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(51)(H)(2)	120.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		30” DUCTILE IRON NEW WATER MAIN w/MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(51)(J)(2)	1928.0	LF		

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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)	15.0	EA		

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)	22.0	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)	1.0	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)	15.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE 5/8" TO 1" WATER HOUSE CONNECTION WITH 1" HOUSE CONNECTION (MAIN TO METER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(A)	324.0	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)	4.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE EXISTING 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)	3.0	EA		

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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)	3.0	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)	2.0	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)	30.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		8" WATER LINE OFFSET OVER 24"	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(71)(C-02)	25.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		12” WATER LINE OFFSET UP TO 24”	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(71)(E-01)	4.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		12” WATER LINE OFFSET OVER 24”	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(72)(E-02)	2.0	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)	23.0	EA		

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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)	75.0	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)	83.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE BROKEN WATER METER BOX (5/8") TO (1")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(77)	158.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		PLUG EXISTING WATER MAIN 4" THROUGH 12" AND FILL WITH FLOWABLE MATERIAL (SAND/CEMENT MIXTURE)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(78)(A)	2190.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		PLUG EXISTING WATER MAIN GREATER THAN 12" AND FILL WITH FLOWABLE MATERIAL (SAND/CEMENT MIXTURE)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(78)(B)	385.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		ADJUST SEWER HOUSE CONNECTION	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(64)	32.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		MANHOLE REHABILITATION, CEMENTITIOUS LINER, FULL DEPTH	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSS-25	24.0	FH		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SIDEWALK, DRIVEWAY AND CURB SAW CUTTING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-3	349.1	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		PAVEMENT SAW CUTTING ADJACENT TO EXISTING PAVEMENT AND AT PATCHES AND UTILITY TRENCHES	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-4	4273.7	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REMOVAL OF HANDICAP RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS INCLUDING SAW CUTTING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-5	756.7	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		ADA-ACCESSIBLE CURB RAMPS, CURB AND GUTTER, AND CONCRETE SIDEWALKS AT INTERSECTIONS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-6	484.9	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		ROOT PRUNING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-10	20.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SIDEWALK TRANSITION ADJACENT TO HANDICAPPED RAMPS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-13	92.6	SY		

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	12.0	EA		

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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	44.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		MANHOLE REPAIR OR VERTICAL ADJUSTMENT OVER 6" BRICK WORK ONLY	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-378	4.0	FTHT		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		INSTALL TEMPORARY PAVEMENT, 2" THICK	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CF-501	947.5	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		STEEL SUPPORT SYSTEM FOR 20" WM CROSSING OVER PALMETTO CANAL	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-01	1.0	LS		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		ADDITIONAL EXCAVATION (0.0' - 10.0')	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-02	20.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		VAULT FOR 36" WATER VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-03	1.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		VAULT FOR 48" WATER VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-04	1.0	EA		

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LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

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

BID FOR: **Contract No. 2171**
TM1789 - Water Tranmission Main Replacement
21031

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 36" VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-05	1.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		NEW 48" VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-06	1.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		LINE STOP 36"	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-07	1.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		LINE STOP 50"	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-08	2.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		24" TEMPORARY WATER MAIN BYPASS (D.I., PVC OR HDPE)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-09	1.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		36” DUCTILE IRON NEW WATER MAIN w/MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-10	52.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		48” DUCTILE IRON NEW WATER MAIN w/MAIN LINE FITTINGS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-11	490.0	LF		

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TO: Sewerage and Water Board of New Orleans
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New Orleans, LA 70165

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TM1789 - Water Tranmission Main Replacement
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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		WATER MAIN CROSSING OF LOWERLINE BOX CULVERT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-12	1.0	LS		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		30" COMPRESSION FIT HDPE FOR THE 30" CAST IRON WATER TRANSMISSION MAIN	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 3	4160.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		30" BUTTERFLY VALVE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 4	3.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		BUTTERFLY VALVE VAULT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 5	3.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		30" LINE STOP	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Extra Item 6	4.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		WELL POINT SYSTEM	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSW741-12	1069.0	BLFT		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONRETE PIPE (18")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(53) (G)	359.0	LF		

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TO: Sewerage and Water Board of New Orleans
Purchasing Department, Rm 133
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New Orleans, LA 70165

BID FOR: **Contract No. 2171**
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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)	1.0	LS		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SODDING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C714(51)	1500.0	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		TREE REMOVAL (PALM)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C719(57)-1	2.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		TREE TRIMMING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C719(60)	1.0	LS		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		ROOT PRUNING	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C719(61)	56.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		BATTURE SAND FOR DRESSING, GRANULAR MATERIAL FOR OTHER ADJUSTMENTS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C723(52)	300.0	CY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SAWCUT CONCRETE CURB, PAVEMENT, SIDEWALK, DRIVEWAY, ETC. (UP TO 8" DEPTH)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(55)	650.0	LF		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SAWCUT, WHEEL CUT OR SPADE CUT EXISTING ASPHALT	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C202(56)	500.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		8" PVC YARD DRAIN SERVICE LINE	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(57)(C)	92.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SINGLE MOUNTABLE CATCH BASINS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(53)(T)	2.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE WYE CONNECTION OR ARCH EQUIVALENT (15" x 15")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(59)(F)(F)	3.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE WYE CONNECTION OR ARCH EQUIVALENT (18" x 15")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(59)(G)(F)	2.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE WYE CONNECTION OR ARCH EQUIVALENT (24" x 15")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(59)(I)(F)	2.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REINFORCED CONCRETE WYE CONNECTION OR ARCH EQUIVALENT (10" x 10")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(59)(D)(D)	2.0	EA		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES UP TO 10' (15" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(68)A	11.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES UP TO 10' (18" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(68)B	10.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES UP TO 10' (21" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(68)C	7.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES UP TO 10' (24" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(68)D	7.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES UP TO 10' (36" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(68)E	3.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES BEYOND 10' (15" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(69)A	70.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES BEYOND 10' (18" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(69)B	100.0	LF		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES BEYOND 10' (21" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(69)C	70.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES BEYOND 10' (24" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(69)D	70.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		POINT REPAIR OF EXISTING DRAIN LINES BEYOND 10' (36" DIAMETER)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C701(69)E	30.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		24" x 30" CLEAR OPENING STANDARD DROP INLET	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(53)(S)	4.0	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)	86.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		SIDEWALK AT INTERSECTION INCLUDING HANDICAPPED RAMPS (6" THICK)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(54)	246.3	SY		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		BOX CULVERT DEMOLITION/RECONSTRUCTION @ LEONIDAS	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-4	1.0	LS		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE WATER METER BOX (2" AND 1-1/2")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-5	3.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE WATER METER BOX (4")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
SP-6	1.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		24" 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)(I)(1)	385.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE WATER HOUSE CONNECTION FROM METER TO PROPERTY LINE 5/8" TO 1"	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C741(55)(G)	324.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		INSTALL SEWER MAIN (8" AT 0' - 6')	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
742(51)(C)(A)	284.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE EXISTING SEWER HOUSE CONNECTION FROM EXISTING MAIN TO BACK OF CURB	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(60)	12.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		REPLACE EXISTING SEWER HOUSE CONNECTION BEYOND BACK OF CURB	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C742(63)	120.0	LF		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		INSTALL SEWER MAIN (10" AT 0' - 10')	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
742(51)(D)	288.0	LF		

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)	7.1	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)	37.2	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)	3.0	SY		

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)	6.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		ADJUST MANHOLE OR DUCTILE IRON (UP TO 6")	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C702(54)(A)(1)	15.0	EA		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		HANDICAPPED RAMP (CONCRETE)	
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
C706(56)-1	42.1	SY		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CCTV INSPECTION OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, UNDER 15" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-01	1495.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CCTV INSPECTION OF STORM SEWER LINES, LATERALS, AND STRUCTURES, 15" TO 24" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-02	3674.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CCTV INSPECTION OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, 27" TO 30" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-03	382.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CLEANING OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, UNDER 15" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-05	749.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CLEANING OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, 15" TO 24" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-06	1259.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		CLEANING OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, 27" TO 30" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-07	191.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		HEAVY CLEANING OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, UNDER 15" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-09	376.0	LF		

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DESCRIPTION:	_x_Base Bid or ___Alt. # ____		HEAVY CLEANING OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, 15" TO 24" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-10	715.0	LF		

DESCRIPTION:	_x_Base Bid or ___Alt. # ____		HEAVY CLEANING OF STORM SEWER LINES, LATERALS, AND DRAINAGE STRUCTURES, 27" TO 30" DIA.
REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
CSD701-11	96.0	LF		

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

BID FORM

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 completed within **420** 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

AFFIDAVIT OF NONCOLLUSION

Each Bidder shall complete the following statement

STATE OF_____}
} ss
COUNTY OF_____}

Affiant is the agent authorized by the Bidder to submit the attached Bid. Affiant further states that the Bidder has not been a party to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any State, Parish, or City official or employee as to quantity, quality, or price in the prospective Contract, or any other terms of said prospective contract; or in any discussions between Bidders and any State, Parish, or City official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

Affiant further warrants that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by Contractor for purpose of securing business.

_____
Name of Contractor

_____
Bidder (Affiant)

Subscribed and sworn to before me this _____day of _____, 20 _____

My commission expires: _____

_____Notary Public

END OF SECTION

Section 00 50 01

Guidelines for Sequencing Work on TM1789

Service outages for normal waterline tie-ins of 12” or less are of four (4) hour duration.

Complicated tie-ins (Tees, crosses, etc.) of up to 12” lines and may warrant an eight (8) hour duration.

Service outages for tie-in of large transmission mains are planned for a twelve (12) hour duration.

For specific project locations see the scheduling guidelines below:

TM008

48” at Florida / Elysian Fields

Maximum Outage Duration for 48” = 0 hours (on 24” bypass through tie-in)

Maximum Outage Duration for 36” = 30 days

Maximum Duration of 48” on Bypass = 90 days

No restrictions on being concurrent with other outages from TM1789.

30” at Cohn St. (open cut outside of existing alignment)

Outage Duration = 12 hours (tie-in to be scheduled on weekend/non-peak)

Cannot be concurrent with either Magnolia/Willow or Spruce St. Outage.

20” Carrolton crossing of Palmetto Canal

Outage Duration = 12 hours (tie-in to be scheduled at non-peak traffic time)

TM007

30” Magnolia/Willow (compression fit HDPE within existing line)

Maximum Outage Duration = 60 days

Cannot be concurrent with Cohn St. outage. Recommended TO BE concurrent with Spruce St. outage.

TM009

30” Spruce St. (compression fit HDPE within existing line)

Maximum Outage Duration = 60 days

Cannot be concurrent with Cohn St. outage. Recommended TO BE concurrent with Magnolia/Willow St. outage.

TM001

24” at Sixth St. (open cut outside of existing alignment)

Outage Duration = 12 hours (tie-in to be scheduled on weekend/non-peak)

Cannot be concurrent with either Magnolia/Willow or Spruce St. Outage.

SAMPLE 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 water transmission mains sized from 20 inch to 48 inch will be replaced in the following neighborhoods: Broadway, Mid City, Lakeview, Freret, St. Roch, Audubon-University, Dixon, Garden District, and Leonidas-West Carrollton. This will require and include vaults for the large valves, and other specialized equipment. In addition, 8 inch and 12 inch water mains will be installed, along with all associated fittings, valves, connections, fire hydrants, service connections, and several FEMA required ADA ramps. Full reconstruction and restoration of associated roadways is included.

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 2171 - TM1789 Water Transmission Main Replacements

3. ENGINEER.

3.1. Individual projects have been designed by **Evans-Graves, Inc; Hartman Engineering, Inc; Neel-Schaffer, Inc; and Linfield, Hunter & Junius, Inc.** (Designers) who are to act as the Engineers-of-Record for their respective projects 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 420 calendar days from the "Commencement of Contract Times" until "Substantial Completion" and within 420 calendar days from the "Commencement of Contract Times" until completed and ready for "Final Acceptance."

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 for four projects described as

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:_____
RANDY HEYMAN, ESQ, EXECUTIVE DIRECTOR

WITNESSES:

Print: _____

Print:_____

_____
NOTARY PUBLIC

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

_____ day of_____, 2026.

_____
MAARY ARCENEUAX, 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_____, 2026 (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]

SECTION 01200 – SPECIAL PROVISIONS

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 of the 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 - <u>SPECIAL PROJECT REQUIREMENTS</u>

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 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. The cost of the items described above in this paragraph 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.

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 Sewerage and Water Board 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 and schedule with the Sewerage and Water Board Director office at least thirty (30) days in advance for all water valve closures. Water valve closures for businesses, schools, colleges, universities, and medical facilities that require specialized advanced coordination must be confirmed one week prior. Notification flyers, provided by the Sewerage and Water Board, 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 Sewerage and Water Board 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 Sewerage and Water Board 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, may result in a stop work order being 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 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 - <u>COORDINATION WITH UTILITY COMPANIES</u>

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 Sewerage and Water Board or City by reason of any act of an employee or trespasser, and Contractor shall make good all damage to the Sewerage and Water Board’s or 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. For Calendar Day Contracts, Sixty (60) Inclement Weather Days are anticipated for each 365 days of Contract Duration. Only Inclement Weather Days in excess of the Anticipated Inclement Weather Days will be considered for any delay claim related to weather.

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” CAD 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 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 - <u>SEQUENCE OF CONSTRUCTION</u>

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.

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.

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 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 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.

J. 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 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. Residents 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 the Contract Duration measured in Calendar Days starting from the day after the Overall Notice to Proceed. The Contract Duration shall constitute the overall duration or contract period and includes all weekends, holidays, and Anticipated Weather Days.

Contract Task Orders will not be issued to the Contractor, but the approved Contract Schedule will control the items of work that can be worked on simultaneously or grouped and those that proceed individually. Failure of the Contractor to submit and follow an acceptable schedule will result in Sewerage & Water Board limiting the Contractor’s access to certain work areas until acceptable progress is made to meet the schedule requirements.

S&WB reserves the right to put work 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 as needed to best serve the Project.

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.

SECTION 1.24 – PROCORE COLLABORATION SOFTWARE

A. Procore construction management software (www.procore.com) will be used on this project to submit, track, distribute and collaborate on project documentation and action items. 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.

   The Procore Platform will provide support via email, phone and live chat with training in the form of self-paced learning videos as well as interactive webinars. A kickoff meeting with the Owner, Contractor, and applicable consultants will be held at the beginning of the project to discuss how the software will be used, routing & naming protocols, etc.

B. The Contractor will be responsible for submitting all RFIs, Submittals, Change Order Requests, Invoices, Schedules, redlines, etc. through the software for distribution to the appropriate parties. Review and approval of those items will be through the Procore platform.

C. Drawings, Specifications and Documents will be maintained in the software to ensure that the current version of all applicable construction documentation is available to the entire team via web and mobile.

D. The Contractor will ensure all necessary users have access to devices compatible with Procore. 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.

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. 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.

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. Gravity Sewer Pipebursting is only allowed if PVC pipe is used and the Contractor will be required to provide a complete means, methods, and materials Specification covering the proposed work necessary to furnish and install, complete and in-place, sewer collection system. S&WB will review the submittal as well as the proposed cost and determine if Pipe Bursting will be an acceptable alternate.

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.

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^{O} 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.

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 -	3,000
Tensile Strength, psi	ASTM C496 -	300
Flexural Strength, psi	ASTM C293	600
Bond Strength, psi	ASTM C321	130
Shrinkage, %	ASTM C596 -	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:

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 – <u>CURED-IN-PLACE PIPE LINING</u>

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
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 – WATER POINT REPAIRS

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 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.

H. 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.

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.

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.

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.

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.

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. NOT USED

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.

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 - <u>TIMBER CURB</u>

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 - <u>TYPE-A DEAD END INSTALLATION</u>

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 - <u>CONCRETE BARRIER OR MOUNTABLE CURB WITH LAYING STRIP</u>

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 – <u>PROJECT SIGN</u>

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®.

A. 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.

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.

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. 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.

H. 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.

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.

SECTION 3.24 – WELL POINT SYSTEM (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 relevant information.

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 – <u>DRAIN LINE CLEANING</u>

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 – DRAINAGE STRUCTURE CLEANING

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 – TELEVISION INSPECTION REPORTS

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.

SECTION 3.25.I – <u>POST REHABILITATION CCTV AND INSPECTION</u>

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.