ST. TAMMANY PARISH

MICHAEL B. COOPER
PARISH PRESIDENT

NOTICE TO BIDDERS

ST. TAMMANY PARISH

Sealed bids will be received by the Department of Procurement, until **2:00 p.m., Thursday, December 11, 2025,** and then opened and read publicly at that time by the Procurement Staff for the following project:

Bid # 25-34-2 – Rousseau Rd. Over Soap & Tallow Branch

Each paper bid must be submitted in a sealed envelope. The outside of the envelope shall show the Name and Address of the Bidder, the State Contractor's License Number of the Bidder (if the work is estimated at $50k or more), the Bid Name and the Bid Number.

The project classification is:

Highway, Street and Bridge Construction

This bid package is available online at www.bidexpress.com or LaPAC https://wwwcfprd.doa.louisiana.gov/osp/lapac/pubmain.cfm. It is the Vendor's responsibility to check Bid Express, or LaPAC frequently for any possible addenda that may be issued. The Parish is not responsible for a Vendor's failure to download any addenda documents required to complete a submission.

A MANDATORY Pre-Bid Conference will be held on November 19, 2025, at 2:00 PM, at 21454 Koop Dr., Mandeville, LA, in Building B, 3rd floor Conference Room. All prospective bidders are required to attend and sign in.

Bids will be received at 21454 Koop Dr., Suite 2F, Mandeville, LA 70471 from each bidder or his agent and given a written receipt, by certified mail with return receipt requested, or electronically at www.bidexpress.com.

Procurement Department

BID PROPOSAL

ST. TAMMANY PARISH
GOVERNMENT

BID PACKAGE FOR

Rousseau Rd. over Soap & Tallow Branch

BID NO.: 25-34-2

October 6, 2025

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Section 02

Instructions to Bidders

Bidders are urged to promptly review the requirements of this specification and submit questions for resolution as early as possible during the bid period. Questions or concerns must be submitted in writing to the Procurement Department no later than 2:00 CST seven (7) working days prior to the bid opening date. Otherwise, this will be construed as acceptance by the bidders that the intent of the specifications is clear and that competitive bids may be obtained as specified herein. Protests with regard to the specification documents will not be considered after bids are opened.

1. Bid security is required. Be sure that your bid includes such security as is necessary to meet Parish requirements and is properly signed. The bid must be fully completed. All applicable Louisiana license numbers must be affixed.

2. The Owner is the St. Tammany Parish Government (the "Parish").

3. The terms "he/his" and "it/its" may be used interchangeably.

4. The terms "Owner," the "Parish," and "St. Tammany Parish" may be used interchangeably.

5. The successful Bidder understands that the limited contract time in the contract is **270 Calendar Days** and shall submit any request for an extension of time in accordance with the General and Supplementary Conditions. Said request will reflect the days requested and the reason for same. No extension request is guaranteed or absolute.

6. Bidder specifically understands that acknowledgment of the General Conditions is required. Bidder specifically understands that signature of receipt of the General Conditions is mandated. **The Bidder's signature on the "Louisiana Uniform Public Work Bid Form" will serve as acknowledgment of the Bidder's receipt and understanding of the General Conditions as well as any Supplementary Conditions.**

7. ***If any additional work*** **is performed by the contractor without *written approval* by owner, the cost of the work will be borne by the contractor and will not be reimbursed by the Parish.**

8. **Only** the Louisiana Uniform Public Bid Form, the Unit Price Form (if necessary), the bid security, and written evidence of authority of person signing the bid shall be submitted on or before the bid opening time and date provided for in the Bid Documents. Necessary copies of the Louisiana Uniform Public Work Forms and Unit Price Forms (if necessary) will be furnished for Bidding. Bound sets of the Contract Documents are for Bidder's information and should not be used in submitting Bids.

9. All other documents and information required are to be submitted by the low Bidder within ten (10) days after the opening of the bids, and at the same time of day and location as given for the opening of the bids in the Bid Documents.

10. Each Bid must be submitted in a sealed envelope, unless submitted electronically. The outside of the envelope shall show the name and address of the Bidder, the State Contractor's License Number of the Bidder (if work requires contractor's license), and the Project name and the Bid number. In the case of an electronic bid proposal, a contractor may submit an authentic digital signature on the electronic bid proposal accompanied by the contractor's license number, Project name and the Bid number.

11. The price quoted for the Work shall be stated in words and figures on the Bid Form, and in figures only on the Unit Price Form. The price in the Bid shall include all costs necessary for the complete performance of the Work in full conformity with the conditions of the Contract Documents, and shall include all applicable Federal, State, Parish, Municipal or other taxes and is the responsibility of the contractor to obtain tax exemption if applicable. The price bid for the items listed on the Unit Price Form will include the cost of all related items not listed, but which are normally required to do the type of Work bid.

12. The Bid shall be signed by the Bidder. The information required on the Louisiana Uniform Public Work Bid Form must be provided. Evidence of agency, corporate, or partnership authority is required and shall be provided in conformance with LSA-R.S. 38:2212(B).

13. Only a Contractor licensed by the State to do the type of Work as indicated on the Notice to Bidders can submit a Bid. The Bidder's signature on the Bid Form certifies that he holds an active license under the provisions of Chapter 24 of Louisiana Revised Statutes Title 37. Failure to be properly licensed constitutes authority for the Owner to reject the Bid.

14. Bidders shall not attach any conditions or provisions to the Bid. Any conditions or provisions so attached may, at the sole option of the Owner, cause rejection of the Bid.

15. A Bid Guarantee of five percent (5%) of the amount of the total Bid, including Alternates, must accompany the Proposal and, at the option of the Bidder, may be a cashier's check, certified check or a satisfactory Bid Bond. The Bid Guarantee must be attached to the Louisiana Uniform Public Work Bid Form. No Bid will be considered unless it is so guaranteed. Cashier's check or certified check must be made payable to the order of the Owner. Cash deposits will not be accepted. The Owner reserves the right to cash or deposit the cashier's check or certified check. Such guarantees shall be made payable to the Parish of St. Tammany. In accordance with LSA-R.S. 38:2218(C), if a bid bond is used, it shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents. It is **not** required to be on any AIA form.

16. Bid securities of the three (3) lowest Bidders will be retained by the Owner until the Contract is executed or until final disposition is made of the Bids submitted. Bid securities of all other Bidders will be returned promptly after the canvas of Bids. Bids shall remain binding for forty-five (45) days after the date set for Bid Opening. The Parish shall act within the forty-five (45) days to award the contract to the lowest responsible bidder or reject all bids. However, the Parish and the lowest responsible bidder, by mutual written consent, may agree to extend the deadline for award by one or more extensions of thirty (30) calendar days. In the event the Owner issued the Letter of Award during this period, or any extension thereof, the Bid accepted shall continue to remain binding until the execution of the Contract.

17. A Proposal may be withdrawn at any time prior to the scheduled closing time for receipt of Bids, provided the request is in writing, executed by the Bidder or its duly authorized representative and is filed with the Owner prior to that time. When such a request is received, the Proposal will be returned to the Bidder unopened. A bid withdrawn under the provisions of LSA-R.S. 38:2214(C) cannot be resubmitted.

18. Written communications, over the signature of the Bidder, to modify Proposals will be accepted and the Proposal corrected in accordance therewith if received by the Owner prior to the scheduled closing time for receipt of Bids. Oral, telephonic or telegraphic Modifications will not be considered.

19. No oral interpretation obligating the Owner will be made to any Bidder as to the meaning of the Drawings, Specifications and Contract Documents. Every request for such an interpretation shall be made in writing and addressed and forwarded to the Owner. Inquiries received within seven (7) days prior to the day fixed for opening of the Bids may not be given consideration. Every interpretation made to the Bidder shall be in the form of an addendum to the Specifications. All such Addenda shall become part of the Contract Documents. Failure of the Owner to send or failure of Bidder to receive any such interpretation shall not relieve any Bidder from any obligation under this Bid as submitted without Modification. All Addenda shall be issued in accordance with the Public Bid Law, LSA-R.S. 38:2212(O).

20. The Owner reserves the right to reject any or all Bids for just cause in accordance with the Public Bid Law, LSA-R.S. 38:2214(B). Incomplete, informal, illegible, or unbalanced Bids may be rejected. Reasonable grounds for belief that any one Bidder is concerned directly or indirectly with more than one Bid will cause rejection of all Bids wherein such Bidder

is concerned. If required, a Bidder shall furnish satisfactory evidence of its competence and ability to perform the Work stipulated in its Proposal. Incompetence will constitute cause for rejection. If the Parish determines that the bidder is not responsive or responsible for any reason whatsoever, the bid may be rejected in accordance with State law.

21. Contractor shall be liable without limitation to the Parish for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its owners, agents, employees, partners or subcontractors.

22. Upon notice of any claim, demand, suit, or cause of action against the Parish, alleged to arise out of or be related to this Contract, Contractor shall investigate, handle, respond to, provide defense for, and defend at its sole expense, even if the claim, demand, suit, or cause of action is groundless, false, or fraudulent. The Parish may, but is not required to, consult with or assist the Contractor, but this assistance shall not affect the Contractor's obligations, duties, and responsibilities under this section. Contractor shall obtain the Parish's written consent before entering into any settlement or dismissal.

23. It is understood and agreed that neither party can foresee the exigencies beyond the control of each party which arise by reason of an Act of God or force majeure; therefore, neither party shall be liable for any delay or failure in performance beyond its control resulting from an Act of God or force majeure. The Parish shall determine whether a delay or failure results from an Act of God or force majeure based on its review of all facts and circumstances. The parties shall use reasonable efforts, including but not limited to, use of continuation of operations plans (COOP), business continuity plans, and disaster recovery plans, to eliminate or minimize the effect of such events upon the performance of their respective duties under this Contract.

24. Contractor shall fully indemnify and hold harmless the Parish, without limitation, for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its owners, agents, employees, partners or subcontractors. The Contractor shall not indemnify for the portion of any loss or damage arising from the Parish's act or failure to act.

25. Contractor shall fully indemnify and hold harmless the Parish, without limitation, from and against damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities in any action for infringement of any intellectual property right, including but not limited to, trademark, trade-secret, copyright, and patent rights.

    When a dispute or claim arises relative to a real or anticipated infringement, the Contractor, at its sole expense, shall submit information and documentation, including formal patent attorney opinions, as required by the Parish.

    If the use of the product, material, service, or any component thereof is enjoined for any reason or if the Contractor believes that it may be enjoined, Contractor, while ensuring appropriate migration and implementation, data integrity, and minimal delays of performance, shall at its sole expense and in the following order of precedence: (i) obtain for the Parish the right to continue using such product, material, service, or component thereof; (ii) modify the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; (iii) replace the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; or, (iv) provide the Parish monetary compensation for all payments made under the Contract related to the infringing product, material, service, or component, plus for all costs incurred to procure and implement a non-infringing product, material, or service of at least equal quality and performance. Until this obligation has been satisfied, the Contractor remains in default.

    The Contractor shall not be obligated to indemnify that portion of a claim or dispute based upon the Parish's unauthorized: i) modification or alteration of the product, material or service; ii) use of the product, material or service in combination with other products not

furnished by Contractor; or, iii) use of the product, material or service in other than the specified operating conditions and environment.

26. Bidders shall familiarize themselves with and shall comply with all applicable Federal and State Laws, municipal ordinances and the rules and regulations of all authorities having jurisdiction over construction of the Project, which may directly or indirectly affect the Work or its prosecution. These laws and/or ordinances will be deemed to be included in the Contract, as though herein written in full.

27. Each Bidder shall visit the site of the proposed Work and fully acquaint itself with all surface and subsurface conditions as they may exist so that it may fully understand this Contract. Bidder shall also thoroughly examine and be familiar with drawings, Specifications and Contract Documents. The failure or omission of any Bidder to receive or examine any form, instrument, Drawing or document or to visit the site and acquaint itself with existing conditions shall in no way relieve any Bidder from any obligation with respect to its Bid and the responsibility in the premises.

28. The standard contract form enclosed with the Proposal documents is a prototype. It is enclosed with the Contract Documents for the guidance of the Owner and the Contractor. It has important legal consequences in all respects and consultation with an attorney is encouraged. Contractor shall be presumed to have consulted with its own independent legal counsel.

29. When one set of Contract plans show the Work to be performed by two or more prime Contractors, it is the responsibility of each Bidder to become knowledgeable of the Work to be performed by the other where the Work upon which this bid is submitted is shown to come into close proximity or in conflict with the Work of the other. In avoiding conflicts, pressure pipe lines must be installed to avoid conflict with gravity pipe lines and the Bidder of the smaller gravity pipe line in conflict with the larger gravity pipe line must include in his Bid the cost of a conflict box at these locations. The location of and a solution to the conflicts do not have to be specifically noted as such on the plans.

30. Bidder shall execute affidavit(s) attesting compliance with LSA-R.S. 38:2212.10, 38:2224, 38:2227, each as amended, and other affidavits as required by law, prior to execution of the contract.

31. In accordance with Louisiana Law, all Corporations (See LA R.S. 12:26.1) and Limited Liability Companies (See LA R.S. 12:1308.2) should be registered and in good standing with the Louisiana Secretary of State in order to hold a contract.

32. Sealed Bids shall be delivered to St. Tammany Parish Government at the office of **St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471**, and a receipt given, until the time and date denoted in Notice to Bidders, at which time and place the Bids shall be publicly opened and read aloud to those present. In accordance with LSA-R.S. 38:2212(H), the designer's final estimated cost of construction shall be read aloud upon opening bids. Sealed Bids may also be mailed by certified mail to **St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471**, and must be received before the bid opening. Bids may also be submitted electronically. Information concerning links for electronic bidding is contained in the Notice to Bidders. It is the responsibility of the Bidders to ensure that bids are delivered in a timely fashion. **Late bids, regardless of reason, will not be considered, and will be returned to bidder.**

33. Paper bids shall be placed in a sealed envelope, marked plainly and prominently as indicated in the Notice to Bidders, and these Instructions, and addressed:

St. Tammany Parish Government
Department of Procurement
21454 Koop Drive, Suite 2-F
Mandeville, LA 70471

34. See Notice to Bidders for availability of Drawings, Specifications and Contract Documents via electronic methods.

35. The successful Bidder shall be required to post in each direction a public information sign, 4' x 4' in size, at the location of the project containing information required by the Owner. The Owner shall supply this information.

36. The award of the Contract, if it is awarded, will be to the lowest responsible Bidder, in accordance with State Law. No award will be made until the Owner has concluded such investigations as it deems necessary to establish the responsibility and qualifications of the Bidder to do the Work in accordance with the Contract Documents to the satisfaction of the Owner within the time prescribed as established by the Department based upon the amount of work to be performed and the conditions of same. The written contract and bond shall be issued in conformance with LSA-R.S. 38:2216. If the Contract is awarded, the Owner shall give the successful Bidder written notice of the award within forty-five (45) calendar days after the opening of the Bids in conformance with LSA-R.S. 38:2215(A), or any extension as authorized thereunder.

37. At least three days prior to the execution of the Contract, the Contractor shall deliver to the Owner the required Bonds.

38. Failure of the successful Bidder to execute the Contract and deliver the required Bonds within ten (10) days of the Notice of the Award shall be just cause for the Owner to annul the award and declare the Bid and any guarantee thereof forfeited. Award may then be made to the next lowest responsible bidder.

39. In order to ensure the faithful performance of each and every condition, stipulation and requirement of the Contract and to indemnify and hold harmless the Owner from any and all damages, either directly or indirectly arising out of any failure to perform same, the successful Bidder to whom the Contract is awarded shall furnish a Performance and Payment Bond in an amount of at least equal to one hundred percent (100%) of the Contract Price. The Contract shall not be in force or binding upon the Owner until such satisfactory Bond has been provided to and approved by the Parish. The cost of the Bond shall be paid for by the Contractor unless otherwise stipulated in the Special Provisions.

40. No surety Company will be accepted as a bondsman which has no permanent agent or representative in the State upon whom notices referred to in the General Conditions of these Specifications may be served. Service of said notice on said agent or representative in the State shall be equal to service of notice on the President of the Surety Company, or such other officer as may be concerned.

41. In conformance with LSA-R.S. 38:2219(A)(1)(a), (b), and (c):

> Any surety bond written for a public works project shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide, to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.
>
> For any public works project, no surety or insurance company shall write a bond which is in excess of the amount indicated as approved by the U.S. Department of the Treasury Financial Management Service list or by a Louisiana domiciled insurance company with an A- rating by A.M. Best up to a limit of ten percent of policyholders' surplus as shown by A.M. Best; companies authorized by this Paragraph who are not on the treasury list shall not write a bond when the penalty exceeds fifteen percent of its capital and surplus, such capital and surplus being the amount by which the company's assets exceed its liabilities as reflected by the most recent financial statements filed by the company with the Department of Insurance.
>
> In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the state of Louisiana. All contractors must comply with any other applicable provisions of LSA-R.S. 38:2219.

42. Should the Contractor's Surety, even though approved and accepted by the Owner, subsequently remove its agency or representative from the State or become insolvent,

bankrupt, or otherwise fail, the Contractor shall immediately furnish a new Bond in another company approved by the Owner, at no cost to the Owner. The new Bond shall be executed under the same terms and conditions as the original Bond. The new bond shall be submitted within thirty (30) days of such time as the Owner notifies Contractor or from the time Contractor learns or has reason to know that the original surety is no longer financially viable or acceptable to the Parish, whichever occurs first. In the event that Contractor fails or refuses to timely secure additional surety, then the Owner may secure such surety and thereafter deduct such cost or expense from any sum due, or to become due to Contractor.

43. The Contractor's bondsman shall obligate itself to all the terms and covenants of these Specifications and of contracts covering the Work executed hereunder. The Owner reserves the right to do Extra Work or make changes by altering, adding to deducting from the Work under the conditions and in the manner herein before described without notice to the Contractor's surety and without in any manner affecting the liability of bondsman or releasing it from any of its obligations hereunder.

44. The Bond shall also secure for the Owner the faithful performance of the Contract in strict accordance with plans, specifications, and other Contract Documents. It shall protect the Owner against all lien laws of the State and shall provide for payment of reasonable attorney's fees for enforcement of Contract and institution or concursus proceedings, if such proceedings become necessary. Likewise, it shall provide for all additional expenses of the Owner occurring through failure of the Contractor to perform.

45. The surety of the Contractor shall be and does hereby declare and acknowledge itself by acceptance to be bound to the Owner as a guarantor, jointly and in solido, with the Contractor, for fulfillment of terms of the Contract.

46. The performance Bond and Labor and Material Bond forming part of this Contract shall be continued by Contractor and its Surety for a period of one (1) year from date of acceptance of the Work/Project by Owner to assure prompt removal and replacement of all defective material, equipment, components thereof, workmanship, etc., and to assure payment of any damage to property of Owner or others as a result of such defective materials, equipment, workmanship, etc.

47. Contractor authorizes Parish to deduct from any payment due herein costs and service fees for recordation of this Contract in full or an excerpt hereof, or any revisions or modifications thereof as required by law. Contractor agrees to execute an excerpt or extract of this agreement for recordation purposes. If Contractor fails to execute such an excerpt, then the Parish shall file and record the entire Contract and all attachments at the expense of Contractor and Parish is hereby authorized to deduct all related costs from any proceeds due to the Contractor.

48. Contractor shall secure and maintain at its expense such insurance that will protect it and the Parish from claims for injuries to persons or damages to property which may arise from or in connection with the performance of Services or Work hereunder by the Contractor, his agents, representatives, employees, and/or subcontractors. The cost of such insurance shall be included in Contractor’s bid.

49. The Contractor shall not commence work until it has obtained all insurance as required for the Parish Project. If the Contractor fails to furnish the Parish with the insurance protection required and begins work without first furnishing Parish with a currently dated certificate of insurance, the Parish has the right to obtain the insurance protection required and deduct the cost of insurance from the first payment due the Contractor. Further deductions are permitted from future payments as are needed to protect the interests of the Parish including, but not limited to, renewals of all policies.

50. Payment of Premiums: The insurance companies issuing the policy or policies shall have no recourse against the Parish of St. Tammany for payment of any premiums or for assessments under any form of policy.

51. Deductibles: Any and all deductibles in the described insurance policies shall be assumed by and be at the sole risk of the Contractor.

52. Authorization of Insurance Company(ies) and Rating: All insurance companies must be authorized to do business in the State of Louisiana and shall have an A.M. Best rating of no less than A-, Category VII.

53. Policy coverages and limits must be evidenced by Certificates of Insurance issued by Contractor's carrier to the Parish and shall reflect:

Date of Issue: Certificate must have current date.

Named Insured: The legal name of Contractor under contract with the Parish and its principal place of business shall be shown as the named insured on all Certificates of Liability Insurance.

Name of Certificate Holder: St. Tammany Parish Government, Office of Risk Management, P. O. Box 628, Covington, LA 70434

Project Description: A brief project description, including Project Name, Project Number and/or Contract Number, and Location.

Endorsements and Certificate Reference: All policies must be endorsed to provide, and certificates of insurance must evidence the following:

Waiver of Subrogation: The Contractor's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance. *Policy endorsements required for all coverages*.

Additional Insured: The Parish of St. Tammany shall be named as additional named insured with respect to general liability, marine liability, pollution/environmental liability, automobile liability and excess liability coverages. *Policy endorsements required.*

Hold Harmless: Contractor's liability insurers shall evidence their cognizance of the Hold Harmless and Indemnification in favor of St. Tammany Parish Government by referencing same on the face of the Certificate(s) of Insurance.

Cancellation Notice: Producer shall provide thirty (30) days prior written notice to the Parish of policy cancellation or substantive policy change.

54. The types of insurance coverage the Contractor is required to obtain and maintain throughout the duration of the Contract shall be designated by a separate document issued by the Office of Risk Management.

55. It is the intent of these instructions that they are in conformance with State Bid Laws. Should there be any discrepancy or ambiguity in these provisions, the applicable State Bid Law shall apply.

56. The letting of any public contract in connection with funds that are granted or advanced by the United States of America shall be subject to the effect, if any, of related laws of said United States and valid rules and regulations of federal agencies in charge, or governing use and payment of such federal funds.

57. Protests based on alleged solicitation improprieties that are apparent before bid opening, or the time set for receipt of initial proposals must be filed with and received by the Procurement Department BEFORE two (2) working days of the bid opening. Any other protest shall be filed no later than ten (10) calendar days after: the opening of the bid; the basis of the protest is known; or the basis of the protest should have been known (whichever is earlier).

58. It is the Parish's policy to provide a method to protest exclusion from a competition or from the award of a contract, or to challenge an alleged solicitation irregularity. It is always better to seek a resolution within the Parish system before resorting to outside agencies and/or litigation to resolve differences. All protests must be made in writing, and shall be concise and logically presented to facilitate review by the Parish. The written protest shall include:

The protester's name, address, and fax and telephone numbers and the solicitation, bid, or contract number;

A detailed statement of its legal and factual grounds, including a description of the resulting prejudice to the protester;

Copies of relevant documents;

All information establishing that the protester is an interested party and that the protest is timely; and

A request for a ruling by the agency; and a statement of the form of relief requested.

The protest shall be addressed to St. Tammany Parish Government Department of Procurement, P.O. Box 628, Covington, LA 70434

The protest review shall be conducted by the Parish Legal Department.

Only protests from interested parties will be allowed. Protests based on alleged solicitation improprieties that are apparent before bid opening, or the time set for receipt of initial proposals, must be filed with and received by the Department of Procurement BEFORE those deadlines.

Any other protest shall be filed no later than ten (10) calendar days after the basis of the protest is known, or should have been known (whichever is earlier).

The Parish will use its best efforts to resolve the protest within thirty (30) days of the date that it is received by the Parish. The written response will be sent to the protestor via mail and fax, if a fax number has been provided by the protestor. The protester can request additional methods of notification.

59. The last day to submit questions to Procurement shall be no later than 2:00 pm CST, seven (7) working days prior to the opening of bids, and verification on comparable products will be no later than 2:00 pm CST, fourteen (14) working days prior to the opening date of the bid/proposal due date. Further, any questions or inquiries must be submitted via fax to 985-898-5227, or via email to Procurement@stpgov.org. Any questions or inquiries received after the required deadline to submit questions or inquiries will not be answered.

Schedule of Events

	Date	Time (CT)
Bid Due Date	December 11, 2025	2:00 PM
Pre-Bid Meeting	November 19, 2025	2:00 PM
Inquiry Deadline	December 2, 2025	2:00 PM
Addendum Deadline	December 8, 2025	2:00 PM

NOTE: The Parish reserves the right to revise this schedule. Any such revision will be formalized by the issuance of an addendum to the Bid Request.

60. St. Tammany Parish Government contracts to be awarded are dependent on the available funding and/or approval by members designated and/or acknowledged by St. Tammany Parish Government. At any time, St. Tammany Parish Government reserves the right to cancel the award of a contract if either or both of these factors is deficient.

61. Any action by the Parish to disqualify any Bidder on the grounds that they are not a responsible Bidder shall be conducted in accordance with LSA-R.S. 38:2212(X).

62. Failure to complete or deliver within the time specified or to provide the services as specified in the bid or response will constitute a default and may cause cancellation of the contract. Where the Parish has determined the contractor to be in default. The Parish reserves the right to purchase any or all products or services covered by the contract on the open market and to charge the contractor with the cost in excess of the contract price. Until

such assessed charges have been paid, no subsequent bid or response from the defaulting contractor will be considered.

63. If any part of the provisions contained herein and/or in the Specifications and Contract for the Work shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement or attachment, but it shall be construed as if such invalid, illegal, or unenforceable provision or part of a provision had never been contained herein.

Section 03

Summary of Work

I. Work to Include:

The Contractor shall provide all labor, equipment, tools, testing, and materials necessary to perform the work as shown and specified in the construction drawings. The project consists of the removal of the existing bridge and the phased construction of a new bridge structure along Rousseau Road crossing Soap and Tallow Branch. Additional work includes asphalt roadway widening and reconstruction, stone base course, treated subgrade, subsurface drainage improvements, earthwork, and pavement striping.

St. Tammany Parish reserves the right to add, remove, and otherwise modify the above, as determined necessary by the Parish and as allowed by law.

II. Location of Work:

The project is located along Rousseau Road in Covington, LA, near the intersection of Francis Rd. and Melrose Ave.

III. Documents: Bid Documents dated October 6, 2025, and entitled:

Rousseau Rd. over Soap & Tallow Branch
Bid No. 25-34-2

IV. OTHER REQUIREMENTS (as applicable)

When not otherwise specified herein, all work and materials shall conform to the requirements of the Louisiana Department of Transportation and Development hereafter called LDOTD (2016 Edition of Louisiana Standard Specifications for Roads and Bridges).

Table 3.1

Liquidated Damages	
Original Contract Amount	**Daily Charge**
Dollars	Dollars
0 - 250,000	500
250,000 – 1 Million	1,000
> 1 Million – 5 Million	1,500
> 5 Million – 10 Million	2,000
> 10 Million	3,000

- Parish reserves the right to increase the Daily charge rate due to additional provisions required in order to complete the project as described in the specifications

Section 04

LA Uniform Public Work Bid Form & Unit Price Form

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: St. Tammany Parish Government
21454 Koop Dr., Suite 2F
Mandeville, La 70471
(Owner to provide name and address of owner)

BID FOR: Bid No. 25-34-2
Rousseau Rd. over Soap & Tallow Branch
(*Owner to provide name of project and other identifying information.)*

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:_____
Crescent Engineering & Mapping, LLC and dated: October 6, 2025.
(Owner to provide name of entity preparing bidding documents.)

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.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars ($ N/A)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars ($ N/A)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars ($ N/A)

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 FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* 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.

**** A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

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

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO:

St. Tammany Parish Government

21454 Koop Drive, Suite 2F

Mandeville, LA. 70471

(OWNER TO PROVIDE NAME AND ADDRESS OF OWNER)

BID FOR:

Parish Project No. EN22000181

Rousseau Rd. over Soap & Tallow Branch

Bid No. 25-34-2

(OWNER TO PROVIDE PROJECT NAME & OTHER IDENTIFYING INFO)

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

Description:	☑ BASE BID		CLEARING AND GRUBBING (est. 2.62 ACRES)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
201-01-00100	1	LUMP		
Description:	☑ BASE BID		REMOVAL OF STRUCTURES AND OBSTRUCTIONS	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-01-00100	1	LUMP		
Description:	☑ BASE BID		REMOVAL OF ASPHALT DRIVES	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-02000	54	SQYD		
Description:	☑ BASE BID		REMOVAL OF PAVEMENT STRUCTURE	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-02020	1,898.80	SQYD		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

Version 2017 Q2

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

Description:	☑ BASE BID		REMOVAL OF BRIDGE STR. NO. P5230283900881 (STA. 108+68.61; 28' X 76' COPCSS) (2,128 SQFT)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-04501	1	LUMP		
Description:	☑ BASE BID		REMOVAL OF CONCRETE APPROACH SLABS	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-06000	56.9	SQYD		
Description:	☑ BASE BID		REMOVAL OF GUARD RAIL	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-14500	449.3	LNFT		
Description:	☑ BASE BID		REMOVAL OF CONCRETE CATCH BASIN	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-06060	1	EACH		
Description:	☑ BASE BID		REMOVAL OF CURBS (CONCRETE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-06140	40	LNFT		
Description:	☑ BASE BID		REMOVAL OF PIPE (CROSS DRAIN) (36" RCP)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-32100	198	LNFT		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		REMOVAL OF PIPE (SIDE DRAIN) (18" PP, 24" PP, 24" RCPA)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-32120	27	LNFT		
Description:	☑ BASE BID		DRAINAGE EXCAVATION	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
203-02-00100	1,283	CUYD		
Description:	☑ BASE BID		EXCAVATION AND EMBANKMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
203-06-00100	1	LUMP		
Description:	☑ BASE BID		TEMPORARY SEDIMENT CHECK DAMS (HAY)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
204-05-00100	4	EACH		
Description:	☑ BASE BID		TEMPORARY SEDIMENT CHECK DAMS (STONE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
204-05-00200	8	EACH		
Description:	☑ BASE BID		TEMPORARY SILT FENCING	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
204-06-00100	3,046	LNFT		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		CLASS II BASE COURSE (4" THICK) (STONE ONLY)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
302-02-04070	2,177.70	SQYD		
Description:	☑ BASE BID		CLASS II BASE COURSE (6" THICK) (ASPHALT CONCRETE BASE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
302-02-06030	862	SQYD		
Description:	☑ BASE BID		BASE DRAIN OUTLET	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
302-03-00100	6	EACH		
Description:	☑ BASE BID		SUBGRADE LAYER (8" THICK) (TREATED)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
305-01-02020	2,178	SQYD		
Description:	☑ BASE BID		AGGREGATE SURFACE COURSE (ADJUSTED VEHICLE MEASUREMENT)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
401-02-00100	8.8	CUYD		
Description:	☑ BASE BID		TRAFFIC MAINTENANCE SURFACING (AGGREGATE) (VEHICULAR MEASUREMENT)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
402-01-00101	100	CUYD		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		TRAFFIC MAINTENANCE SURFACING (HARD)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
402-02-00101	75	TON		
Description:	☑ BASE BID		ASPHALT CONCRETE	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
502-01-00100	1,439.50	TON		
Description:	☑ BASE BID		ASPHALT CONCRETE, DRIVES, TURNOUTS, MISCELLANEOUS	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
502-01-00200	107	TON		
Description:	☑ BASE BID		MILLING ASPHALT PAVEMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
509-01-00100	2,112	SQYD		
Description:	☑ BASE BID		CONTRACTOR RETAINED RECLAIMED ASPHALT PAVEMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
509-02-00100	88	CUYD		
Description:	☑ BASE BID		PAVEMENT PATCHING (9.5" THICK)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
510-01-00001	77	SQYD		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		PAVEMENT PATCHING (12" THICK)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
510-01-00002	133	SQYD		
Description:	☑ BASE BID		CROSS DRAIN PIPE (36" RCP/RPVCP)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-01-01043	140	LNFT		
Description:	☑ BASE BID		CROSS DRAIN PIPE ARCH (24" EQUIV. RCPA)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-02-01000	216	LNFT		
Description:	☑ BASE BID		SIDE DRAIN PIPE (EROSION) (18" RPVCP/CMP)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-05-02042	60	LNFT		
Description:	☑ BASE BID		SIDE DRAIN PIPE ARCH (24" EQUIV. RCPA)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-06-00040	224	LNFT		
Description:	☑ BASE BID		CATCH BASINS (CB-01)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
702-03-00100	4	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		BLOCKED OUT GUARD RAIL - 31", (6'-3" POST SPACING)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
704-03-00200	50	LNFT		
Description:	☑ BASE BID		GUARD RAIL TRANSITIONS (DOUBLE THRIE BEAM)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
704-07-00200	100	LNFT		
Description:	☑ BASE BID		GUARD RAIL END TREATMENT, MASH, (TL-3 TANGENT)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
704-10-00205	4	EACH		
Description:	☑ BASE BID		COMBINATION CONCRETE CURB AND GUTTER	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
707-03-00100	20	LNFT		
Description:	☑ BASE BID		RIGHT-OF-WAY MONUMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
708-01-00100	24	EACH		
Description:	☑ BASE BID		RIPRAP (55 LB, 18" THICK)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
711-01-04000	1,050	SQYD		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		RIPRAP (10 LB, 12" THICK)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
711-01-02020	150	SQYD		
Description:	☑ BASE BID		GEOTEXTILE FABRIC	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
711-04-00100	1,200	SQYD		
Description:	☑ BASE BID		TEMPORARY SIGNS AND BARRICADES	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
713-01-00100	1	LUMP		
Description:	☑ BASE BID		TEMPORARY PRECAST CONCRETE BARRIER (CONTRACTOR FURNISHED)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
713-07-00100	22	EACH		
Description:	☑ BASE BID		MULCH (VEGETATIVE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
716-01-00100	4.5	TON		
Description:	☑ BASE BID		SEEDING	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
717-01-00100	66	LB		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		FERTILIZER	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
718-01-00100	2,095	LB		
Description:	☑ BASE BID		BEDDING MATERIAL	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
726-01-00100	141.6	CUYD		
Description:	☑ BASE BID		MOBILIZATION	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
727-01-00100	1	LUMP		
Description:	☑ BASE BID		SIGN (TYPE A)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
729-01-00100	33.5	SQFT		
Description:	☑ BASE BID		OBJECT MARKER ASSEMBLY (TYPE 3)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
729-16-00300	4	EACH		
Description:	☑ BASE BID		SQUARE TUBING POST WITH 2-1/4" ANCHOR	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
729-22-00100	4	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		REFLECTORIZED RAISED PAVEMENT MARKERS	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
731-02-00100	75	EACH		
Description:	☑ BASE BID		PLASTIC PAVEMENT STRIPING (24" WIDTH) (THERMOPLASTIC 125 MIL)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
732-01-02080	37	LNFT		
Description:	☑ BASE BID		PLASTIC PAVEMENT STRIPING (SOLID LINE) (4" WIDTH) (THERMOPLASTIC 90 MIL)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
732-02-02000	1.174	MILE		
Description:	☑ BASE BID		MAILBOXES	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
735-01-00100	1	EACH		
Description:	☑ BASE BID		MAILBOX SUPPORTS (SINGLE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
735-02-00100	1	EACH		
Description:	☑ BASE BID		CONSTRUCTION LAYOUT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
740-01-00100	1	LUMP		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		TEMPORARY SHEETING (STEEL)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
802-03-00100	1,260	SQFT		
Description:	☑ BASE BID		PRECAST CONCRETE PILES (18")	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
804-01-00400	2,720	LNFT		
Description:	☑ BASE BID		CLASS A1 CONCRETE (SLAB SPAN)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
805-01-00100	210.91	CUYD		
Description:	☑ BASE BID		CLASS A1 CONCRETE (BENT CAP)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
805-01-00300	57.66	CUYD		
Description:	☑ BASE BID		CONCRETE FINISH (CLASS 2 RUBBED FINISH)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
805-18-00100	1,920	SQFT		
Description:	☑ BASE BID		CONCRETE FINISH (CLASS 3 SPECIAL FINISH)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
805-18-00200	4,654	SQFT		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		DEFORMED REINFORCING STEEL	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
806-01-00100	52,718	LB		
Description:	☑ BASE BID		DEFORMED REINFORCING STEEL MECHANICAL SPLICE (NO. 5 IN BENT)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
806-03-00100	16	EACH		
Description:	☑ BASE BID		DEFORMED REINFORCING STEEL MECHANICAL SPLICE (NO. 8 IN BENT)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
806-03-00100	48	EACH		
Description:	☑ BASE BID		CONCRETE BRIDGE RAILING (STANDARD)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
810-01-00100	80	LNFT		
Description:	☑ BASE BID		CONCRETE BRIDGE RAILING (SLOTTED)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
810-01-00200	200	LNFT		
Description:	☑ BASE BID		CONCRETE APPROACH SLABS (CAST-IN-PLACE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
813-01-00100	1,240	SQFT		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

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

Description:	☑ BASE BID		ELASTOMERIC BEARING PADS (NON-REINFORCED)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
814-01-00100	171	SFIN		
Description:	☑ BASE BID		JOINT SEAL (POURED)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
815-03-00300	240	LNFT		
Description:	☑ BASE BID		SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALT CONCRETE OVERLAY	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
NS-500-00240	180	LNFT		
Description:	☑ BASE BID		SAWCUTS IN ASPHALT CONCRETE LIFTS	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
NS-500-00260	300	LNFT		
Description:	☑ BASE BID		SAW CUTTING ASPHALT CONCRETE PAVEMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
NS-500-00340	3,046	INLF		
Description:	☑ BASE BID		IMPACT ATTENUATOR (CONSTRUCTION ZONE) (TEST LEVEL 3)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
NS-700-00810	2	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

AFFIDAVIT PURSUANT TO LSA-R.S. 38:2224 and 38:2227 FOR BIDDERS FOR PUBLIC WORKS CONTRACTS

STATE OF _____

PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, in and for the above stated State and Parish (or County), personally came and appeared:

_____

Print Name

who, after first being duly sworn, did depose and state:

1. That affiant is appearing on behalf of _____, who is seeking a public contract with St. Tammany Parish Government.

2. That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

3. That no part of the contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.

4. If affiant is a sole proprietor, that after July 2, 2010, he/she has not been convicted of, or has not entered a plea of guilty or nolo contendere to any of the crimes or equivalent federal crimes listed in LSA-R.S. 38:2227(B).

5. If affiant is executing this affidavit on behalf of a juridical entity such as a partnership, corporation, or LLC, etc., that no individual partner, incorporator, director, manager, officer, organizer, or member, who has a minimum of a ten percent ownership in the bidding entity, has been convicted of, or has entered a plea of guilty or *nolo contendere* to any

of the crimes or equivalent federal crimes listed in LSA-R.S. 38:2227(B).

6. If affiant is a sole proprietor, that neither affiant, nor his/her immediate family is a public servant of St. Tammany Parish Government or the Contract is not under the supervision or jurisdiction of the public servant's agency.

7. If affiant is executing this affidavit on behalf of a juridical entity such as a partnership, corporation, or LLC, etc., that no public servant of St. Tammany Parish Government, or his/her immediate family, either individually or collectively, has more than a 25% ownership interest in the entity seeking the Contract with St. Tammany Parish Government if the Contract will be under the supervision or jurisdiction of the public servant's agency.

_____

Printed Name: _____

Title: _____

Entity name: _____

THUS SWORN TO AND SUBSCRIBED BEFORE ME,
THIS_____, DAY OF _____, 202__.

_____

Notary Public

Print Name: _____

Notary I.D./Bar No.: _____

My commission expires: _____

AFFIDAVIT PURSUANT TO LSA-R.S. 38:2212.10 CONFIRMING REGISTRATION AND PARTICIPATION IN A STATUS VERIFICATION SYSTEM

STATE OF _____

PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, in and for the above stated State and Parish (or County), personally came and appeared:

_____

Print Name

who, after first being duly sworn, did depose and state:

1. That affiant is appearing on behalf of _____, a private employer seeking a bid or a contract with St. Tammany Parish Government for the physical performance of services within the State of Louisiana.

2. That affiant is registered and participates in a status verification system to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens; and

3. That affiant 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.

4. That affiant shall require all subcontractors to submit to the affiant a sworn affidavit verifying compliance with this law.

_____

Printed Name: _____

Title: _____

Name of Entity: _____

THUS SWORN TO AND SUBSCRIBED BEFORE ME,
THIS_____, DAY OF _____, 202__.

_____

Notary Public

Print Name: _____

Notary I.D./Bar No.: _____

My commission expires: _____

Section 06

INSURANCE REQUIREMENTS*

Construction Project: Rousseau Rd Over Soap & Tallow Branch

Project Bid#: 25-34-2

IMPORTANT – PLEASE READ

Prior to submitting your quote or bid, it is recommended that you review these insurance requirements with your insurance broker/agent.

These requirements modify portions of the insurance language found in the General Conditions and/or* Supplementary *General Conditions; however, there is no intention to remove all sections pertaining to insurance requirements and limits set forth in the General Conditions and/or Supplementary General Conditions, only to amend and specify those items particular for this Project.

A. The Provider shall secure and maintain at its expense such insurance that will protect it and St. Tammany Parish Government (the "Parish") from claims for bodily injury, death or property damage as well as from claims under the Workers' Compensation Acts that may arise from the performance of services under this agreement. All certificates of insurance shall be furnished to the Parish and provide thirty (30) days prior notice of cancellation to the Parish, in writing, on all of the required coverage.

B. All policies shall provide for and certificates of insurance shall indicate the following:

1. Waiver of Subrogation: The Provider's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance.

2. Additional Insured: St. Tammany Parish Government shall be named as Additional Insured with respect to general liability, automobile liability and excess liability coverages, as well as marine liability and pollution/environmental liability, when those coverages are required or necessary.

3. Payment of Premiums: The insurance companies issuing the policy or policies will have no recourse against St. Tammany Parish Government for payment of any premiums or for assessments under any form of policy.

4. Project Reference: The project(s) and location(s) shall be referenced in the Comment or Description of Operations section of the Certificate of Insurance (Project ##-###, or Bid # if applicable, Type of Work, Location).

C. Coverage must be issued by insurance companies authorized to do business in the State of Louisiana. Companies must have an A.M. Best rating of no less than A-, Category VII. St. Tammany Parish Risk Management Department may waive this requirement only for Workers Compensation coverage at their discretion.

Provider shall secure and present proof of insurance on forms acceptable to St. Tammany Parish Government, Office of Risk Management no later than the time of submission of the Contract to the Parish. However, should any work performed under this Contract by or on behalf of Provider include exposures that are not covered by those insurance coverages, Provider is not relieved of its obligation to maintain appropriate levels and types of insurance necessary to protect itself, its agents and employees, its subcontractors, St. Tammany Parish Government (Owner), and all other interested third parties, from any and all claims for damage or injury in connection with the services performed or provided throughout the duration of this Project, as well as for any subsequent periods required under this Contract.

The insurance coverages checked (✓) below are those required for this Contract.

☑ 1. **Commercial General Liability*** insurance – **Occurrence Form** - with a Combined Single Limit for bodily injury and property damage of at least $2,000,000 per Occurrence / $4,000,000 General Aggregate and $2,000,000 Products-Completed Operations. Contracts over $1,000,000 may require higher limits. The insurance shall provide for and the certificate(s) of insurance shall indicate the following coverages:

a) Premises - operations;
b) Broad form contractual liability;
c) Products and completed operations;
d) Personal/Advertising Injury;
e) Broad form property damage (for Projects involving work on Parish property);
f) Explosion, Collapse and Damage to underground property.
g) Additional Insured forms CG 2010 and CG 2037 in most current edition are required.

☑ 2. **Business Automobile Liability*** insurance with a Combined Single Limit of $1,000,000 per Occurrence for bodily injury and property damage, and shall include coverage for the following:

a) Any auto;
or
b) Owned autos; **and**
c) Hired autos; **and**
d) Non-owned autos.

☑ 3. **Workers' Compensation/Employers Liability insurance*** - Workers' Compensation coverage as required by State law. Employers' liability limits shall be a minimum of $1,000,000 each accident, $1,000,000 each disease, $1,000,000 disease policy aggregate. When water activities are expected to be performed in connection with this project, coverage under the USL&H Act, Jones Act and/or Maritime Employers Liability (MEL) must be included. **Coverage for owners, officers and/or partners in any way engaged in the Project shall be included in the policy.** The names of any excluded individual must be shown in the Description of Operations/Comments section of the Certificate**.**

☐ 4. **Pollution Liability and Environmental Liability*** insurance in the minimum amount of $1,000,000 per occurrence / $2,000,000 aggregate including full contractual liability and third party claims for bodily injury and/or property damage, for all such hazardous waste, pollutants and/or environmental exposures that may be affected by this project stemming from pollution/environmental incidents as a result of Contractor's operations.

If coverage is provided on a claims-made basis, the following conditions apply:

1) the retroactive date must be prior to or coinciding with the effective date of the Contract, or prior to the commencement of any services provided by the Contractor on behalf of the Parish, whichever is earlier; AND
2) continuous coverage must be provided to the Parish with the same retro date for 24 months following acceptance or termination of the Project by the Parish either by
    a) continued renewal certificates **OR**
    b) a 24 month Extended Reporting Period

*The Certificate must indicate whether the policy is written on an occurrence or claims-made basis and, if claims-made, the applicable retro date must be stated.

☑ 5. **Contractor's Professional Liability/Errors and Omissions*** insurance in the sum of at least $1,000,000 per claim / $2,000,000 aggregate is required when work performed by Contractor or on behalf of Contractor includes professional or technical services including, but not limited to, construction administration and/or management, engineering services such as design, surveying, and/or inspection, technical services such as testing and laboratory analysis, and/or environmental assessments. An occurrence basis policy is preferred.

If coverage is provided on a claims-made basis, the following conditions apply:

1) the retroactive date must be prior to or coinciding with the effective date of the Contract, or prior to the commencement of any services provided by the Contractor on behalf of the Parish, whichever is earlier; AND
2) continuous coverage must be provided to the Parish with the same retro date for 24 months following acceptance or termination of the Project by the Parish either by
    a) continued renewal certificates **OR**
    b) a 24 month Extended Reporting Period

*The Certificate must indicate whether the policy is written on an occurrence or claims-made basis and, if claims-made, the applicable retro date must be stated.

☐ 6. **Marine Liability/Protection and Indemnity*** insurance is required for any and all vessel and/or marine operations in the minimum limits of $1,000,000 per occurrence / $2,000,000 per project general aggregate. The coverage shall include, but is not limited to, the basic coverages found in the Commercial General Liability insurance and coverage for third party liability

***Excess/Umbrella Liability** insurance may be provided to meet the limit requirements for any Liability coverage. For example: if the General Liability requirement is $3,000,000 per occurrence, but the policy is only $1,000,000 per occurrence, then the excess policy should be at least $2,000,000 per occurrence thereby providing a combined per occurrence limit of $3,000,000.)

☑ 7. **Owners Protective Liability (OPL)** shall be furnished by the Contractor and shall provide coverage in the minimum amount of $1,000,000 CSL each occurrence / $1,000,000 aggregate. **St. Tammany Parish Government, ATTN: Risk Management Department, P. O. Box 628, Covington, LA 70434 shall be the first named insured on the policy**.

☑ 8. **Builder's Risk Insurance** written as an "all-risk" policy providing coverage in an amount at or greater than one hundred percent (100%) of the completed value of the contracted project. Any contract modifications increasing the contract cost will require an increase in the limit of the Builder's Risk policy. Deductibles should not exceed $5,000 and Contractor shall be responsible for all policy deductibles. This insurance shall cover materials at the site, stored off the site, and in transit. The Builder's Risk Insurance shall include the interests of the Owner, Contractor and Subcontractors and shall terminate only when the Project is accepted in writing. **St. Tammany Parish Government, ATTN: Risk Management Department, P. O. Box 628, Covington, LA 70434 shall be named as a Loss Payee on the policy**.

☐ 9. **Installation Floater Insurance**, on an "all-risk" form, shall be furnished by Contractor and carried for the full value of the materials, machinery, equipment and labor for each location. The Contractor shall be responsible for all policy deductibles. The Installation Floater Insurance shall provide coverage for property owned by others and include the interests of the Owner, Contractor and Subcontractors and shall terminate only when the Project is accepted in writing. **St. Tammany Parish Government, ATTN: Risk Management Department, P. O. Box 628, Covington, LA 70434 shall be named as a Loss Payee on the policy**.

D. All policies of insurance shall meet the requirements of the Parish prior to the commencing of any work. The Parish has the right, but not the duty, to approve all insurance coverages prior to commencement of work. If any of the required policies are or become unsatisfactory to the Parish as to form or substance; or if a company issuing any policy is or becomes unsatisfactory to the Parish, the Provider shall promptly obtain a new policy, timely submit same to the Parish for approval, and submit a certificate thereof as provided above. The Parish agrees not to unreasonably withhold approval of any insurance carrier selected by Provider. In the event that Parish cannot agree or otherwise authorize a carrier, Provider shall have the option of selecting and submitting a new insurance carrier within 30 days of said notice by the Parish. In the event that the second submission is insufficient or is not approved, then the Parish shall have the unilateral opportunity to thereafter select a responsive and responsible insurance carrier all at the cost of Provider and thereafter deduct from Provider's fee the cost of such insurance.

E Upon failure of Provider to furnish, deliver and/or maintain such insurance as above provided, this contract, at the election of the Parish, may be declared suspended, discontinued or terminated. Failure of the Provider to maintain insurance shall not relieve the Provider from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligation of the Provider concerning indemnification.

F. Provider shall maintain a current copy of all annual insurance policies and agrees to provide a certificate of insurance to the Parish on an annual basis or as may be reasonably requested for the term of the contract or any required Extended Reporting Period. Provider further shall ensure that all insurance policies are maintained in full force and effect throughout the duration of the Project and shall provide the Parish with annual renewal certificates of insurance evidencing continued coverage, without any prompting by the Parish.

G. It shall be the responsibility of Provider to require that these insurance requirements are met by all contractors and sub-contractors performing work for and on behalf of Provider. Provider shall further ensure the Parish is named as an additional insured on all insurance policies provided by said contractor and/or sub-contractor throughout the duration of the project.

H. Certificates of Insurance shall be issued as follows:

St. Tammany Parish Government
Attn: Risk Management
P O Box 628
Covington, LA 70434

To avoid contract processing delays, be certain the project name/number is included on all correspondence including Certificates of Insurance.

***NOTICE*: St. Tammany Parish Government reserves the rights to remove, replace, make additions to and/or modify any and all of the insurance requirements at any time.**

Any inquiry regarding these insurance requirements should be addressed to:

St. Tammany Parish Government
Office of Risk Management
P O Box 628
Covington, LA 70434
Telephone: 985-898-5226
Email: riskman@stpgov.org

Section 07

Project Signs

1. General

a. Work to include providing and installing project sign(s) at the beginning of the project. Some projects may require multiple signs. Should more than one sign be required, it will be reflected in the bidding documents.

2. Materials

a. The printed project sign(s) shall be 3/8" primed Medium Density Overlay (MDO) **OR** 3-millimeter corrugated plastic secured to exterior plywood (4' x 4').

b. Contractor shall not use previously provided templates and/or fonts.

3. Execution

a. The sign(s) shall be printed on a project-by-project basis in black and white, using the template and font provided to the Contractor by the St. Tammany Parish Government Project Manager.

b. All signage proofed and approved by State Tammany Parish Government before project sign(s) are to be produced by the Contractor.

c. Exact placement of the project sign(s) must be coordinated with, and approved by, the St. Tammany Parish Government Project Manager prior to sign installation.

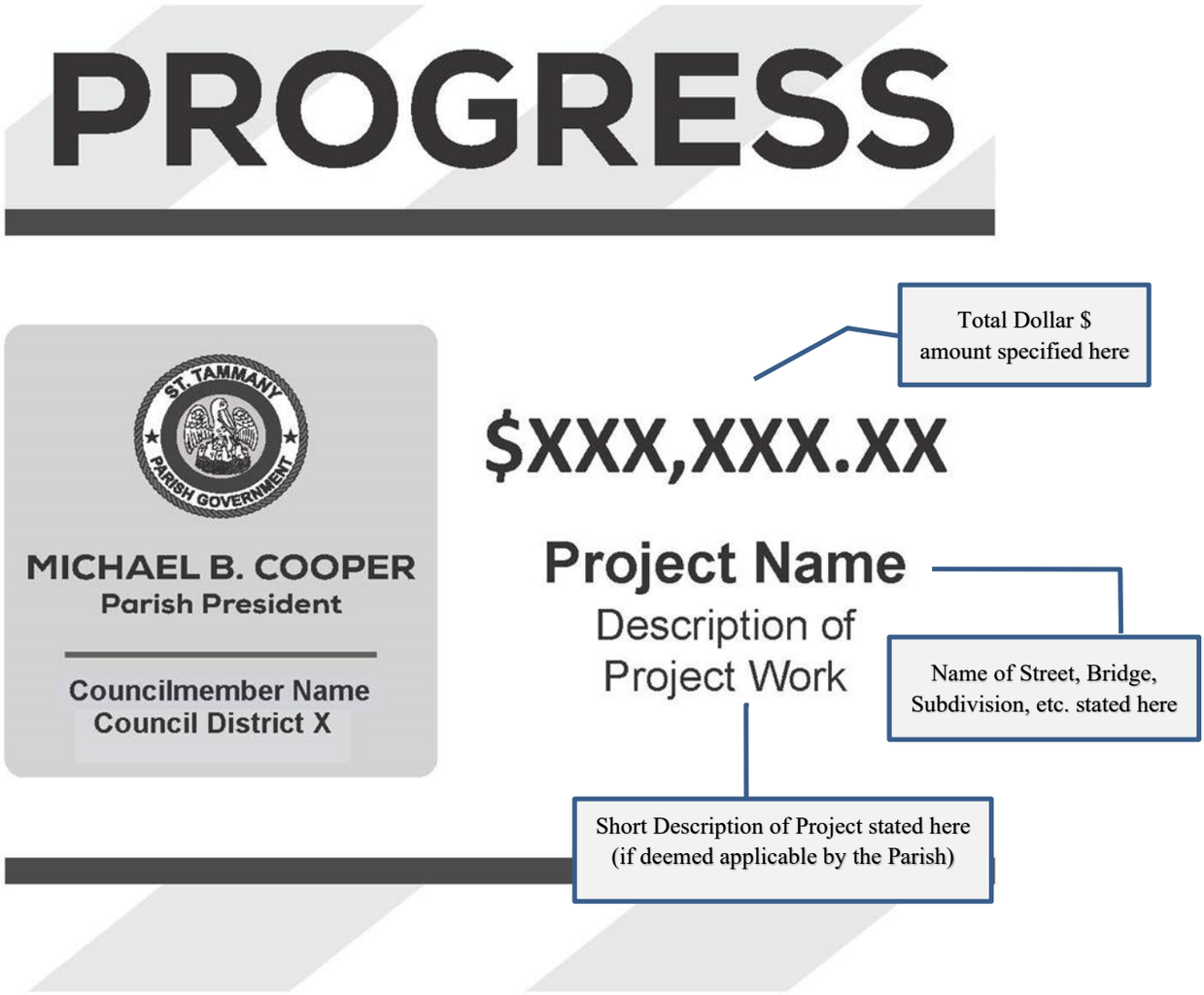
d. The sign(s) is to be installed such that the bottom of the sign is a minimum of 5' above the existing ground elevation.

e. Sign(s) is to be maintained throughout the period of construction. If sign(s) is damaged or destroyed, repair and/or replacement of sign(s) will be at Contractor's expense.

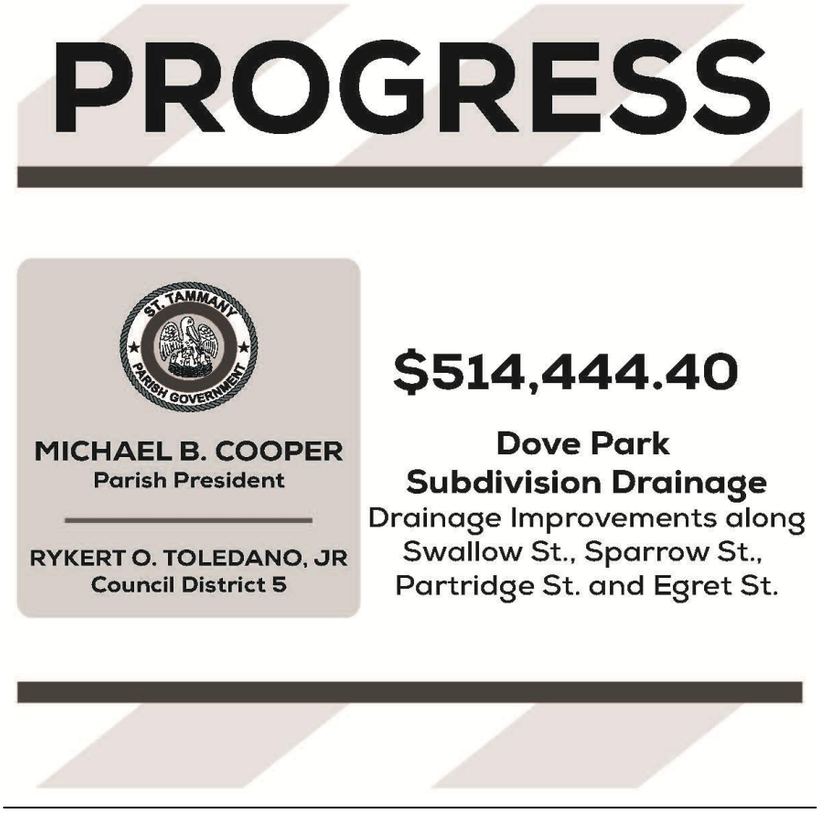
f. Contractor is responsible for the removal of all project signs upon issuance of final acceptance by the St. Tammany Parish Government Project Manager at no direct pay.

g. Cost to be included in "Temporary Signs and Barricades

Blank Template of Parish Project Sign:



Example of a Completed Parish Project Sign:



Section 08

General Conditions for St. Tammany Parish Government

This index is for illustrative purposes only and is not intended to be complete nor exhaustive.

All bidders/contractors are presumed to have read and understood the entire document. Some information contained in these conditions may not be applicable to all projects.

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01.00 DEFINITIONS OF TERMS

Whenever used in these General Conditions or in other Contract Documents, the following terms shall have the meanings indicated, and these shall be applicable to both the singular and plural thereof.

01.01 A.A.S.H.T.O American Association of State Highway and Transportation Officials. When A.A.S.H.T.O. is referred to in these Specifications it takes the meaning of the specification for materials and methods of testing specified by this association and the specification stated is considered to be a part of the Specifications as if written herein in full.

01.02 A.C.I American Concrete Institute. When A.C.I. is referred to in these Specifications it takes the meaning of the specification for materials and methods of testing specified by this institute and the specification stated is considered to be a part of the Specifications as if written herein in full.

01.03 Addenda Written or graphic instruments issued prior to the opening of bids which clarify, correct, modify or change the bidding or Contract Documents.

01.04 Advertisement The written instrument issued by the Owner at the request of the Owner used to notify the prospective bidder of the nature of the Work. It becomes part of the Contract Documents.

01.05 Agreement The written agreement or contract between the Owner and the Contractor covering the Work to be performed and the price that the Owner will pay. Other documents, including the Proposal, Addenda, Specifications, plans, surety, insurance, etc., are made a part thereof.

01.06 Application for Payment The form furnished by the Owner which is to be used by the Contractor in requesting incremental (progress) payments and which is to include information required by Section 28.01 and an affidavit of the Contractor. The affidavit shall stipulate that progress payments theretofore received from the Owner on account of the Work have been applied by Contractor to discharge in full of all Contractor's obligations reflected in prior applications for payment.

01.07 A.S.T.M. American Society of Testing Materials. When A.S.T.M. is referred to in these Specifications it takes the meaning of the specification for materials and methods of testing specified by this society and the specification stated is considered to be a part of the Specifications as if written herein in full.

01.08 Bid The offer or Proposal of the Bidder submitted on the prescribed form setting forth all the prices for the Work to be performed.

01.09 Bidder Any person, partnership, firm or corporation submitting a Bid for the Work.

01.10 Bonds Bid, performance and payment bonds and other instruments of security, furnished by the Contractor and its surety in accordance with the Contract Documents and Louisiana law.

01.11 Change Order A written order to the Contractor signed by the Owner authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time after execution of the Agreement.

01.12 Contract Documents The Agreement, Addenda, Contractor's Bid and any documentation accompanying or post-bid documentation when attached as an exhibit, the Bonds, these General Conditions, the Advertisement for Bid, Notice to Contractor, all supplementary conditions, the Specifications, the Drawings, together with all Modifications issued after the execution of the Agreement.

01.13 Contract Price The total monies payable to the Contractor under the Contract Documents.

01.14 Contract Time The number of consecutive calendar days stated in the Agreement for the completion of the Work.

01.15 Contractor The person, firm, corporation or Contractor with whom the Owner has executed the Agreement.

01.16 Defective Work When work which is unsatisfactory, faulty or deficient for any reason whatsoever, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to the Owner's recommendation or acceptance.

01.17 Drawings The Drawings and plans which show the character and scope of the Work to be performed and which have been prepared or approved by the Owner and are referred to in the Contract Documents.

01.18 Field Order A written order issued by the Owner or his agent which clarifies or interprets the Contract Documents.

01.19 Modification (a) A written amendment of the Contract Documents signed by both parties, (b) A Change Order, (c) A written clarification or interpretation issued by the Owner or his agent. Modification may only be issued after execution of the Agreement.

01.20 Notice of Award The written notice by Owner to the lowest responsible Bidder stating that upon compliance of the conditions enumerated in the Notice of Award, or enumerated in the Bid documents, the Owner will deliver the Contract Documents for signature. The time for the delivery of the Contract Documents can be extended in conformance with Louisiana Law.

01.21 Notice to Contractor Instructions, written or oral given by Owner to Contractor and deemed served if given to the Contractor's superintendent, foreman or mailed to Contractor at his last known place of business.

01.22 Notice to Proceed A written notice given by the Owner fixing the date on which the Contract Time will commence, and on which date the Contractor shall start to perform his obligation under the Contract Documents. Upon mutual consent by both parties, the Notice to Proceed may be extended.

01.23 Owner St. Tammany Parish Government, acting herein through its duly constituted and authorized representative, including but not limited to the Office of the Parish President or its designee, its Chief Administrative Officer, and/or Legal Counsel. St. Tammany Parish Government (hereinafter, the “Parish”) and Owner may be used interchangeably.

01.24 Project The entire construction to be performed as provided in the Contract Documents.

01.25 Project Representative The authorized representative of the Owner who is assigned to the Project or any parts thereof.

01.26 Proposal The Bid submitted by the Bidder to the Owner on the Proposal form setting forth the Work to be done and the price for which the Bidder agrees to perform the Work.

01.27 Shop Drawings All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, Subcontractor, Manufacturer, Supplier or Distributor and which illustrate the equipment, material or some portion of the Work.

01.28 Specifications The Instructions to Bidders, these General Conditions, the Special Conditions and the Technical Provisions. All of the documents listed in the "Table of Contents."

01.29 Subcontractor An individual, firm or corporation having a direct Contract with the Contractor or with any other Subcontractor for the performance of a part of the Project Work.

01.30 Substantial Completion The date as certified by the Owner or its agent when the construction of the Project or a specified part thereof is sufficiently complete in accordance with the Contract Documents so that the Project or specified part can be utilized for the

purposes for which it was intended; or if there is no such certification, the date when final payment is due in accordance with Section 28.

01.31 Superintendent Contractor's site representative. The person on the site who is in full and complete charge of the Work.

01.32 Time Unless specifically stated otherwise, all time delays shall be calculated in calendar days.

01.33 Work Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the Contractor under the Contract Documents, usually including the furnishing of all labor, materials, equipment and other incidentals.

01.34 The terms “he/himself” may be used interchangeably with “it/itself.”

02.00 PROPOSAL

02.01 All papers bound with or attached to the Proposal Form are a necessary part thereof and must not be detached.

02.02 For submitting Bids, the only forms allowed shall be the “Louisiana Uniform Public Work Bid Form”, “Louisiana Uniform Public Works Bid Form Unit Price Form” (if necessary), the Bid Bond, and written evidence of authority of person signing the bid. Necessary copies of the Louisiana Uniform Public Work Forms will be furnished for Bidding. Bound sets of the Contract Documents are for Bidder's information and should not be used in submitting Bids.

02.03 Proposal forms must be printed in ink or typed, unless submitted electronically. Illegibility or ambiguity therein may constitute justification for rejection of the Bid.

02.04 Each Bid must be submitted in a sealed envelope, unless submitted electronically. The outside of the envelope shall show the name and address of the Bidder, the State Contractor’s License Number of the Bidder (if work requires contractor’s license), and the Project name and number for which the Bid is submitted, along with the Bid number.

02.05 The price quoted for the Work shall be stated in words and figures on the Bid Form, and in numbers only on the Unit Price Form. The price in the Proposal shall include all costs necessary for the complete performance of the Work in full conformity with the conditions of the Contract Documents, and shall include all applicable Federal, State, Parish, Municipal or other taxes. The price bid for the items listed on the Unit Price Form will include the cost of all related items not listed, but which are normally required to do the type of Work bid.

02.06 The Bid shall be signed by the Bidder. The information required on the Louisiana Uniform Public Work Bid Form must be provided. Evidence of agency, corporate, or partnership authority is required and shall be provided in conformance with LSA-R.S. 38:2212(B).

02.07 Only the Contractors licensed by the State to do the type of Work involved can submit a Proposal for the Work. The envelope containing the Proposal shall have the Contractor's license number on it. Failure to be properly licensed constitutes authority by the Owner for rejection of Bid.

02.08 Bidders shall not attach any conditions or provisions to the Proposal. Any conditions or provisions so attached may, at the sole option of the Owner, cause rejection of the Bid or Proposal.

02.09 A Bid Guarantee of five percent (5%) of the amount of the total Bid, including Alternates, must accompany the Proposal and, at the option of the Bidder, may be a cashier's check, certified check or a satisfactory Bid Bond. The Bid Guarantee must be attached to the Louisiana Uniform Public Work Bid Form. No Bid will be considered unless it is so guaranteed. Cashier's check or certified check must be made payable to the order of the Owner. Cash deposits will not be accepted. The Owner reserves the right to cash or deposit the cashier's check or certified check. Such guarantees shall be made payable to the Parish

of St. Tammany. In accordance with LSA-R.S. 38:2218(C), if a bid bond is used, it shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide, or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents. It is **not** required to be on any AIA form.

02.10 Bid securities of the three (3) lowest Bidders will be retained by the Owner until the Contract is executed or until final disposition is made of the Bids submitted. Bid securities of all other Bidders will be returned promptly after the canvas of Bids. Bids shall remain binding for forty-five (45) days after the date set for Bid Opening. The Parish shall act within the forty-five (45) days to award the contract to the lowest responsible bidder or reject all bids as permitted by Public Bid Law. However, the Parish and the lowest responsible bidder, by mutual written consent, may agree to extend the deadline for award by one or more extensions of thirty (30) calendar days. In the event the Owner issued the Letter of Award during this period, or any extension thereof, the Bid accepted shall continue to remain binding until the Execution of the Contract.

02.11 A Proposal may be withdrawn at any time prior to the scheduled closing time for receipt of Bids, provided the request is in writing, executed by the Bidder or its duly authorized representative and is filed with the Owner prior to that time. When such a request is received, the Proposal will be returned to the Bidder unopened.

02.12 Written communications, over the signature of the Bidder, to modify Proposals will be accepted and the Proposal corrected in accordance therewith if received by the Owner prior to the scheduled closing time for receipt of Bids. Oral, telephonic or telegraphic Modifications will not be considered.

02.13 No oral interpretation obligating the Owner will be made to any Bidder as to the meaning of the Drawings, Specifications and Contract Documents. Every request for such an interpretation shall be made in writing and addressed and forwarded to the Owner. No inquiry received within seven (7) days prior to the day fixed for opening of the Bids shall be given consideration. Every interpretation made to the Bidder shall be in the form of an addendum to the Specifications. All such Addenda shall become part of the Contract Documents. Failure of Bidder to receive any such interpretation shall not relieve any Bidder from any obligation under this Bid. All Addenda shall be issued in accordance with the Public Bid Law, LSA-R.S. 38:2212(O)(2)(a) and (b).

02.14 The Owner reserves the right to reject any or all Bids for just cause in accordance with the Public Bid Law, LSA-R.S. 38:2214(B). Incomplete, informal or unbalanced Bids may be rejected. Reasonable grounds for belief that any one Bidder is concerned directly or indirectly with more than one Bid will cause rejection of all Bids wherein such Bidder is concerned. If required, a Bidder shall furnish satisfactory evidence of its competence and ability to perform the Work stipulated in its Proposal. Incompetence will constitute cause for rejection. If the Parish determines that the bidder is not responsive or responsible for any reason whatsoever, the bid may be rejected in accordance with State law.

02.15 The Contractor shall indemnify and hold harmless the Owner from any and all suits, costs, penalties or claims for infringement by reason of use or installation of any patented design, device, material or process, or any trademark and copyright in connection with the Work agreed to be performed under this Contract, and shall indemnify and hold harmless the Owner for any costs, expenses and damages which it may be obliged to pay by reason of any such infringement at any time during the prosecution or after completion of the Work.

02.16 Bidders shall familiarize themselves with and shall comply with all applicable Federal and State Laws, municipal ordinances and the rules and regulations of all authorities having jurisdiction over construction of the Project, which may directly or indirectly affect the Work or its prosecution. These laws and/or ordinances will be deemed to be included in the Contract, as though herein written in full.

02.17 Each Bidder shall visit the site of the proposed Work and fully acquaint itself with all surface and subsurface conditions as they may exist so that it may fully understand this

Contract. Bidder shall also thoroughly examine and be familiar with drawings, Specifications and Contract Documents. The failure or omission of any Bidder to receive or examine any form instrument, Drawing or document or to visit the site and acquaint itself with existing conditions, shall in no way relieve any Bidder from any obligation with respect to its Bid and the responsibility in the premises.

02.18 The standard contract form enclosed with the Proposal documents is a prototype. It is enclosed with the Contract Documents for the guidance of the Owner and the Contractor. It has important legal consequences in all respects and consultation with an attorney is encouraged. Contractor shall be presumed to have consulted with its own independent legal counsel.

02.19 When one set of Contract plans show the Work to be performed by two or more prime Contractors, it is the responsibility of each Bidder to become knowledgeable of the Work to be performed by the other where the Work upon which this bid is submitted is shown to come into close proximity or into conflict with the Work of the other. In avoiding conflicts, pressure pipe lines must be installed to avoid conflict with gravity pipe lines and the Bidder of the smaller gravity pipe line in conflict with the larger gravity pipe line must include in his Bid the cost of a conflict box at these locations. The location of and a solution to the conflicts do not have to be specifically noted as such on the plans.

02.20 Bidder shall execute affidavit(s) attesting compliance with LSA-R.S. 38:2212.10, 38:2224, 38:2227, each as amended, and other affidavits as required by law, prior to execution of the contract.

02.21 Sealed Proposals (Bid) shall be received by St. Tammany Parish Government at the office of St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471, until the time and date denoted in Notice to Bidders, at which time and place the Proposals (Bids), shall be publicly opened and read aloud to those present. In accordance with LSA-R.S. 38-2212(A)(3)(c)(i), the designer's final estimated cost of construction shall be read aloud upon opening bids. Sealed Proposals (Bids) may also be mailed by certified mail to St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471, and must be received before the bid opening. Bids may also be submitted electronically. Information concerning links for electronic bidding is contained in the Notice to Bidders.

02.22 Proposals (Bids) shall be executed on Forms furnished and placed in a sealed envelope, marked plainly and prominently as indicated in the Notice to Bidders, and these General Conditions, and addressed:

St. Tammany Parish Government
Department of Procurement
21454 Koop Drive, Suite 2-F
Mandeville, LA 70471

02.23 See Notice to Bidders for availability of Drawings, Specifications and Contract Documents via electronic methods.

02.24 The successful Bidder shall be required to post in each direction a public information sign, 4' x 4' in size, at the location of the project containing information required by the Owner. The Owner shall supply this information.

03.00 AWARD, EXECUTION OF DOCUMENTS, BONDS, ETC.

03.01 The award of the Contract, if it is awarded, will be to the lowest responsible Bidder, in accordance with State Law. No award will be made until the Owner has concluded such investigations as it deems necessary to establish the responsibility, qualifications and financial ability and stability of the Bidder to do the Work in accordance with the Contract Documents to the satisfaction of the Owner within the time prescribed as established by the Department based upon the amount of work to be performed and the conditions of same. The written contract and bond shall be issued in conformance with LSA-R.S. 38:2216. The Owner reserves the right to reject the Bid of any Bidder in accordance with the Public Bid Law, LSA-R.S. 38:2214. If the Contract is awarded, the Owner shall give the successful Bidder written notice of the award within forty-five (45) calendar days after

the opening of the Bids in conformance with LSA-R.S. 38:2215(A), or any extension as authorized thereunder.

03.02 At least three counterparts of the Agreement and of such other Contract Documents as practicable shall be signed by the Owner and the Contractor. The Owner shall identify those portions of the Contract Documents not so signed and such identification shall be binding on both parties. The Owner and the Contractor shall each receive an executed counterpart of the Contract Documents.

03.03 Prior to the execution of the Agreement, the Contractor shall deliver to the Owner the required Bonds.

03.04 Failure of the successful Bidder to execute the Agreement and deliver the required Bonds within twenty (20) days of the Notice of the Award shall be just cause for the Owner to annul the award and declare the Bid and any guarantee thereof forfeited.

03.05 In order to ensure the faithful performance of each and every condition, stipulation and requirement of the Contract and to indemnify and save harmless the Owner from any and all damages, either directly or indirectly arising out of any failure to perform same, the successful Bidder to whom the Contract is awarded shall furnish a surety Bond in an amount of at least equal to one hundred percent (100%) of the Contract Price. The Contract shall not be in force or binding upon the Owner until such satisfactory Bond has been provided to and approved by the Parish. The cost of the Bond shall be paid for by the Contractor unless otherwise stipulated in the Special Provisions.

03.06 No surety Company will be accepted as a bondsman who has no permanent agent or representative in the State upon whom notices referred to in the General Conditions of these Specifications may be served. Services of said notice on said agent or representative in the State shall be equal to service of notice on the President of the Surety Company, or such other officer as may be concerned.

03.07 In conformance with LSA-R.S. 38:2219(A)(1)(a), (b), and (c):

> Any surety bond written for a public works project shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide, to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.
>
> For any public works project, no surety or insurance company shall write a bond which is in excess of the amount indicated as approved by the U.S. Department of the Treasury Financial Management Service list or by a Louisiana domiciled insurance company with an A- rating by A.M. Best up to a limit of ten percent of policyholders' surplus as shown by A.M. Best; companies authorized by this Paragraph who are not on the treasury list shall not write a bond when the penalty exceeds fifteen percent of its capital and surplus, such capital and surplus being the amount by which the company's assets exceed its liabilities as reflected by the most recent financial statements filed by the company with the Department of Insurance.
>
> In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the state of Louisiana. All contractors must comply with any other applicable provisions of LSA-R.S. 38:2219.

03.08 Should the Contractor's Surety, even though approved and accepted by the Owner, subsequently remove its agency or representative from the State or become insolvent, bankrupt, or otherwise fail, the Contractor shall immediately furnish a new Bond in another company approved by the Owner, at no cost to the Owner. The new Bond shall be executed under the same terms and conditions as the original Bond. The new bond shall be submitted within thirty (30) days of such time as the Owner notifies Contractor or from the time Contractor learns or has reason to know that the original surety is no longer financially viable or acceptable to the Parish, whichever occurs first. In the event that Contractor fails

or refuses to timely secure additional surety, then the Owner may secure such surety and thereafter deduct such cost or expense from any sum due or to become due Contractor.

03.09 The Contractor's bondsman shall obligate itself to all the terms and covenants of these Specifications and of contracts covering the Work executed hereunder. The Owner reserves the right to do Extra Work or make changes by altering, adding to deducting from the Work under the conditions and in the manner herein before described without notice to the Contractor's surety and without in any manner affecting the liability of bondsman or releasing it from any of its obligations hereunder.

03.10 The Bond shall also secure for the Owner the faithful performance of the Contract in strict accordance with plans and Specifications. It shall protect the Owner against all lien laws of the State and shall provide for payment of reasonable attorney fees for enforcement of Contract and institution or concursus proceedings, if such proceedings become necessary. Likewise, it shall provide for all additional expenses of the Owner occurring through failure of the Contractor to perform.

03.11 The surety of the Contractor shall be and does hereby declare and acknowledge itself by acceptance to be bound to the Owner as a guarantor, jointly and in solido, with the Contractor, for fulfillment of terms of Section 03.00.

03.12 The performance Bond and Labor and Material Bond forming part of this Contract shall be continued by Contractor and its Surety for a period of one (1) year from date of acceptance of this Contract by Owner to assure prompt removal and replacement of all defective material, equipment, components thereof, workmanship, etc., and to assure payment of any damage to property of Owner or others as a result of such defective materials, equipment, workmanship, etc.

03.13 Contractor shall pay for the cost of recording the Contract and Bond and the cost of canceling same. Contractor shall also secure and pay for all Clear Lien and Privilege Certificates (together with any updates) which will be required before any final payment is made, and that may be required before any payment, at the request of the Owner, its representative, agent, architect, engineer and the like. All recordation and Clear Lien and Privilege Certificate requirements shall be in accordance with those requirements noted herein before in contract Specifications.

04.00 SUBCONTRACTS

04.01 Contractor shall be fully responsible for all acts and omissions of its Subcontractors and of persons and organizations for whose acts any of them may be liable to the same extent that it is responsible for the acts and omissions of persons directly employed by it. Nothing in the Contract Documents shall create any contractual relationship between Owner and any Subcontractor or other person or organization having a direct Contract with Contractor, nor shall it create any obligation on the part of the Owner to pay or to see to the payment of any monies due any Subcontractor.

04.02 Nothing in the Contract Documents shall be construed to control the Contractor in dividing the Work among approved Subcontractors or delineating the Work to be performed by any trade.

04.03 The Contractor agrees to specifically bind every Subcontractor to all of the applicable terms and conditions of the Contract Documents prior to commencing Work. Every Subcontractor, by undertaking to perform any of the Work, shall thereby automatically be deemed bound by such terms and conditions.

04.04 The Contractor shall indemnify and hold harmless the Owner and their agents and employees from and against all claims, damages, losses and expenses including Attorney's fees arising out of or resulting from the Contractor's failure to bind every Subcontractor and Contractor's surety to all of the applicable terms and conditions of the Contract Documents.

05.00 ASSIGNMENT

05.01 Neither party to this Contract shall assign or sublet its interest in this Contract without prior written consent of the other, nor shall the Contractor assign any monies due or to become due to it under this Contract without previous written consent of the Owner, nor without the consent of the surety unless the surety has waived its right to notice of assignment.

06.00 CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS.

06.01 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between Owner and Contractor. Alterations, modifications and amendments shall only be in writing between these parties.

06.02 The Contract Documents are intended to be complimentary and to be read *in pari materii*, and what is called for by one is as binding as if called for by all. If Contractor finds a conflict, error or discrepancy in the Contract Documents, it shall call it to the Owner's attention, in writing, at once and before proceeding with the Work affected thereby; however, it shall be liable to Owner for its failure to discover any conflict, error or discrepancy in the Specifications or Drawings. In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement, Modifications, Addenda, Special Conditions, General Conditions, Construction Specifications and Drawings. The general notes on the plans shall be considered special provisions. Figure dimensions on Drawings shall govern over scale dimensions and detail Drawings shall govern over general Drawings. Where sewer connections are shown to fall on a lot line between two lots, the Contractor shall determine this location by measurement not by scale. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described herein which so applied to this Project are covered by a well-known technical meaning or specification shall be deemed to be governed by such recognized standards unless specifically excluded.

06.03 Unless otherwise provided in the Contract Documents, the Owner will furnish to the Contractor (free of charge not to exceed ten (10) copies) Drawings and Specifications for the execution of Work. The Drawings and Specifications are the property of the Owner and are to be returned to it when the purpose for which they are intended have been served. The Contractor shall keep one copy of all Drawings and Specifications, including revisions, Addenda, details, Shop Drawings, etc. on the Work in good order and available to the Owner or the regulatory agency of the governmental body having jurisdiction in the area of the Work.

07.00 SHOP DRAWINGS, BROCHURES AND SAMPLES

07.01 After checking and verifying all field measurements, Contractor shall submit to Owner for approval, five copies (or at Owner's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of Contractor and identified as Owner may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable Owner to review the information as required.

07.02 Contractor shall also submit to Owner, for review with such promptness as to cause no delay in Work, all samples as required by the Contract Documents. All samples will have been checked by and stamped with the approval of Contractor identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended. At the time of each submission, Contractor shall in writing call Owner's attention to any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents.

07.03 Owner will review with reasonable promptness Shop Drawings and samples, but its review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make any corrections required by Owner and shall return the required number of

corrected copies of Shop Drawings and resubmit new samples for review. Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by Owner on previous submissions. Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to Owner that Contractor has determined and verified all quantities, dimensions, field construction criteria, materials catalog numbers and similar data and thereafter assumes full responsibility for doing so, and that it has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and the Contract Documents.

07.04 Where a Shop Drawing or sample submission is required by the Specifications, no related Work shall be commenced until the submission has been reviewed by Owner. A copy of each reviewed shop Drawing and each inspected sample shall be kept in good order by Contractor at the site and shall be available to Owner.

07.05 Owner's review of Shop Drawings or samples shall not relieve Contractor from its responsibility for any deviations from the requirements of the Contract Documents unless Contractor has in writing called Owner's attention to such deviation at the time of submission and Owner has given written approval to the specific deviation, nor shall any review by Owner relieve Contractor from responsibility for errors or omissions in the Shop Drawings. The mere submittal of shop drawings which contain deviations from the requirements of plans, specifications and/or previous submittals in itself does not satisfy this requirement.

08.00 RECORD DRAWINGS

08.01 The Contractor shall keep an accurate record in a manner approved by the Owner of all changes in the Contract Documents during construction. In Work concerning underground utilities, the Contractor shall keep an accurate record in a manner approved by the Owner of all valves, fittings, etc. Before the Work is accepted by the Owner, and said acceptance is recorded, the Contractor shall furnish the Owner a copy of this record.

08.02 Contractor shall keep an accurate drawing measured in the field to the nearest 0.1' of the location of all sewer house connections. The location shown shall be the end of the connection at the property line measured along the main line of pipe from a manhole.

08.03 Contractor shall keep an accurate drawing of the storm water drainage collection system. Inverts to the nearest 0.01' and top of castings shall be shown as well as location of all structures to the nearest 0.1'. Upon completion of the Work, the plan will be given to the Owner.

09.00 PROGRESS OF WORK

09.01 Contractor shall conduct the Work in such a professional manner and with sufficient materials, equipment and labor as is considered necessary to ensure its completion within the time limit specified.

09.02 The Owner shall issue a Notice to Proceed to the Contractor within twenty (20) calendar days from the date of execution of the Contract. Upon mutual consent by both parties, the Notice to Proceed may be extended. The Contractor is to commence Work under the Contract within ten (10) calendar days from the date the Notice to Proceed is issued by the Owner.

09.03 The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner's approval an estimated progress schedule for the work to be performed, as well as a construction signing layout for all roads within the project area. The Contractor shall not start work or request partial payment until the work schedule has been submitted to the Owner for approval.

09.04 Revisions to the original schedule will be made based on extension of days granted for inclement weather or change orders issued under the contract. No other revision shall be made which affects the original completion or updated completion date, whichever is applicable.

09.05 Failure of the Contractor to submit an estimated progress schedule or to complete timely and on schedule the Work shown on the progress schedule negates any and all causes or claims by the Contractor for accelerated completion damages. These accelerated damage claims shall be deemed forfeited.

09.06 Meetings will be held as often as necessary to expedite the progress of the job. Meetings will be held during normal working hours at the jobsite and shall be mandatory for the Contractor and all Sub-Contractors working on the project. Meetings may be requested by the Owner at any time and at the discretion of the Owner.

10.00 OWNER'S RIGHT TO PROCEED WITH PORTIONS OF THE WORK

10.01 Upon failure of the Contractor to comply with any notice given in accordance with the provisions hereof, the Owner shall have the alternative right, instead of assuming charge of the entire Work, to place additional forces, tools, equipment and materials on parts of the Work. The cost incurred by the Owner in carrying on such parts of the Work shall be payable by the Contractor. Such Work shall be deemed to be carried on by the Owner on account of the Contractor. The Owner may retain all amounts of the cost of such Work from any sum due Contractor or those funds that may become due to Contractor under this Agreement.

10.02 Owner may perform additional Work related to the Project by itself or it may let any other direct contract which may contain similar General Conditions. Contractor shall afford the other contractors who are parties to such different contracts (or Owner, if it is performing the additional Work itself) reasonable opportunity for the introduction and storage of materials and equipment and the execution of Work, and shall properly connect and coordinate its Work with the subsequent work.

10.03 If any part of Contractor's Work depends upon proper execution or results upon the Work of any such other contractor (or Owner), Contractor shall inspect and promptly report to Owner in writing any defects or deficiencies in such Work that render it unsuitable for such proper execution and results. Failure to so report shall constitute an acceptance of the other Work as fit and proper for the relationship of its Work except as to defects and deficiencies which may appear in the other Work after the execution of its Work.

10.04 Whatever Work is being done by the Owner, other Contractors or by this Contractor, the parties shall respect the various interests of the other parties at all times. The Owner may, at its sole discretion, establish additional rules and regulations concerning such orderly respect of the rights of various interests.

10.05 Contractor shall do all cutting, fitting and patching of its Work that may be required to integrate its several parts properly and fit to receive or be received by such other Work. Contractor shall not endanger any Work of others by cutting, excavating or otherwise altering Work and will only alter Work with the written consent of Owner and of the other contractors whose Work will be affected.

10.06 If the performance of additional Work by other contractors or Owner is not noted in the Contract Documents, written notice thereof shall be given to Contractor prior to starting any such additional Work. If Contractor believes that the performance of such additional Work by Owner or others may cause additional expense or entitles an extension of the Contract Time, the Contractor may make a claim therefor. The claim must be in writing to the Owner within thirty (30) calendar days of receipt of notice from the Owner of the planned additional Work by others.

11.00 TIME OF COMPLETION

11.01 The Notice to Proceed will stipulate the date on which the Contractor shall begin work. That date shall be the beginning of the Contract Time charges.

11.02 Contractor shall notify the Owner through its duly authorized representative, in advance, of where Contractor’s work shall commence each day. A daily log shall be maintained by Contractor to establish dates, times, persons contacted, and location of work. Specific notice shall be made to the Owner if the Contractor plans to work on Saturday, Sunday, or

a Parish approved holiday. If notice is not received, no consideration will be given for inclement weather, and same shall be considered a valid work day.

11.03 The Work covered by the Plans, Specifications and Contract Documents must be completed sufficiently for acceptance within the number of calendar days specified in the Proposal and/or the Contract, commencing from the date specified in the Notice to Proceed. It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the time of completion is an essential condition of this Contract, and it is further mutually understood and agreed that if the Contractor shall neglect, fail or refuse to complete the Work within the time specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as partial consideration for the awarding of this Contract, to pay the Owner based on **Table 3.1** as specified in the Contract, not as a penalty, but as liquidated damages for such breach of contract for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the Work. It is specifically understood that the Owner shall also be entitled to receive a reasonable attorney fee and all costs in the event that Contractor fails to adhere to this agreement and this contract is referred to counsel for any reason whatsoever. Reasonable attorney fees shall be the prevailing hourly rate of the private sector, and in no event shall the hourly rate be less than $175.00 per hour. All attorney fees shall be paid to the operating budget of the Office of the Parish President.

11.04 Prior to final payment, the Contractor may, in writing to the Owner, certify that the entire Project is substantially complete and request that the Owner or its agent issue a certificate of Substantial Completion. See Section 29.00.

11.05 The Owner may grant an extension(s) of time to the Contractor for unusual circumstances which are beyond the control of the Contractor and could not reasonably be foreseen by the Contractor prior to Bidding. Any such request must be made in writing to the Owner within seven (7) calendar days following the event occasioning the delay. The Owner shall have the exclusive and unilateral authority to determine, grant, and/or deny the validity of any such claim.

11.06 Extensions of time for inclement weather shall be processed as follows:

Commencing on the start date of each job, the Parish Inspector assigned to same shall keep a weekly log, indicating on each day whether inclement weather has prohibited the Contractor from working on any project within the specific job, based upon the following:

1. Should the Contractor prepare to begin work on any day in which inclement weather, or the conditions resulting from the weather, prevent work from beginning at the usual starting time, and the crew is dismissed as a result, the Contractor will not be charged for a working day whether or not conditions change during the day and the rest of the day becomes suitable for work.

2. If weather conditions on the previous day prevent Contractor from performing work scheduled, provided that no other work can be performed on any project within the package. The Parish Inspector shall determine if it is financially reasonable to require the Contractor to deviate from the schedule and relocate to another location.

3. If the Contractor is unable to work at least 60% of the normal work day due to inclement weather, provided that a normal working force is engaged on the job.

Any dispute of weather conditions as related to a specific job shall be settled by records of the National Weather Service.

11.07 Extensions of time for change orders

When a change order is issued, the Owner and Contractor will agree on a reasonable time extension, if any, to implement such change. Consideration shall be given for, but not limited to, the following:

1. If material has to be ordered;
2. Remobilization and or relocation of equipment to perform task; and
3. Reasonable time frame to complete additional work.

Time extensions for change orders shall be reflected on the official document signed by the Owner and Contractor.

11.08 At the end of each month, the Owner or its agent will furnish to the Contractor a monthly statement which reflects the number of approved days added to the contract. The Contractor will be allowed fourteen (14) calendar days in which to file a written protest setting forth in what respect the monthly statement is incorrect; otherwise, the statement shall be considered accepted by the Contractor as correct.

11.09 Apart from extension of time for unavoidable delays, no payment or allowance of any kind shall be made to the Contractor as compensation for damages because of hindrance or delay for any cause in the progress of the Work, whether such delay be avoidable or unavoidable.

12.00 LIQUIDATED DAMAGES

12.01 In case the Work is not completed in every respect within the time that may be extended, it is understood and agreed that per diem deductions per **Table 3.1** for liquidated damages, as stipulated in the Proposal and/or Contract, shall be made from the total Contract Price for each and every calendar day after and exclusive of the day on which completion was required, and up to the completion of the Work and acceptance thereof by the Owner. It is understood and agreed that time is of the essence to this Contract, and the above sum being specifically herein agreed upon in advance as the measure of damages to the Owner on account of such delay in the completion of the Work. It is further agreed that the expiration of the term herein assigned or as may be extended for performing the Work shall, *ipso facto*, constitute a putting in default, the Contractor hereby waiving any and all notice of default. The Contractor agrees and consents that the Contract Price, reduced by the aggregate of the entire damages so deducted, shall be accepted in full satisfaction of all Work executed under this Contract. It is further understood and agreed that Contractor shall be liable for a reasonable attorney fee and all costs associated with any breach of this agreement, including but not limited to this subsection. In the event that any dispute or breach herein causes referrals to counsel, then Contractor agrees to pay a reasonable attorney fee at the prevailing hourly rate of the private sector. In no event shall the hourly rate be less than $175.00 per hour.

13.00 LABOR, MATERIALS, EQUIPMENT, SUPERVISION, PERMITS AND TAXES

13.01 The Contractor shall provide and pay for all labor, materials, equipment, supervision, subcontracting, transportation, tools, fuel, power, water, sanitary facilities and all incidentals necessary for the completion of the Work in substantial conformance with the Contract Documents.

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

13.03 Unless otherwise specifically provided for in the Specifications, all workmanship, equipment, materials, and articles incorporated in the Work covered by this Contract are to be new and of the best grade of their respective kinds for the purpose intended. Samples of materials furnished under this Contract shall be submitted for approval to the Owner when and as directed.

13.04 Whenever a material or article required is specified or shown on the plans by using the name of a proprietary product or of a particular manufacturer or Contractor, any material or article which shall perform adequately the duties imposed by the general design will be considered equal, and satisfactory, providing the material or article so proposed is of equal substance and function and that all technical data concerning the proposed substitution be approved by the Owner prior to the Bidding. The Owner shall have the exclusive and unilateral discretion to determine quality and suitability in accordance with LSA-R.S. 38:2212(T)(2).

13.05 Materials shall be properly and securely stored so as to ensure the preservation of quality and fitness for the Work, and in a manner that leaves the material accessible to inspection. Materials or equipment may not be stored on the site in a manner such that it will interfere with the continued operation of streets and driveways or other contractors working on the site.

13.06 The Contractor, by entering into the Contract for this Work, sets itself forth as an expert in the field of construction and it shall supervise and direct the Work efficiently and with its best skill and attention. It shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.

13.07 Contractor shall keep on the Work, at all times during its progress, a competent resident Superintendent, who shall not be replaced without written Notice to Owner except under extraordinary circumstances. The Superintendent will be Contractor's representative at the site and shall have authority to act on behalf of Contractor. All communications given to the Superintendent shall be as binding as if given to the Contractor. Owner specifically reserves the right to approve and/or disapprove the retention of a new superintendent, all to not be unreasonably withheld.

13.08 Any foreman or workman employed on this Project who disregards orders or instructions, does not perform his Work in a proper and skillful manner, or is otherwise objectionable, shall, at the written request of the Owner, be removed from the Work and shall be replaced by a suitable foreman or workman.

13.09 The Contractor and/or its assigned representative shall personally ensure that all subcontracts and divisions of the Work are executed in a proper and workmanlike manner, on scheduled time, and with due and proper cooperation.

13.10 Failure of the Contractor to keep the necessary qualified personnel on the Work shall be considered cause for termination of the Contract by the Owner.

13.11 Only equipment in good working order and suitable for the type of Work involved shall be brought onto the job and used by the Contractor. The Contractor is solely responsible for the proper maintenance and use of its equipment and shall hold the Owner harmless from any damages or suits for damages arising out of the improper selection or use of equipment. No piece of equipment necessary for the completion of the Work shall be removed from the job site without approval of the Owner.

13.12 All Federal, State and local taxes due or payable during the time of Contract on materials, equipment, labor or transportation, in connection with this Work, must be included in the amount bid by the Contractor and shall be paid to proper authorities before acceptance. The Contractor shall furnish all necessary permits and certificates and comply with all laws and ordinances applicable to the locality of the Work. The cost of all inspection fees levied by any governmental entity whatsoever shall be paid for by the Contractor.

13.13 In accordance with St. Tammany Police Jury Resolution 86-2672, as amended, the Contractor must provide in a form suitable to the Owner an affidavit stating that all applicable sales taxes for materials used on this project have been paid.

13.14 During the period that this Contract is in force, neither party to the Contract shall solicit for employment or employ an employee of the other.

13.15 All materials or equipment shown on the Drawings or included in these specifications shall be furnished unless written approval of a substitute is obtained from the Designer, or Owner if no separate designer.

13.16 If a potential supplier wishes to submit for prior approval a particular product other than a product specified in the contract documents, he shall do so no later than fourteen working days prior to the opening of bids. Within ten days, exclusive of holidays and weekends, after such submission, the prime design professional shall furnish to both the public entity and the potential supplier written approval or denial of the product submitted. The burden of proof of the equality of the proposed substitute is upon the proposer and only that information formally submitted shall be used by the Designer in making its decision.

13.17 The decision of the Designer/Owner shall be given in good faith and shall be final.

14.00 QUANTITIES OF ESTIMATE, CHANGES IN QUANTITIES, EXTRA WORK

14.01 Whenever the estimated quantities of Work to be done and materials to be furnished under this Contract are shown in any of the documents, including the Proposal, such are given for use in comparing Bids and the right is especially reserved, except as herein otherwise specifically limited, to increase or diminish same not to exceed twenty-five percent (25%) by the Owner to complete the Work contemplated by this Contract. Such increase or diminution shall in no way vitiate this Contract, nor shall such increase or diminution give cause for claims or liability for damages.

14.02 The Owner shall have the right to make alterations in the line, grade, plans, form or dimensions of the Work herein contemplated, provided such alterations do not change the total cost of the Project, based on the originally estimated quantities, and the unit prices bid by more than twenty-five percent (25%) and provided further that such alterations do not change the total cost of any major item, based on the originally estimated quantities and the unit price bid by more than twenty-five (25%). (A major item shall be construed to be any item, the total cost of which is equal to or greater than ten percent (10%) of the total Contract Price, computed on the basis of the Proposal quantity and the Contract unity price). Should it become necessary, for the best interest of the Owner, to make changes in excess of that herein specified, the same shall be covered by supplemental agreement 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, such shall not constitute a claim for damages for anticipated profits for the Work dispensed with, but when the reduction in amount is a material part of the Work contemplated, the Contractor shall be entitled to only reasonable compensation as determined by the Owner for overhead and equipment charges which it may have incurred in expectation of the quantity of Work originally estimated, unless specifically otherwise provided herein; if the alterations increase the amount of Work, the increase shall be paid according to the quantity of Work actually done and at the price established for such Work under this Contract except where, in the opinion of the Owner, the Contractor is clearly entitled to extra compensation.

14.03 Without invalidating the Contract, the Owner may order Extra Work or make changes by altering, adding to, or deducting from the Work, the Contract sum being adjusted accordingly. The consent of the surety must first be obtained when necessary or desirable, all at the exclusive discretion of the Owner. All the Work of the kind bid upon shall be paid for at the price stipulated in the Proposal, and no claims for any Extra Work or material shall be allowed unless the Work is ordered in writing by the Owner.

14.04 Extra Work for which there is no price or quantity included in the Contract shall be paid for at a unit price or lump sum to be agreed upon in advance in writing by the Owner and Contractor. Where such price and sum cannot be agreed upon by both parties, or where this method of payment is impracticable, the Owner may, at its exclusive and unilateral discretion, order the Contractor to do such Work on a Force Account Basis.

14.05 In computing the price of Extra Work on a Force Account Basis, the Contractor shall be paid for all foremen and labor actually engaged on the specific Work at the current local rate of wage for each and every hour that said foremen and labor are engaged in such Work, plus ten percent (10%) of the total for superintendence, use of tools, overhead, direct & indirect costs/expenses, pro-rata applicable payroll taxes, pro-rata applicable workman compensation benefits, pro-rata insurance premiums and pro-rata reasonable profit. The Contractor shall furnish satisfactory evidence of the rate or rates of such insurance and tax. The Contractor will not be able to collect any contribution to any retirement plans or programs.

14.06 For all material used, the Contractor shall receive the actual cost of such material delivered at the site of the Work, as shown by original receipted bill, to which shall be added five percent (5%). There will be absolutely no additional surcharges or additional fees attached hereto with respect to this subsection.

14.07 For any equipment used that is owned by the Contractor, the Contractor shall be allowed a rental based upon the latest prevailing rental price, but not to exceed a rental price as determined by the Associated Equipment Distributors (A.E.D. Green Book).

14.08 The Contractor shall also be paid the actual costs of transportation for any equipment which it owns and which it has to transport to the Project for the Extra Work. There will be absolutely no additional surcharges or additional fees attached hereto with respect to this subsection.

14.09 If the Contractor is required to rent equipment for Extra Work, but not required for Contract items, it will be paid the actual cost of rental and transportation of such equipment to which no percent shall be added. The basis upon which rental cost are to be charged shall be agreed upon in writing before the Work is started. Actual rental and transportation costs shall be obtained from receipted invoices and freight bills.

14.10 No compensation for expenses, fees or costs incurred in executing Extra Work, other than herein specifically mentioned herein above, will be allowed.

14.11 A record of Extra Work on Force Account basis shall be submitted to the Owner on the day following the execution of the Work, and no less than three copies of such record shall be made on suitable forms and signed by both the Owner or his representative on the Project and the Contractor. All bids for materials used on extra Work shall be submitted to the Owner by the Contractor upon certified statements to which will be attached original bills covering the costs of such materials.

14.12 Payment for Extra Work of any kind will not be allowed unless the same has been ordered in writing by the Owner.

15.00 STATUS OF THE ENGINEER (NOT APPLICABLE)

16.00 INJURIES TO PERSONS AND PROPERTY

16.01 The Contractor shall be held solely and exclusively responsible for all injuries to persons and for all damages to the property of the Owner or others caused by or resulting from the negligence of itself, its employees or its agents, during the progress of or in connection with the Work, whether within the limits of the Work or elsewhere under the Contract proper or as Extra Work. This requirement will apply continuously and not be limited to normal working hours or days. The Owner's construction review is for the purpose of checking the Work product produced and does not include review of the methods employed by the Contractor or to the Contractor's compliance with safety measures of any nature whatsoever. The Contractor agrees to pay a reasonable attorney fee and other reasonable attendant costs of the Owner in the event it becomes necessary for the Owner to employ an attorney to enforce this section or to protect itself against suit over the Contractor's responsibilities. Attorney fees shall be at the prevailing hourly rate of the private sector. The attorney fee hourly rate shall not be less than $175.00 per hour. All attorney fees collected shall be paid to the operating budget of the Office of the Parish President.

16.02 The Contractor must protect and support all utility infrastructures or other properties which are liable to be damaged during the execution of its Work. It shall take all reasonable and proper precautions to protect persons, animals and vehicles or the public from the injury, and wherever necessary, shall erect and maintain a fence or railing around any excavation, and place a sufficient number of lights about the Work and keep same burning from twilight until sunrise, and shall employ one or more watchmen as an additional security whenever needed. The Contractor understands and agrees that the Owner may request that security be placed on the premises to ensure and secure same. The Owner shall exclusive authority to request placement of such security. Contractor agrees to retain and place security as requested, all at the sole expense of Contractor. Additional security shall not be considered a change order or reason for additional payment by the Owner. The Contractor must, as far as practicable and consistent with good construction, permit access to private and public property and leave fire hydrants, catch basins, streets, etc., free from encumbrances. The Contractor must restore at its own expense all injured or damaged property caused by any negligent act of omission or commission on its part or on the part of its employees or subcontractors, including, but not limited to, sidewalks, curbing, sodding, pipes conduits, sewers, buildings, fences, bridges, retaining walls, tanks, power lines, levees or any other building or property whatsoever to a like condition as existed prior to such damage or injury.

16.03 In case of failure on the part of the Contractor to restore such property or make good such damage, the Owner may upon forty-eight (48) hours' notice proceed to repair 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 its Contract.

16.04 Contractor agrees to protect, defend, indemnify, save, and hold harmless St. Tammany Parish Government, its elected and appointed officials, departments, agencies, boards and commissions, their officers, agents servants, employees, including volunteers, from and against any and all claims, demands, expense and liability arising out of injury or death to any person or the damage, loss or destruction of any property to the extent caused by any negligent act or omission or willful misconduct of Contractor, its agents, servants, employees, and subcontractors, or any and all costs, expense and/or attorney fees incurred by St. Tammany Parish Government as a result of any claim, demands, and/or causes of action that results from the negligent performance or non-performance by Contractor, its agents, servants, employees, and subcontractors of this contract. Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto caused by any negligent act or omission or willful misconduct of Contractor, its agents, servants, employees, and subcontractors.

16.05 As to any and all claims against Owner, its agents, assigns, representatives or employees by any employee of Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts as may be liable, the indemnification obligation under Paragraph 16.04 shall not be limited in any way or by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

16.06 No road shall be closed by the Contractor to the public except by written permission of the Owner. If so closed, the Contractor shall maintain traffic over, through and around the Work included in his Contract, with the maximum practical convenience, for the full twenty-four hours of each day of the Contract, whether or not Work has ceased temporarily. The Contractor shall notify the Owner at the earliest possible date after the Contract has been executed and, in any case, before commencement of any construction that might in any way inconvenience or endanger traffic, in order that necessary and suitable arrangements may be determined. Any and all security, maintenance, labor or costs associated with traffic control herein shall be at the sole expense of Contractor. This expense shall be paid directly by the Contractor. This expense shall not be considered as a change order nor shall it allow the Contractor any additional cost reimbursement whatsoever. All traffic deviations herein shall be coordinated with the appropriate law enforcement officials of this Parish.

16.07 The convenience of the general public and residents along the Works shall be provided for in a reasonable, adequate and satisfactory manner. Where existing roads are not available as detours, and unless otherwise provided, all traffic shall be permitted to pass through the Work. In all such cases, the public shall have precedence over Contractor's vehicles insofar as the traveling public's vehicles shall not be unduly delayed for the convenience of the Contractor. In order that all unnecessary delay to the traveling public may be avoided, the Contractor shall provide and station competent flagmen whose sole duties shall consist of directing and controlling the movement of public traffic either through or around the Work. Any and all security, maintenance, labor or costs associated with traffic control herein shall be at the sole expense of Contractor. This expense shall be paid directly by the Contractor. This expense shall not be considered as a change order nor shall it allow the Contractor any additional cost reimbursement whatsoever. All traffic deviations herein shall be coordinated with the appropriate law enforcement officials of this Parish.

16.08 The Contractor shall arrange its Work so that no undue or prolonged blocking of business establishments will occur.

16.09 Material and equipment stored on the right of way or work site shall be so placed and the Work at times shall be so conducted as to ensure minimum danger and obstruction to the traveling public.

16.10 During grading operations when traffic is being permitted to pass through construction, the Contractor shall provide a smooth, even surface that will provide a satisfactory passageway

for use of traffic. The road bed shall be sprinkled with water if necessary to prevent a dust nuisance, provided the dust nuisance is a result of the Work.

16.11 Fire hydrants shall be accessible at all times to the Fire Department. No material or other obstructions shall be placed closer to a fire hydrant than permitted by ordinances, rules or regulations or within fifteen (15) feet of a fire hydrant, in the absence of such ordinance, rules or regulations.

16.12 The Contractor shall not, without the written permission of the Owner, do Work for a resident or property owner abutting the Work at the time that this Work is in progress.

16.13 No Work of any character shall be commenced on railroad right-of-way until the Railroad Company has issued a permit to the Owner and has been duly notified by the Contractor in writing (with a copy forwarded to the Owner) of the date it proposes to begin Work, and until an authorized representative of the Railroad Company is present, unless the Railroad Company waives such requirements. All Work performed by the Contractor within the right-of-way limits of the railroad shall be subject to the inspection and approval of the chief engineer of the Railroad Company or its authorized representative. Any precautions considered necessary by said chief engineer to safeguard the property, equipment, employees and passengers of the Railroad Company shall be taken by the Contractor without extra compensation. The Contractor shall, without extra compensation, take such precautions and erect and maintain such tell-tale or warning devices as the Railroad Company considers necessary to safeguard the operation of its trains. The temporary vertical and horizontal clearance specified by the chief engineer of the Railroad Company in approving these shall be maintained at all times. No steel, brick, pipe or any loose material shall be left on the ground in the immediate vicinity of the railway track. Before any Work is done within Railroad right of way, the Contractor shall provide and pay all costs of any special insurance requirements of the Railroad.

16.14 The Contractor, shall, without extra compensation, provide, erect, paint and maintain all necessary barricades. Also, without extra compensation, the Contractor shall provide suitable and sufficient lights, torches, reflectors or other warning or danger signals and signs, provide a sufficient number of watchmen and flagmen and take all the necessary precautions for the protection of the Work and safety of the Public.

16.15 The Contractor shall erect warning signs beyond the limits of the Project, in advance of any place on the Project where operations interfere with the use of the road by traffic, including all intermediate points where the new Work crosses or coincides with the existing road. All barricades and obstructions shall be kept well painted and suitable warning signs shall be placed thereon. All barricades and obstructions shall be illuminated at night and all lights or devices for this purpose shall be kept burning from sunset to sunrise.

16.16 Whenever traffic is maintained through or over any part of the Project, the Contractor shall clearly mark all traffic hazards. No direct payment will be made for barricades, signs and illumination therefore or for watchmen or flagmen.

16.17 The Contractor will be solely and completely responsible for conditions on the job site, including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours. The duty of the Owner to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, or near the construction site.

17.00 SANITARY PROVISIONS

17.01 The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of its employees as may be necessary to comply with the rules and regulations of the State Health Agency or of the other authorities having jurisdiction and shall permit no public nuisance.

18.00 RIGHTS OF WAY

18.01 The Owner will furnish the Contractor with all necessary rights-of-way for the prosecution of the Work. The rights of way herein referred to shall be taken to mean only permission to use or pass through the locations or space in any street, highway, public or private property in which the Contractor is to prosecute the Work.

18.02 It is possible that all lands and rights of way may not be obtained as herein contemplated before construction begins, in which event the Contractor shall begin its Work upon such land and rights of way as the Owner may have previously acquired. Any delay in furnishing these lands by the Owner can be deemed proper cause for adjustment in the Contract amount and/or in the time of completion.

19.00 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

19.01 The Contractor shall not enter upon private property for any purpose without first obtaining permission from the Owner, as well as the private property owner and/or and private property Lessees. The Contractor shall use every precaution necessary for the preservation of all public and private property, monuments, highway signs, telephone lines, other utilities, etc., along and adjacent to the Work; the Contractor 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 location and shall not remove them until directed. 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 or the proper 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 forty-eight (48) hours before its operations will affect such property. 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, the operation of railways, or other public utilities are endangered, the Contractor shall at its own expense, maintain flagmen or watchmen and any other necessary precautions to avoid interruption of service or damage to life or property, and it shall promptly repair, restore, or make good any injury or damage caused by its negligent operations in an acceptable manner. The Contractor must also obtain all necessary information in regard to the installation of new cables, conduits, and transformers, and make proper provisions and give proper notifications, in order that same can be installed at the proper time without delay to the Contractor or unnecessary inconvenience to the Owner.

19.02 The Contractor shall not remove, cut or destroy trees, shrubs, plants, or grass that are to remain in the streets or those which are privately owned, without the proper authority. Unless otherwise provided in the Special Provisions or the Proposal, the Contractor shall replace and replant all plants, shrubs, grass and restore the grounds back to its original good condition to the satisfaction of the Owner and/or the property owner. The Contractor shall assume the responsibility of replanting and guarantees that plants, shrubs, grass will be watered, fertilized and cultivated until they are in a growing condition. No direct payment will be made for removing and replanting of trees, shrubs, plants or grass unless such items are set forth in the Proposal.

19.03 When or where direct damage or injury is done to public or private property by or on account of any negligent act, omission, neglect or otherwise of the Contractor, it shall make good such damage or injury in an acceptable manner.

20.00 CONTRACTORS RESPONSIBILITY FOR WORK

20.01 Until final acceptance of the Work by the Owner as evidence by approval of the final estimate, the Work shall be in the custody and under the charge and care of the Contractor and it shall take every necessary precaution against injury or damage to any part thereof by the action of the elements or from the non-execution of the Work; unless otherwise provided for elsewhere in the Specifications or Contract. The Contractor shall rebuild, repair, restore and make good, without extra compensation, all injuries or damages to any portion of the Work occasioned by any of the above causes before its completion and

acceptance, and shall bear the expenses thereof. In case of suspension of the Work from any cause whatever, the Contractor shall be responsible for all materials and shall properly and securely store same, and if necessary, shall provide suitable shelter from damage and shall erect temporary structures where necessary. If in the exclusive discretion of the Owner, any Work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of its Subcontractors to so protect the Work, such materials shall be removed and replaced at the sole expense of the Contractor. Such amount shall be deducted from any sum due or to be due Contractor.

20.02 The Contractor shall give all notice and comply with all Federal, State, and local laws, ordinances, and regulations in any manner affecting the conduct of the Work, and all such orders and decrees as exist, or may be enacted by bodies or tribunals having any jurisdiction or authority over the Work, and shall indemnify and hold harmless the Owner against any claim or liability arising from, or based on, the violation of any such law, ordinance, regulation, order or decree, whether by itself, its employees or Subcontractors.

21.00 TESTS AND INSPECTIONS CORRECTION & REMOVAL OF DEFECTIVE WORK

21.01 Contractor warrants and guarantees to Owner that all materials and equipment will be new unless otherwise specified and that all Work will be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents. All unsatisfactory Work, all faulty or Defective Work and all Work not conforming to the requirements of the Contract Documents at the time of acceptance shall be considered Defective. Prompt and reasonable notice of all defects shall be given to the Contractor.

21.02 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested or approved by some public body, Contractor shall assume full responsibility therefor, pay all costs in connection therewith and furnish Owner the required certificates of inspection, testing or approval. All other inspections, tests and approval required by the Contract Documents shall be performed by organizations acceptable to Owner and Contractor and the costs thereof shall be borne by the Contractor unless otherwise specified.

21.03 Contractor shall give Owner timely notice of readiness of the Work for all inspections, tests or approvals. If any such Work required to be inspected, tested or approved is covered without written approval of Owner, it must, if requested by Owner, be uncovered for observation, and such uncovering shall be at Contractor's expense unless Contractor has given Owner timely notice of its intention to cover such Work and Owner has not acted with reasonable promptness in response to such notice.

21.04 Neither observations by Owner nor inspections, tests or approvals shall relieve Contractor from its obligations to perform the Work in accordance with the requirements of the Contract Document.

21.05 Owner and its representatives will at reasonable times have access to the Work. Contractor shall provide proper and safe facilities for such access and observation of the Work and also for any inspection or testing thereof by others.

21.06 If any Work is covered contrary to the written request of Owner, it must, be uncovered for Owner’s observation and replaced at Contractor's expense. If any Work has been covered which Owner has not specifically requested to observe prior to its being covered, or if Owner considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at Owner's request, shall uncover, expose or otherwise make available for observations, inspections or testing as Owner may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is Defective, Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such Work is not found to be Defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

21.07 If the Work is Defective, or Contractor fails to supply sufficient skilled workmen or suitable materials or equipment, or if the Contractor fails to make prompt payments to Subcontractors or for labor, materials or equipment, Owner may order Contractor to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor or any other party.

21.08 Prior to approval of final payment, Contractor shall promptly, without cost to Owner and as specified by Owner, either correct any Defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by Owner, remove it from the site and replace it with non-defective Work. If Contractor does not correct such Defective Work or remove and replace such rejected Work within a reasonable time, all as specified in a written notice from Owner, Owner may have the deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement including compensation for additional professional services shall be paid by Contractor, and an appropriate deductive Change Order shall be issued. Contractor shall also bear the expense of making good all Work of others destroyed or damaged by its correction, removal or replacement of its Defective Work.

21.09 If, after the approval of final payment and prior to the expiration of one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be Defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, either correct such Defective Work or if it has been rejected by Owner, remove it from the site and replace it with non-defective Work. If Contractor does not promptly comply with the terms of such instructions, Owner may have the Defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by Contractor. The Contractor agrees to pay a reasonable attorney fee and other reasonable attendant costs of the Owner in the event it becomes necessary for the Owner to employ an attorney to enforce this section or to protect itself against suit over the Contractor's responsibilities. Attorney fees shall be at the prevailing hourly rate of the private sector. The attorney fee hourly rate shall not be less than $175.00 per hour. All attorney fees collected shall be paid to the operating budget of the Office of the Parish President.

21.10 If, instead of requiring correction or removal and replacement of Defective Work, Owner (and prior to approval of final payment) prefers to accept it, the Owner may do so. In such case, if acceptance occurs prior to approval of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price, or, if the acceptance occurs after approval of final payment, an appropriate amount shall be paid by Contractor to Owner.

21.11 If Contractor should fail to progress the Work in accordance with the Contract Documents, including any requirements of the Progress Schedule, Owner, after seven (7) days written Notice to Contractor, may, without prejudice to any other remedy Owner may have, make good such deficiencies and the cost thereof including compensation for additional professional services shall be charged against Contractor. In such cases, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract Price. If the payments then or thereafter due Contractor are not sufficient to cover such amount, Contractor shall pay the difference to Owner.

21.12 The Owner may appoint representatives to make periodic visits to the site and observe the progress and quality of the executed Work. These representatives shall be governed by the same restrictions placed on the Owner by these Specifications. The governing body of the Federal, State or local government exercising authority in the area of the Work may appoint representatives to observe the progress and quality of the Work. Contractor shall cooperate with and assist these representatives in the performance of their duties.

21.13 The Contractor shall be responsible for the faithful execution of its Contract and the presence or absence of the Owner's or Government's Representative is in no way or manner to be presumed or assumed to relieve in any degree the responsibility or obligation of the Contractor.

21.14 The Contractor shall notify the Owner and the Governmental Agency having jurisdiction as to the exact time at which it is proposed to begin Work so the Owner may provide for inspection of all materials, foundations, excavations, equipment, etc., and all or any part of the Work and to the preparation or manufacture of materials to be used whether within the limits of the Work or at any other place.

21.15 The Owner or its representatives shall have free access to all parts of the Work and to all places where any part of the materials to be used are procured, manufactured or prepared. The Contractor shall furnish the Owner all information relating to the Work and the material therefor, which may be deemed necessary or pertinent, and with such samples of materials as may be required. The Contractor, at its own expense, shall supply such labor and assistance as may be necessary in the handling of materials for proper inspection or for inspection of any Work done by it.

21.16 No verbal instructions given to the Contractor by the Owner, Project Representative or any of their agents shall change or modify the written Contract. Contractors shall make no claims for additional payments or time based upon verbal instructions.

22.00 SUBSURFACE CONDITIONS

22.01 It is understood and agreed that the Contractor is familiar with the subsurface conditions that will be encountered and its price bid for the Work includes all of the costs involved for Work in these conditions and it is furthermore agreed that it has taken into consideration, prior to its Bid and acceptance by Owner, all of the subsurface conditions normal or unusual that might be encountered in the location of the Work.

22.02 Should the Contractor encounter during the progress of the Work subsurface conditions at the site materially differing from those shown on the Drawings or indicated in the Specifications, the attention of the Owner shall be directed to such conditions before the conditions are disturbed. If the Owner finds that the conditions materially differ from those shown on the Drawings or indicated in the Specifications, it shall at once make such changes in the Drawings or Specifications as it may find necessary, and any increase or decrease in cost or extension of time resulting from such changes shall be adjusted in the same manner as provided for changes for Extra Work. The Contractor shall submit breakdowns of all costs in a manner as instructed and approved by the Owner.

23.00 REMOVAL AND DISPOSAL OF STRUCTURES AND OBSTRUCTIONS

23.01 Bidder shall thoroughly examine the site of the Work and shall include in its Bid the cost of removing all structures and obstructions in the way of the Work.

23.02 The Contractor shall remove any existing structures or part of structures, fence, building or other encumbrances or obstructions that interfere in any way with the Work. Compensations for the removal of any structure shall be made only if the item(s) to be removed was/were listed as pay item(s) on the Proposal.

23.03 If called for in the Special Conditions, all privately and publicly owned materials and structures removed shall be salvaged without damage and shall be piled neatly and in an acceptable manner upon the premises if it belongs to an abutting property owner, otherwise at accessible points along the improvements. Materials in structures which is the property of the Owner or property of any public body, private body or individual which is fit for use elsewhere, shall remain property of the original Owner. It shall be carefully removed without damage, in sections which may be readily transported; same shall be stored on or beyond the right of way. The Contractor will be held responsible for the care and preservation for a period of ten (10) days following the day the last or final portion of the materials stored at a particular location are placed thereon. When privately owned materials are stored beyond the right of way, the Contractor will be held responsible for such care and preservation for a period of ten (10) days responsibility period for care and preservation of the materials begins. The Contractor must furnish the Owner with evidence satisfactory that the proper owner of the materials has been duly notified by the Contractor that the said owner must assume responsibility for its materials on the date following the Contractor's ten (10) day responsibility.

24.00 INSURANCE

24.01 Contractor shall secure and maintain at its expense such insurance that will protect it and the Parish from claims for injuries to persons or damages to property which may arise from or in connection with the performance of Services or Work hereunder by the Contractor, his agents, representatives, employees, and/or subcontractors. The cost of such insurance shall be included in Contractor's bid.

24.02 The Contractor shall not commence work until it has obtained all insurance as required for the Parish Project. If the Contractor fails to furnish the Parish with the insurance protection required and begins work without first furnishing Parish with a currently dated certificate of insurance, the Parish has the right to obtain the insurance protection required and deduct the cost of insurance from the first payment due the Contractor. Further deductions are permitted from future payments as are needed to protect the interests of the Parish including, but not limited to, renewals of all policies.

24.03 Payment of Premiums: The insurance companies issuing the policy or policies shall have no recourse against the Parish of St. Tammany for payment of any premiums or for assessments under any form of policy.

24.04 Deductibles: Any and all deductibles in the described insurance policies shall be assumed by and be at the sole risk of the Contractor.

24.05 Authorization of Insurance Company(ies) and Rating: All insurance companies must be authorized to do business in the State of Louisiana and shall have an A.M. Best rating of no less than A-, Category VII.

24.06 Policy coverages and limits must be evidenced by Certificates of Insurance issued by Contractor's carrier to the Parish and shall reflect:

Date of Issue: Certificate must have current date.

Named Insured: The legal name of Contractor under contract with the Parish and its principal place of business shall be shown as the named insured on all Certificates of Liability Insurance.

Name of Certificate Holder: St. Tammany Parish Government, Office of Risk Management, P. O. Box 628, Covington, LA 70434

Project Description: A brief project description, including Project Name, Project Number and/or Contract Number, and Location.

Endorsements and Certificate Reference: All policies must be endorsed to provide, and certificates of insurance must evidence the following:

Waiver of Subrogation: The Contractor's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance. *Policy endorsements required for all coverages*.

Additional Insured: The Parish of St. Tammany shall be named as additional named insured with respect to general liability, marine liability, pollution/environmental liability, automobile liability and excess liability coverages. *Policy endorsements required.*

Hold Harmless: Contractor's liability insurers shall evidence their cognizance of the Hold Harmless and Indemnification in favor of St. Tammany Parish Government by referencing same on the face of the Certificate(s) of Insurance.

Cancellation Notice: Producer shall provide thirty (30) days prior written notice to the Parish of policy cancellation or substantive policy change.

24.07 The types of insurance coverage the Contractor is required to obtain and maintain throughout the duration of the Contract, include, but is not limited to:

1. Commercial General Liability insurance with a Combined Single Limit for bodily injury and property damage of at least $1,000,000 per Occurrence/$2,000,000 General Aggregate/Products-Completed Operations Per Project. The insurance shall provide for and the certificate(s) of insurance shall indicate the following coverages:

    a) Premises - operations;
    b) Broad form contractual liability;
    c) Products and completed operations;
    d) Personal Injury;
    e) Broad form property damage;
    f) Explosion and collapse.

2. Marine Liability/Protection and Indemnity insurance is required for any and all vessel and/or marine operations in the minimum limits of $1,000,000 per occurrence/$2,000,000 per project general aggregate. The coverage shall include, but is not limited to, the basic coverages found in the Commercial General Liability insurance and coverage for third party liability.

3. Contractors' Pollution Liability and Environmental Liability insurance in the minimum amount of $1,000,000 per occurrence, $2,000,000 general aggregate and include coverage for full contractual liability and for all such environmental and/or hazardous waste exposures affected by this project.

4. Business Automobile Liability insurance with a Combined Single Limit of $1,000,000 per Occurrence for bodily injury and property damage, and shall include coverage for the following:

    a) Any automobiles;
    b) Owned automobiles;
    c) Hired automobiles;
    d) Non-owned automobiles;
    e) Uninsured motorist.

5. Workers' Compensation/Employers Liability insurance: worker's compensation insurance coverage and limits as statutorily required; Employers' Liability Coverage shall be not less than $1,000,000 each accident, $1,000,000 each disease, $1,000,000 disease policy aggregate, except when projects include exposures covered under the United States Longshoremen and Harbor Workers Act, Maritime and/or Jones Act and/or Maritime Employers Liability (MEL) limits shall be not less than $1,000,000/$1,000,000/$1,000,000. *Coverage for owners, officers and/or partners shall be included in the policy and a statement of such shall be made by the insuring producer on the face of the certificate.*

6. Owners Protective Liability (OPL) (formerly Owners and Contractors Protective Liability (OCP) Insurance) shall be furnished by the Contractor naming St. Tammany Parish Government as the Named Insured and shall provide coverage in the minimum amount of $1,000,000 combined single limit (CSL) each occurrence, $2,000,000 aggregate. Any project valued in excess of $3,000,000 shall be set by the Office of Risk Management. The policy and all endorsements shall be addressed to St. Tammany Parish Government, Office of Risk Management, P. O. Box 628, Covington, LA 70434.

7. Builder's Risk Insurance shall be required on buildings, sewage treatment plants and drainage pumping stations, and shall be written on an "all-risk" or equivalent policy form in the amount of the full value of the initial Contract sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising 100% total value for the entire project including foundations. Deductibles should not exceed $5,000 and Contractor shall be responsible for any and all policy deductibles. This insurance shall cover portions of the work stored off the site, and also portions of the work in transit. In addition, Installation Floater

Insurance, on an "all-risk" form, will be carried on all pumps, motors, machinery and equipment on the site or installed. Both the Builder's Risk Insurance and the Installation Floater Insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors and shall terminate only when the Project has been accepted. St. Tammany Parish Government, P. O. Box 628, Covington, LA 70434 shall be the first named insured on the Builder's Risk and Installation Floater Insurance.

8. Professional Liability (errors and omissions) insurance in the sum of at least One Million Dollars ($1,000,000) per claim with Two Million Dollars ($2,000,000) annual aggregate.

9. An umbrella policy or excess policy may be required and/or allowed to meet minimum coverage limits, subject to the review and approval by St. Tammany Parish Government, Office of Risk Management.

24.08 All policies of insurance shall meet the requirements of the Parish of St. Tammany prior to the commencing of any work. The Parish of St. Tammany has the right, but not the duty, to approve all insurance policies prior to commencing of any work. If at any time, it becomes known that any of the said policies shall be or becomes unsatisfactory to the Parish of St. Tammany as to form or substance; or if a company issuing any such policy shall be or become unsatisfactory to the Parish of St. Tammany, the Contractor shall promptly obtain a new policy, timely submit same to the Parish of St. Tammany for approval and submit a certificate thereof as provided above. The Parish agrees to not unreasonably withhold approval of any insurance carrier selected by Contractor. In the event that Parish cannot agree or otherwise authorize said carrier, Contractor shall have the option of selecting and submitting new insurance carrier within 30 days of said notice by the Parish. In the event that the second submission is insufficient or is not approved, then the Parish shall have the unilateral opportunity to thereafter select a responsive and responsible insurance carrier all at the cost of Contractor and thereafter deduct from Contractor's fee the cost of such insurance.

24.09 Upon failure of Contractor to furnish, deliver and/or maintain such insurance as above provided, the contract, at the election of the Parish of St. Tammany, may be forthwith declared suspended, discontinued or terminated. Failure of the Contractor to maintain insurance shall not relieve the Contractor from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligation of the Contractor concerning indemnification.

24.10 Contractor shall maintain a current copy of all annual insurance policies and provide same to the Parish of St. Tammany as may be reasonably requested.

24.11 It shall be the responsibility of Contractor to require that these insurance requirements are met by all contractors and sub-contractors performing work for and on behalf of Contractor. Contractor shall further ensure the Parish is named as additional insured on all insurance policies provided by said contractor and/or sub-contractor throughout the duration of the project, and that renewal certificates for any policies expiring prior to the Parish's final acceptance of the project shall be furnished to St. Tammany Parish Government, Department of Legal, Office of Risk Management, without prompting.

NOTICE:

These are only an indication of the coverages that are generally required. Additional coverages and/or limits may be required for projects identified as having additional risks or exposures. Please note that some requirements listed may not necessarily apply to your specific services. St. Tammany Parish Government reserves the right to remove, replace, make additions to and/or modify any and all of the insurance requirement language upon review of the final scope of services presented to Office of Risk Management prior to execution of a contract for services.

For inquiries regarding insurance requirements, please contact:
St. Tammany Parish Government
Office of Risk Management
P. O. Box 628
Covington, LA 70434
Telephone: 985-898-5226
Email: riskman@stpgov.org

24.12 Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's Responsibility for payment of damages resulting from its operations under this Contract.

25.00 OWNER'S RIGHT TO OCCUPANCY

25.01 The Owner shall have the right to use, at any time, any and all portions of the Work that have reached such a stage of completion as to permit such occupancy, provided such occupancy does not hamper the Contractor or prevent its efficient completion of the Contract or be construed as constituting an acceptance of any part of the Work.

25.02 The Owner shall have the right to start the construction of houses, structures or any other building concurrent with the Contractor's Work.

26.00 SURVEY HORIZONTAL AND VERTICAL CONTROL

26.01 The Owner shall provide surveys for construction to establish reference points which in its judgment are necessary to enable Contractor to layout and proceed with its Work. Contractor shall be responsible for surveying and laying out the Work and shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of the Owner. Contractor shall report to Owner whenever any reference point is lost or destroyed and the Owner shall decide if the reference point shall be replaced by its or the Contractor's forces.

26.02 The Contractor shall establish lines and grades with its own forces in sufficient number and location for the proper execution of the Work.

26.03 If the Contractor, during the construction, damages the established property corners and/or other markers and thereafter requests the Owner to re-stake same in order to complete the project, this expense will be borne solely by the Contractor.

27.00 TERMINATION OF THE CONTRACT, OWNER'S AND CONTRACTORS RIGHT TO STOP WORK.

27.01 If the Contractor should be adjudged bankrupt (voluntarily or involuntarily) or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or if it should persistently or repeatedly refuse or should fail (except in cases for which extension of time is provided) to supply enough properly skilled workmen or proper materials, or if it should fail to make prompt payment to Subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Owner, or otherwise be guilty of a substantial violation of any provision of the Contract, then the Owner, upon the certificate of the Owner that, in its unilateral discretion and judgment, believes sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor ten (10) calendar days written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools and appliances thereon and finish the Work by whatever method the Owner may deem expedient.

27.02 Failure of the Contractor to start the Work within the time limit specified herein or substantial evidence that the progress being made by the Contractor is sufficient to complete the Work within the specified time shall be grounds for termination of the Contract by the Owner.

27.03 Before the Contract is terminated, the Contractor and its surety will first be notified in writing by the Owner of the conditions which make termination of the Contract imminent.

When after ten (10) calendar days' notice is given and if satisfactory effort has not been made by the Contractor or its surety to correct the conditions, the Owner may declare, in its exclusive discretion, that the Contract is terminated and so notify the Contractor and its surety accordingly.

27.04 Upon receipt of notice from the Owner that the Contract has been terminated, the Contractor shall immediately discontinue all operations. The Owner may then proceed with the Work in any lawful manner that it may elect until Work is finally completed.

27.05 The exclusive right is reserved to the Owner to take possession of any machinery, implements, tools or materials of any description that shall be found upon the Work, to account for said equipment and materials, and to use same to complete the Project. When the Work is finally completed, the total cost of same will be computed. If the total cost is less than the Contract Price, the difference will not be paid to the Contractor or its surety.

27.06 In case of termination, all expenses incident to ascertaining and collecting losses under the Bond, including legal services, shall be assessed against the Bond.

27.07 If the Work should be stopped under any order of any court or public authority for period of sixty (60) calendar days, through no act or fault of the Contractor or anyone employed by it, or if the Owner shall fail to pay the Contractor within a reasonable time any sum certified by the Owner, then the Contractor may, upon ten (10) calendar days written notice to the Owner, stop Work or terminate this Contract and recover from the Owner payment for all Work properly and professionally executed in a workmanlike manner. This loss specifically includes actual cost of materials and equipment, together with all wages inclusive of all federal, state, and local tax obligations. This loss specifically includes reimbursement of all insurances on a pro-rata basis from the date of termination to date of policy period. This loss excludes and specifically does not include recovery by the Contractor for lost profit, indirect & direct expenses, overhead, and the like.

28.00 PAYMENTS TO THE CONTRACTOR

28.01 Monthly certificates for partial payment, in a form approved by the Owner, shall be transmitted to the Owner upon receipt from the Contractor and acceptance by the Owner. In accordance with LSA-R.S. 38:2248(A), when the Contract Price is less than five hundred thousand dollars, these certificates shall be equal to ninety percent (90%) of both the Work performed and materials stored at the site; and when the Contract Price is five hundred thousand dollars or more, these certificates shall be equal to ninety-five percent (95%) of both the Work performed and materials stored at the site. Partial payment certificates shall include only Work, materials and equipment that are included in official Work Order and which meet the requirements of plans, Specifications and Contract Documents. These monthly estimates shall show the amount of the original estimate for each item, the amount due on each item, the gross total, the retained percentage, the amount previously paid and the net amount of payment due.

28.02 After final completion and acceptance by the Owner of the entire Work, and when the Contract Price is less than five hundred thousand dollars, the Owner shall issue to the Contractor Certificate of Payment in sum sufficient to increase total payments to ninety percent (90%) of the Contract Price. After final completion and acceptance by the Owner of the entire Work, and when the Contract Price is five hundred thousand dollars or more, the Owner shall issue to the Contractor Certificate of Payment in sum sufficient to increase total payments to ninety-five percent (95%) of the Contract Price.

28.03 When the Contract Price is less than five hundred thousand dollars, the final payment certificate of the remaining ten percent (10%) of the Contract Price, minus any deduction for deficient or Defective Work or other applicable deductions, will be issued by the Owner forty-five (45) days after filing acceptance in the Mortgage Office of the Parish and a Clear Liens and Privilege Certificate has been secured. When the Contract Price is five hundred thousand dollars or more, the final payment certificate of the remaining five percent (5%) of the Contract Price, minus any deduction for deficient or Defective Work or other applicable deductions, will be issued by the Owner forty-five (45) days after filing acceptance in the Mortgage Office of the Parish and a Clear Liens and Privilege Certificate has been secured. Before issuance of the final payment certificate, the Contractor shall deposit with the Owner a certificate from the Clerk of Court and Ex-Officio Recorder of

Mortgages from the Parish in which the Work is performed to the effect that no liens have been registered against Contract Work.

28.04 When, in the opinion of the Contractor, the Work provided for and contemplated by the Contract Documents has been substantially completed, the Contractor shall notify the Owner in writing that the Work is substantially complete and request a final inspection. The Owner shall proceed to perform such final inspection accompanied by the Contractor. Any and all Work found by this inspection to be Defective or otherwise not in accordance with the plans and Specifications shall be corrected to the entire satisfaction of the Owner and at the sole expense of the Contractor. If the Contract is found to be incomplete in any of its details, the Contractor shall at once remedy such defects, and payments shall be withheld and formal acceptance delayed until such Work has been satisfactorily completed.

28.05 If payment is requested on the basis of materials and equipment not incorporated in the Work, but delivered and suitably stored and protected from damage and theft at the site, the Request for Payment shall also be accompanied by such data, satisfactory to the Owner, as will establish Owner's title to the material and equipment and protect its interest therein, including applicable insurance.

28.06 Each subsequent Request for Payment shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied to discharge in full all of Contractor's obligations reflected in prior Request for Payment.

28.07 Each subsequent request for payment shall include an affidavit by Contractor that Contractor, all subcontractors, agents, material suppliers and all other persons supplying material to the project upon which State of Louisiana and/or St. Tammany sales taxes are lawfully due have paid these taxes and that all supplies and materials purchased for this project and for which Contractor has been paid have had all lawfully due State and/or St. Tammany sales taxes paid.

28.08 The Bid Proposal, unless otherwise modified in writing, and the Contract constitute the complete Project. The Contract Prices constitute the total compensation payable to Contractor and the cost of all of the Work and materials, taxes, permits and incidentals must be included into the Bid submitted by the Contractor and included into those items listed on the Proposal.

28.09 Any additional supporting data required by the Owner in order to substantiate Contractor's request for payment shall be furnished by Contractor at no cost to the Owner.

28.10 Owner may withhold from payment to Contractor as may be necessary to protect itself from loss on account of:

(1) Defective and/or inferior work;
(2) Damage to the property of Owner or others caused by Contractor;
(3) Failure by Contractor to make payments properly to sub-contractors or to pay for labor, materials or equipment used on this project;
(4) Failure by Contractor to pay taxes due on materials used on this project;
(5) Damage by Contractor to another Contractor;
(6) Insolvency;
(7) Bankruptcy, voluntary or involuntary;
(8) Revocation of corporate status;
(9) Failure to follow corporate formalities;
(10) Unprofessional activities;
(11) Unworkmanlike performance;
(12) Fraud and/or misrepresentation of any kind.

29.00 ACCEPTANCE AND FINAL PAYMENT(S)

29.01 Upon receipt of written notice from Contractor that the work is substantially complete and usable by Owner or the Pubic in suitable manner, the Owner and the Contractor shall jointly inspect the work.

29.02 If the Owner by inspection determines that the work is not substantially complete in a suitable manner for use by the Owner or the Public, then the Owner shall so notify the Contractor in writing stating such reason. All reasons need not be disclosed unless actually

known. The Owner is afforded an opportunity to amend said notices as are reasonably possible.

29.03 If the Owner by its inspection determines that the work is substantially complete, it shall prepare a list of all items not satisfactorily completed and shall notify the Contractor and Owner in writing that the work is substantially complete and subject to satisfactory resolution of those items on the list (punch list). Punch lists may be amended from time to time by Owner in the event that additional deficiencies are discovered. In accordance with LSA-R.S. 38:2248(B), any punch list generated during a construction project shall include the cost estimates for the particular items of work the design professional has developed based on the mobilization, labor, material, and equipment costs of correcting each punch list item. The design professional shall retain his working papers used to determine the punch list items cost estimates should the matter be disputed later. The contract agency shall not withhold from payment more than the value of the punch list. Punch list items completed shall be paid upon the expiration of the forty-five (45) day lien period. The provisions of this Section shall not be subject to waiver.

29.04 Upon determination of substantial completeness with the punch list, the Contract Time is interrupted and the Contractor is given a reasonable time not to exceed thirty (30) consecutive calendar days to effect final completion by correcting or completing all of those items listed on the punch list. If the items on the punch list are not completed in a satisfactory manner within the thirty day period, then the Contract Time will begin to run again and will include for purposes of determining liquidated damages the thirty day period the grace period being withdrawn.

29.05 Upon receipt by Owner of written determination that all work embraced by the contract has been completed in a satisfactory manner, the Owner shall provide a written acceptance to Contractor who shall record Owner's written acceptance with the recorder of Mortgages, St. Tammany Parish. The Contractor shall properly prepare, submit and pay for all costs associated with said Acceptance. The Contractor is also responsible for preparation, re-submission and payment of any and all updated certificates.

29.06 Retainage monies, minus those funds deducted in accordance to the requirements of this agreement including but not limited to Paragraph 28.10, shall be due Contractor not earlier than forty-six (46) calendar days after recordation of certificate of Owner's acceptance provided the following:

(1) Contractor shall prepare, secure, pay for and submit clear lien and privilege certificate, signed and sealed by Clerk of Court or Recorder of Mortgages, Parish of St. Tammany and dated at least forty-six (46) days after recordation of certificate of acceptance;

(2) Ensure that the official representative of the Owner has accepted as per LSA-R.S. 38:2241.1, *et seq*. and that all following sub-sections have been properly satisfied as per law;

(3) Ensure that all signatures are affixed and that there exists the requisite authority for all signatures;

(4) Ensure accurate and proper legal descriptions;

(5) Properly identify all parties and/or signatories;

(6) Properly identify all mailing addresses;

(7) Correctly set for the amount of the contract, together with all change orders;

(8) Set out a brief description of the work performed;

(9) Reference to any previously recorded contract, lien or judgment inscription that may affect the property;

(10) Certification that substantial completion has occurred, together with any applicable date(s);

(11) Certification that no party is in default and/or that the project has been abandoned.

29.07 After securing the clear lien and privilege certificate the Contractor shall prepare its final application for payment and submit to Owner. The Owner shall approve application for payment, or state its objections in writing and forward to Contractor for resolution.

30.00 NOTICE AND SERVICE THEREOF

30.01 Any Notice to Contractor from the Owner relative to any part of this Contract shall be in writing and shall be considered delivered and the service thereof completed when said notice is posted; by certified mail, return receipt requested to the said Contractor at its last given address, or delivered in person to said Contractor or its authorized representative on the Work.

31.00 INTENTION OF THESE GENERAL CONDITIONS

31.01 These General Conditions shall be applicable to all contracts entered into by and between the Owner and Contractors, except as may be altered or amended with the consent of the Owner, and/or provided for in the Special Conditions of each contract. Contractor shall be presumed to have full knowledge of these General Conditions which shall be applicable to all contracts containing these General Conditions, whether Contractor has obtained a copy thereof or not.

32.00 SEVERABILITY

32.01 If any one or more or part of any of the provisions contained herein and/or in the Specifications and Contract for the Work shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement or attachment, but it shall be construed as if such invalid, illegal, or unenforceable provision or part of a provision had never been contained herein.

32.02 CHANGING THESE CONDITIONS: Owner reserves the right to change or modify these General Conditions as it deems best, or as required by law. The General Conditions may also be modified for a particular project by the use of Special Conditions prior to the issuance of the Advertisement for Bid. However, once an advertisement for bid is made for any specific project, any changes to the General Conditions as they affect that specific project must be made in writing and issued via an addendum in accordance with State Law.

33.00 LAW OF THE STATE OF LOUISIANA

33.01 The Contract Documents shall be governed by the Law of the State of Louisiana.

33.02 The Contractor agrees to pay reasonable attorney's fees and other reasonable attendant costs, in the event that it becomes necessary for the Owner to employ an attorney in order to enforce compliance with or any remedy relating to any covenants, obligations, or conditions imposed upon the Contractor by this Agreement. Attorney fees shall be based upon the prevailing hourly rate of attorney rates in the private sector. In no case shall the hourly rate be less than $175.00 per hour. All attorney fees collected shall be paid the operating budget of the Office of the Parish President.

33.03 The jurisdiction and venue provisions shall apply to all contractors, sureties, and subcontractors. The 22nd Judicial District for the Parish of St. Tammany shall be the court of exclusive jurisdiction and venue for any dispute arising from these General Conditions and/or any contract executed in conjunction with these General Conditions. All parties specifically waive any rights they have or may have for removal of any disputes to Federal Court, or transfers to different State District Court.

33.04 Contractor warrants that it has and/or had received a copy of these General Conditions at all times material hereto; Contractor further agrees that it has read and fully and completely

understands each and every condition herein.

33.05 The property description will be more fully set out by an attached exhibit.

33.06 The Contractor warrants that it has the requisite authority to sign and enter this agreement.

33.07 It is specifically understood and agreed that in the event Contractor seeks contribution from the Parish or pursues its legal remedies for any alleged breach of this agreement by the Parish, then the following list of damages SHALL NOT BE RECOVERABLE BY CONTRACTOR. This list includes, but is not limited to:

1. indirect costs and/or expenses;
2. direct costs and/or expenses;
3. time-related costs and/or expenses;
4. award of extra days;
5. costs of salaries or other compensation of Contractor's personnel at Contractor's principal office and branch offices;
6. expenses of Contractor's principal, branch and/or field offices;
7. any part of Contractor's capital expenses, including any interest on Contractor's capital employed for the work;
8. any other charges related to change orders;
9. overhead and general expenses of any kind or the cost of any item not specifically and expressly included in Cost of Work.

33.08 DEFAULT AND WAIVERS

It is understood that time is of the essence. It is specifically understood between the parties that Contractor waives any and all notice to be placed in default by the Owner. This subsection shall supersede and prime any other subsection herein above that is in conflict. The Owner specifically reserves its right and specifically does not waive the requirement to be placed in default by the Contractor as per law.

33.09 St. Tammany Parish Government contracts to be awarded are dependent on the available funding and/or approval by members designated and/or acknowledged by St. Tammany Parish Government. At any time St. Tammany Parish Government reserves the right to cancel the award of a contract if either or both of these factors is deficient.

33.10 It is the Parish's policy to provide a method to protest exclusion from a competition or from the award of a contract, or to challenge an alleged solicitation irregularity. It is always better to seek a resolution within the Parish system before resorting to outside agencies and/or litigation to resolve differences. All protests must be made in writing, and shall be concise and logically presented to facilitate review by the Parish. The written protest shall include:

1. The protester's name, address, and fax and telephone numbers and the solicitation, bid, or contract number;

2. A detailed statement of its legal and factual grounds, including a description of the resulting prejudice to the protester;

3. Copies of relevant documents;

4. All information establishing that the protester is an interested party and that the protest is timely; and

5. A request for a ruling by the agency; and a statement of the form of relief requested.

The protest shall be addressed to Director of Procurement, St. Tammany Parish Government, P.O. Box 628, Covington, LA 70434.

The protest review shall be conducted by the Parish Procurement Department.

Only protests from interested parties will be allowed. Protests based on alleged solicitation improprieties that are apparent before bid opening, or the time set for receipt of initial

proposals must be filed with and received by the Procurement Department BEFORE those deadlines.

Any other protest shall be filed no later than ten (10) calendar days after the basis of the protest is known, or should have been known (whichever is earlier).

The Parish will use its best efforts to resolve the protest within thirty (30) days of the date that it is received by the Parish. The written response will be sent to the protestor via mail and, fax, if a fax number has been provided by the protestor. The protester can request additional methods of notification.

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF _____ INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____ INCORPORATED, DULY NOTICED AND HELD ON _____, A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT WAS:

RESOLVED THAT _____, BE AND IS HEREBY APPOINTED, CONSTITUTED AND DESIGN ATED AS AGENT AND ATTORNEY-IN-FACT OF THE CORPORATION WITH FU LL POWER AND AUTHORITY TO ACT ON BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS AND TRANSACTIONS WITH THE PARISH OF ST. TAMMANY OR ANY OF ITS AGENCIES, DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES, CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTINGEACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-FACT.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE AND CORRECT COPY OF AN EXCERPT OF THE MINUTES OF THE ABOVE DATED MEETING OF THE BOARD OF DIRECTORS OF SAID CORPORATION, AND THE SAME HAS NOT BEEN REVOKED OR RESCINDED.

SECRETARY-TREASURER

_____

DATE

_____

SAMPLE

Certificate of Insurance Instructions

The below information is intended to guide Contractors on what information is needed to be listed on the Certificate of Insurance. All Insurance limit requirements can be found in Section 06.

- **Certificate Holder** – STPG must be listed as the certificate holder, and it must include our address of: P.O. Box 628, Covington, LA 70434
    - Reason: the certificate holder is where cancellations of coverage, or updated certificates are mailed. If a vendor terminates a policy, we will be notified.
- **Additional Insured** – We must be named as an additional insured so that if there is a lawsuit against the vendor for a project, their coverage will cover STPG as well if we are named in the lawsuit.
    - We must be named in the Description of Operations box – reason: there could be other additional insureds, and we want to have no doubt that we are one of the additional insureds.
    - We must be named as additional insured on the following coverages: General liability, Auto Liability, Umbrella/Excess Liability, Environmental/Pollution Liability.
    - Professional Liability policies do not allow for an additional insured by most carriers.
- **Project Name & Contract #** - We need this listed in the Description of Operations, again so that if there is a lawsuit, we have proof that coverage was active for that project.
- **Waiver of Subrogation –** This can either be listed in the Description of Operations or checked off in the appropriate columns.

    From the Insurance Requirement form:

    Waiver of Subrogation: The Provider's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance.
- **Owners Protective Liability (OPL) or (OCP)** – Certificate of Insurance for OCP names St. Tammany Parish Government as the Insured and the Certificate Holder.

- Sample of Certificate of Insurance (COI) can be found on page 2.

- Please refer to this section in the package labeled "Insurance Requirements" for limits required for this project

Any questions regarding insurance requirements please contact the Risk Department at 985-898-5226 or email riskman@stpgov.org

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED	INSURER A :	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	☐ CLAIMS-MADE ☐ OCCUR						MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$
	☐ POLICY ☐ PRO-JECT ☐ LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ☐ NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	☐ **UMBRELLA LIAB** ☐ OCCUR						EACH OCCURRENCE	$
	☐ **EXCESS LIAB** ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ WC STATU-TORY LIMITS ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ N / A **(Mandatory in NH)**						E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Project Name:
Contract #:

(Name St. Tammany Parish Government as an additional insured).

CERTIFICATE HOLDER

St. Tammany Parish Government
P.O. Box 628
Covington, LA 70434

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Sample

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Bond No.:_____

CONTRACT AGREEMENT

BETWEEN PARISH AND CONTRACTOR

BY: ST. TAMMANY PARISH GOVERNMENT

WITH:

UNITED STATES OF AMERICA

STATE OF LOUISIANA

ST. TAMMANY PARISH

This agreement is entered into this_____day of_____, 20___, by and between: «txtREQCompanyName», hereinafter called the "Contractor", whose business address is «txtREQAddress», «txtREQCity», «txtREQState» «txtREQZip» and the St. Tammany Parish Government, hereinafter called the "Parish", whose business address is P.O. Box 628, Covington, LA 70434 (collectively, the "Parties") for «txtPROJECTNAME» project. Witnessed that the Contractor and the Parish, in consideration of premises and the mutual covenants, consideration and agreement herein contained, agree as follows:

SAMPLE

1. SCOPE OF SERVICES

The Contractor shall furnish all labor and materials and perform all of the work required to build, construct and/or complete in a thorough and workmanlike manner:

«txtScopeSummary»

2. CONSTRUCTION DOCUMENTS

It is recognized by the Parties herein that said Construction Documents, including by way of example and not of limitation, the plans and Specifications, General Conditions, Supplementary General Conditions, any addenda thereto, the drawings (if any), and the bid, quote or other procurement documents impose duties and obligations upon the Parties herein, and said Parties thereby agree that they shall be bound by said duties and obligations. For these purposes, all of the provisions contained in the aforementioned Construction Documents are incorporated herein by reference with the same force and effect as though said Construction Documents were herein set out in full. Copies of the aforementioned Construction Documents are in the possession of both the Contractor and the Parish for reference.

SAMPLE

3. TIME FOR COMPLETION

The work shall be commenced on a date to be specified in a written order of the Parish and shall be completed within «intCompletionTime» calendar days from and after said date.

4. COMPENSATION TO BE PAID TO THE CONTRACTOR

The Parish will pay and the Contractor will accept in full consideration for the performance of the Contract the sum of «curREQGrandTotal» dollars.

5. PERFORMANCE AND PAYMENT BOND

To these presents personally came and intervened _____,
(Name of Attorney in Fact)
herein acting for _____, a corporation organized
(Surety)
and existing under the laws of the State of _____, and duly authorized to transact business in the State of Louisiana, as surety, who declared that having taken cognizance of this Contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney in Fact obligates his company, as surety for the said Contractor, unto the said Parish, up to the sum of «curREQGrandTotal». The condition of this performance and payment bond

SAMPLE

shall be that should the Contractor herein not perform the Contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the Parish from all costs and damages which he may suffer by said Contractor's non-performance or should said Contractor not pay all persons who have fulfilled obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example, workmen, laborers, mechanics, and furnishers of materials, machinery, equipment and fixtures, then said surety agrees and is bound to so perform the Contract and make said payment(s).

Contractor and Parish specifically agree to and recognize (1) the statutory employer relationship existing between the Parish and any employees performing work under this Contract as employees of the Contractor or employees of the "Sub-Contractor", and (2) that the work performed by the employees of the Contractor and the employees of the "Sub-Contractor" is part of the Parish's business, occupation or trade and is essential to the ability of the Parish to generate their products or services, all of which is in accordance with LSA-R.S. 23:1061, and as may be amended.

SAMPLE

6. LIABILITY AND INDEMNIFICATION

A. Duty to Defend

Upon notice of any claim, demand, suit, or cause of action against the Parish, alleged to arise out of or be related to this Contract, Contractor shall investigate, handle, respond to, provide defense for, and defend at its sole expense, even if the claim, demand, suit, or cause of action is groundless, false, or fraudulent. The Parish may, but is not required to, consult with or assist the Contractor, but this assistance shall not affect the Contractor's obligations, duties, and responsibilities under this section. Contractor shall obtain the Parish's written consent before entering into any settlement or dismissal.

B. Contractor Liability

Contractor shall be liable without limitation to the Parish for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its owners, agents, employees, partners or subcontractors.

SAMPLE

C. Force Majeure

It is understood and agreed that neither party can foresee the exigencies beyond the control of each party which arise by reason of an Act of God or force majeure; therefore, neither party shall be liable for any delay or failure in performance beyond its control resulting from an Act of God or force majeure. The Parish shall determine whether a delay or failure results from an Act of God or force majeure based on its review of all facts and circumstances. The parties shall use reasonable efforts, including but not limited to, use of continuation of operations plans (COOP), business continuity plans, and disaster recovery plans, to eliminate or minimize the effect of such events upon the performance of their respective duties under this Contract.

D. Indemnification

Contractor shall fully indemnify and hold harmless the Parish, without limitation, for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its

SAMPLE

owners, agents, employees, partners or subcontractors. The Contractor shall not indemnify for the portion of any loss or damage arising from the Parish's act or failure to act.

E. Intellectual Property Indemnification

Contractor shall fully indemnify and hold harmless the Parish, without limitation, from and against damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities in any action for infringement of any intellectual property right, including but not limited to, trademark, trade-secret, copyright, and patent rights.

When a dispute or claim arises relative to a real or anticipated infringement, the Contractor, at its sole expense, shall submit information and documentation, including formal patent attorney opinions, as required by the Parish.

If the use of the product, material, service, or any component thereof is enjoined for any reason or if the Contractor believes that it may be enjoined, Contractor, while ensuring appropriate migration and implementation, data integrity, and

SAMPLE

minimal delays of performance, shall at its sole expense and in the following order of precedence: (i) obtain for the Parish the right to continue using such product, material, service, or component thereof; (ii) modify the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; (iii) replace the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; or, (iv) provide the Parish monetary compensation for all payments made under the Contract related to the infringing product, material, service, or component, plus for all costs incurred to procure and implement a non-infringing product, material, or service of at least equal quality and performance. Until this obligation has been satisfied, the Contractor remains in default.

The Contractor shall not be obligated to indemnify that portion of a claim or dispute based upon the Parish's unauthorized: i) modification or alteration of the product, material or service; ii) use of the product, material or service in combination with other products not furnished by Contractor; or, iii) use of the

SAMPLE

product, material or service in other than the specified operating conditions and environment.

7. MODIFICATION OF CONTRACT TERMS

Provided that any alterations which may be made in the terms of the Contract or in the work to be done under it, or the giving by the Parish of any extensions of time for the performance of the Contract, or any other forbearance on the part of either the Parish or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions or other forbearance being hereby waived.

8. TERMINATION, CANCELLATION, AND SUSPENSION

A. Termination

The term of this Contract shall be binding upon the Parties hereto until the work has been completed by the Provider and accepted by the Parish, and all payments required to be made to the Provider have been made. But, this Contract may be terminated upon thirty (30) days written notice under any or all of the following conditions:

SAMPLE

1) By mutual agreement and consent of the Parties hereto;

2) By the Parish as a consequence of the failure of the Provider to comply with the terms, progress, or quality of the work in a satisfactory manner, proper allowances being made for circumstances beyond the control of the Provider;

3) By either party upon failure of the other party to fulfill its obligations as set forth in this Contract;

4) By the Parish with less than thirty (30) days' notice due to budgetary reductions and changes in funding priorities by the Parish;

5) In the event of the abandonment of the project by the Parish.

Upon termination, the Provider shall be paid for actual work performed prior to the Notice of Termination, either based upon the established hourly rate for services actually performed, or on a pro-rata share of the basic fee based upon the phase or percentage of work actually completed, depending on the type of compensation previously established under this Contract.

SAMPLE

Upon Termination, the Provider shall deliver to the Parish all original documents, notes, drawings, tracings, computer files, and other files pertaining to this Contract or the Work performed, except for the Provider's personal and administrative files.

B. Cancellation

The continuation of this Contract is contingent upon the appropriation of funds to fulfill the requirements of the Contract by the Parish. If the Parish fails to appropriate sufficient monies to provide for the continuation of this or any other Contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the Contract, the Contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated. It is understood and agreed that paragraph (9)(C) below may preempt this paragraph, all at the exclusive and unilateral option of the Parish.

C. Suspension

Should the Parish desire to suspend the work, but not definitely terminate the Contract, the Parish shall supply the Provider with thirty (30) days' notice. The Parish will also

SAMPLE

supply Provider thirty (30) days' notice that the work is to be reinstated and resumed in full force. Provider shall receive no additional compensation during the suspension period. The Parties may revisit the terms of this Contract during the suspension period. The suspension shall not exceed six (6) months, unless mutually agreed upon between the Parties.

D. Failure to complete or deliver within the time specified or to provide the services as specified in the bid or response will constitute a default and may cause cancellation of the contract. Where the Parish has determined the contractor to be in default. The Parish reserves the right to purchase any or all products or services covered by the contract on the open market and to charge the contractor with the cost in excess of the contract price. Until such assessed charges have been paid, no subsequent bid or response from the defaulting contractor will be considered.

E. In the event of a default and/or breach of this agreement and this matter is forwarded to legal counsel, then the prevailing party may be entitled to collect a reasonable attorney fees and all costs associated therewith whether or not litigation is initiated. Attorney fees shall be based upon the current, reasonable prevailing rate for counsel in the private

SAMPLE

sector. The Parties agree to be responsible for such attorney fees, together for all with legal interest from date of agreement breach, plus all costs of collection.

F. Termination or cancellation of this agreement will not affect any rights or duties arising under any term or condition herein.

G. As to the filing of voluntary or involuntary bankruptcy by Provider, Provider agrees that if any execution or legal process is levied upon its interest in this Contract, or if any liens or privileges are filed against its interest, or if a petition in bankruptcy is filed against it, or if it is adjudicated bankrupt in involuntary proceedings, or if it should breach this Contract in any material respect, the Parish shall have the right, at its unilateral option, to immediately cancel and terminate this Contract. In the event that Provider is placed in any chapter of bankruptcy, voluntarily or involuntarily, or otherwise triggers any provision of the preceding sentence herein, it is understood and agreed that all materials, goods and/or services provided shall be and remain the property of the Parish. All rights of Provider as to goods, wares, products, services, materials and the like supplied to Parish shall be deemed forfeited.

SAMPLE

9. RECORDATION OF CONTRACT

Contractor authorizes Parish to deduct from any payment due herein costs and service fees for recordation of this Contract in full or an excerpt hereof, or any revisions or modifications thereof as required by law.

10. AUTHORITY TO ENTER CONTRACT

The undersigned representative of Contractor warrants and personally guarantees that he/she has the requisite and necessary authority to enter and sign this Contract on behalf of the corporate entity, partnership, etc. The undersigned Parties warrant and represent that they each have the respective authority and permission to enter this Contract. In the event that Contractor is a member of a corporation, partnership, L.L.C., L.L.P., or any other juridical entity, the Parish requires, as an additional provision, that Contractor supply a certified copy of a corporate resolution authorizing the undersigned to enter and sign this Contract. Another option to fulfill this additional provision he/she can supply Louisiana Secretary of State Business filings confirming that he/she is a managing member of a

SAMPLE

corporation, partnership, L.L.C., L.L.P., or any other juridical entity which authorizes the undersigned to enter and sign this Contract.

In Witness thereof, the Parties hereto on the day and year first above written have executed this Contract in **One (1)** counterparts, each of which shall, without proof or accountancy for the other counterparts, be deemed an original thereof.

WITNESSES:	**CONTRACTOR:**
_____	_____
Signature	**Signature**
_____	_____
Print Name	**Print Name**
_____	_____
Signature	**Title**
_____	_____
Print Name	**Date**

SAMPLE

Bond No.:_____

WITNESSES:

_____
Signature

_____
Print Name

_____
Signature

_____
Print Name

ST. TAMMANY PARISH GOVERNMENT:

_____
Michael B. Cooper
Parish President

_____
Date

APPROVED BY:

_____
Assistant District Attorney- Civil Division

_____
Date

_____
(Surety)

_____
Signature

_____
Print Name

SAMPLE



10/6/2025

Section 12

Technical Specifications

The technical specifications for this project shall consist of the Louisiana Standard Specifications for Roads and Bridges, 2016 Edition (LSSRB), and Supplemental Specifications thereto, State of Louisiana, Department of Transportation and Development, Baton Rouge, Louisiana. The unit price pay items included in this project are numbered in accordance with the 2016 Edition of the Louisiana Department of Transportation and Development Standard Specifications for Roads and Bridges and all work included in these pay items shall be constructed in strict conformance with the appropriate Sections, Sub-sections, and references made within the LSSRB and/or as modified, supplemented, or added to which herein or by the Special Provisions.

Specifications including materials, equipment, prosecution of the work, payment, procedures, testing, sampling, quality assurance, and quality control items shall conform to the LSSRB. All materials supplied shall be listed on and comply with the latest revised Approved Materials List maintained by the Louisiana Department of Transportation and Development at the time of bidding, unless otherwise noted. Payment and measurement will be based on the item and unit measure specified in the LSSRB, or as amended otherwise within this document.

The following GENERAL REQUIREMENTS are to be considered a part of the project specifications:

1.1 APPLICABLE SECTIONS:

1.1.1 If CONTRACTOR has doubt whether a particular section of the specifications is applicable or not, he should confer with the ENGINEER prior to bidding.

1.2 APPLICABLE SEPARATE SPECIFICATIONS:

1.2.1 Occasional reference is made with the specifications to portions of applicable separate specifications to be followed during construction of the project. The listing provided in Section 1.3 below defines abbreviated references and definitions of these separate specifications.

1.2.2 When provided for within the specifications, the CONTRACTOR shall be required to obtain all necessary copies of required applicable separate specifications cited within the specifications. These shall form a part of the Contract Documents in the same manner as if fully disclosed herein.

1.3 DEFINITION OF APPLICABLE SEPARATE SPECIFICATIONS:

1.3.1 "DOTD Standard Specifications" or "LSSRB" is hereinafter defined as the "Louisiana Department of Highways Standard Specifications for Roads and Bridges", 2016.

1.3.2 "ASTM", hereinafter defined as "American Society for Testing and Materials", including revisions, the copies of applicable portions of which shall be made available by the ENGINEER upon request and payment by the CONTRACTOR.

1.3.3 "AWWA" hereinafter defined as "American Waterworks Association Standards", including revisions, the copies of applicable portions of which shall be made available by the ENGINEER upon request and payment by the CONTRACTOR.

1.3.4 "ANSI" hereinafter is defined as "American National Standards Institute", including revisions, the copies of applicable portions of which shall be made available by the ENGINEER upon request and payment by the CONTRACTOR.

1.3.5 "WPCF", hereinafter is defined as "Water Pollution Control Federation, Manual of Practice No. 9", the copies of applicable portions of which shall be made available by the ENGINEER upon request and payment by the CONTRACTOR.

1.3.6 "ASA", hereinafter is defined as "American Standards Association", including revisions, the copies of applicable portions of which shall be made available by the ENGINEER upon request and payment by the CONTRACTOR.

1.3.7 "ACI", hereinafter is defined as "American Concrete Institute", including revisions, the copies of applicable portions of which shall be made available by the ENGINEER upon request and payment by the CONTRACTOR.

1.3.8 "LA DNR", hereinafter is defined as "Louisiana Department of Natural Resources, Office of Conservation", for the Transportation of Natural and Other Gas by Pipeline, printed November, 1988.

1.3.9 "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" or “MUTCD", when referred to herein is available through purchase from the Federal Highway Administration.

1.3.10 "AASHTO", hereinafter defined as "American Association of State Highway Transportation Officials Standard Specifications", including revisions, the copies of applicable portions of which shall be made available by the Engineer upon request and payment by the Contractor.

1.3.11 "OSHA", hereinafter defined as "Occupational Safety and Health Association", including revision, the copies of applicable portions of which shall be made available by the Engineer upon request and payment by the Contractor.

1.3.12 “AREMA”, hereinafter defined as the “American Railway Engineering and Maintenance-of-way Association, including all current errata and revisions to all manual, the copies of which can be provided upon payment by the contractor for 1.10 times the cost of production and user fee costs.

1.4 CHANGES IN ELEVATION AND LOCATIONS:

1.4.1 The OWNER reserves the right to change the location of lines and structures to be built under this contract for any reason the ENGINEER deems necessary whether to avoid obstructions, either on the surface or underground, to avoid cutting expensive pavements, to make better connections with other structures or for any reason tending toward greater economy or better construction.

1.4.2 Should any changes in the location, alignment, grade or form of dimensions of any part of the work under the contract be made by the ENGINEER, either before or after the commencement of the work, the CONTRACTOR shall have no claim against the OWNER on account of such changes, but shall accept as full compensation the price bid for each unit of work which is required to do regardless of whether or not the location of said unit work shall be as shown in the plans upon which bids are invited and compared, provided that such changes of location shall not involve any additional burden or hazard to the CONTRACTOR. The CONTRACTOR shall thoroughly investigate the additional burden or hazard that may result from the change and shall notify the ENGINEER in writing of conditions which may affect the work. The CONTRACTOR will be compensated for any such additional burden or hazard that cannot be avoided in an amount to be agreed upon in writing by the CONTRACTOR and the ENGINEER before the work proceeds.

1.5 PROTECTION OF PUBLIC FACILITIES:

1.5.1 The CONTRACTOR shall make provisions so far as practicable at all costs streets and private driveways for the free passage of vehicles and foot passengers by bridges or otherwise. Where bridging is impracticable or unnecessary in the opinion of the ENGINEER, the CONTRACTOR shall make arrangements satisfactory to the ENGINEER for the diversion of traffic and shall at his own expense provide all material and perform all work necessary for the construction and maintenance of streets, roadways and bridges for such diversion of traffic. Neither the material excavated nor the material or equipment used in the construction of the work shall be so placed as to endanger the work or prevent free access to all fire hydrants, water valves, gas valves, manholes, fire alarm or police call boxes in the vicinity.

1.5.2 The CONTRACTOR shall schedule his work on existing facilities so as to cause minimal interruption of service. The ENGINEER must be notified in writing of the CONTRACTOR'S proposed method of work involving existing in-use facilities.

1.6 PILING EXCAVATED MATERIALS AND CARE OF STRUCTURES:

1.6.1 All excavated material shall be so piled as not to endanger the work and so that free access may be had at any time to all parts of the work and shall be kept neatly piled so to inconvenience public travel or adjoining tenants as little as possible. Cross walks, streets, roads, railroads, and private structures in the vicinity of the work shall be protected and if injured, shall be repaired or replaced. CONTRACTOR will be required to remove excavated earth by truck for temporary storage in order to install waterline in congested areas due to shrub, trees, houses, and close proximity to highway.

1.7 CLEANING SITE:

1.7.1 The CONTRACTOR shall keep the site of the work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove same from any portion of the site, material, debris or rubbish that constitutes a nuisance and is objectionable.

1.7.2 Any area in front of or adjacent to an existing business or residence shall be restored and cleaned as near as possible to original condition as soon as possible. If CONTRACTOR does not comply with this requirement the ENGINEER may have the work done with other forces and deduct the cost from monies owed the CONTRACTOR.

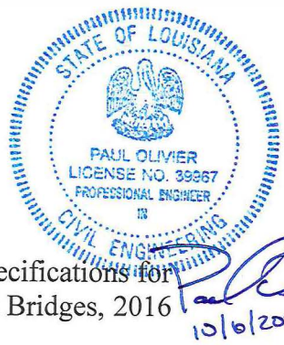
1.7.3 Before final acceptance, the CONTRACTOR shall restore the entire area used during construction to as near original condition as possible.

1.8 STORAGE OF MATERIALS:

1.8.1 Materials shall be stored so as to insure the preservation of their quality and fitness for the work and in a manner that leaves the material accessible to ENGINEER. With the consent of the ENGINEER, material may be stored on the right-of-way provided such storage does not interfere with the prosecution of the work or impair vision or endanger public travel. Storage of material and equipment on private property will be allowed only by formal agreement between CONTRACTOR and Property Owner.

1.9 TEMPORARY SIGNS AND BARRICADES:

1.9.1 The CONTRACTOR shall supply, erect and maintain all necessary temporary signs and barricades required for the project in accordance with minimum requirements shown on permits, the traffic control plan, or the plans and in accordance with the project specifications.



Section 13

Special Provisions

The following Special Provisions shall amend or otherwise modify the Specifications for this project which consist of the Louisiana Standard Specifications for Roads and Bridges, 2016 Edition (LSSRB).

The following SPECIAL PROVISIONS are provided to amend the project specifications:

Any wording in the above noted Louisiana Standard Specifications for Roads and Bridges, 2016 Edition (LSSRB) as may refer to the Governor, State, State Highway Department, Department, Director, Owner, or similar references to other personnel or to sections, departments, and agencies included thereof shall be deemed to read "St. Tammany Parish Government" and its authorized personnel, agents, departments and sections.

Any wording in the above noted Louisiana Standard Specifications for Roads and Bridges, 2016 Edition (LSSRB) as may refer to the Engineer, Project Engineer, Chief Engineer, or similar references to similar personnel or to sections under the direction thereof shall be deemed to read "Crescent Engineering & Mapping, LLC" and its authorized personnel and agents.

PART I – GENERAL PROVISIONS

The following Sections and/or Subsections of Part I of the LSSRB have been deleted and the contents thereof are considered to be replaced and/or amended by the applicable parts of Sections 01-12 of this document. Any Section or Subsection of the LSSRB not specifically listed below shall be considered to apply in full force as written in the LSSRB or as amended by the latest revised Supplemental Specifications to which as published by the LADOTD.

Subsection 102.03 thru and including Subsection 102.04
Subsection 102.06 thru and including Subsection 102.13.5
Subsection 103.01.1 thru and including Subsection 103.08
Subsection 104.02 thru and including Subsection 104.05
Subsection 105.17 thru and including Subsection 105.19
Subsection 106.02
Subsection 106.05
Subsection 107.02
Subsection 108.01
Subsection 108.03 thru and including Subsection 108.04
Subsection 108.07 thru and including Subsection 108.11
Subsection 109.03 thru and including Subsection 109.08

Any discrepancy, in whole or in part, between the Sections and/or Subsections not listed above, which are said to remain in full effect, and Sections 01-12 included in this document shall be resolved in the following order:

(1) In accordance with applicable Local, State, or Federal laws
(2) In the best interest of the Owner as determined by the Owner and/or Engineer
(3) In accordance with the provisions stated within Sections 01-12 of this document
(4) In accordance with the Engineer's recommendation

SECTION 105 – CONTROL OF WORK

105.08 CONSTRUCTION STAKES, LINES AND GRADES

Subsection 105.08, Construction Stakes, Lines and Grades, of the Standard Specifications as amended by the supplemental specifications thereto, is deleted and the following substituted:

The Contractor is responsible for establishing all lines, grades, and stakes for all required construction activities based upon controls shown on the plans. The Contractor is required to check all control points shown on the plans for agreement and tolerance requirements. At least one benchmark on or near the project will be labeled for vertical control. The Engineer does not warranty the condition or accuracy of control points for any time after they are set and for conditions beyond the control of the Engineer.

The Contractor shall employ sufficient qualified engineering and/or surveying personnel experienced in layout and construction of this type of work to correctly establish all lines and grades necessary from initial layout to final acceptance. The Contractor will be liable for the accuracy of the initial layout and all subsequent alignment and elevations and shall, at his own expense, rebuild, repair or make good any portion of the work found to be incorrectly positioned either horizontally or vertically at any time before final acceptance. The Contractor shall notify the Engineer immediately of any apparent errors in the plans.

The Engineer may, at his option, make either spot or complete checks on all construction alignment and grades to determine the correctness of the survey work; however, these checks will not relieve the Contractor of his responsibility for constructing the work in the positions and to the elevations shown on the plans or approved revisions thereto. Measurements for determination of pay quantities will be made by the Engineer.

The Contractor shall be responsible for preservation of all stakes and marks established. When any stakes or marks have been carelessly or willfully disturbed by the Contractor, they shall be replaced immediately. At a minimum, each station shall be clearly staked/marked along the centerline or on both sides of the centerline near the ROW line throughout the duration of the project. Missing station stakes/marks may constitute in inability of the engineer to make measurements and calculations for payment and due to which, payment may be withheld until stakes are established and calculations for quantities are made.

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01 LAWS TO BE OBSERVED

Subsection 107.01, Laws To Be Observed, of the Standard Specifications as amended by the Supplemental Specifications thereto is further amended as follows:

Subsection 107.01, the last paragraph is deleted and substituted with the following

Any litigation arising under or related to the contract or the bidding or award thereof shall be instituted in the 22nd Judicial District Court in and for the Parish of St. Tammany, State of Louisiana.

ENVIRONMENTAL PROTECTION

Subsection 107.14, Environmental Protection, of the Standard Specifications as amended by the Supplemental Specifications thereto is amended to include the following paragraphs at the end of this subsection.

The Contractor is required to complete, sign, and submit the Notice of Intent (NOI) CSW-G for the Louisiana Pollutant Discharge Elimination System (LPDES) permit to the Louisiana Department of Environmental Quality (LADEQ) for the construction activities under this project prior to beginning work and such permit shall be posted onsite as required. The Contractor's notice to begin securing permits shall be when the Owner issues the Notice of Award for the project. The Contractor shall complete and submit the Notice of Termination (NOT) to the LADEQ after final stabilization of the site in accordance with the terms of the permit. Permit forms and information can be found at: http://www.deq.louisiana.gov.

The use of erosion control features or methods shall be those as shown in the plans, as directed, as required to comply with necessary permits, or as to prevent erosion and sediment from leaving the site.

The Storm Water Pollution Prevention Plan (SWPPP) shall be completed and kept current by the Contractor throughout the duration of the project and shall consist of Section 204 of the standard specifications along with any supplemental specifications, special provisions, applicable plan sheets, and Standard Plan EC-01. The SWPPP shall be instituted using the standard template as provided by the Project Engineer.

PRESERVATION OF PUBLIC AND PRIVATE PROPERTY

Subsection 107.12, Preservation of Public and Private Property, of the Standard Specifications as amended by the Supplemental Specifications thereto is amended to include the following paragraphs at the end of this subsection.

The Contractor shall continuously monitor the condition and structural integrity of the existing bridge at all times during the course of the contract to ensure that the structure remains in safe condition for travel by the public in accordance with the current posting requirements. Contractor shall make any necessary repairs, rehabilitations or otherwise shoring of the existing bridge structure, approaches or guardrails as required to maintain traffic on the existing structure until traffic is shifted to the new bridge structure. All efforts required of this provision shall be included in Item No. 727-01-00100.

SECTION 302 – CLASS II BASE COURSE

ASPHALT CONCRETE BASE COURSE: Subsection 302.02.4, Asphalt Concrete Base Course, of the Standard Specifications as amended by the Supplemental Specifications thereto is further amended as follows.

Subsection 302.02.4, is deleted and substituted with the following

The material requirements for asphalt concrete base course shall be described in Section 502. The entire thickness shall be comprised of Asphalt Concrete.

SECTION 708 – RIGHT-OF-WAY MONUMENTS: Section 708, Right-of-Way Monuments, of the Standard Specifications as amended by the Supplemental Specifications thereto shall be deleted and substituted with the following:

708.01 DESCRIPTION
Install contractor furnished right-of-way monuments at various locations in accordance with these specifications, the project right-of-way map, the plan details, or as directed.

708.02 MATERIALS
Right-of-way monuments shall be the type shown on LADOTD Standard Plan RM-01 or an approved equal. The cap shall include engravings as approved by St. Tammany Parish prior to installation. Furnish steel stakes, 3/4 inch x 3/4 inch x 2 feet, with stainless steel identification caps. Submit shop drawing to Project Engineer for approval prior to installation.

708.03 GENERAL CONSTRUCTION REQUIREMENTS
Position and set right-of-way monuments by or under the responsible charge of a Louisiana licensed professional land surveyor. Prepare a reproducible final plat reflecting the surveyor's location of the monuments in accordance with the right-of-way map on standard size plan sheet(s) and submit the final plat to the Project Engineer. Record the final plat in the appropriate parish courthouse(s) and provide a copy of the filing receipt(s) to the project engineer. Also provide a copy of the final plat to the appropriate parish engineer(s) and Planning Commission(s), if applicable.

708.04 MEASUREMENT
Right-of-way monuments will be measured per each. Right-of-way monument witness posts will not be measured and will be considered incidental to the monument and included in the price per each.

708.05 PAYMENT
Payment for right-of-way monuments will be made at the contract unit price per each.

Item No.	Pay Item	Pay Unit
708-01-00100	Right-of-Way Monument	Each

NS SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALT CONCRETE OVERLAY, AND SAWCUTS IN ASPHALT CONCRETE LIFTS:

1.0 DESCRIPTION
These items consist of sawing and sealing transverse joints in asphalt concrete overlay and sawcuts in asphalt concrete lifts in accordance with plan details and the following requirements.

2.0 CONSTRUCTION REQUIREMENTS
Sawcuts shall be made in the overlay at the locations of all transverse and longitudinal joints in the concrete pavement, the existing joint between concrete pavement and asphalt concrete shoulder and the existing joint between the concrete pavement and concrete shoulder. Before the overlay operation is started, the contractor shall accurately mark the location of each transverse joint in the existing concrete pavement and shoulder to the satisfaction of the engineer by placing a hub with a tack even with the ground at each edge of shoulder or by other approved methods. Offsets shall be measured from these hubs and tacks to locate the longitudinal joints.

All asphalt concrete lifts shall be saw cut a minimum of 1/8 inch wide by 1 inch deep over the existing longitudinal and transverse concrete pavement joints. These saw cuts shall be made after the overlay has thoroughly cooled and shall be completed within 3 calendar days after each lift is placed, before any reflective cracking has developed or other courses placed.

Both longitudinal and transverse joint reservoirs in the final wearing course shall be sawed to the dimensions shown on the plans. Sawing shall not begin until the overlay has thoroughly cooled. Joint faces shall be blown free of sawing slurry, dirt and water by compressed air just prior to resealing. The air compressor shall be equipped with an approved oil and water trap. The joint shall be dry before sealing.

Joints which have become contaminated or dirty before sealing shall be recleaned as directed by the engineer. The longitudinal and transverse joints shall be sealed with a sealant conforming the technical specifications and in accordance with plan details and the manufacturer's recommendations.

The sealing operation shall be done as soon as possible after the sawing and cleaning and before traffic, including construction traffic, is allowed on the overlay. The sealed joints shall remain closed to traffic until, in the engineer's opinion, the sealant has satisfactorily cured to tack free. The hot poured sealant shall be sampled in accordance with the Materials Sampling Manual.

3.0 MEASUREMENT
Measurement of sawing and sealing transverse joints in asphalt concrete pavement will be made by the linear foot along the sealant reservoirs in the final wearing course. Measurement of sawcuts in asphalt concrete lifts will be made by the linear foot along the sawcuts in each lift. Payment for sawing and sealing transverse joints in asphalt concrete overlay will be made at the contract unit price, which includes locating and marking the joints, sawing the sealant reservoirs in the final wearing course, cleaning the sawed sealant reservoirs, joint sealant, and all labor, equipment and incidentals necessary to complete these items.

Payment for sawcuts in the asphalt concrete lifts will be made at the contract unit price which includes locating the joints in each lift of asphalt concrete, sawcuts in each lift of asphalt concrete and all labor, equipment and incidentals necessary to complete this item.

4.0 PAYMENT
Payment will be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
NS-500-00240	Sawing and Sealing Transverse Joints in Asphalt Concrete Overlay	Linear Foot
NS-500-00260	Sawcuts in Asphalt Concrete Lifts	Linear Foot

NS SAW CUTTING ASPHALT CONCRETE PAVEMENT:

1.0 DESCRIPTION
This item consists of furnishing all equipment, labor, materials and incidentals to perform saw cutting of existing asphalt concrete pavement at locations as shown on the plans or directed by the Project Engineer.

2.0 MEASUREMENT
The saw cutting will be measured and paid at the contract unit price per inch depth of cut times the linear foot of cut.

3.0 PAYMENT
Payment will be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
NS-500-00340	Saw Cutting Asphalt Concrete Pavement	Inch Depth - Linear Foot

NS IMPACT ATTENUATORS (CONSTRUCTION ZONE):

1.0 DESCRIPTION
This item consists of selecting, furnishing, installing, maintaining, and subsequently removing a kinetic impact attenuator device in accordance with the manufacturer's recommendations, the 2016 Louisiana Standard Specifications for Road and Bridges, and the following specifications.

2.0 MATERIALS

Conform to the manufacturer's details for kinetic impact attenuators. Use corrosion resistant fasteners in all assemblies. Use American National Standard bolts, nuts and washers. Fabricate metal work from ASTM A36 steel or approved equal and galvanize after fabrication in accordance with Subsection 811.08. Conform to Section 809 for welding. Furnish hazard marker panels and attach by methods acceptable to the Project Engineer. Construct all required concrete foundations and backups as per the manufacturer's recommendations. If not specified, use Class A1 concrete.

3.0 SUBMITTAL

Conform to Section 105.02. Submit to the Project Engineer for review information on the type, size, and the manufacturer of the proposed attenuator system. Include information demonstrating that the size (length and width) of the attenuator meets the requirements of the installation site conditions. Provide a certified statement that the impact attenuator and the materials used conform to the plans and specifications. Do not begin construction until submittal acceptance.

4.0 CONSTRUCTION REQUIREMENTS

Conform to NCHRP 350 or AASHTO MASH for all attenuator systems and installations. Provide kinetic, gating impact attenuators that have been successfully crash tested to the Test Level 3 requirements, have an FHWA eligibility letter, and meet the requirements of the installation shown in the plans. The area behind the attenuator shall be free of workers, hazards, equipment, vehicles, drop-offs, and materials. If such conditions cannot be met, use a re-directive, non-gating system.

Assembly and installation shall be in accordance with the manufacturer's recommendations. The assembly and installation of all impact attenuators shall be supervised at all times by either a manufacturer's representative or an installer who has been trained and certified by the manufacturer of the system. If the supervision is provided by a trained installer, a copy of the installer certification shall be provided to the Engineer prior to installation.

5.0 MEASUREMENT

Kinetic impact attenuators will be measured per each, which includes all materials, parts, labor, equipment, tools, and any incidental work necessary to design, furnish, load, transport, maintain and install this item.

6.0 PAYMENT

Payment will be made at the contract price per each.

Item No.	Pay Item	Pay Unit
NS-700-00810	Impact Attenuator (Construction Zone) (Test Level 3)	Each

Section 14

Special Provisions for Project Sampling and Testing Plan



The following Project Sampling and Testing Plan outlines the Special Provisions made for this project in regard to the requirements for testing and sampling requirements by pay item including required samples, tests, frequencies, certifications, submittals and other requirements. This document is to be considered a live document, which is subject to change during the course of the project as deemed necessary by the Project Engineer due to actual construction methods and field quantities.

The Contractor shall use the requirements outline in this plan in conjunction with his proposed method(s) of construction and installation of items as a guide to determine the magnitude of all QC sampling and testing required for the project and the anticipated amount of acceptance testing by the Owner. Actual acceptance testing by the Owner may be subject to change by the Project Engineer without notice. No additional compensation will be given for changes in the number of tests, samples, etc. required due to the contractor's methods, re-work, or failed tests. There will be no measurement for payment for testing, sampling, etc. required for the project and such cost shall be included in the various pay items in the contract unit amounts. Quality Assurance and/or acceptance testing will be performed by an Owner-provided third-party testing agency. The Contractor's Verification and Quality Control testing and sampling agency shall be approved by the Engineer in writing prior to beginning work on the project and shall not change during the course of the project. Quality Control testing personnel shall possess all appropriate LADOTD/ACI/PCI, etc. certifications for sampling and testing.

Purpose Abbreviations:
The following denote the purpose of the test/sampling required
Acc Acceptance (Quality Assurance)
Ver Verification
Des Design
QC Quality Control

Responsibility for test/sampling/measurements:
The CONTRACTOR is responsible for any and all:
Verification Testing/Sampling
Design Testing/Sampling
QC Testing/Sampling

The ENGINEER and/or OWNER is responsible for:
Acceptance Testing/Sampling (QA)
Measurements and visual inspection of items for Acceptance
Review and approval of Design purpose submittals/samples/tests

The word "Lab" refers to the Contractor's third-party testing agency lab
The abbreviation "PE" refers to the Project Engineer or his representative.
Certification Abbreviations:
CC Certificate of Compliance
CD Certificate of Delivery
CA Certificate of Analysis

The contractor is responsible for submitting all reports, certifications and other applicable data to the group designated at the pre-construction conference within 72 hours of the time of the test.

The Contractor shall be responsible for notifying the Project Engineer, or his representative, at minimum of 48 hours in advance, of all Quality Assurance testing needed on the project. The contractor is responsible for ensuring that all QA testing is completed in accordance with the Sampling Plan. **Items which are installed without QA testing due to failure of the Contractor to properly notify and schedule required testing, shall result in an automatic 5% reduction in payment for that item.**

Failure to have proper QC personnel onsite during construction activities which require testing and/or sampling may result in the Engineer or his designated representative suspending work operations until sufficient QC personnel arrive onsite. Quantities installed without proper QC personnel onsite or without required testing shall result in a 20%

reduction in payment, or removal and replacement at no additional payment, at the sole discretion of the Engineer.

All certifications and other material paperwork such as load tickets shall be delivered to the project engineer or Owner's representative in the field. All QC sampling and testing reports shall be signed by the Louisiana Professional Engineer in responsible charge of the testing/sampling and shall be distributed to the project team (as determined at the Pre-Construction Conference) within 72 hours of the sampling/test. Contractor in-house personnel are not allowed for QC testing – a third party certificated testing agency/lab is required.

Should the Contractor fail to fulfill the requirements of the Sampling and Testing Plan for any respective item, such shall automatically result in the exclusion of those such quantities and pay items from payment applications until proper test and/or sampling reports are received and considered acceptable to the Engineer.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 201 - CLEARING & GRUBBING								
BACKFILL	Usable Soil	Accept.	**SEE SECTION 203 OF THIS MANUAL**	QA Lab				QA lab to test any proposed materials to ensure compliance, handling time up to 14 days
SECTION 203 - EXCAVATION & EMBANKMENT								
SOIL/BORROW	Atterburgs/Proctor	Design	QA Lab: S401	QA Lab	*			Contractor to supply up to three (3) 10# samples per source; typical handling time is 14 days; all proposed imported material to be sampled/tested
	Density	QC	Contractor: S401	Contractor	*			*Shall check sufficient to ensure specificaitons are met
		Accept.	QA Lab; S401	QA Lab	*			Typically handling time = 1/2 hr. * Test 1/300 L.F. (one on each side of bridge)/Side of Roadway/ Lift
	Embankment Lift (Uncompacted Lift Thickness)	QC	Contractor	`	*			*Shall check sufficient to ensure specificaitons are met
		Accept.	PE; S401	PE	*			PE to check lift thickness during placement & thickness of top layer during preparation. * Test 1/300 L.F. (one on each side of bridge)/ Side of Roadway / Lift
	Moisture Content (at Time of Compaction)	QC	Contractor	Contractor	*			*Shall check sufficient to ensure specificaitons are met
		Accept.	QA Lab; S401	QA Lab	*			Test taken during or just prior to compaction operation. * Test 1/300 L.F. (one on each side of bridge)/ Side of Roadway / Lift
GEOTEXTILE FABRIC		Accept.	PE	PE			CC	Material shall be on AML for fabric. Visually inspect seams & UV damage. Seams other than 401 or "J" shall be approved by QA Lab. Avoid sampling at end of roll.
SECTION 204 - TEMPORARY EROSION CONTROL								
CHECK DAMS (HAY OR STONE)		Accept.	PE	PE				Visual Inspection by PE
SILT FENCE (WIRE SUPPORTED)	Livestock Wire	Accept.	PE; S601	QA Lab				Visual Inspection by PE/Sample only if questionable/Allow 10 days for handling, if necessary
	Geotextile Fabric	Accept.	PE; S601	QA Lab		3 L.F. of full width of fabric roll		Material shall be on AML for fabric. Visual Inspection by PE/Sample only if questionable (min. 18 SF)/Allow 10 days for handling, if necessary
	Burlap	Accept.	PE; S601	QA Lab		3 L.F. of full width of fabric roll		Visual Inspection by PE/Sample only if questionable (min. 18 SF)/Allow 10 days for handling, if necessary
	Jute Fabric	Accept.	PE; S601	QA Lab		3 L.F. of full width of fabric roll		Visual Inspection by PE/Sample only if questionable/Allow 10 days for handling, if necessary
SILT FENCE (SELF SUPPORTED)	Geotextile Fabric	Accept.	PE; S601	QA Lab				Material shall be on AML for fabric/Visual Inspection by PE/Sample only if questionable (min. 18 SF)/Allow 10 days for handling, if necessary
POSTS	Wood or Steel			PE	*			*Visual Inspection by PE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 302 - CLASS II BASE COURSE								
AGGREGATE BASES	Stone	QC	Contractor; S101	Contractor	*			*Must be controlled so that materials placed in stockpile will conform to specifications when tested
		Design*	QA Lab : S101	QA Lab	1/source	6 full sample sacks		Stone source shall be on AML; allow 4 days for processing *For moisture-density relationships (Proctor)
		Accept.	QA Lab: S101	QA Lab	1/100 Cu. Yd.	1 full sample sack		Gradations for Stone (AML); allow 4 days for processing
	Moisture Content (at Time of Compaction)	QC	Contractor	Contractor				Shall check sufficient to ensure specificaitons are met
		Accept.	QA Lab; S401	QA Lab	*			Typically handling time = 1 hr.; Check lift thickness during construction, and moisture just prior to compaction * Test 1/200 L.F./ 2-Lane Rdwy. / Lift
	Density	QC	Contractor: S401	Contractor	*			*Shall check sufficient to ensure specificaitons are met
		Accept.	QA Lab; S401	QA Lab	*			Typically handling time = 1/2 hr. * Test 1/200 L.F./ 2-Lane Rdwy. / Lift
	Cross Slope & Grade	QC	Contractor	Contractor				Shall check sufficient to ensure specificaitons are met
		Accept.	PE; S401	PE	1/ half day			Typically handling time = 1/4 hr.; Use an approved 10 ft. metal static straightedge or other approved device
	Thickness & Width	QC	Contractor	Contractor				Shall check sufficient to ensure specificaitons are met
		Verif.	PE	PE	1/half day			Typically handling time = 1/4 hr.; PE to notify QA Lab when section is completed
		Accept.	QA Lab	QA Lab	*	300 LF per location		Typically handling time = 3 days.; See DOTD TR 602. For small quantity, PE documents in field book. * Test 1/300 L.F. (one on each side of bridge)/ 2-Lane Rdwy. / Lift
ASPHALT PRIME COAT	Cutback	Accept.	PE	PE	1/shipment*	1 qt. screw top can	CD	Material shall be on AML *Visual inspection by PE. Sample only if questionable.
	Emulsified Asphalt	Accept.	PE	PE	1/shipment*	1 qt. screw top can	CD	Material shall be on AML *Visual inspection by PE. Sample only if questionable.
	Rate of Application	Accept.	PE	PE	1/day			
ASPHALT CONCRETE BASE		**See Section 502 of this Manual**						
GEOTEXTILE FABRIC		**See Section 203 of this Manual**						
SECTION 305 - SUBGRADE LAYER								
CEMENT		Accept.	PE	QA Lab	1/shipment	1 gal friction top can	CC	Typical handling time = 19 days; Material shall be on AML, Visual inspection by PE, sample only if questionable.
		Verif.	PE	QA Lab	1/50 CY/source	1 gal friction top can	CC	Typical handling time = 19 days; Material shall be on AML
LIME (HYDRATED OR QUICKLIME)		Accept.		QA Lab	1/shipment		CD	Material shall be on AML
		Verif.	PE	QA Lab	1/project/source	1 gal friction top can		Typical handling time = 21 days; Material shall be on AML

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
MIXTURE W/ LIME AND/OR CEMENT ON ROADWAY	Pulverization*	Accept.	PE	PE	1/500 LF			Typical handling time = 1/2 hr.; *For soil after mixing with cement and/or lime
SOIL		Design*	PE	QA Lab	1/500 LF	6 full sample sacks		Typical handling time = 10 days; *For moisture density relationships.
		Accept.*	PE	QA Lab	1/500 LF	1 full sample sack		Typical handling time = 4 days; *When soils are to be blended, each component must meet specifications before blending. Design and final acceptance will be conducted on the blend.
SUBGRADE LAYER	Thickness & Width	**See Section 302 of this Manual**						
WATER		Accept.	PE	QA Lab	1/source	1 qt plastic bottle		Typical handling time = 21 days; Visual, sample if questionable, if not potable

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 401 - AGGREGATE SURFACE COURSE								
AGGREGATES		Accept.	QA Lab; S101	QA Lab	1/stockpile	1 full sample sack		Stone shall be listed on AML, allow 7 days for processing, sample if questionable
AGGREGATES ON ROADWAY	Thickness, Width, Finish	Accept.	PE	PE	As needed			Test width of placement at all areas. Finished grade not more than 1/2" below roadway, tested every 250 LF of roadway or in select areas per PE
	Density	Accept.	QA Lab	QA Lab	As needed			Visual Inspection, Test with nuclear if questionable. 90% Standard Proctor. Design (proctor) handling time is 14 days
SECTION 402 - TRAFFIC MAINTENANCE SURFACING								
AGGREGATES		Accept.	PE; S101	QA Lab	1/stockpile	1 full sample sack		Stone shall be listed on AML, Visual inspection by PE, sample if questionable, allow 7 days for processing
ASPHALT CONCRETE & RAP	**See Section 502 - RAP subject to visual inspection and density as per PE satisfaction**							

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 502 - ASPHALTIC CONCRETE MIXTURES								
ADDITIVES	Anti-Stripping	Accept.	QA Lab; S605	QA Lab	1/shipment/plant		CD	Materials shall be on AML. Sample when questionable
	Hydrated Lime	Accept.	QA Lab; S605	QA Lab	1/shipment		CD	Materials shall be on AML. Sample when questionable
	Waste Tire Rubber	Accept.	QA Lab; S605	QA Lab	1/shipment		CC	(Producer/Supplier List) Visual Inspection, Sample if questionable
	Latex Additive	Accept.	QA Lab; S605	QA Lab	1/shipment		CC	(Producer/Supplier List) Visual Inspection, Sample if questionable
	Fibers (Mineral or Cellulose)	Accept.	QA Lab; S605	QA Lab	1/shipment		CC	(Producer/Supplier List) Visual Inspection, Sample if questionable
	Warm Mix Additives	Accept.	QA Lab; S605	QA Lab	1/Shipment/Plant		CA	Materials shall be on AML. Sample when questionable
AGGREGATES	Combined Aggregates (Moisture Content)*	QC	Contractor; S101	Contractor	1/day/stockpile			*For Plant Control
	All Aggregates (Except RAP)	QC	Contractor; S101	Contractor	1/Project			All aggregates shall be on AML - Will accept recent annual stockpile sample for Bulk Specific Gravity and consensus properties
	Reclaimed Asphaltic Pavement (RAP)	QC	Contractor; S101	Contractor	1/Project			%AC, %crushed and gradation, Bulk Specific Gravity, % moisture, Gmm, Effective Specific Gravity Gse
ASPHALT MIX RELEASE AGENT		Accept.	PE					AML - Visual Inspection for performance by PE, Sample if questionable
ASPHALT CONCRETE (PLANT)	Job Mix Formula (JMF)	Design		Contractor	1/mix type			Contractor shall design and submit to the PE the proposed JMF with supporting design data
	Anti-Strip Additive, %	QC	Contractor; S605	Contractor				%AS from meter @ beginning of operation period and as needed to controll process. Includes liquid anti-strip, mineral filler, lime and/or fibers. QA to verify
	Asphalt Cement, %	QC	Contractor; S605	Contractor				%AC from meter @ beginning of operation period and as needed to control process. QA to verify during visit
	Gyratory Specimens (Volumetric)	QC	Contractor; S203	Contractor	**			%Gmm @Nini & Ndes, Voids, VMA, VFA, and %Gmm @ Nmax **Min 1 sample/day if production is over 150 tons, may be tested jointly with QA
	Loose Mixture	QC	Contractor; S203 & S605	Contractor	1/day**			Gmm, gradation, %AC, %crushed, % Moisture ** Min 1 sample per day if production is over 150 tons, may be tested jointly with QA
	Loose Mixture (Temperature)	QC	Contractor; S605	Contractor	1/day			Temperature of mixture in truck at plant, document on truck ticket. Minimum 1 sample per day regardless of production.
ASPHALTIC CONCRETE (IN-PLACE)	Loose Mixture (Temperature)	Accept.	QA Lab; S605	QA Lab	3/day			At paver hopper on roadway
	Roadway Density	QC	Contractor; S605	Contractor	2/day*	Nuclear or Non-destructive density reading		*As needed to control density
		QC	Contractor; S203 & S606	Contractor	1/1,000 LF/Roadway	6 in diameter core		2/Bridge Site. Taken approximately 12 inches downstation from acceptance core.
		Accept.	Contractor/QA Lab	QA Lab	1/1,000 LF/Roadway	6 in diameter core		2/Bridge Site. Completed within 3 calendar days of QC core and reported after QC core

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
	Surface Tolerance	QC/Accept.	PE/Contractor	PE	As needed			Test at selected locations. Surface tolerance shall not be more than 3/8" out using 10' straight edge. Test at all tie in locations. QC as needed for conformity.
ASPHALT MATERIAL	Asphalt Cement	Accept.	PE/QA	PE/QA	1/shipment		CD	Material shall be on AML - Visual inspection of records during plant visit. Collect CD's to verify.
	Curing Membrane (Emulsified Asphalt)	Accept.		PE	1/shipment	1 gal plastic bottle	CD	Materials shall be on AML. Visual inspection by PE, sample if questionable.
	Curing Membrane (Emulsified Petroleum Resin)	Accept.		QA Lab	1/shipment	1 gal plastic bottle	CD	Materials shall be on AML. Visual inspection by PE, sample if questionable.
	Curing Membrane (Rate of Application)	Accept.	PE	PE	1 day			
	Curing Membrane (Water)	Accept.	PE	PE	1/source	1 qt plastic bottle		Typical handling time = 11 days; Visual inspection, sample if questionable, if not potable.
	Prime Coat (Cutback)	Accept.		PE	1/shipment	1 qt screw top can	CD	Materials shall be on AML. Visual inspection by PE, sample if questionable.
	Prime Coat (Emulsified Asphalt)	Accept.			1/shipment	1 gal plastic bottle	CD	Materials shall be on AML. Visual inspection by PE, sample if questionable.
	Prime Coat (Rate of Application)	Accept.	PE	PE	1/day			
	Tack Coat (Emulsified or Hot-Applied	Accept.		QA Lab	1/shipment	1 gal plastic bottle	CD	Materials shall be on AML. Visual inspection by PE, sample if questionable. No CD required if less than 250 gal.
	Tack Coat (Rate of Application)	Accept.	PE	PE	1/day			
SECTION 509 - MILLING ASPHALT PAVEMENT								
COLD PLANED SURFACE	Longitudinal Surface Tolerance*	QC	Contractor; TR 644	Contractor	Each Wheelpath Segment			*When a single lift is to be placed over the cold planed surface, it must meet the requirements of binder course in Section 502 of this Manual. See Table 502-8.
	Transverse Surface Tolerance	QC	Contractor	Contractor	2/day*			*As needed to meet requirements of binder course. See Table 502-5
TEMP. PAVEMENT MARKING	**See Section 713 of this Manual**							
SECTION 510 - ASPHALT CONCRETE PAVEMENT PATCHING								
ASPHALT CONCRETE			**See section 502 of this Manual for details on Additives, Aggregates, Asphalt Cements, Asphaltic Concretes, Asphaltic Tack Coat, Asphalt Mix Release Agent and Mineral Filler**					
	Density	Accept.	PE	PE	3/sublot	4 or 6 in. diameter cone		Typical handling time = 1 day; Top 6 inches of finished section.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 701 - CULVERTS & STORM DRAINS								
BEDDING MATERIAL		Accept.	**See Section 726 of this Manual**					
BACKFILL	Stone	Accept.	**See Section 302 of this Manual**					
	Density	Design	PE, S401	QA Lab	1/250 CY	1 full sample sack		Proctor - For moisture-density relationships.
	Density	QC	Contractor, S401	Contractor	*			*As needed to ensure density requirements are met for each lift of backfill.
	Density (Paved Areas, Under Traffic)	Accept.	PE	PE	1/100 LF Pipe/Location			Test first lift at 1/3 the pipe height, and at least 1 test for each additional 3' of backfill thickness.
	Density (Unpaved Areas)	Accept.	PE	PE	1/100 LF Pipe/Location			Visual inspection & compaction to the density of the surrounding soil.
	Moisture Content	QC	Contractor, S401	Contractor	*			*As needed to ensure moisture requirements are met at time of compaction.
	Moisture Content	Accept.	PE, S401	PE	1/location			Test taken during or just prior to compaction.
CONCRETE PIPE		Accept.	PE	PE			CC	AML - Visual inspection by PE. Include gasket lot No. on CC.
PLASTIC PIPE		Accept.		PE			CC	AML - Visual inspection by PE. CC to include split coupling bands, straps and gasket material.
	Mandrel Test	Accept.	Contractor	Contractor	1/ line of pipe			For 36 in. diameter or less. PE to observe and approve. For pipe larger than 36 inches in diameter deflection shall be determine by a method approved by the Engineer.
GEOTEXTILE FABRIC		Accept.	PE; S601	PE	1/type/source		CC	AML - Visual inspection by PE for pipe wrap.
GROUT		Accept.	PE, S601		1/lot			AML - Submit sample in unbroken moisture-proof sack.
GASKETS	Rubber, Flexible Plastic	Accept.	PE		1 gasket or 3' length		CC	AML - Visual inspection by PE. Sample only if questionable.
SECTION 702 - CATCH BASINS								
COVERS, FRAMES & GRATES		Accept.	PE	PE	1/shipment		CA & 4148	CA for construction fabrication
PRECAST CONCRETE UNITS		Accept.	PE	PE	1/unit		CC	AML - Visual inspection by PE. Inspected, stamped and approved by Mfg.
SECTION 704 - GUARDRAIL								
CONCRETE (CLASS A1)	**See Section 901 of this Manual.**							Sample only if questionable
HARDWARE	Accessories, Bolts, End Anchor	Accept.	PE; S601	PE	1/size/type/ shipment*	1 of each item	CC	Allow 12 days for handling *Visual inspection sample only if not listed on CC or if questionable
METAL BEAM RAIL		Accept.		PE			CC	Rail shall be listed on AML - Visual inspection by PE; Rail shall be stamped with the name or brand of manufacturer, ID symbol or code for heat, No. & Coating of lot, AASHTO Spec. No., and Class & Type
POSTS AND SPACER	Steel	Accept.		PE			CC	Visual inspection by PE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
BLOCKS	Timber	Accept.		PE			CC	Visual inspection by PE
REINFORCEMENT	Wire Fabric	Accept.	PE S501	PE	1/shipment*	48"x48"		Allow 11 days for handling *Visual inspection by PE. Sample only if questionable.
WIRE ROPE & FITTINGS		Accept.		PE			CC*	*Wire rope only. PE visually inspects fittings.
GUARDRAIL END TREATMENTS		Accept.	PE	PE			CC	Guardrail End Treatments shall be on AML - Visual inspection by PE. Certification shall include system name, system drawings, manufacturer, and all necessary documentation to substantiate compliance with NCHRP 350 or MASH requirements.
WELDING	**See Section 815 of this Manual.**							
SECTION 708 - RIGHT-OF-WAY MONUMENTS								
RIGHT-OF-WAY MONUMENTS	Monuments, Steel Stakes & Witness	Accept.	Type As Shown on Plans	PE				Visual inspection by PE. Submittal shall be sealed by Contractor PLS for transmittal to Parish
SECTION 711 - RIPRAP								
GEOTEXTILE FABRIC		Accept.	PE; S601	QA Lab			CC	Fabric shall be listed on AML
RECYCLED CONCRETE		Accept.	QA Lab; S601	QA Lab	*			*Visual inspection and/or gradation check (at source, project site, or both, at Engineer's option.) Gradation and unit weight provided by suppliers. Must be from an approved source.
STONE		Accept.	PE; S601	PE				Stone shall be listed on AML.
SECTION 713 - TEMPORARY TRAFFIC CONTROL								
CATEGORY 1 DEVICES	Cones, Drums, Tabular Markers, Flexible Delineators	Accept.	PE	Supplier			CC*	(AML for plastic drums and flexible delineators) *CC is affidavit to show compliance with NCHRP 350 / MASH, with supporting documents on file. If questionable contact the Const. Fab. Insp.
CATEGORY 2 DEVICES	Barricades, Vertical Panels, Stands & Posts, Signs	Accept.	PE	Supplier			FHWA WZ Letter	Required documentation to certify compliance to NCHRP 350/MASH
CATEGORY 3 DEVICES	Barriers	Accept.	PE	Supplier			CC* FHWA WZ Letter	*CC required for concrete barriers. Required documentation to certify compliance to NCHRP 350/MASH
SECTION 716 - VEGETATIVE & FIBER MULCH								
TACKING AGENTS	Emulsified Asphalt	Accept.		PE	1/shipment		CD*	AML - Visual inspection by PE. Typical handling time = 4 days. *No CD required if less than 500 gal.
	Tacking Agent	Accept.		PE			CA	AML - Visual inspection by PE.
VEGETATIVE MULCH		Accept.						Visual inspection by PE.
SECTION 717 - SEEDING								
SEED		Accept.		PE				Analysis tag plus test report for LA Department of Agriculture. Seed test reports from other states are acceptable provided specification
WATER		Accept.	PE, S303		1/source*	1 qt plastic bottle		10 Days handling time. Visual, sample if questionable, if not potable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 718 - FERTILIZER AND AGRICULTURAL LIME								
FERTILIZER		Accept.		PE			CA*	For bag shipments, visual inspection of bag markings by PE. *For bulk shipments, PE to receive CA.
SECTION 729 - PERMANENT SIGNS								
BACKFILL (SOIL)		Accept.		PE				Visual inspection by PE
CONCRETE (CLASS M)	Mix Designs, Materials & Tests	**See Section 901 of this Manual.**						
HARDWARE	Bolts, Nuts & Washers	Accept.		PE			CC	Smaller than 3/8" or smaller. Sample if questionable.
	Mounting Bracket, Strap, Seal	Accept.		PE			CC	Visual inspection by PE.
	Rivets	Accept.		PE			CC	Visual by PE
POSTS (SIGN, MARKER & DELINEATOR)	Flexible and Rigid	Accept.	PE; S501	PE	1/shipment	1/post	CC	Allow 10 days for handling; Visual inspection by PE. Sample only if questionable.
OBJECT MARKERS		Accept.		PE			CC	Visual inspection by PE. Sample only if questionable.
SECTION 731 - RAISED PAVEMENT MARKERS								
ADHESIVE (FOR PAVEMENT MARKERS)	Bituminous	Batch Cert.	Contractor		1/lot	0.5 gal friction top can		AML - 21 days typical handling time.
		Accept.	PE		1/lot	0.5 gal friction top can	CD	AML - 11 days typical handling time. CD or Sample.
	Epoxy	Batch Cert.	Contractor		1/lot/component	0.5 gal friction top can		AML - 21 days typical handling time.
		Accept.	PE		1/lot	0.5 gal friction top can	CD	AML - 11 days typical handling time. CD or Sample.
RAISED PAVEMENT MARKERS		Batch Cert.	Contractor		1/type/source	10 markers		AML - 10 days typical handling time.
		Accept.	PE		1/lot	10 markers	CD	AML - 10 days typical handling time. CD or Sample.
SECTION 732 - PLASTIC PAVEMENT MARKINGS								
GLASS BEADS		Batch Cert.	Contractor		1/lot	1 - 50lb bag	CA	10 days typical handling time. CA must include test results to show compliance with EPA limits on arsenic. Use Sampling Method S 608 when glass beads are shipped in 50 lb bags.
THERMO-PLASTIC MARKING (HOT APPLIED		Batch Cert.	Contractor		1/lot	1 gal can		AML - 10 days typical handling time.
		Accept.	PE		1/lot	1 gal can	CD	AML - 10 days typical handling time. Sample only if questionable.
THERMO-PLASTIC MARKING		Accept.	PE				CC	AML - 10 days typical handling time. Visual inspection.
SECTION 735 - MAILBOX AND MAILBOX SUPPORTS								
MAILBOXES AND MAILBOX SUPPORTS	**Visual inspection by Project Engineer.**							

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 802 - STRUCTURAL EXCAVATION, BACKFILL, AND EARTH RETAINING SYSTEMS								
TEMPORARY SHEET PILES	Aluminum or Steel	Accept.	Inspected and stambed by Const. Fab. Insp. Prior to use.	Const. Fab. Insp.			CD	Visual inspection by PE.
SECTION 804 - PILES								
BACKFILL	Granular Type Material	Accept.	PE; S101	QA Lab	1/1,000 CY	1 full sample sack		Visual inspection by PE. Sample only if questionable.
CONCRETE PILES (PRECAST)	Pile	Accept.	**Inspected by QA Lab prior to shipment and upon arrival.***				CC	Visual inspection by PE. ***See Section 805 of this Manual.**
EPOXY RESIN SYSTEMS		Accept.	PE	PE	1/lot	1 qt. each component friction top can	CC	Product shall be listed on AML. Specify type and grade
HYDRAULIC JACKS		Accept.		PE			CA	Allow 12 days for handling. Calibrated by an approved, independent calibration service and a certified lab report furnished to the PE for approval. The system must be calibrated at the beginning of each project and as required.
HARDWARE		Accept.	PE; S501	PE	1/size/type/heat	2 of each item*		Sample if Questionable. Allow 10 days for handling *Two (2) pieces of each size and type of hardware used are to be submitted.
PAINT AND PROTECTIVE COATINGS	Coal Tar Epoxy	**See Section 811 of this Manual.**						
SECTION 805 - STRUCTURAL CONCRETE								
FOR DETAILS ON CONCRETE TESTS, MIX DESIGN AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER), SEE SECTION 901 OF THIS MANUAL.								
BACKFILL		Accept.	**See Section 802 of this Manual.**					
BEARING PADS	Elastomeric	Accept.	PE; S601*	PE	1/100 pads/type** /lot		CA	Product shall be listed on AML. Allow 14 days for handling. *PE sample at destination only if not sampled at site of source supplier. **Plan or Laminated
	Masonry	Accept.	PE; S601	PE	1/type	1 pad	CA	Allow 10 days for handing
BRIDGE MEMBERS	Concrete Precast	Accept.	**Inspected by QA Lab prior to use.**	PE			CD	Visual Inspection by PE. For specific details, see EDSM III.2.5.7.
CONCRETE ANCHOR SYSTEMS	Anchor Bolts	Accept.	PE; S601	PE	1/size/type/heat	2 bolts*		Allow 11 days for handling. *Two bolts of each size used are to be submitted.
	Cartridge Systems	Accept.	PE; S601	PE	1/size/type/lot**	2 of each item*		Product shall be listed on AML. Allow 14 days for handling. Includes bolts & nuts intended to be used with the system. *Two pieces of each size and type of item used are to be submitted. **Visual inspection by PE. Sample only if questionable.
	Grout Systems (Resin or Cementitious)	Accept.	PE; S601	PE	1/lot	1 qt. friction top can of each component		Product shall be listed on AML. Allow 14 days for handling. Includes bolts & nuts intended to be used with the system. Visual inspection by PE. Sample only if questionable.
	Injection System	Accept.	PE; S601	PE	1/type/lot	1 of each component		Product shall be listed on AML. Allow 14 days for handling. Includes bolts & nuts intended to be used with the system. Visual inspection by PE. Sample only if questionable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
	Mechanical Systems	Accept.	PE; S601	PE	1/size/type/lot**	2 of each item*		Product shall be listed on AML. Allow 10 days for handling. Includes bolts & nuts intended to be used with the system. *Two of each size and type of item used are to be submitted. **Visual inspection by PE. Sample only if questionable.
CONCRETE (IN-PLACE)	Compressive Strength	*	QA Lab; S301	QA Lab	3 cyl/structural member	6" x 12" or 4" x 8" cylinder mold		Allow 10 days for handling. *To determine strength for form removal or exposure to construction traffic.
		Accept.	**See Section 901 of this Manual.**					
CONCRETE (IN-PLACE)	Deck Surface Finish	QC	Contractor*	Contractor	each deck			Plastic Concrete *Surface must be checked on bridge decks using an approved 10-ft metal static straightedge supplied by the Contractor.
		Verif.	PE	PE	each deck			PE to observe Contractor check bridge deck surface
	Tine Texturing	Qc	Contractor	Contractor	*			Plastic Concrete *Sufficient number of random checks to assure the required texture depth is achieved.
		Accept.	PE	PE	2/bridge			Performed on hardened concrete
CURING MATERIALS	Burlap Cloth	Accept.	PE; S601	PE	1/shipment*	36" x 36"		Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
	Burlap & White Polyethylene Sheeting	Accept.	PE; S601	PE	1/shipment*	36" x 36"		Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
	Liquid Membrane-Forming Compounds	Accept.	PE; S601	PE	1/shipment*	1 qt friction top can	CC	Product shall be listed on AML. Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
	Waterproof Paper	Accept.	PE; S601	PE	1/shipment*	36" x 36"		Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
	White Polyethylene	Accept.	PE; S601	PE	1/shipment*	36" x 36"		Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
EPOXY RESIN SYSTEMS	Epoxy	Accept.	PE; S601	PE	1/lot		CC	Product shall be listed on AML. Specify type and grade
		Verif.	PE; S601	PE	1/lot	1 qt. each component friction top can	CC	Product shall be listed on AML. Specify type and grade. Copy of CC shall be submitted with sample.
FORM RELEASE AGENTS		Accept.	PE; S601	PE	1/lot	1 qt. friction top can	CC	Product shall be listed on AML. Visual inspection by PE. Sample only if questionable.
GEOTEXTILE FABRIC		Accept.	PE; S601	PE			CC	Fabric shall be listed on AML. Visual inspection by PE.
JOINT MATERIALS	**See Section 815 of this Manual.**							
NON-SHRINK GROUT		Accept.	PE; S601	PE	1/lot	1 full sack*		AML - Allow 16 days for handling *Sample shall be submitted in an unbroken moisture proof sack.
	Precast Unit	Accept.	**Inspected by QA Lab prior to use.**	PE			CD	CD must include Lot No. for gasket material, if applicable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
PRECAST CONCRETE (NON-PRESTRESSED OTHER THAN BRIDGE MEMBERS)	Admixtures	Accept.	**Inspected by QA Lab prior to use.**	QA Lab	1/type/mfr. Batch	1 pt. friction top can	CC	Product shall be listed on AML. Allow 10 days for handling. Visual inspection by Construction Fabrication Inspection. Sample only if questionable. If sample is taken, leave 2" air space in can.
	Aggregate (Coarse & Fine)	Accept.	**Inspected by QA Lab prior to use.**	QA Lab	*	1 full sample sack		Aggregates shall be listed on AML. Allow 4 days for handling *Visual inspection by Construction Fabrication Inspection. Sample only if questionable.
	Cement	**See Section 901 of this Manual.**					CC	Allow 11 days for handling.
	Compressive Strength	Accept.	PE	QA Lab	1/pour*	Three cylinder molds		Allow 30 days for handling *A pour is an identifiable pour not to exceed 50 Cu. Yd.
	Gasket Material	**Section Section 701 of this Manual.**					CC	
PRECAST CONCRETE (NON-PRESTRESSED OTHER THAN BRIDGE MEMBERS)	Mix Design	Design		PE	1/class/material source/plant			Contractor shall submit to QA Lab the standard mix design form indicating the intended source of all materials and mix design. Approval by PE required prior to work.
	Reinforcing Steel Bars	Accept.	PE	PE	1/size/grade/ 150,000 lb/ source	48" length	CA	Product shall be listed on AML. Allow 10 days for handling *Sample only if questionable.
	Welded Wire Fabric	Accept.	**Inspected by QA Lab prior to use.**	QA Lab	1/shipment	48" x 48"	CA	Allow 11 days for handling *Sample only if questionable.
PRECAST CONCRETE (PRESTRESSED & NON PRESTRESSED BRIDGE MEMBERS)	Precast Unit	Accept.	**Inspected by QA Lab prior to use.**	QA Lab			CD	CD must include Lot No. for elastormeric bearing pads, if applicable.
	Admixtures	Accept.	PE	PE	1/type/mfr. Batch	1 pt. friction top can	CC	Product shall be listed on AML. Allow 10 days for handling. Visual inspection by PE. Sample only if questionable. If sample is taken, leave 2" air space in can.
	Aggregate (Coarse & Fine)	QC	Mfr.: S101	Mfr.	1/lot*	1 full sample sack	CC	Aggregates shall be listed on AML. Gradation and Moisture *Lot to be identifiable pour up to 200 Cu. Yd. of concrete.
		Accept.	**Inspected by QA Lab prior to use.**	QA Lab	2/month*	1 full sample sack		Aggregates shall be listed on AML. Allow 3 days for handling. Gradation and Moisture *QA Lab to witness Manufacuter's QC testing.
	Cement	**See Section 901 of this Manual.**					CC	
	Compressive Strength & Surface Resistivity	Accept.	**Inspected by QA Lab prior to use.**	QA Lab	7 cyl/pour*	Cylinder Mold		*Cylinder cured under same conditions as members. Two cylinders are tested for 28 day strength.
	Elastomeric Bearing Pads	Accept.	PE	PE	1/100 pads/type/lot	1 pad	CA	Product shall be listed on AML. Allow 14 days for handling
	Epoxy Resin Systems	Accept.	PE	PE	1 lot	1 qt. component friction top can		Product shall be listed on AML. Allow 10 days for handling. Specify type and grade.
	Mix Design	Design		PE	1/class/material source/plant			Contractor shall submit to QA Lab the standard mix design form indicating the intended source of all materials and mix design. Approval by PE required prior to work.
	Steel Bars & Spiral Reinforcement	Accept.	PE; S501	PE	1/size/grade/ 150,000 lb/ source	48" length	CA	Products shall be listed on AML. Allow 10 days for handling. Sample only if questionable.
	Tie Bars or Transverse Rods	Accept.	PE; S501	PE	1/lot	48" length	CA/CC*	Products shall be listed on AML. Allow 10 days for handling. *CA - Mill report, CC - indicate specification for steel and coating. Sample only if questionable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
	Strands for Prestressing	Accept.	PE; S501	PE	1/size/grade/ source/proj./per heat no.*	3 strands 5 ft. length		Product shall be listed on AML. Allow 11 days for handling. *Not to exceed 200 tons. Manufacturer's Load/Elongation curve shall accompany sample.
	Welded Wire Fabric	Accept.	PE; S501	PE	1/shipment	48" x 48"	CA	Product shall be listed on AML. Allow 11 days for handling. Visual inspection by PE. Sample only if questionable.
PRECAST PRE-STRESSED FORMS	Bearing Strips and Adhesive	Accept.						Visual inspection by PE
	Concrete Deck Forms (Stay in Place Panels)	Accept.	**Inspected and stamped by QA Lab prior to use. See precast concrete (Prestressed & Non-Prestressed Bridge Members) in this section.**	QA Lab			CD	Visual Inspection by PE. For specific details, see EDSM III.2.5.7.
REINFORCEMENT	Bars	**See Section 806 of this Manual.**						
SPECIAL SURFACE FINISH	Concrete	Accept.	PE; S601	PE	1/lot or shipment*	1 qt. component friction top can	CC	Product shall be listed on AML. Allow 10 days for handling. *Visual inspection by PE. Sample only if questionable.
WATER STOPS	Copper	Accept.	PE; S601	PE	1/lot or shipment*	24" length	CA	*Visual inspection by PE. Sample only if questionable.
	Polyvinyl Chloride	Accept.	PE; S601	PE	1/lshipment*	36" length	CC	*Visual inspection by PE. Sample only if questionable.
	Rubber	Accept.	PE; S601	PE	1/lot or shipment*	36" length	CA	*Visual inspection by PE. Sample only if questionable.
SECTION 806 - REINFORCEMENT								
REINFORCEMENT	Bars (Epoxy Coated)	Accept.	PE; S501	PE	1/size/grade/ 150,000 lb/ source	2 bars (approx. 48" in length)	CC	Bars shall be listed on AML. Allow 10 days for handling. *Cert. of Compliance provided by the applicator.
	Bars & Spirals	Accept.	PE; S501	PE	1/size/grade/ 150,000 lb/ source*	48" length	CA	Bars shall be listed on AML. Allow 10 days for handling. *Material with a CA need not be sampled for acceptance. Sample only if questionable.
	Chairs or Metal Bar Supports	Accept.	PE; S501	PE	1/type*	1 chair		*Visual inspection by PE. Sample only if questionable.
	Patching Material (Epoxy Coated Bars)	Accept.	PE; S601	PE	1/source	1 qt. friction top can of each component*	CC	Products shall be listed on AML. Allow 10 days for handling. *If listed on AML, material with a CC need not be sampled. Sample only if questionable.
	Stirrups, Tie Bars	Accept.	PE; S501	PE	1/size/grade/ 150,000 lb/ source*	2 of each item	CA	Products shall be listed on AML. Allow 10 days for handling. *If listed on AML, material with a CC need not be sampled. Sample only if questionable.
SPLICING	Mechanical Butt	Cont. Qualif.	PE; S501	PE	1/size*	2 assembled splices/each size (rebar ribs assembled)		Products shall be listed on AML. Allow 10 days for handling. *Separate field spliced samples per horizontal and vertical positions. Test prior to use.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
	Splicing Devices	Accept.	PE; S501	PE	1/size/25 splices*	1 assembled splce, 3 ft. length (rebar ribs aligned)		Products shall be listed on AML. Allow 10 days for handling. *Frequency may be reduced to 1 per size / 100 splices after the first 100 splices.
SECTION 809 - WELDING								
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 815. THERE ARE NO PAY ITEMS UNDER SECTION 815.								
WELDING QUALIFICATION AND TESTING	Field	Accept.	**Welders and procedure qualified by licensed, bonded testing laboratory. Procedure and welder qualification are received and reviewed by QA Lab.**	PE				
	Shop	Accept.		QA Lab				
SECTION 810 - BRIDGE RAILINGS, HAND RAILINGS, PERMANENT ROADWAY BARRIERS, AND PIER PROTECTION SYSTEMS								
CONCRETE	Mix Designs, Materials & Tests	**See Section 901 of this Manual.**						Air entrainment required for slip forming.
CURING MATERIALS		**See Section 805 of this Manual.**						
HARDWARE	Galvanized Steel	Accept.	PE; S501	PE	1/size/type/ shipment	2 of each item*		Allow 10 days for handling, Sample if Questionable *Two (2) pieces of each size and type of hardware used are to be submitted.
JOINT MATERIALS		Accept.	**See Section 815 of this Manual.**					Allow 17 days for handling
REINFORCING STEEL	Deformed Steel Bars	Accept.	PE; S501	PE	1/size/source*	48" length	CA	Allow 10 days for handling *If listed on AML, materials with CA need not be sampled. Sample for verification if questionable.
WELDING		**See Section 809 of this Manual.**						
SPECIAL SURFACE FINISH	Concrete	Accept.	PE; S601	PE	1/lot or shipment*	1 each friction top can	CC	Products shall be listed on AML. Allow 10 days for handling. *Visual inspection by PE. Sample only if questionable.
	Masonry Finish	Accept.	PE; S601	PE	1/lot or shipment	1 qt. friction top can	CC	Products shall be listed on AML. Allow 11 days for handling. Sample if not accompanied by CC or if questionable.
SECTION 813 - CONCRETE APPROACH SLABS								
FOR DETAILS ON CONCRETE TESTS, MIX DESIGN AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER), SEE SECTION 901 OF THIS MANUAL.								
AGGREGATES	Bedding Material	Accept.	PE; S101	QA Lab	1/1,000 Cu. Yd.	1 full sample sack		Allow 4 days for handling.
BEARING PILES	Timber	Accept.	**Inspected and stamped by QA Lab prior to use.**	QA Lab			CD	Visual inspection by PE
CONCRETE (IN-PLACE)	Compressive Strength	*	PE; S301	QA Lab	1/pour	Three cylinder molds		*To determine strength for form removal or exposure to construction traffic.
CURING MATERIALS	Moist Cure Materials	Accept.	PE; S601	PE	1/shipment*	36" x 36"		Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
	Liquid Membrane-Forming Compounds	Accept.	PE; S601	PE	1/shipment	1 qt. friction top can	CC	Products shall be listed on AML. Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
GEOCOMPOSITE DRAINAGE SYSTEM	Wall Drain	Accept.	PE; S601	PE	1/lot or shipment	4 sq.ft.	CA	Products shall be listed on AML. Allow 10 days for handling
GEOTEXTILE FABRIC		Accept.	PE; S601	PE	1/type	3 LF/roll width of fabric*	CC	Fabric shall be listed on AML. Allow 10 days for handling *Sample a minimum of 18 sq. ft.
HARDWARE CLOTH		Accept.	PE; S601	PE	1/shipment*	18" x 18"		Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
JOINT MATERIALS	Preformed Closed Cell Polyethylene	Accept.	PE; S601	PE	1/5,000 LF/width	36" length		Materials shall be listed on AML.
	Silicone Polymer (Single ofr Two-Component Rapid Cure)	Accept.	PE; S611	PE	1/shipment*	1 gal friction top can	CD	Materials shall be listed on AML. Allow 30 days for handling *Sample only if quesitonable
		Accept.*	PE; S611	PE	1/batch or shipment	1 gal friction top can	CA	Materials shall be listed on AML. Allow 30 days for handling *When material is not accompanied by a CD
JOINT SEAL (PREFORMED)	Elastomeric Compression	Accept.	PE; S601	PE	1/lot or shipment	8 ft. length*	CA**	Products shall be listed on AML. Allow 14 days for handling *When width is over 2", 4 ft length is sufficient. **PE forwards CA with sample to lab.
ADHESIVE LUBRICANT	For Preformed Closed Cell Plyethylene Joint Filler	Accept.						Product shall be listed on AML. Allow 10 days for handling *Visual inspection by PE.
	For Preformed Eslastomeric Compression Joint Seal	Accept.	PE; S601	PE	1 project/lot	1 qt. friction top can		Product shall be listed on AML. Allow 10 days for handling. Mix well before sampling. Seal can tightly.
POLYETHYLENE FILM		Accept.	PE; S601	PE	1/lot or shipment*	36" length		Products shall be listed on AML. Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
REINFORCING STEEL	Deformed Steel Bars	Accept.	PE; S501	PE	1/size/source*	48" length	CA	Allow 10 days for handling *Material with a CA need not be sampled for acceptance. Sample only if questionable.
UNDERDRAIN PIPE SYSTEM	Backfill	Accept.	QA Lab	QA Lab	1/1,000 Cu. Yd.	1 full sample sack		Allow 4 days for handling.
	Geo-Composite Wall Drains	Accept.	PE; S601	PE	1/type/lot	4 SF	CA	Material shall be listed on AML. Allow 11 days for handling. Sample fittings 1 per type per shipment.
	Geotextile Fabric	Accept.	PE; S614	PE	1/type/source/ shipment	3 LF/roll width of fabric	CC	Material shall be listed on AML. Allow 10 days for handling. Sample a minimum if 18 SF
	Hardware Cloth (Rodent Screen)	Accept.	PE; S601	PE	1/shipment	1 screen		Allow 10 days for handling. Visual inspection by PE. Sample only if questionable.
	Plastic Pipe	Accept.		PE			CC	Pipe material shall be on the AML. Visual inspection by PE. CC to include split coupling bands, straps, and gasket material
	Portland Cement Concrete	Accept.	**See Section 901 of this Manual.**					
	Reinforcing Steel Bars	Accept.	PE; S501	PE	1/source	48" length	CA	Material shall be on the AML. Allow 10 days for handling. CA or sample.
	Wire Fabric	Accept.	PE; S501	PE	1/shipment	48" x 48"		Allow 11 days for handling. Visual inspection by PE. Sample only if questionable.
SECTION 814 - BEARINGS								

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
BEARING PADS	Elastomeric	Accept.	Const. Fab. Insp.*		1/50 pads/type**/lot		CA	AML - 14 days typical handling time. *PE samples at destination only if not sampled at site of source or supplier. **Plain or laminated.
SECTION 815 - JOINTS								
ADHESIVE LUBRICANT		Accept.	PE; S601	QA Lab	1 project/lot	1 qt. friction top can		Material shall be on the AML. Allow 10 days for handling. Mix well before sampling. Seal can tightly.
CONCRETE	Mix Design, Materials & Tests	**See Section 901 of this Manual.**						
CONCRETE (STRUCTURAL)		**See Section 805 of this Manual.**						
HARDWARE	High Strength Bolts, Nuts & Washers and Direct Tension Indicators	Accept.	PE; S501	PE	1/type/size/heat	2 of each item*	CA	Allow 10 days for handling *For sizes over 1-1/8", sample only 1 of each item. Copy of CA to accompany sample and ID. Similar size, type and heat of nut and washer need not be submitted.
JOINT DESIGN		Design	**Bridge Engineer**	**Bridge Engineer***				* Provide Joint Design, Fabrication Plan, and Installation Plan to Bridge Engineer for review.
JOINT FILLER		Accept.	PE; S601	PE	1/5,000LF/type	36" length		Product shall be on the AML. Allow 10 days for handling *Visual inspection by PE. Sample only if questionable.
JOINT MATERIALS	Adhesive-Lubricant	Accept.	PE; S601	PE	1/lot*	1 qt. friction top can		Product shall be on the AML. Allow 10 days for handling. For used with preformed elastomeric compression joint seal. *Visual inspection by PE. Sample only if questionable. Mix well before sampling. Seal can tightly.
	Backer Rod	Accept.		PE			CC	Product shall be on the AML. Visual inspection by PE. Sample only if questionable.
	Rubberized Asphaltic Type	Accept.	QA Lab; S611	PE	1/shipment	1 container	CD*	Product shall be on the AML. Allow 11 days for handling *Sample if not accompanied by CD
	Silicone Polymer (Single or two-Component Rapid Cure)	Accept.	QA Lab; S611	PE	1/shipment*	1 gal friction top can	CD	Product shall be on the AML. Allow 30 days for handling *Sample only if questionable
		Accept.	QA Lab; S611	PE	1/batch or shipment*	1 gal friction top can	CA	Product shall be on the AML. Allow 30 days for handling *Sample if not accompanied by CD
JOINT MATERIALS	Polyurethane Polymer	Accept.	QA Lab; S611	PE	1/shipment*	one unit of each component*	CD	Product shall be on the AML. Allow 14 days for handling *When material is accompanied by a CD, sample only if questionable.
		Accept.	QA Lab; S611	PE	1/batch*	one unit of each component*	CA	Product shall be on the AML. Allow 14 days for handling *When material is not accompanied by a CD **One unit of each component selected at random and submitted as sample.
	Reinforced Elastomeric Joint Seal	Accept.		PE			CC&CA	Elastomer - CA; Steel - CC. Visual inspection by PE
	Preformed Neoprene	Accept.	QA Lab; S611	PE	1/shipment*	48" length	CC	*Visual inspection by PE. Sample only if questionable.
	Preformed Silicone	Accept.	QA Lab; S611	PE	1/shipment*		CC**	*Visual inspection by PE. Sample only if questionable. **CC to include both silicone seal and adhesive.
	Fabricated Trough / Membrane	Accept.	QA Lab; S611	PE	1/shipment*		CC	*Visual inspection by PE. Sample only if questionable.
	Metal End Dams for Preformed Neoprene and Silicone Joint Seals	Accept.	PE	Mfr.			CA	Visual inspection by PE. QA Lab to sample if questionable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
METAL JOINT COMPONENTS	Finger plates, sliding plates, armor assemblies, shapes, studs, anchors, and other required components	Accept.	**Inspected and stamped by QA Lab prior to use.**	QA Lab			CA	PE to receive inspection report from QA Lab.
WELDING		**See Section 809 of this Manual.**						

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QTY / CONTAINER	CERT	REMARKS
SECTION 901 - PORTLAND CEMENT CONCRETE								
ADMIXTURES		Accept.	PE; S601	PE	1/type/project		CC	Products shall be listed on AML. Visual inspection by PE. Sample if questionable
AGGREGATES (PAVEMENT)	Fine & Coarse	QC	Contractor; S101	Contractor	1/day/plant moisture; 2/day/plant gradation	1 full sample sack		Aggregates shall be listed on AML. Gradation results plotted in tabular and chart format for documentation.
AGGREGATES (STRUCTURAL)	Fine & Coarse	QC	Contractor; S101	Contractor	1/mix type	1 full sample sack		Aggregates shall be listed on AML. Gradation and moisture content to be run. Lot to be identifiable pour up to 200 Cu. Yd. max of concrete. Gradation results shall be plotted on control charts which are required for documentation. See "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
CEMENT (HYDRAULIC)	Cement & Blended Cement	Accept.	PE	PE	1/shipment		CC	Product shall be listed on AML. Visual inspection, sample if questionable
CEMENT REPLACEMENT	Fly Ash, GGBFS, Microsilica	Accept.	PE	PE	1/shipment		CC	Product shall be listed on AML. Visual inspection, sample if questionable
CONCRETE (MINOR MIXES, DRIVEWAYS)	Compressive Strength	Accept.	QA Lab; S301	QA Lab	3 cyl/30 CY	6in. X 12in. or 4in. X 8in.		Additional set required for high early strength concrete
	Mix Design	Design	Contractor	Contractor	1/type/class/plant			Mix Design shall be listed on AML. Admixtures, Aggregates, Cement, Cement Replacement. Contractor shall submit to PE atleast 20 days prior to paving including source of all materials
	Slump & Air	QC	Contractor; S301	Contractor	First delivery & 1/30 CY			Additional test when visual inspection by PE requires
CONCRETE (STRUCTURAL)	Entrained Air	QC	Contractor; S301	Contractor	2/day	0.25 Cu. Ft.		Air test results shall be plotted on control charts which are required for documentation.
		Accept.	QA Lab; S301	QA Lab	1/day	0.25 Cu. Ft.		Allow 1 day for handling. When pump placement is used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
	Compressive Strength&Surface Resistivity	Accept.	QA Lab; S301	QA Lab	3 cyl/batch 2 batches/lot*	Cylinder Molds		Allow 30 days for handling. A lot is an identifiable pour not to exceed 200 yd3. For specific details see Specification Subsection 805.10. * If used for curbs only, frequency is 3 cyl / 50 yd3.
	Mix Design	Design/ Accept.	*	QA Lab/PE	1/mix/class/ material source/plant			Allow 10 days for handling. *Contractor shall submit to the QA Lab & PE the standard Mix Design form indicating the intended source of all materials and the mix design. Acceptance by the QA Lab and PE is required prior to starting work
	Mix Temperature	QC	Contractor; S301	Contractor	*			*When temperature control is required, testing must be sufficient to prevent exceeding appropriate limits.
	Slump	QC	Contractor; S301	Contractor	1/10 CY	0.50 Cu. Ft.		Slump test results shall be plotted on control charts which are required for documentation.
		Accept.	QA Lab; S301	QA Lab	1/20 CY	0.50 Cu. Ft.		Allow 1 day for handling. When pump placement is used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
	Unit Weight	QC	Contractor; S301	Contractor	*	1.5 Cu. Ft. 0.5 or 1 Cu. Ft. yield bucket		*Unit weight will be run as necessary.
WATER		Accept.	PE; S301	PE	1/source	1 qt. plastic bottle		Allow 11 days for handling. Potable water need not be sampled.

Section 15

Construction Plans

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND LAYOUT MAP
2 - 2e	TYPICAL SECTION & DETAILS
3 - 3a	SUMMARY SHEET
3b-3c	SUMMARY OF ESTIMATED QUANTITIES
4 - 5	PLAN AND PROFILE
6 - 7	DRAINAGE PLAN & PROFILE
8	REFERENCE POINTS & BENCH MARK LOCATIONS
9	SUMMARY OF DRAINAGE STRUCTURES
10	EMBANKMENT WIDENING DETAILS
11	GEOMETRIC DETAILS
12 - 14	SUGGESTED SEQUENCE OF CONSTRUCTION
15 - 16	PAVEMENT MARKING & PERMANENT SIGNING LAYOUT
17 - 18	TEMPORARY EROSION CONTROL
19 - 22	RIGHT-OF-WAY MAPS
101 - 122	BRIDGE PLANS

	STANDARD PLANS	REV. DATE
301 - 302	BM-01 (2 SHEETS)	10/26/2023
303	CB-01	11/02/2000
304-306	CP-01 (3 SHEETS)	10/13/2021
307 - 309	DW-01 (3 SHEETS)	08/04/2022
310 - 311	EC-01 (2 SHEETS)	10/01/2008
312 - 322	GR (MASH) ON SYS (11 SHEETS)	04/13/2023
323	GR (MASH) OFF SYS	01/03/2019
324	HS-03	04/07/2014
325 - 326	MB-01 (2 SHEETS)	04/04/2022
327 - 332	MC-01 (6 SHEETS)	05/25/2018
333	PC-01	10/02/2023
334	PM-01	02/28/2019
335 - 351	RS-01 (17 SHEETS)	07/01/2022
352	SW-01	10/25/2022
353	SWBS-100	03/06/2013
354 - 357	TTC-00 (A,B,C,D)	02/07/2025
358	TTC-01	02/07/2025
359	TTC-02	02/07/2025
360	TTC-03	02/07/2025
361	TTC-04	02/07/2025

401 - 406 CROSS SECTIONS

TOTAL SHEETS = 119

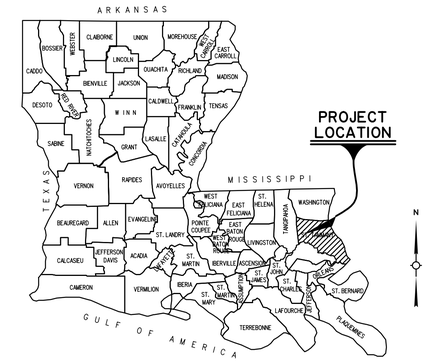
STATE OF LOUISIANA
PARISH OF ST. TAMMANY

PLANS OF PROPOSED ROADWAY/ BRIDGE IMPROVEMENTS

PARISH PROJECT NO. EN22000181

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

EXISTING STRUCTURE NO. P5230283900881
EXISTING RECALL NO. 620076
PROPOSED RECALL NO. 000436
ST. TAMMANY PARISH

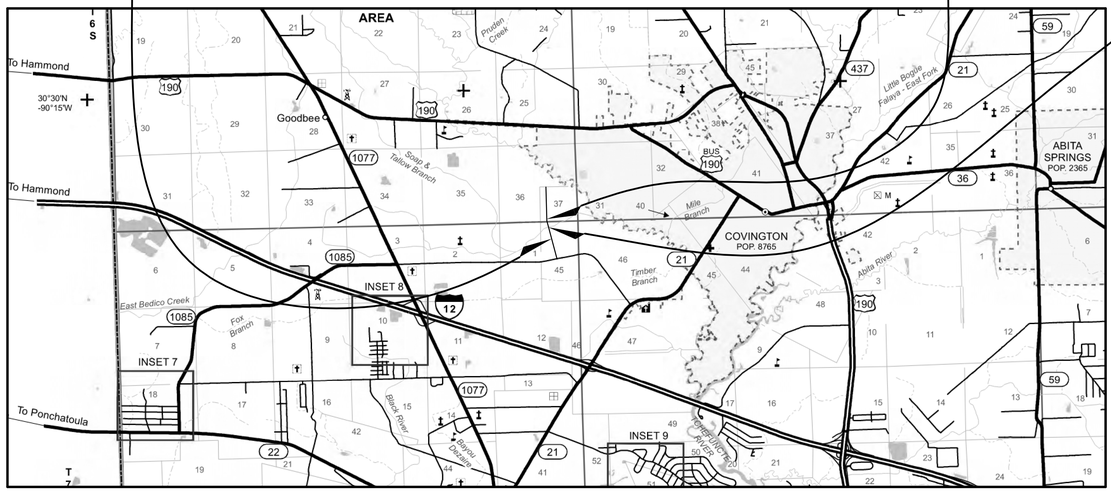


VICINITY MAP

BEGIN PROJECT
C.S. 000-52
LOG MILE N/A
STA. 101+79.34

END PROJECT
C.S. 000-52
LOG MILE N/A
STA. 117+72.43

BRIDGE SITE: 140 FT.
STA. 107+84.73 TO
STA. 109+24.73
SOAP & TALLOW BRANCH



LAYOUT MAP

SCALE: 1 INCH = 1 MILE

1 0 1 2 3

RECOMMENDED FOR APPROVAL BY

CRESCENT ENGINEERING & MAPPING, LLC

DATE 10/6/2025

ST. TAMMANY PARISH COUNCIL

RICK SMITH	1
LARRY ROLLING	2
MARTHA J. CAZAUBON	3
KATHY SEIDEN	4
PAT PHILLIPS	5
CHERYL TANNER	6
JOE IMPASTATO	7
PAT BURKE	8
DAVID COUGLE	9
MAUREEN "MO" O'BRIEN	10
ARTHUR LAUGHLIN	11
JERRY BINDER	12
JEFF CORBIN	13
JIMMY STRICKLAND	14

PARISH PRESIDENT

MICHAEL B. COOPER

TRAFFIC DATA

2025 A.D.T. = 458
2045 A.D.T. = 600
D = 55%
K = 10%
T = 10%

DESIGN SPEED = 35 M.P.H.
FUNCTIONAL CLASS: RURAL LOCAL

DATE	REVISION	DATE	RECOMMENDED	DATE	APPROVED

SCHEDULE OF REVISIONS

TYPE OF CONSTRUCTION - SPOT BRIDGE REPLACEMENT

ASPHALT CONCRETE PAVEMENT, CLASS II BASE COURSE, PRECAST CONCRETE PILES, CONCRETE SLAB SPAN BRIDGE, DRAINAGE, EROSION CONTROL, EARTHWORK, STRIPING.

SCALES

PLAN: 1" = 50'
PROFILE HORIZ: 1" = 50'
PROFILE VERT: 1" = 5'

SURVEY

DATUM USED: NAD 83/NAVD88, GEOID 18
MAGNETIC VAR.: NONE
BEARINGS ARE: GRID

NOTE:
THE 2016 EDITION OF THE LOUISIANA DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS AMENDED BY THE PROJECT SPECIFICATIONS, SHALL GOVERN ON THIS PROJECT.

LENGTH AND LOCATION OF WORK

STATION		LOGMILE		ALGEBRAIC SUM OF ALL EQUATIONS	GROSS LENGTH	EXCEPTION	BRIDGE LENGTH		ROADWAY LENGTH	
BEGIN	END	BEGIN	END	FEET	FEET	FEET	FEET	MILES	FEET	MILES
101+79.34	117+72.43	N/A	N/A		1,593.09		140.00	0.027	1,453.09	0.275

TOTAL LENGTH OF BRIDGE		140.00	0.027
TOTAL LENGTH OF ROADWAY			1,453.09	0.275
TOTAL MILES		0.302	

SHEET NUMBER 1

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN22000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 1

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

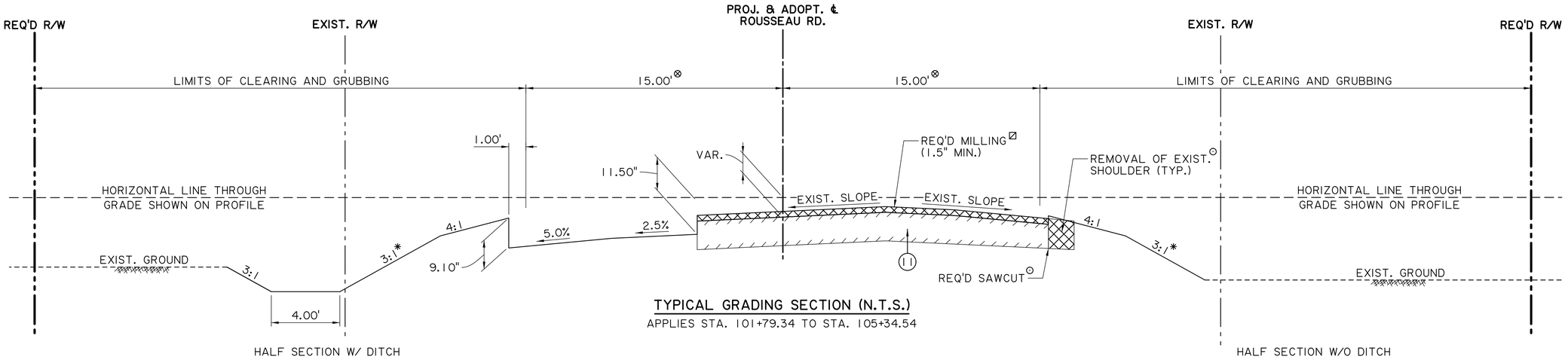
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TITLE SHEET AND LAYOUT MAP

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

FINAL PLANS

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TYPICAL GRADING SECTION (N.T.S.)

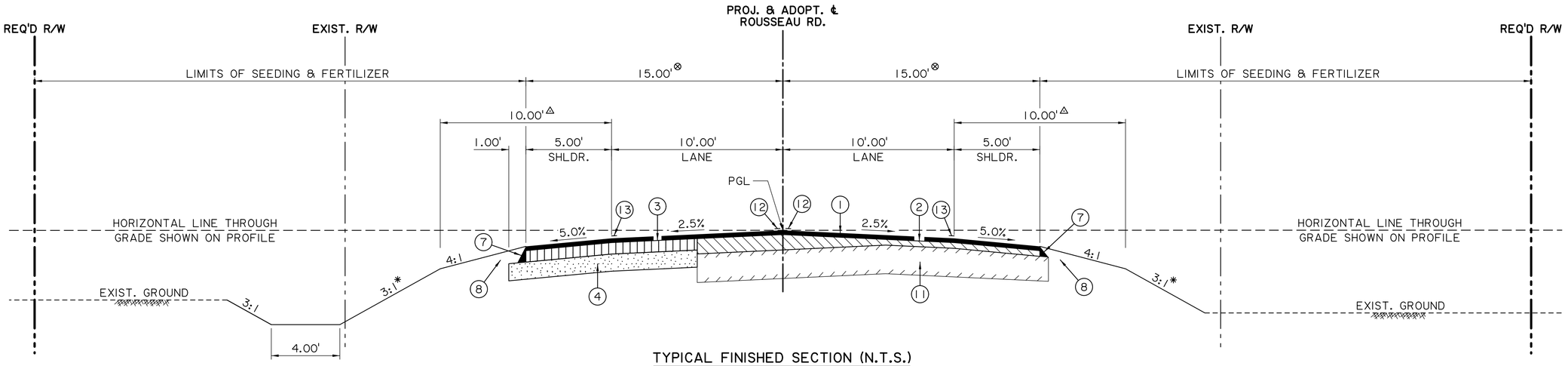
APPLIES STA. 101+79.34 TO STA. 105+34.54

⊙ RT. SHOULDER SAWCUT & REMOVAL BEGINS AT STA. 104+10.79.

△ TO BE CONSTRUCTED FREE OF OBSTRUCTIONS.

* 3:1 FORESLOPE REQ'D BEYOND LIMITS OF CLEAR ZONE.

⊗ SEE PLAN AND PROFILE SHEETS FOR EXISTING ROADWAY WIDTHS AND TRANSITION AT BEGINNING OF PROJECT.



TYPICAL FINISHED SECTION (N.T.S.)

APPLIES STA. 101+79.34 TO STA. 105+34.54

LEGEND

(1) REQ'D 1.5" THICK ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2)
(2) REQ'D ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2) (THICKNESS VARIES)
(3) REQ'D 4.0" THICK ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2)
(4) REQ'D 6.0" CLASS II BASE COURSE (ASPHALT CONCRETE BASE) (LEVEL 1)
(7) REQ'D ASPHALT SHOULDER WEDGE
(8) REQ'D EMBANKMENT
(11) EXISTING ROADWAY (TO REMAIN)
(12) REQ'D PAVEMENT STRIPING & REFLECTORIZED MARKERS
(13) REQ'D PAVEMENT STRIPING

GENERAL NOTES:

1. ALL THICKNESSES SHOWN ON TYPICAL SECTIONS ARE FINISHED DIMENSIONS.
2. THE FORESLOPES SHOWN REPRESENT THE STEEPEST ALLOWABLE VALUE. FORESLOPES MAY BE ADJUSTED AS NEEDED TO ACCOMMODATE REQUIRED DRAINAGE STRUCTURES.
3. LANE AND SHOULDER CROSS SLOPES VARY TO MATCH EXISTING. SEE PLAN AND PROFILE SHEETS FOR CROSS SLOPE TRANSITION INFORMATION.
4. GRADE AS SHOWN IN DW-01 (SHEET 3 OF 3). CONTRACTOR SHALL TRANSITION SHOULDERS ALONG ROUSSEAU RD. OVER A DISTANCE OF 40' FROM 5.0% TO MATCH EXISTING LONGITUDINAL SLOPES OF THE SIDE STREETS.

⧄ VARIABLE THICKNESS BINDER COURSE SHALL BE USED TO SHIFT CROWN OF ROADWAY TO ACCOMMODATE PROJ. & ADOPT ℄. MINIMUM ALLOWABLE BINDER COURSE THICKNESS SHALL BE 2". CONTRACTOR SHALL INCREASE DEPTH OF MILLING AS NEEDED AT SPOT LOCATIONS REQUIRED TO ACHIEVE MINIMUM 2" BINDER DEPTH.

SHEET NUMBER 2

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TYPICAL SECTION & DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

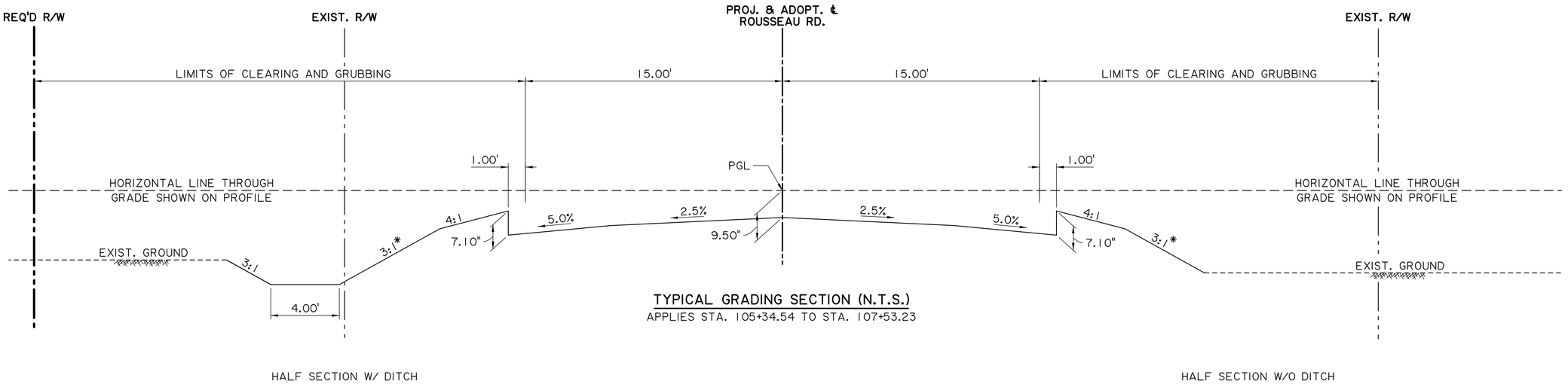
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS

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TYPICAL GRADING SECTION (N.T.S.)

APPLIES STA. 105+34.54 TO STA. 107+53.23

HALF SECTION W/ DITCH

HALF SECTION W/O DITCH

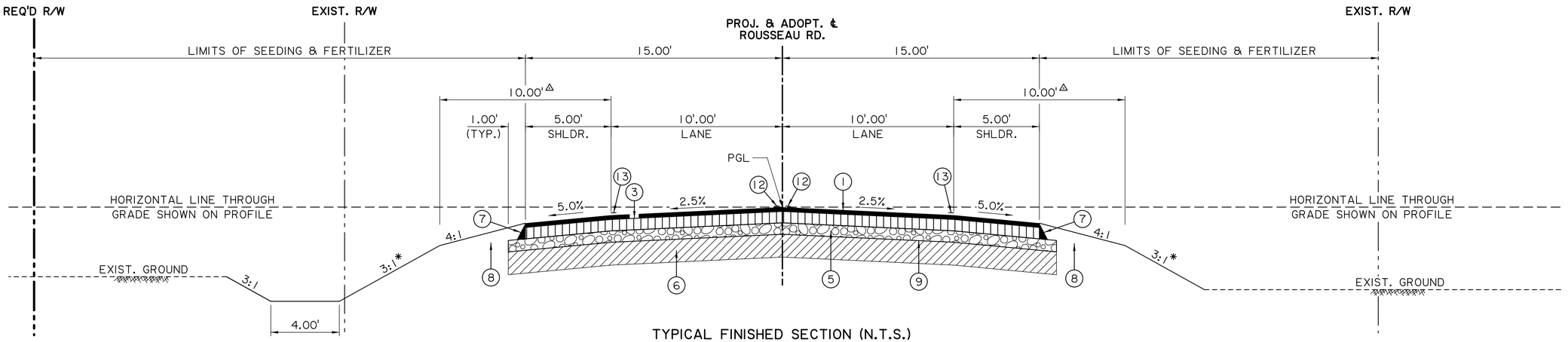
ASPHALT PATCH REQUIRED 11.50' FROM END OF APPROACH SLABS.

△ TO BE CONSTRUCTED FREE OF OBSTRUCTIONS.

* 3:1 FORESLOPE REQ'D BEYOND LIMITS OF CLEAR ZONE.

GENERAL NOTES:

1. ALL THICKNESSES SHOWN ON TYPICAL SECTIONS ARE FINISHED DIMENSIONS.
2. THE FORESLOPES SHOWN REPRESENT THE STEEPEST ALLOWABLE VALUE. FORESLOPES MAY BE ADJUSTED AS NEEDED TO ACCOMMODATE REQUIRED DRAINAGE STRUCTURES.
3. TRANSITION SHOULDER CROSS SLOPES FROM 5.0% TO 2.5% TO MATCH CROSS SLOPE OF THE REQUIRED APPROACH SLAB FROM STATION 107+14.73 TO STA. 107+64.73.

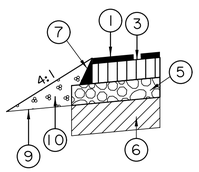


TYPICAL FINISHED SECTION (N.T.S.)

APPLIES STA. 105+34.54 TO STA. 107+53.23

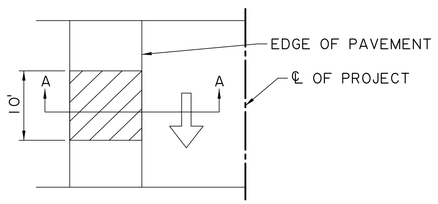
LEGEND

(1) REQ'D 1.5" THICK ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2)
(3) REQ'D 4.0" THICK ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2)
(5) REQ'D 4.0" CLASS II BASE COURSE (STONE ONLY)
(6) REQ'D 8.0" SUBGRADE LAYER (TREATED) (9% LIME / 6% CEMENT BY VOLUME) (INCLUDED IN ITEM 305-01-02020)
(7) REQ'D ASPHALT SHOULDER WEDGE
(8) REQ'D EMBANKMENT
(9) REQ'D GEOTEXTILE FABRIC (CLASS D) (INCLUDED IN ITEM NO. 302-02-04070 OR 302-03-00100)
(10) REQ'D BASE DRAIN OUTLET
(12) REQ'D PAVEMENT STRIPING & REFLECTORIZED MARKERS
(13) REQ'D PAVEMENT STRIPING



SECTION A-A

NOTE: EDGE OF PAVEMENT CAN BE EDGE OF TRAVEL LANE, DRIVEWAY, OR EMBANKMENT WIDENING.



EXTENSION OF CLASS II BASE COURSE

SHEET NUMBER 2a

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	2 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TYPICAL SECTION & DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

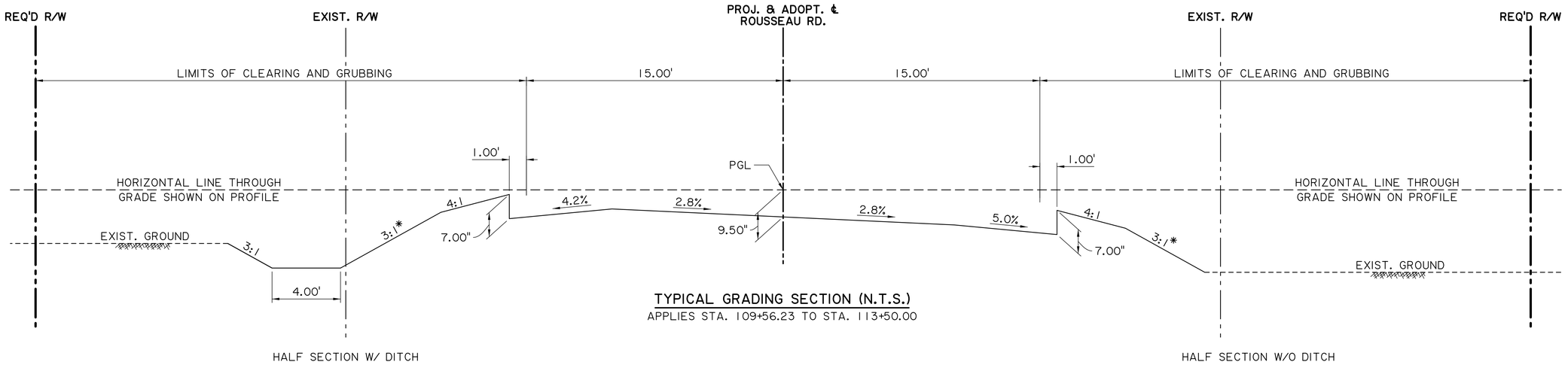
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS

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TYPICAL GRADING SECTION (N.T.S.)

APPLIES STA. 109+56.23 TO STA. 113+50.00

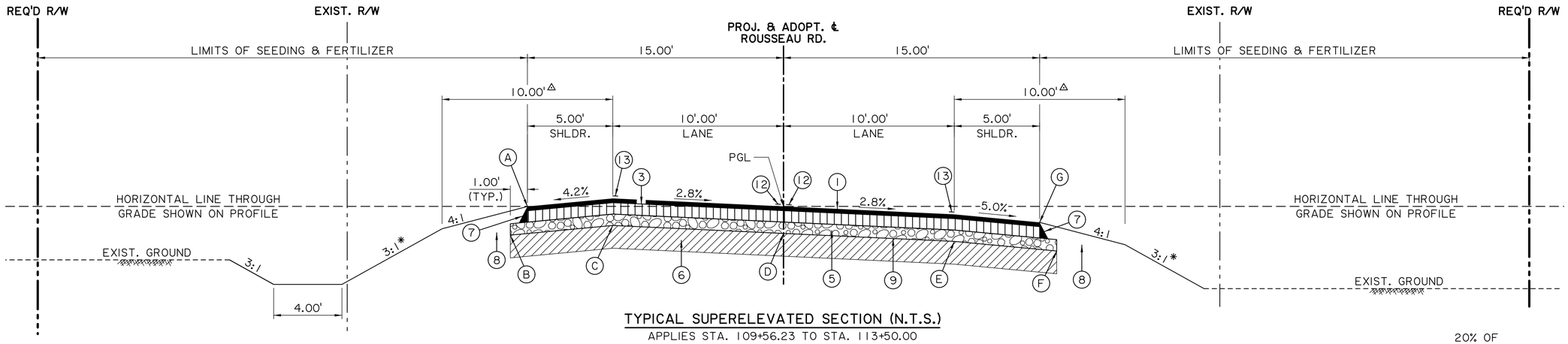
△ TO BE CONSTRUCTED FREE OF OBSTRUCTIONS.

* 3:1 FORESLOPE REQ'D BEYOND LIMITS OF CLEAR ZONE.

ASPHALT PATCH REQUIRED 11.50' FROM END OF APPROACH SLABS.

GENERAL NOTES:

1. ALL THICKNESSES SHOWN ON TYPICAL SECTIONS ARE FINISHED DIMENSIONS.
2. THE FORESLOPES SHOWN REPRESENT THE STEEPEST ALLOWABLE VALUE. FORESLOPES MAY BE ADJUSTED AS NEEDED TO ACCOMMODATE REQUIRED DRAINAGE STRUCTURES.
3. CROSS SLOPE SHOWN REPRESENTS FULL SUPERELEVATION. SEE PLAN & PROFILE SHEET FOR TRANSITION LIMITS.
4. TRANSITION SHOULDER CROSS SLOPES FROM 2.5% AT THE REQUIRED APPROACH SLAB TO VALUES PROVIDED IN THE SUPERELEVATED SECTION BELOW FROM STA. 109+44.73 TO STA. 109+94.73.

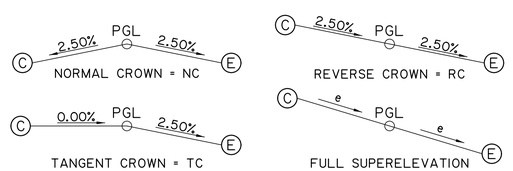


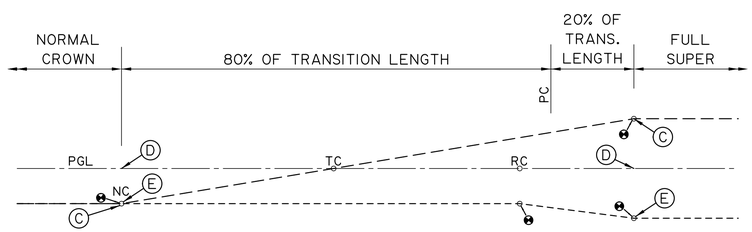
TYPICAL SUPERELEVATED SECTION (N.T.S.)

APPLIES STA. 109+56.23 TO STA. 113+50.00

LEGEND

(1) REQ'D 1.5" THICK ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2)
(3) REQ'D 4.0" THICK ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2)
(5) REQ'D 4.0" CLASS II BASE COURSE (STONE ONLY)
(6) REQ'D 8.0" SUBGRADE LAYER (TREATED) (9% LIME / 6% CEMENT BY VOLUME) (INCLUDED IN ITEM 305-01-02020)
(7) REQ'D ASPHALT SHOULDER WEDGE
(8) REQ'D EMBANKMENT
(9) REQ'D GEOTEXTILE FABRIC (CLASS D) (INCLUDED IN ITEM NO. 302-02-04070 OR 302-03-00100)
(12) REQ'D PAVEMENT STRIPING & REFLECTORIZED MARKERS
(13) REQ'D PAVEMENT STRIPING





SUPERELEVATION DIAGRAM FOR ROTATION ABOUT CENTERLINE (N.T.S.)

❶ 50' VERTICAL CURVE SHALL BE REQUIRED AT ALL ANGULAR BREAKS IN PROFILE (UNLESS OTHERWISE NOTED IN BRIDGE PLANS.)

SUPERELEVATED DETAILS WITH REFERENCE TO HORIZONTAL LINE THROUGH GRADE SHOWN ON PROFILE

STATION RANGE	RADIUS	R	A	B	C	D	E	F	G	BEGINNING TRANSITION LENGTH	END TRANSITION LENGTH	LEFT SHOULDER RATE	RIGHT SHOULDER RATE
110+41.62 - 115+74.57	2,130.00'	-2.8%	0.07'	-0.76'	-0.51'	-0.79'	-1.07'	-1.37'	-0.53'	90.00'	90.00'	4.2%	-5.0%

FINAL PLANS
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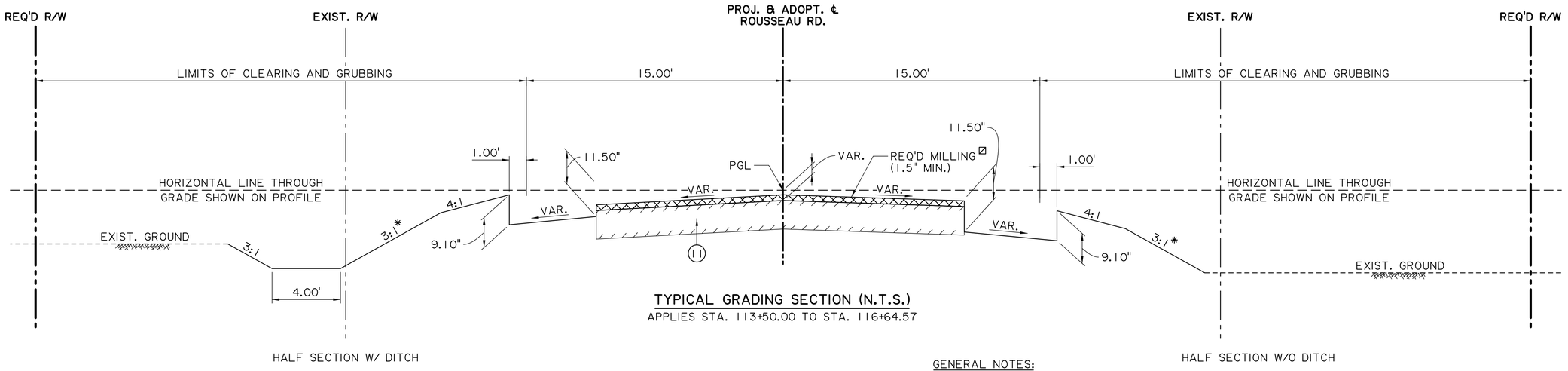
SHEET NUMBER 2b
ST. TAMMANY | 000-52 | EN220000181
PARISH | CONTROL SECTION | PARISH PROJECT
DESIGN A. FALCON | CHECK P. OLIVIER | DETAIL L. BOURG | CHECK P. OLIVIER | REVIEW D. HYMEL | SERIES # 3 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TYPICAL SECTION & DETAILS
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT
CRESCENT ENGINEERING & MAPPING LLC



HALF SECTION W/ DITCH

HALF SECTION W/O DITCH

TYPICAL GRADING SECTION (N.T.S.)

APPLIES STA. 113+50.00 TO STA. 116+64.57

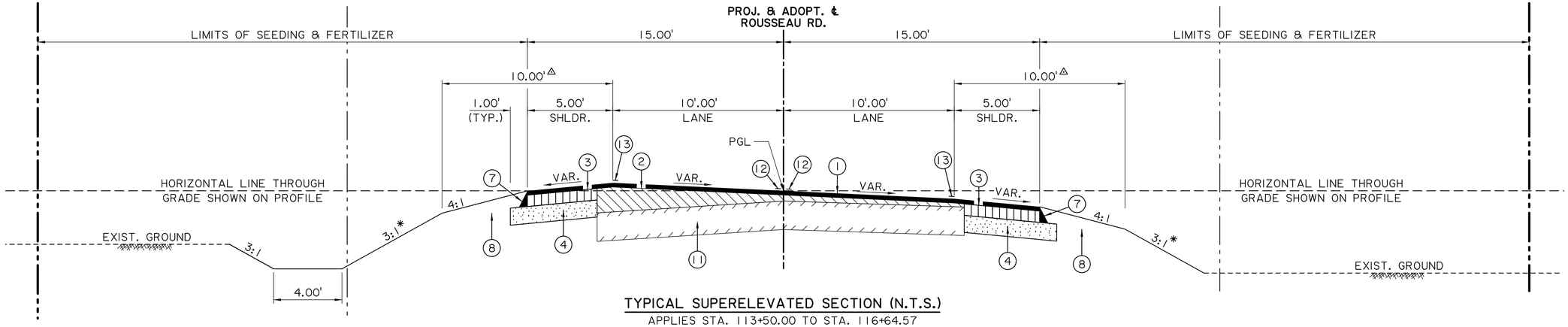
△ TO BE CONSTRUCTED FREE OF OBSTRUCTIONS.

* 3:1 FORESLOPE REQ'D BEYOND LIMITS OF CLEAR ZONE.

GENERAL NOTES:

1. ALL THICKNESSES SHOWN ON TYPICAL SECTIONS ARE FINISHED DIMENSIONS.
2. THE FORESLOPES SHOWN REPRESENT THE STEEPEST ALLOWABLE VALUE. FORESLOPES MAY BE ADJUSTED AS NEEDED TO ACCOMMODATE REQUIRED DRAINAGE STRUCTURES.
3. ROADWAY CROSS SLOPE VARIES FROM 2.8% FULL SUPERELEVATION TO 2.5% NORMAL CROWN. SEE PLAN AND PROFILE SHEET FOR ADDITIONAL INFORMATION.

⧄ VARIABLE THICKNESS BINDER COURSE SHALL BE USED TO ACCOMMODATE GRADE DIFFERENCES BETWEEN THE EXISTING AND REQ'D ROADWAY ELEVATION. MINIMUM ALLOWABLE BINDER COURSE THICKNESS SHALL BE 2". CONTRACTOR SHALL INCREASE DEPTH OF MILLING AS NEEDED AT SPOT LOCATIONS REQUIRED TO ACHIEVE MINIMUM 2" BINDER DEPTH.



TYPICAL SUPERELEVATED SECTION (N.T.S.)

APPLIES STA. 113+50.00 TO STA. 116+64.57

LEGEND

(1) REQ'D 1.5" THICK ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2)
(2) REQ'D ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2) (THICKNESS VARIES)
(3) REQ'D 4.0" THICK ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2)
(4) REQ'D 6.0" CLASS II BASE COURSE (ASPHALT CONCRETE BASE) (LEVEL 1)
(7) REQ'D ASPHALT SHOULDER WEDGE
(8) REQ'D EMBANKMENT
(11) EXISTING ROADWAY (TO REMAIN)
(12) REQ'D PAVEMENT STRIPING & REFLECTORIZED MARKERS
(13) REQ'D PAVEMENT STRIPING

FINAL PLANS
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SHEET NUMBER 2c

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	4 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

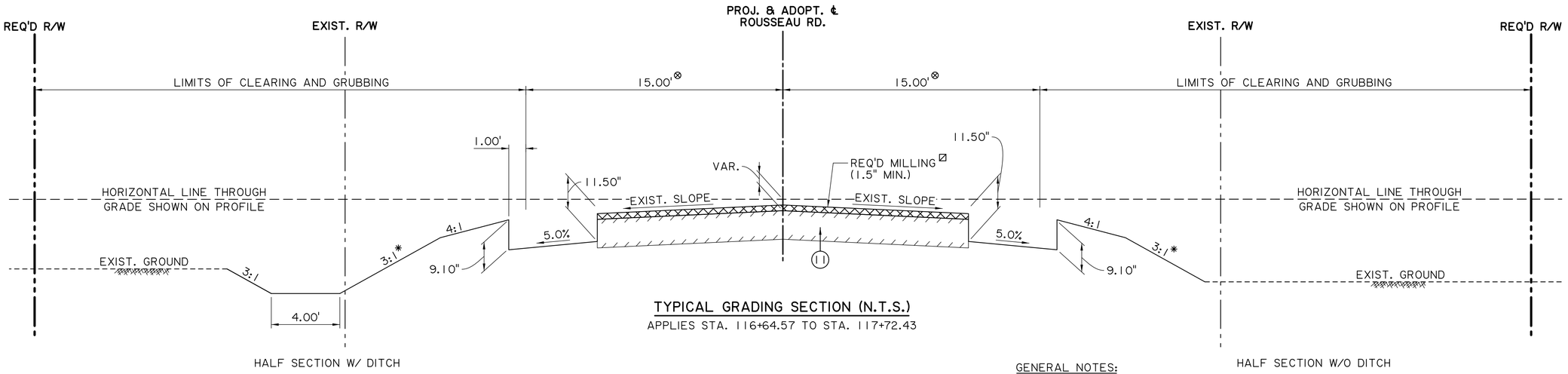
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TYPICAL SECTION & DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC



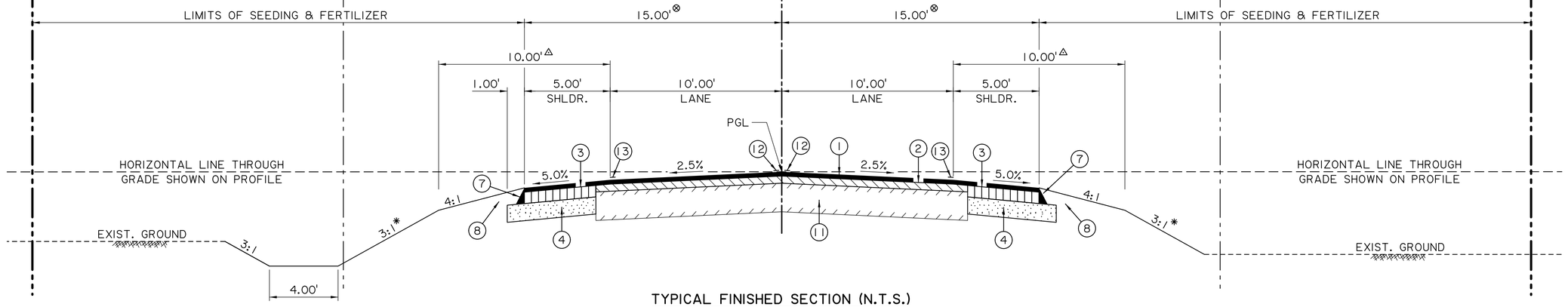
TYPICAL GRADING SECTION (N.T.S.)

APPLIES STA. 116+64.57 TO STA. 117+72.43

GENERAL NOTES:

1. ALL THICKNESSES SHOWN ON TYPICAL SECTIONS ARE FINISHED DIMENSIONS.
2. THE FORESLOPES SHOWN REPRESENT THE STEEPEST ALLOWABLE VALUE. FORESLOPES MAY BE ADJUSTED AS NEEDED TO ACCOMODATE REQUIRED DRAINAGE STRUCTURES.
3. LANE AND SHOULDER CROSS SLOPES VARY TO MATCH EXISTING. SEE PLAN AND PROFILE SHEETS FOR CROSS SLOPE TRANSITION INFORMATION.

⧄ VARIABLE THICKNESS BINDER COURSE SHALL BE USED TO ACCOMMODATE GRADE DIFFERENCES BETWEEN THE EXISTING AND REQ'D ROADWAY ELEVATION. MINIMUM ALLOWABLE BINDER COURSE THICKNESS SHALL BE 2". CONTRACTOR SHALL INCREASE DEPTH OF MILLING AS NEEDED AT SPOT LOCATIONS REQUIRED TO ACHIEVE MINIMUM 2" BINDER DEPTH.



TYPICAL FINISHED SECTION (N.T.S.)

APPLIES STA. 116+64.57 TO STA. 117+72.43

LEGEND

(1) REQ'D 1.5" THICK ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2)
(2) REQ'D ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2) (THICKNESS VARIES)
(3) REQ'D 4.0" THICK ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2)
(4) REQ'D 6.0" CLASS II BASE COURSE (ASPHALT CONCRETE BASE) (LEVEL 1)
(7) REQ'D ASPHALT SHOULDER WEDGE
(8) REQ'D EMBANKMENT
(11) EXISTING ROADWAY (TO REMAIN)
(12) REQ'D PAVEMENT STRIPING & REFLECTORIZED MARKERS
(13) REQ'D PAVEMENT STRIPING

△ TO BE CONSTRUCTED FREE OF OBSTRUCTIONS.

* 3:1 FORESLOPE REQ'D BEYOND LIMITS OF CLEAR ZONE.

⊗ SEE PLAN AND PROFILE SHEETS FOR EXISTING ROADWAY WIDTHS AT END OF PROJECT.

FINAL PLANS
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SHEET NUMBER 2d

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	5 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

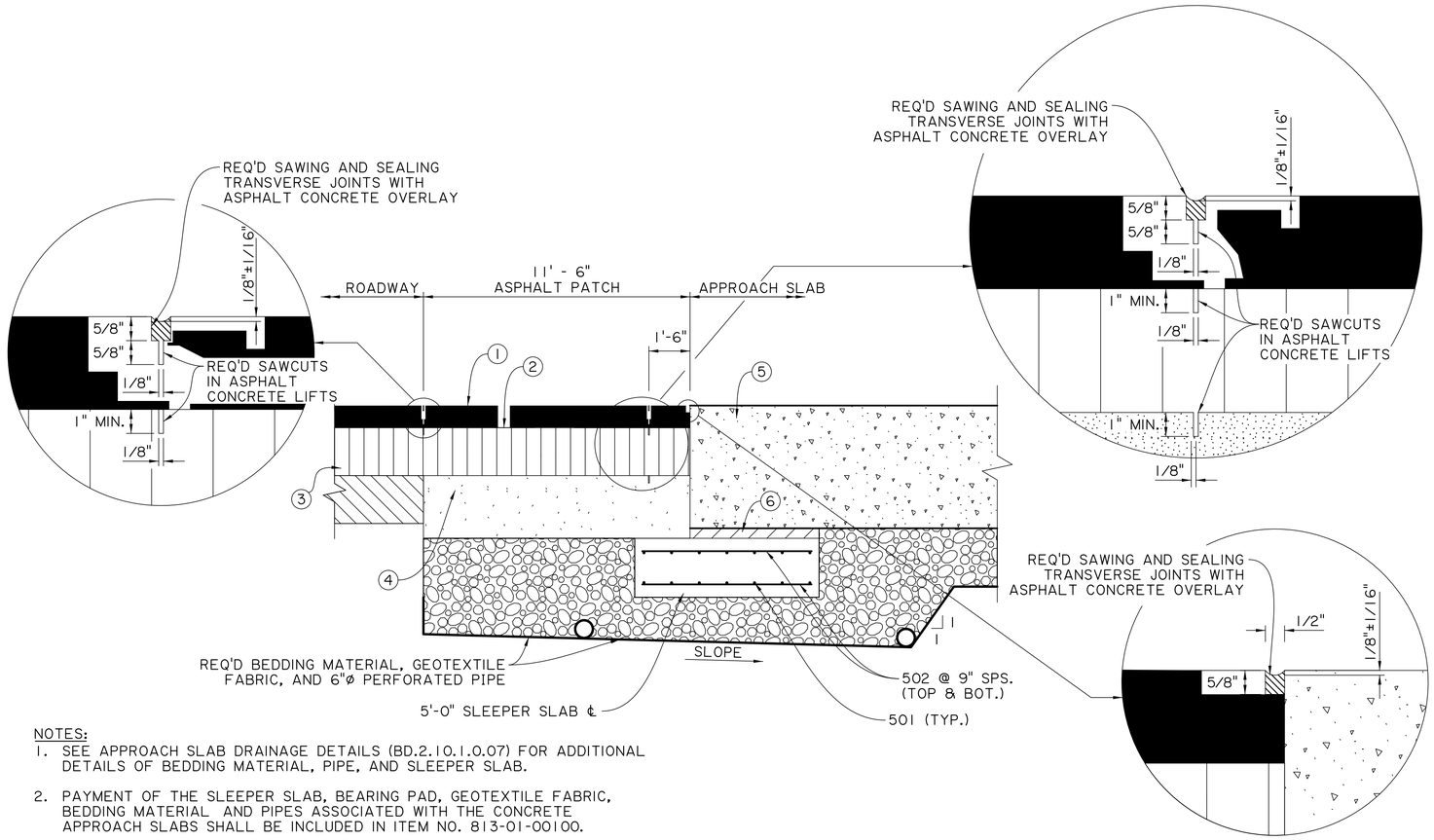
TYPICAL SECTION & DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

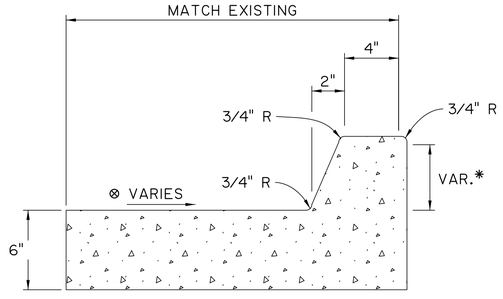
FINAL PLANS
Typical Section.dgn
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10/6/2025 20:2



NOTES:
1. SEE APPROACH SLAB DRAINAGE DETAILS (BD.2.10.1.0.07) FOR ADDITIONAL DETAILS OF BEDDING MATERIAL, PIPE, AND SLEEPER SLAB.
2. PAYMENT OF THE SLEEPER SLAB, BEARING PAD, GEOTEXTILE FABRIC, BEDDING MATERIAL AND PIPES ASSOCIATED WITH THE CONCRETE APPROACH SLABS SHALL BE INCLUDED IN ITEM NO. 813-01-00100.

ASPHALT CONCRETE AND CONCRETE PATCH SLEEPER SLAB AT APPROACH SLAB DETAIL (N.T.S.)

APPLIES STA. 107+53.23 TO STA. 107+64.73
STA. 109+44.73 TO STA. 109+56.23



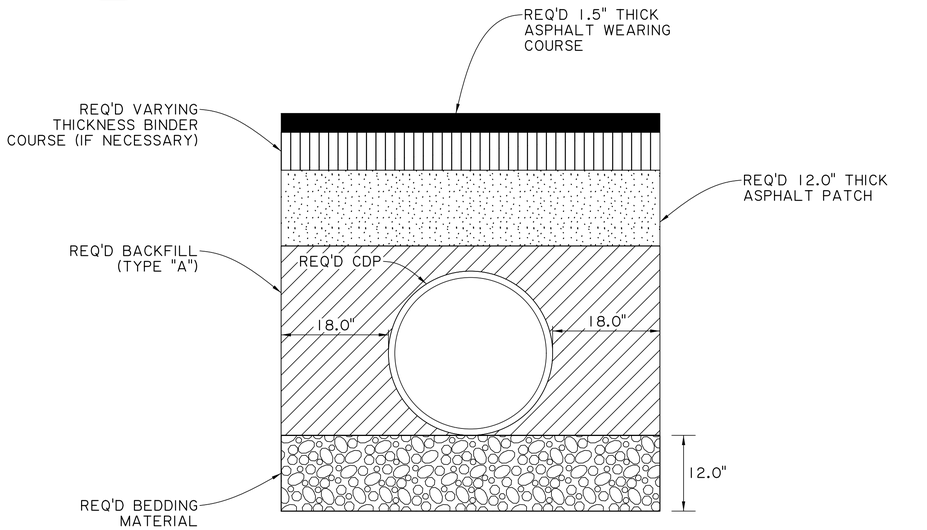
⊗ MATCH CROSS SLOPE OF EXIST. LANE

* CURB HEIGHT VARIES FROM 2" TO MATCH EXISTING OVER 10' TRANSITION LENGTH

BARRIER CURB & GUTTER DETAIL
(N.T.S.)

NOTE: SEE STANDARD PLAN DW-01 FOR ADDITIONAL INFORMATION ON CURB HEIGHT TRANSITION AND CP-01 FOR ADDITIONAL INFORMATION OF DEFORMED REINFORCING STEEL IN CURBING.

LEGEND:
1. REQ'D 1.5" THICK ASPHALT CONCRETE WEARING COURSE (LEVEL 2)
2. REQ'D 4.0" THICK ASPHALT CONCRETE BINDER COURSE (LEVEL 2)
3. REQ'D 4.0" CLASS II BASE COURSE (STONE ONLY)
4. REQ'D ASPHALT CONCRETE PAVEMENT PATCHING (9.5" THICK)
5. REQ'D CONCRETE APPROACH SLAB (AS SHOWN ON BRIDGE PLANS)
6. REQ'D 0.5" THICK x 3.5' WIDE NEOPRENE BEARING PAD



ASPHALT PATCH DETAIL ATOP CDP
(N.T.S.)

NOTES:
1. LIMITS OF ASPHALT PATCH SHALL COVER EXTENTS OF THE REQUIRED CROSS DRAIN PIPE AND THE REMOVAL OF THE EXISTING CROSS DRAIN PIPE.
2. PIPE BACKFILL MATERIAL SHALL BE STONE ONLY AND INCLUDED IN THE COST OF CROSS DRAIN PIPE.

SHEET NUMBER	2e
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220000181
DESIGN / CHECK	A. FALCON / P. OLIVIER
DETAIL / CHECK	L. BOURG / P. OLIVIER
REVIEW / SERIES #	D. HYMEL / 6 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TYPICAL SECTION & DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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10/7/2025 08:0

EARTHWORK (CU. YDS)

STATION	STATION	203-01-00100 GENERAL* EXCAVATION	203-02-00100 DRAINAGE EXCAVATION	203-03-00100 EMBANKMENT*
101+79.35	102+00.00	5	-	1
102+00.00	103+00.00	40	-	44
103+00.00	104+00.00	51	-	63
104+00.00	105+00.00	133	-	32
105+00.00	106+00.00	104	-	98
106+00.00	107+00.00	6	-	347
107+00.00	107+84.73	2	-	452
BRIDGE			1,283	
109+24.73	110+00.00	27	-	352
110+00.00	111+00.00	27	-	438
111+00.00	112+00.00	9	-	262
112+00.00	113+00.00	4	-	72
113+00.00	114+00.00	19	-	18
114+00.00	115+00.00	59	-	21
115+00.00	116+00.00	77	-	48
116+00.00	117+00.00	69	-	62
117+00.00	117+72.42	26	-	22
TOTALS		**658**	**1,283**	**2,332**

* VALUES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THESE ITEMS ARE TO BE BID AS LUMP SUM.

TEMPORARY EROSION CONTROL

STATION	STATION	SIDE CL	DESCRIPTION	204-05-00100 TEMPORARY SEDIMENT CHECK DAMS (HAY) EACH	204-05-00200 TEMPORARY SEDIMENT CHECK DAMS (STONE) EACH	204-06-00100 TEMPORARY SILT FENCING LNFT
101+79.34	102+94.28	LT.	SILT FENCE	-	-	124
101+79.34	103+17.55	RT.	SILT FENCE	-	-	145
102+00.00		LT./RT.	CHECK DAM (STONE)	-	2	-
102+86.25		LT.	INLET PROTECTION - CB	-	-	24
102+88.08		RT.	INLET PROTECTION - CB	-	-	24
103+75.24	107+89.84	RT.	SILT FENCE	-	-	483
103+83.86	107+89.84	LT.	SILT FENCE	-	-	470
103+93.48		RT.	INLET PROTECTION - CB	-	-	24
104+00.69		LT.	INLET PROTECTION - CB	-	-	24
104+47.30		RT.	CHECK DAM (STONE)	-	1	-
104+54.88		LT.	CHECK DAM (STONE)	-	1	-
105+85.00		RT.	CHECK DAM (STONE)	-	1	-
106+27.50		LT.	CHECK DAM (STONE)	-	1	-
109+19.73	117+72.43	LT./RT.	SILT FENCE	-	-	1,728
109+80.00		LT.	CHECK DAM (HAY)	1	-	-
111+00.00		RT.	CHECK DAM (HAY)	1	-	-
116+00.00		RT.	CHECK DAM (HAY)	1	-	-
116+25.00		LT.	CHECK DAM (HAY)	1	-	-
116+76.00		LT./RT.	CHECK DAM (STONE)	-	2	-
TOTALS				**4**	**8**	**3,046**

PAVEMENT PATCHING

STATION	STATION	SIDE CL	DESCRIPTION	LENGTH	510-01-00001 PAVEMENT PATCHING (9.5" THICK)		510-01-00002 PAVEMENT PATCHING (12" THICK)	
				FEET	AVG. WIDTH/FT.	SQYD	AVG. WIDTH/FT.	SQYD
103+12.41	103+65.48	LT.	ASPHALT PATCH - FRANCIS RD.	53.07	-	-	13.00	76.7
103+31.22	103+55.92	RT.	ASPHALT PATCH - MELROSE AVE.	24.70	-	-	10.00	27.4
107+53.23	107+64.73	LT./RT.	ASPHALT PATCH BEFORE APPROACH SLAB	11.50	30.00	38.3	-	-
109+44.73	109+56.23	LT./RT.	ASPHALT PATCH AFTER APPROACH SLAB	11.50	30.00	38.3	-	-
116+44.12		LT./RT.	ASPHALT PATCH ATOP CDP	21.50	-	-	12.00	28.7
			TOTALS			**76.6**		**132.8**

NOTES: AREA OF PAVEMENT PATCH COVERS THE LIMITS OF THE EXISTING AND PROPOSED PIPES.

REMOVAL OF PAVEMENT AND MILLING

STATION	STATION	SIDE CL	DESCRIPTION	LENGTH	202-02-03030 REMOVAL OF PAVEMENT STRUCTURE		509-01-00100 MILLING ASPHALT PAVEMENT			509-02-00100 CONTRACTOR RETAINED RECLAIMED ASPHALT		
				FT.	AVG. WIDTH/FT	SQYD	AVG. WIDTH/FT	AVG. DEPTH/IN	SQYD	AVG. WIDTH/FT	AVG. DEPTH/IN	CUYD
101+79.34	105+34.54	LT./RT.	OVERLAY AND WIDENING	355.2	2.89	39.7	20.3	1.5	800	20.3	1.5	33
103+00.73	103+73.52	LT.	OVERLAY - FRANCIS RD.	72.8	-	-	29.0	1.5	235	29.0	1.5	10
103+13.28	103+66.18	RT.	OVERLAY - MELROSE AVE.	52.9	-	-	20.2	1.5	119	20.2	1.5	5
105+34.54	108+20.97	LT./RT.	PAVEMENT REMOVAL - BEFORE BRIDGE	286.43	23.3	741.9	-	-	-	-	-	-
109+16.78	113+50.00	LT./RT.	PAVEMENT REMOVAL - AFTER BRIDGE	433.22	22.3	1,072.2	-	-	-	-	-	-
113+50.00	117+72.43	LT./RT.	OVERLAY AND WIDENING	422.43	0.96	45.0	20.4	1.5	958	20.4	1.5	40
			TOTALS			**1,898.8**			**2,112**			**88**

REMOVAL OF PIPE

STATION	SIDE CL	DESCRIPTION	202-02-06060 REMOVAL OF CONCRETE CATCH BASIN LENGTH/FT.	202-02-32100 REMOVAL OF PIPE (CROSS DRAIN) LENGTH/FT.	202-02-32120 REMOVAL OF PIPE (SIDE DRAIN) LENGTH/FT.
102+90.92	LT.	18" PP	-	-	27
103+04.10	LT.	CATCH BASIN - 2' x 3'	1	-	-
103+42.37	RT.	24" RCPA	-	50	-
103+45.07	LT.	24" PP	-	81	-
116+44.12	LT./RT.	(2) 36" RCP	-	67	-
		TOTALS	**1**	**198**	**27**

BASE DRAIN OUTLET

STATION	STATION	SIDE CL	DESCRIPTION	302-03-00100 BASE DRAIN OUTLET EACH
105+61.40	105+71.40	LT./RT.	BASE DRAIN OUTLET	2
112+63.68	112+73.68	LT./RT.	BASE DRAIN OUTLET	2
113+40.00	113+50.00	LT./RT.	BASE DRAIN OUTLET	2
			TOTALS	**6**

SIGN SUMMARY

PLAN SHEET NO.	STATION	SIGN CATALOG NUMBER	SIGN SIZE LENGTH (IN.) HORIZ.	SIGN SIZE HEIGHT (IN.) VERT.	MOUNTING LOCATIONS (FT. - IN.) HEIGHT △ MINIMUM	MOUNTING LOCATIONS (FT. - IN.) INSIDE EDGE ☒ OF SIGN	SIGN (SQ. FT.) TYPE "A" 729-01-00100	SUPPORTS - POST MOUNTINGS (EACH) SQUARE TUBING POST WITH 2-1/4" ANCHOR 729-22-00100
15	103+26.00	R1-1	30	30	7'-0"	2'-0"	6.3	1
15	103+26.00	D3-1	30	8	-	-	1.7	-
15	103+71.00	R1-1	30	30	7'-0"	2'-0"	6.3	1
15	103+71.00	D3-1	30	8	-	-	1.7	-
15	103+95.00	R2-1	24	30	7'-0"	6'-0"	5.0	1
15 ⊡	107+50.00	N/A	30	36	-	-	7.5	-
15 ⊡	107+50.00	N/A	30	24	7'-0"	6'-0"	5.0	1
						TOTALS	**33.5**	**4**

△ HEIGHT MEASURED FROM EDGE OF TRAVEL LANE TO BOTTOM OF SIGN.
☒ DISTANCE MEASURED FROM EDGE OF PAVEMENT TO INSIDE EDGE OR SIGN
⊡ SIGN DIMENSIONS ARE ESTIMATED. CONFIRM WITH PROJECT ENGINEER PRIOR TO INSTALLATION

SHEET NUMBER 3

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001811

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SUMMARY SHEET

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

10/6/2025 20:2
FINAL PLANS
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ASPHALT CONCRETE PAVEMENT & BASE COURSE

STATION	STATION	SIDE CL	DESCRIPTION	LENGTH	502-01-00100												502-01-00200				302-02-04070		302-02-06030	
					1.5" WEARING COURSE (LEVEL 1)			4.0" BINDER COURSE (LEVEL 1)			BINDER COURSE (LEVEL 1) (THICKNESS VARIES)			ASPHALT SHOULDER WEDGE		ASPHALT CONCRETE, DRIVES, TURNOUTS AND MISCELLANEOUS				CLASS II BASE COURSE (4" THICK) (STONE ONLY)		CLASS II BASE COURSE (6" THICK) (ASPHALT CONCRETE BASE)	
				FEET	WIDTH/FT.	SQYD	TONS	WIDTH/FT.	SQYD	TONS	DEPTH/IN. (AVG.)	WIDTH/FT.	SQYD	TONS	DEPTH/IN.	TONS	WIDTH/FT.	SQYD	DEPTH/IN.	TONS	WIDTH/FT.	SQYD	WIDTH/FT.	SQYD
101+79.34	102+89.66	LT./RT.	OVERLAY AND WIDENING - TRANSITION	110.32	22.98	281.7	23.2	1.85	22.7	5.0	2.0	21.13	259.0	28.5	5.5	2.4	-	-	-	-	-	-	2.85	34.9
102+89.66	104+10.57	LT./RT.	OVERLAY - ROUSSEAU RD.	120.91	21.75	292.2	24.1	-	-	-	2.5	21.82	293.1	40.3	-	-	-	-	-	-	-	-	-	-
102+89.66	104+10.57	LT.	TURNOUT AND WIDENING - FRANCIS RD.	120.91	-	-	-	-	-	-	-	-	-	-	3.5	1.1	VAR.	345.3	1.5	28.5	-	-	VAR.	104.7
102+89.66	104+10.57	RT.	TURNOUT AND WIDENING - MELROSE AVE.	120.91	-	-	-	-	-	-	-	-	-	-	3.5	1.0	VAR.	178.9	1.5	14.8	-	-	VAR.	82.1
104+10.57	105+34.54	LT./RT.	OVERLAY AND WIDENING - 30' ROADWAY	123.97	30.00	413.2	34.1	11.99	165.1	36.3	4.0	18.01	248.1	54.6	5.5	2.7	-	-	-	-	-	-	12.99	178.9
105+34.54	107+53.23	LT./RT.	FULL RECONSTRUCTION - 30' ROADWAY	218.69	30.00	729.0	60.1	30.00	729.0	160.4	-	-	-	-	5.5	4.8	-	-	-	-	32.0	777.6	-	-
106+76.42	107+84.73	RT.	EMBANKMENT WIDENING	108.31	-	-	-	-	-	-	-	-	-	-	-	-	VAR.	46.9	5.5	14.2	-	-	-	-
106+77.15	107+84.73	LT.	EMBANKMENT WIDENING	107.58	-	-	-	-	-	-	-	-	-	-	-	-	VAR.	46.3	5.5	14.0	-	-	-	-
107+53.23	107+64.73	LT./RT.	ASPHALT PATCH	11.50	30.00	38.3	3.2	30.00	38.3	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109+24.73	110+32.32	LT.	EMBANKMENT WIDENING	107.59	-	-	-	-	-	-	-	-	-	-	-	-	VAR.	46.4	5.5	14.0	-	-	-	-
109+24.73	110+33.22	RT.	EMBANKMENT WIDENING	108.49	-	-	-	-	-	-	-	-	-	-	-	-	VAR.	46.7	5.5	14.1	-	-	-	-
109+44.73	109+56.23	LT./RT.	ASPHALT PATCH	11.50	30.00	38.3	3.2	30.00	38.3	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109+56.23	113+50.00	LT./RT.	FULL CONSTRUCTION - 30' ROADWAY	393.77	30.00	1312.6	108.3	30.00	1312.6	288.8	-	-	-	-	5.5	8.7	-	-	-	-	32.0	1,400.1	-	-
111+62.19	112+31.95	LT.	DRIVEWAY APRON - ROBERT DR.	69.76	-	-	-	-	-	-	-	-	-	-	-	-	VAR.	22.4	6.0	7.4	-	-	-	-
113+50.00	116+01.57	LT./RT.	OVERLAY AND WIDENING - 30' ROADWAY	251.57	30.00	838.6	69.2	10.26	286.8	63.1	8.0	19.74	551.8	242.8	5.5	5.6	-	-	-	-	-	-	12.26	342.7
116+01.57	117+72.43	LT./RT.	OVERLAY AND WIDENING - TRANSITION	170.86	25.66	487.1	40.2	4.25	80.7	17.8	4.0	21.41	406.5	89.4	5.5	3.8	-	-	-	-	-	-	6.25	118.7
			TOTALS				**365.6**			**588.2**				**455.6**		**30.1**				**107.0**		**2,177.7**		**862.0**

GUARD RAIL

STATION	STATION	DESCRIPTION	TOTAL LENGTH	704-03-00200	704-07-00200	704-10-00205
				BLOCKED OUT GUARD RAIL - 31", (6'-3" POST SPACING)	GUARD RAIL TRANSITIONS (DOUBLE THRIE BEAM)	GUARD RAIL END TREATMENT, MASH, (TL-3 TANGENT)
				LNFT	LNFT	EACH
106+99.33	107+86.83	GUARD RAIL (TANGENT END TREATMENT) - RT.	87.50	12.5	25.0	1
106+99.33	107+86.83	GUARD RAIL (TANGENT END TREATMENT) - LT.	87.50	12.5	25.0	1
109+22.63	110+10.13	GUARD RAIL (TANGENT END TREATMENT) - LT.	87.50	12.5	25.0	1
109+22.63	110+10.13	GUARD RAIL (TANGENT END TREATMENT) - RT.	87.50	12.5	25.0	1
		TOTALS		50.0	100.0	4

PERMANENT PAVEMENT MARKINGS

STATION	STATION	SIDE CL	DESCRIPTION	LENGTH	731-02-00100	732-01-02080	732-02-02000
					REFLECTORIZED RAISED PAVEMENT MARKERS	PLASTIC PAVEMENT STRIPING (24" WIDTH)	PLASTIC PAVEMENT STRIPING (4" WIDTH)
				FEET	EACH	LNFT	MILE
101+79.34	102+92.46	LT./RT.	CENTERLINE - 4" DOUBLE YELLOW	113.12	6	-	0.043
101+79.34	103+30.03	LT.	EDGE LINE - 4" WHITE	181.65	-	-	0.034
101+79.34	103+32.22	RT.	EDGE LINE - 4" WHITE	177.35	-	-	0.034
103+28.06	103+45.31	LT.	STOP BAR - 24" WHITE	17.25	-	17	-
103+44.48	103+64.15	RT.	STOP BAR - 24" WHITE	19.67	-	20	-
103+56.06	117+72.43	RT.	EDGE LINE - 4" WHITE	1,437.10	-	-	0.272
103+61.90	117+72.43	LT.	EDGE LINE - 4" WHITE	1,437.95	-	-	0.272
104+02.21	117+72.43	LT./RT.	CENTERLINE - 4" DOUBLE YELLOW	1,370.22	69	-	0.519
				TOTALS	**75**	**37**	**1.174**

SAWCUTTING

STATION	STATION	SIDE CL	DESCRIPTION	DEPTH	LENGTH	NS-500-00240	NS-500-00260	NS-500-00340
						SAWING & SEALING TRANSVERSE JOINTS IN ASPHALT CONCRETE OVERLAY	SAWCUTS IN ASPHALT CONCRETE LIFTS	SAW CUTTING ASPHALT CONCRETE PAVEMENT
				IN.	FT.	LNFT	LNFT	INLF
101+79.34		LT./RT.	PARTIAL DEPTH SAWCUT - ROUSSEAU	1.50	21.07	-	-	32
103+13.63	103+61.90	LT.	PARTIAL DEPTH SAWCUT - FRANCIS	1.50	48.27	-	-	72
103+32.22	103+56.06	RT.	PARTIAL DEPTH SAWCUT - MELROSE	1.50	23.84	-	-	36
104+10.79	105+34.54	RT.	FULL DEPTH LONGITUDINAL SAWCUT - ROUSSEAU	12.00	123.75	-	-	1,485
105+34.54		RT.	FULL DEPTH TRANSVERSE SAWCUT - ROUSSEAU	12.00	20.91	-	-	251
107+53.23		LT./RT.	ASPHALT PATCH AT APPROACH SLAB	VAR.	30.00	30	60	-
107+63.23		LT./RT.	ASPHALT PATCH AT APPROACH SLAB	VAR.	30.00	30	90	-
107+64.73		LT./RT.	ASPHALT PATCH AT APPROACH SLAB	0.63	30.00	30	-	-
109+44.73		LT./RT.	ASPHALT PATCH AT APPROACH SLAB	0.63	30.00	30	-	-
109+46.23		LT./RT.	ASPHALT PATCH AT APPROACH SLAB	VAR.	30.00	30	90	-
109+56.23		LT./RT.	ASPHALT PATCH AT APPROACH SLAB	VAR.	30.00	30	60	-
113+50.00		LT./RT.	FULL DEPTH TRANSVERSE SAWCUT - ROUSSEAU	12.00	11.12	-	-	133
113+50.00	114+33.77	LT./RT.	FULL DEPTH LONGITUDINAL SAWCUT - ROUSSEAU	12.00	83.77	-	-	1,005
117+72.43		LT./RT.	PARITAL DEPTH SAWCUT - ROUSSEAU	1.50	21.32	-	-	32
					TOTALS	**180**	**300**	**3,046**

SEEDING AND FERTILIZER

STATION	STATION	SIDE CL	ACRES	716-01-00100	717-01-00100	718-01-00100
				MULCH (VEGETATIVE)	SEEDING	FERTILIZER
				TON	LB	LB
101+79.34	103+13.52	LT.	0.084	0.2	3	84
101+79.34	103+30.49	RT.	0.077	0.2	3	77
103+58.53	107+84.73	RT.	0.314	0.7	10	314
103+61.37	107+84.73	LT.	0.318	0.7	10	318
109+24.73	117+72.43	LT.	0.642	1.3	20	642
109+24.73	117+72.43	RT.	0.660	1.4	20	660
			TOTALS	**4.5**	**66**	**2,095**

SHEET NUMBER 3a

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001811

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	2 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

SUMMARY SHEET

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
201-01-00100	CLEARING AND GRUBBING (est. 2.62 ACRES)	LUMP	1
202-01-00100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP	1
202-02-02000	REMOVAL OF ASPHALT DRIVES	SQYD	54
202-02-02020	REMOVAL OF PAVEMENT STRUCTURE	SQYD	1,898.8
202-02-04501	REMOVAL OF BRIDGE STR. NO. P5230283900881 (STA. 108+68.61; 28' X 76' COPCSS) (2,128 SQFT)	LUMP	1
202-02-06000	REMOVAL OF CONCRETE APPROACH SLABS	SQYD	56.9
202-02-14500	REMOVAL OF GUARD RAIL	LNFT	449.3
202-02-06060	REMOVAL OF CONCRETE CATCH BASIN	EACH	1
202-02-06140	REMOVAL OF CURBS (CONCRETE)	LNFT	40
202-02-32100	REMOVAL OF PIPE (CROSS DRAIN) (36" RCP)	LNFT	198
202-02-32120	REMOVAL OF PIPE (SIDE DRAIN) (18" PP, 24" PP, 24" RCPA)	LNFT	27
203-02-00100	DRAINAGE EXCAVATION	CUYD	1,283
203-06-00100	EXCAVATION AND EMBANKMENT	LUMP	1
204-05-00100	TEMPORARY SEDIMENT CHECK DAMS (HAY)	EACH	4
204-05-00200	TEMPORARY SEDIMENT CHECK DAMS (STONE)	EACH	8
204-06-00100	TEMPORARY SILT FENCING	LNFT	3,046
302-02-04070	CLASS II BASE COURSE (4" THICK) (STONE ONLY)	SQYD	2,177.7
302-02-06030	CLASS II BASE COURSE (6" THICK) (ASPHALT CONCRETE BASE)	SQYD	862.0
302-03-00100	BASE DRAIN OUTLET	EACH	6
305-01-02020	SUBGRADE LAYER (8" THICK) (TREATED)	SQYD	2,178
401-02-00100	AGGREGATE SURFACE COURSE (ADJUSTED VEHICLE MEASUREMENT)	CUYD	8.8
402-01-00101	TRAFFIC MAINTENANCE SURFACING (AGGREGATE) (VEHICULAR MEASUREMENT)	CUYD	100.0
402-02-00101	TRAFFIC MAINTENANCE SURFACING (HARD)	TON	75
502-01-00100	ASPHALT CONCRETE	TON	1,439.5
502-01-00200	ASPHALT CONCRETE, DRIVES, TURNOUTS, MISCELLANEOUS	TON	107.0
509-01-00100	MILLING ASPHALT PAVEMENT	SQYD	2,112
509-02-00100	CONTRACTOR RETAINED RECLAIMED ASPHALT PAVEMENT	CUYD	88
510-01-00001	PAVEMENT PATCHING (9.5" THICK)	SQYD	77
510-01-00002	PAVEMENT PATCHING (12" THICK)	SQYD	133
701-01-01043	CROSS DRAIN PIPE (36" RCP/RPVCP)	LNFT	140
701-02-01000	CROSS DRAIN PIPE ARCH (24" EQUIV. RCPA)	LNFT	216
701-05-02042	SIDE DRAIN PIPE (EROSION) (18" RPVCP/CMP)	LNFT	60
701-06-00040	SIDE DRAIN PIPE ARCH (24" EQUIV. RCPA)	LNFT	224
702-03-00100	CATCH BASINS (CB-01)	EACH	4
704-03-00200	BLOCKED OUT GUARD RAIL - 31", (6'-3" POST SPACING)	LNFT	50.0
704-07-00200	GUARD RAIL TRANSITIONS (DOUBLE THRIE BEAM)	LNFT	100.0
704-10-00205	GUARD RAIL END TREATMENT, MASH, (TL-3 TANGENT)	EACH	4
707-03-00100	COMBINATION CONCRETE CURB AND GUTTER	LNFT	20
708-01-00100	RIGHT-OF-WAY MONUMENT	EACH	24
711-01-04000	RIPRAP (55 LB, 18" THICK)	SQYD	1,050
711-01-02020	RIPRAP (10 LB, 12" THICK)	SQYD	150
711-04-00100	GEOTEXTILE FABRIC	SQYD	1,200

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FINAL PLANS
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_100 PCT\003b_Summary Sheet.dgn

SHEET NUMBER 3b

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

SUMMARY OF ESTIMATED QUANTITIES

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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10/7/2025 08:3

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
713-01-00100	TEMPORARY SIGNS AND BARRICADES	LUMP	1
713-07-00100	TEMPORARY PRECAST CONCRETE BARRIER (CONTRACTOR FURNISHED)	EACH	22
716-01-00100	MULCH (VEGETATIVE)	TON	4.5
717-01-00100	SEEDING	LB	66
718-01-00100	FERTILIZER	LB	2,095
726-01-00100	BEDDING MATERIAL	CUYD	141.6
727-01-00100	MOBILIZATION	LUMP	1
729-01-00100	SIGN (TYPE A)	SQFT	33.5
729-16-00300	OBJECT MARKER ASSEMBLY (TYPE 3)	EACH	4
729-22-00100	SQUARE TUBING POST WITH 2-1/4" ANCHOR	EACH	4
731-02-00100	REFLECTORIZED RAISED PAVEMENT MARKERS	EACH	75
732-01-02080	PLASTIC PAVEMENT STRIPING (24" WIDTH) (THERMOPLASTIC 125 MIL)	LNFT	37
732-02-02000	PLASTIC PAVEMENT STRIPING (SOLID LINE) (4" WIDTH) (THERMOPLASTIC 90 MIL)	MILE	1.174
735-01-00100	MAILBOXES	EACH	1
735-02-00100	MAILBOX SUPPORTS (SINGLE)	EACH	1
740-01-00100	CONSTRUCTION LAYOUT	LUMP	1
802-03-00100	TEMPORARY SHEETING (STEEL)	SQFT	1,260
804-01-00400	PRECAST CONCRETE PILES (18")	LNFT	2,720
805-01-00100	CLASS A1 CONCRETE (SLAB SPAN)	CUYD	210.91
805-01-00300	CLASS A1 CONCRETE (BENT CAP)	CUYD	57.66
805-18-00100	CONCRETE FINISH (CLASS 2 RUBBED FINISH)	SQFT	1,920
805-18-00200	CONCRETE FINISH (CLASS 3 SPECIAL FINISH)	SQFT	4,654
806-01-00100	DEFORMED REINFORCING STEEL	LB	52,718
806-03-00100	DEFORMED REINFORCING STEEL MECHANICAL SPLICE (NO. 5 IN BENT)	EACH	16
806-03-00100	DEFORMED REINFORCING STEEL MECHANICAL SPLICE (NO. 8 IN BENT)	EACH	48
810-01-00100	CONCRETE BRIDGE RAILING (STANDARD)	LNFT	80
810-01-00200	CONCRETE BRIDGE RAILING (SLOTTED)	LNFT	200
813-01-00100	CONCRETE APPROACH SLABS (CAST-IN-PLACE)	SQFT	1,240
814-01-00100	ELASTOMERIC BEARING PADS (NON-REINFORCED)	SFIN	171
815-03-00300	JOINT SEAL (POURED)	LNFT	240
NS-500-00240	SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALT CONCRETE OVERLAY	LNFT	180
NS-500-00260	SAWCUTS IN ASPHALT CONCRETE LIFTS	LNFT	300
NS-500-00340	SAW CUTTING ASPHALT CONCRETE PAVEMENT	INLF	3,046
NS-700-00810	IMPACT ATTENUATOR (CONSTRUCTION ZONE) (TEST LEVEL 3)	EACH	2

SHEET NUMBER 3c

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	2 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

SUMMARY OF ESTIMATED QUANTITIES

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

LEGEND - EXISTING TOPOGRAPHY

CONTROL POINT
TEMPORARY BENCH MARK
PHOTO TARGET
PAVEMENT EDGE
SHOULDER EDGE
SLOPE TOE
GUARDRAIL TOP
HIGH BANK
WATER'S EDGE
HIGH WATER MARK
BOX CULVERT
PIPE CULVERT
CATCH BASIN TOP (ROUND)
DROP INLET TOP (ROUND)
DRAINAGE MANHOLE TOP
LEVEE TOP
DITCH CENTERLINE
TREE
WOODS EDGE
MARSH LINE
SWAMP LINE
TREE CLUSTER
HEDGE
BUSH
TREE LINE
FENCE LINE
GATE
CATTLE GUARD
PROPERTY CORNER
RIGHT OF WAY MONUMENT
SECTION CORNER
FENCE CORNER
TELEVISION CABLE
TELEVISION PEDESTAL
POWER POLE
DEADMAN
POWER LINE
POWER JUNCTION BOX
POWER VAULT
TRANSFORMER
COMBINATION POLE
POWER DROP
PIPELINE
PIPELINE VENT
PIPELINE REGULATOR
GAS WELL
HAY BALES
SILT FENCE
INLET SILT TRAP

GAS LINE
GAS METER
GAS SERVICE (NO METER)
GAS REGULATOR
GAS RISER
GAS TEST BOX
GAS VALVE
GAS LINE/CASING
GAS VENT
RAILROAD MILEPOST
RAILROAD SIGNAL
RAILROAD SWITCH
RAILROAD TRACK
RR TRAFFIC SIGNAL BOX
SEWER LINE
SEWER MANHOLE TOP
SEWER BLOWOUT VALVE
SEWER CLEANOUT
SEPTIC TANK
SEWER PUMP (PRIVATE)
SEWER TREATMENT (INDIVIDUAL)
FEDERAL AID MARKER
TRAFFIC CONTROLLER BOX
TRAFFIC COUNTER
TRAFFIC SIGNAL
TRAFFIC SIGNAL SUPPORT POLE
LIGHT POLE
LIGHT PEDESTAL
LIGHT POWER VAULT
TRAFFIC SIGN
PARKING METER
TELEPHONE POLE
TELEPHONE LINE
TELEPHONE BOOTH
TELE CROSS CONNECT BOX
TELEPHONE PEDESTAL
TELEPHONE PRESSURE BOX
WATER LINE
WATER LINE/CASING
WATER CLEANOUT
WATER METER
WATER VALVE
WATER VALVE VAULT
WATER WELL
FIRE HYDRANT
BILLBOARD
FUEL PUMP
POST
SIGN POST
STORAGE TANK (ROUND)
GRAVE
MAILBOX
ORNAMENTAL LIGHT
FLAG POLE
BORING
SILT FENCE

LEGEND:

- REQ'D ASPHALT PAVEMENT
- REQ'D ASPHALT MILLING
- REQ'D BRIDGE STRUCTURE
- REQ'D RIP RAP
- REMOVAL OF ASPHALT PAVEMENT & BASE/DRAINAGE EXCAVATION
- EXISTING TO REMAIN
- REMOVAL OF WALKS & DRIVES
- REQ'D AGGREGATE DRIVE

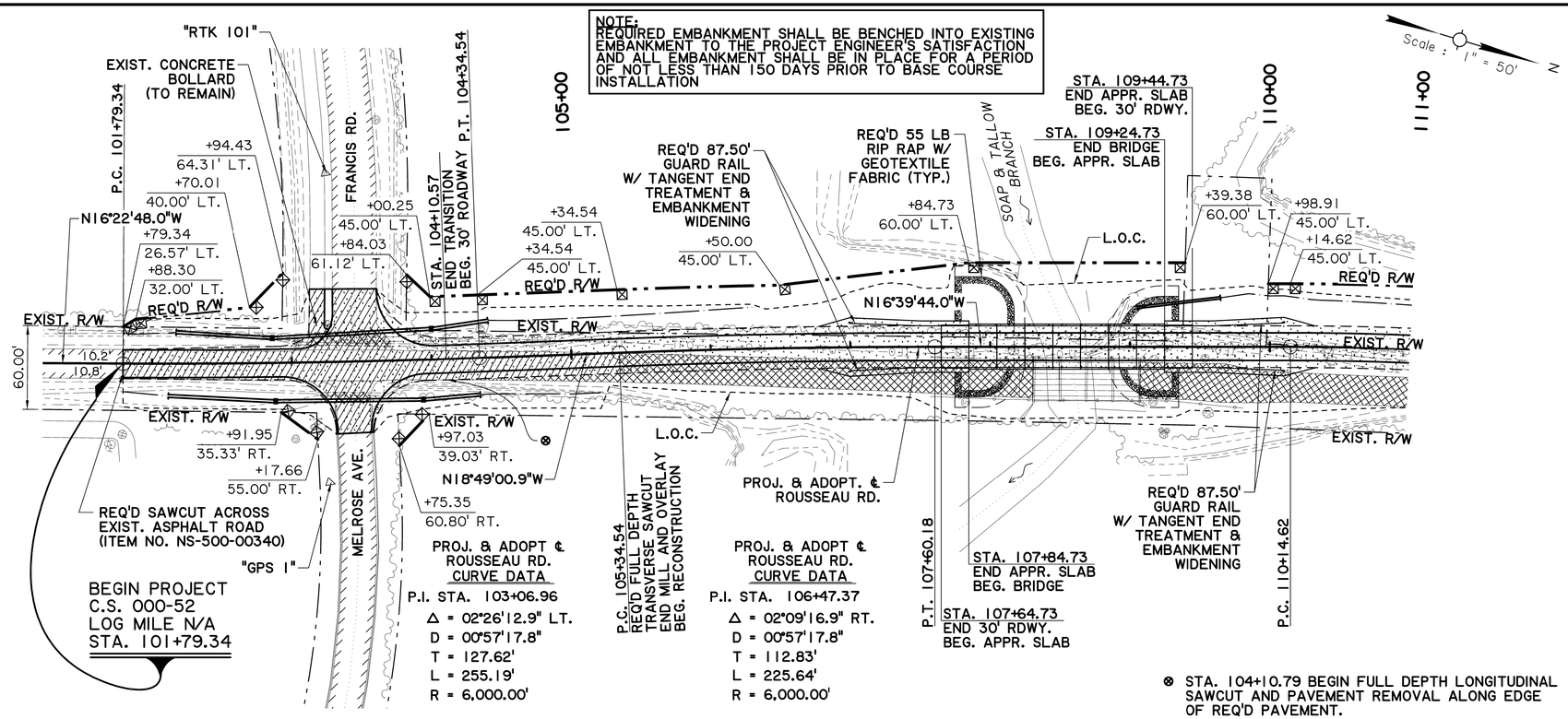
NOTES:

1. ALL AREAS OF BRIDGE EMBANKMENT SLOPE AND ANY DISTURBED AREAS NOT RECEIVING REVETMENT TO BE SEEDED AND FERTILIZED.
2. REMOVAL OF EXISTING SIGNS TO BE INCLUDED IN REMOVAL OF STRUCTURES AND OBSTRUCTIONS (ITEM NO. 202-01-00100). REMOVAL OF EXISTING GUARD RAIL TO BE INCLUDED IN REMOVAL OF GUARD RAIL (ITEM NO. 202-02-14500). REMOVAL OF EXISTING PIPES TO BE INCLUDED IN REMOVAL OF PIPE (SIDE DRAIN) (ITEM NO. 202-02-32120).
3. UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. ALL KNOWN OVERHEAD POWER LINES AND OTHER UTILITIES WITHIN PROJECT LIMITS ARE LISTED BELOW. HOWEVER, ADDITIONAL UTILITIES MAY BE PRESENT. ALL CONFLICTING UTILITIES SHOULD BE RELOCATED PRIOR TO CONSTRUCTION.
4. 12" THICK ASPHALT PATCH REQ'D ATOP ALL REQUIRED CROSS DRAINS AND AT EXISTING CROSS DRAIN REMOVAL LOCATIONS. SEE TYPICAL SECTIONS & DETAILS FOR ADDITIONAL PATCHING DETAILS.

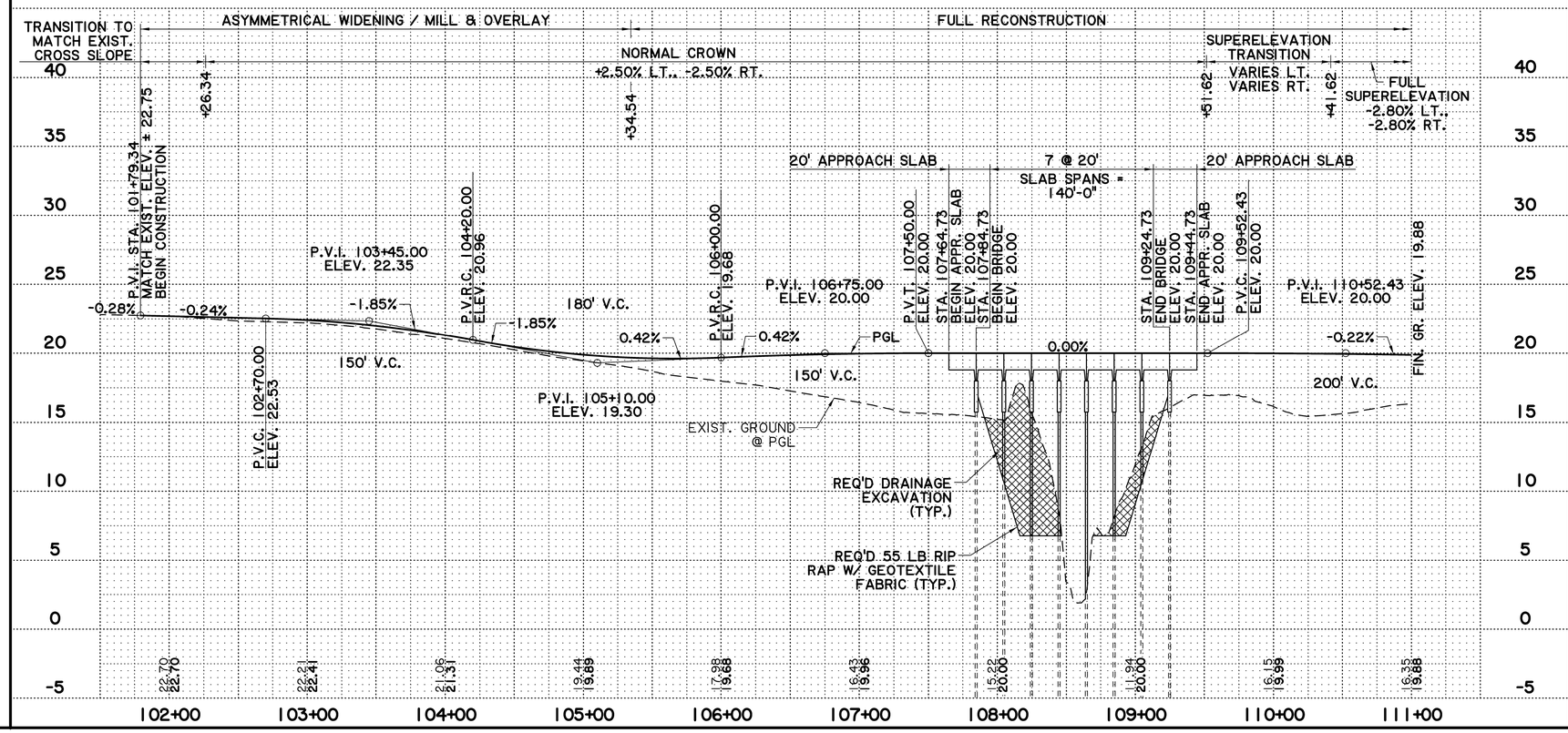
UTILITY	UTILITY OWNER	CONTACT NUMBER
TELEPHONE	AT&T DISTRIBUTION	(985) 327-6432
CABLE	SPECTRUM	(985) 200-1770

NOTE:
REQUIRED EMBANKMENT SHALL BE BENCHED INTO EXISTING EMBANKMENT TO THE PROJECT ENGINEER'S SATISFACTION AND ALL EMBANKMENT SHALL BE IN PLACE FOR A PERIOD OF NOT LESS THAN 150 DAYS PRIOR TO BASE COURSE INSTALLATION

Scale : 1" = 50'



⊗ STA. 104+10.79 BEGIN FULL DEPTH LONGITUDINAL SAWCUT AND PAVEMENT REMOVAL ALONG EDGE OF REQ'D PAVEMENT.



SHEET NUMBER	4
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220001181
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	1 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PLAN AND PROFILE

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

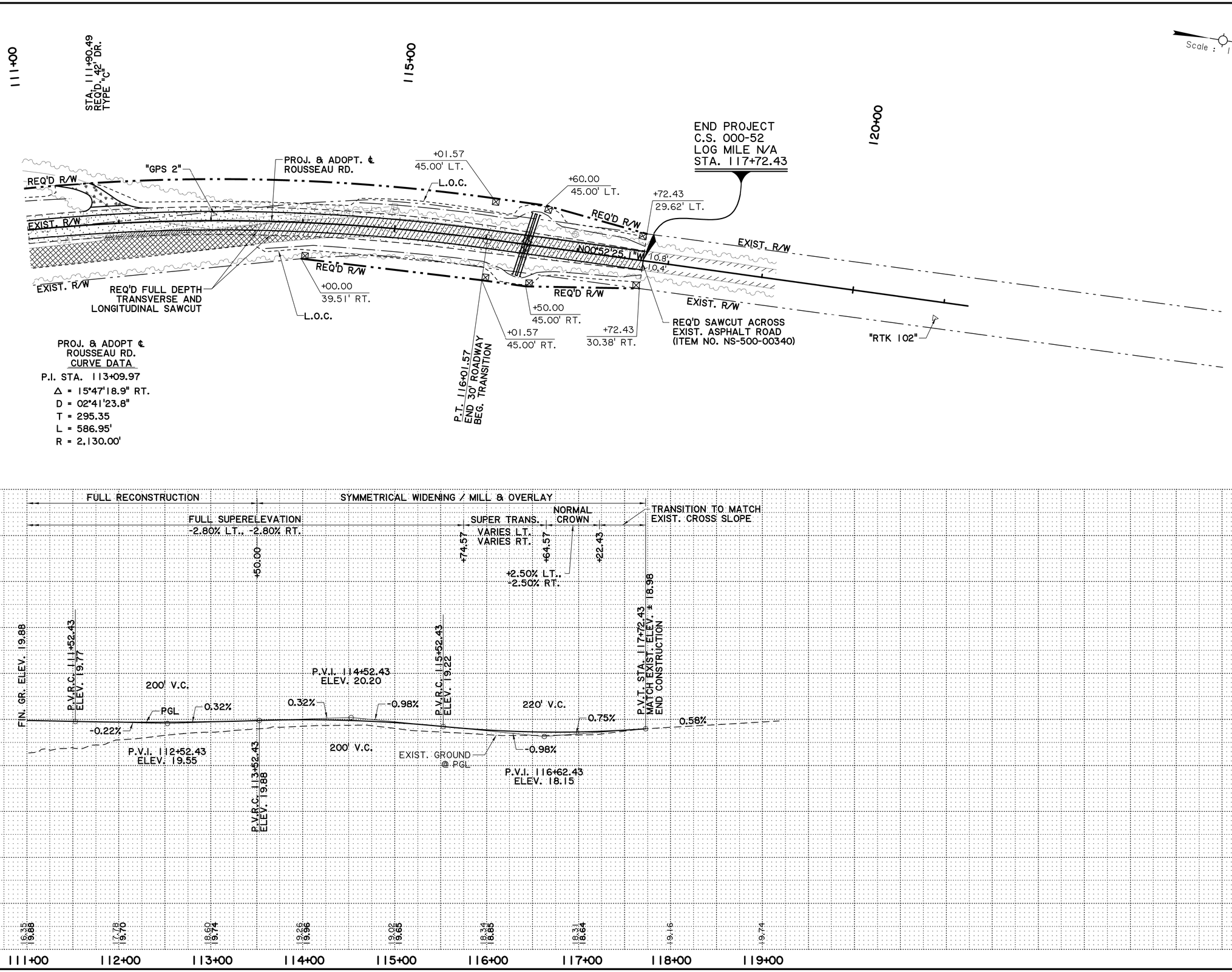
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS

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SHEET NUMBER	5
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220000181
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	2 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
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CIVIL ENGINEERING
10/6/2025

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PLAN AND PROFILE

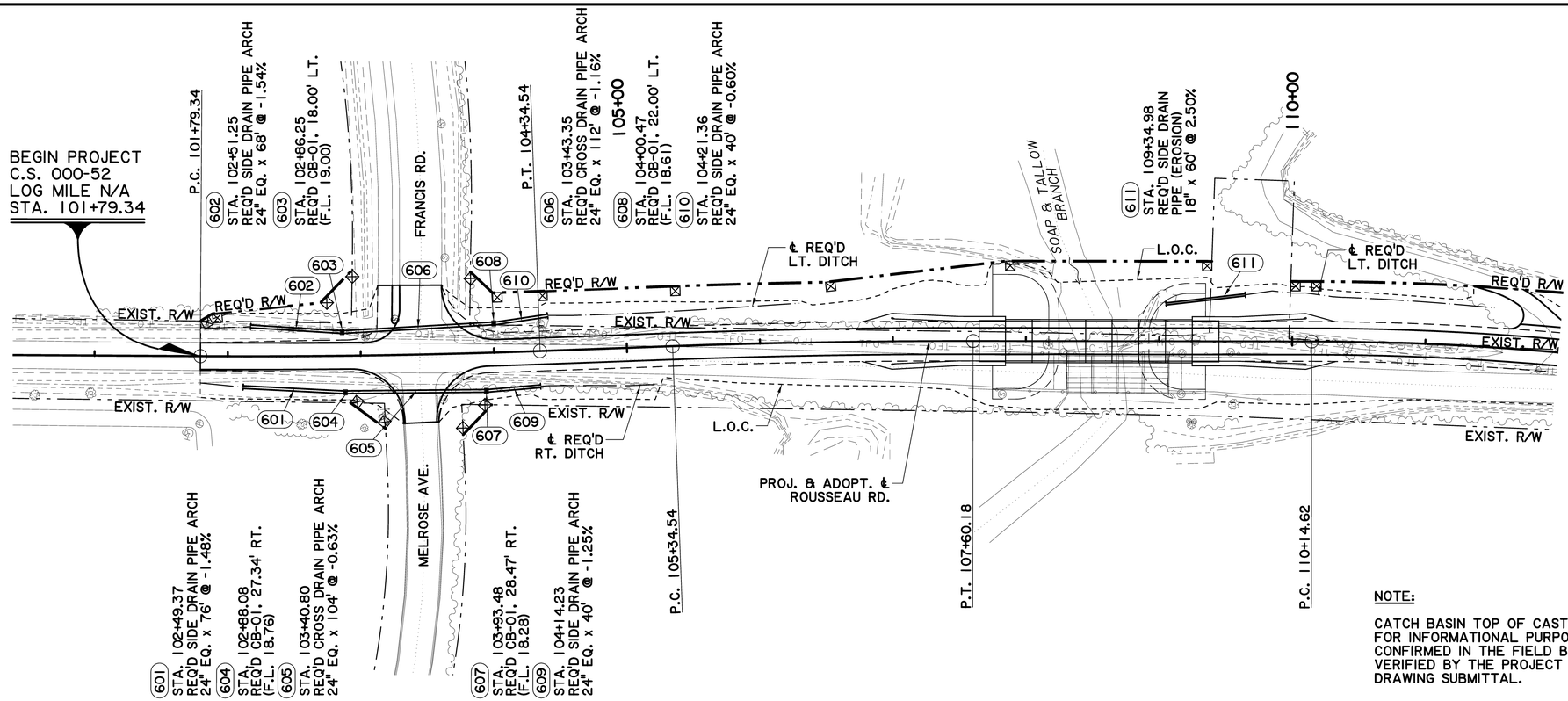
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

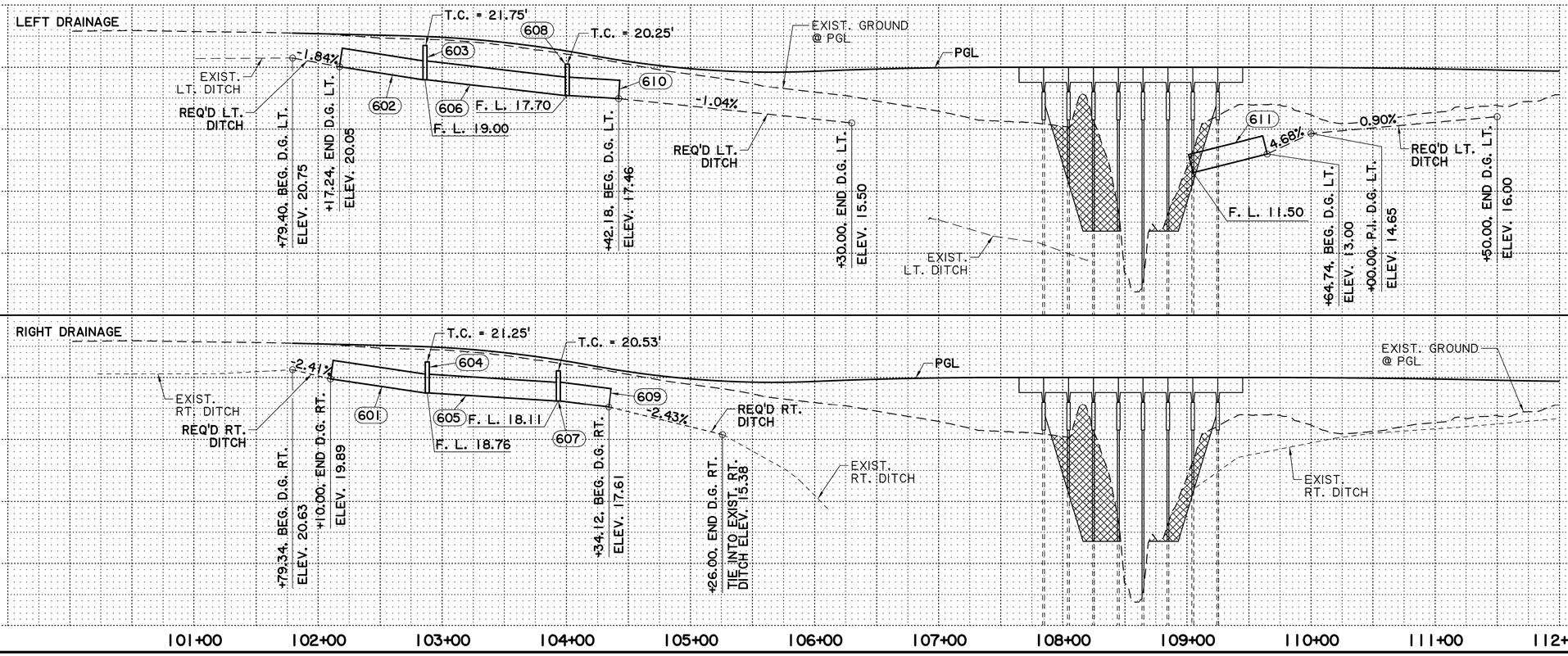
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS

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NOTE:

CATCH BASIN TOP OF CASTING ELEVATIONS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY, AND ARE TO BE CONFIRMED IN THE FIELD BY THE CONTRACTOR AND VERIFIED BY THE PROJECT ENGINEER PRIOR TO SHOP DRAWING SUBMITTAL.

SHEET NUMBER	6
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220000181
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	1 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

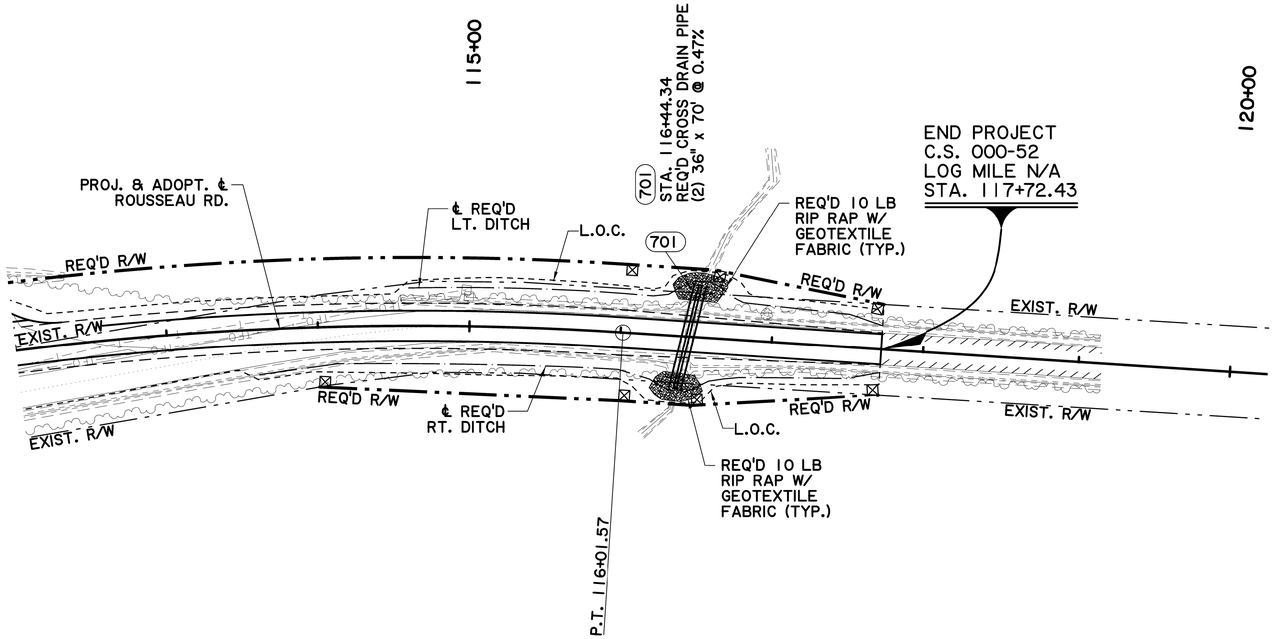
DRAINAGE PLAN & PROFILE

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

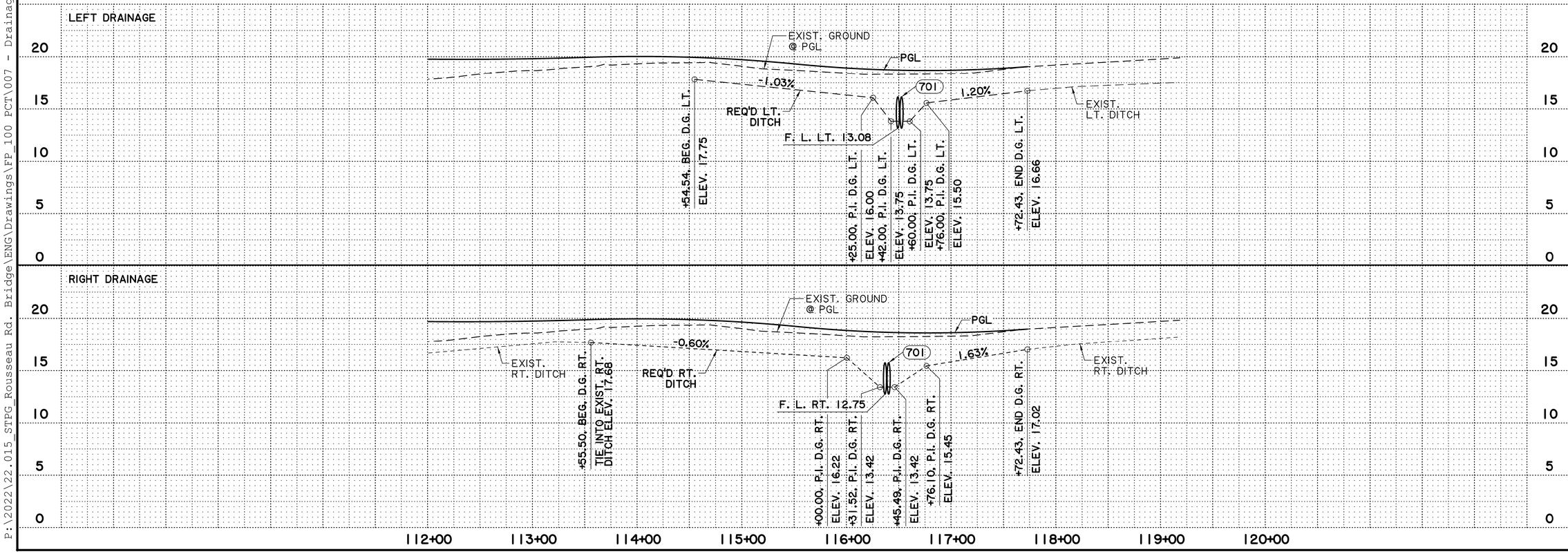
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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Scale : 1" = 50'



SHEET NUMBER	7
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220001181
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	2 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

DRAINAGE PLAN & PROFILE

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_100 PCT\008 - TBM.dgn
10/6/2025 20:2

"RTK 101"
3" ALUMINUM DISK ON A
¾" IRON ROD, SET IN CONC.
STA. 103+27.47, 135.14' LT.
ELEV. 21.85' (NAVD 88)
N: 719163.40
E: 3654193.91

BEGIN PROJECT
C.S. 000-52
LOG MILE N/A
STA. 101+79.34

52.18'
STREET SIGN
"RTK 101"
109.19'
108.38'
PIPE BOLLARD
STREET SIGN

P.C. 101+79.34
P.T. 104+34.54
105+00
105+00

SURV. & ABAND. ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA. 105+19.65
Δ = 01°34'33.7" RT.
D = 00°46'57.1"
T = 100.71'
L = 201.40'
R = 7,321.90'

PROJ. & ADOPT ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA. 106+47.37
Δ = 02°09'16.9" RT.
D = 00°57'17.8"
T = 112.83'
L = 225.64'
R = 6,000.00'

P.I. 108+20.94
110+00
110+00
P.I. 110+77.60
111+00

Scale : 1" = 50'
N

SURVEYED ℄ ROUSSEAU RD.
N16°22'48.0"W
N: 719063.11
E: 3654366.11
N18°49'00.9"W
PROJ. & ADOPT. ℄ ROUSSEAU RD.
N16°39'44.0"W
N16°32'33.5"W
N13°48'23.8"W
SURV. & ABAND. ℄ ROUSSEAU RD.
N14°48'14.3"W
MATCHLINE STA. 111+00.00

FIRE HYDRANT
WATER VALVE
41.94'
40.32'
"GPS 1"
N16°22'48.0"W
"GPS 1"
"TBM 10"

"GPS 1"
3" ALUMINUM DISK ON A
¾" IRON ROD, SET IN CONC.
STA. 103+26.43, 86.37' RT.
ELEV. 21.64' (NAVD 88)
N: 719230.09
E: 3654405.15
203.07'
METAL STREETLIGHT

PROJ. & ADOPT ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA. 103+06.96
Δ = 02°26'12.9" LT.
D = 00°57'17.8"
T = 127.62'
L = 255.19'
R = 6,000.00'

P.C. 104+18.94
P.C. 105+34.54
P.T. 106+20.35
P.T. 107+60.18
P.I. 109+16.76
P.C. 110+14.62

"TBM 10"
1/2" IRON ROD WITH CAP
NORTHEAST CORNER OF BRIDGE
ELEV. 17.47' (NAVD 88)

111+00
METAL MAILBOX
112.54'
"GPS 2"
EDGE OF ROAD
19.70'
119.23'
WOOD MAILBOX
115+00
115+00

"GPS 2"
3" ALUMINUM DISK ON A
¾" IRON ROD, SET IN CONC.
STA. 113+03.56, 7.29' LT.
ELEV. 18.39' (NAVD 88)
N: 720140.10
E: 3654043.96

Scale : 1" = 50'
N

END PROJECT
C.S. 000-52
LOG MILE N/A
STA. 117+72.43
120+00
120+00

MATCHLINE STA. 111+00.00
PROJ. & ADOPT. ℄ ROUSSEAU RD.
"GPS 2"
N00°52'24.7"W
N14°49'02.8"W
N00°52'25.1"W
SURV. & ABAND. ℄ ROUSSEAU RD.
N: 720608.76
E: 3654023.21
SURVEYED ℄ ROUSSEAU RD.
"RTK 102"

PROJ. & ADOPT ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA. 113+09.97
Δ = 15°47'18.9" RT.
D = 02°41'23.8"
T = 295.35'
L = 586.95'
R = 2,130.00'

P.C. 113+73.72
P.T. 115+59.93
P.T. 116+01.57

SURV. & ABAND. ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA. 114+67.29
Δ = 13°56'38.1" RT.
D = 07°29'18.3"
T = 93.57'
L = 186.21'
R = 765.13'

"RTK 102"
3" ALUMINUM DISK ON A
¾" IRON ROD, SET IN CONC.
STA. 120+93.15, 18.15' RT.
ELEV. 21.18' (NAVD 88)
N: 720932.68
E: 3654036.42

EDGE OF ROAD
EDGE OF ROAD
10.85'
305.23'
TELEPHONE BOX
10.06'
"RTK 102"

SHEET NUMBER 8

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 1

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

REFERENCE POINTS & BENCH MARK LOCATIONS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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SUMMARY OF DRAINAGE STRUCTURES

STRUCTURE NUMBER	STATION	SIDE CL	REMARKS	PLAN	TYPE	① CROSS DRAIN PIPE (TYPE 3 JOINTS)	② CROSS DRAIN PIPE ARCH (TYPE 3 JOINTS)	③ SIDE DRAIN PIPE (EROSION) (TYPE 1 JOINTS)	② SIDE DRAIN PIPE ARCH (TYPE 1 JOINTS)	CATCH BASINS	BEDDING △ MATERIAL
						36"	24"	18"	24"	CB-01	
						LNFT	LNFT	LNFT	LNFT	EACH	CUYD
601	102+49.37	LT.	REQ'D SIDE DRAIN PIPE ARCH 24" EQ. x 76'		S.D.A.	-	-	-	76	-	8.3
602	102+51.25	RT.	REQ'D SIDE DRAIN PIPE ARCH 24" EQ. x 68'		S.D.A.	-	-	-	68	-	7.4
603	102+86.25	LT.	CATCH BASIN (TYPE "C" GRATE)	CB-01	C.B.	-	-	-	-	1	0.8
604	102+88.08	RT.	CATCH BASIN (TYPE "C" GRATE)	CB-01	C.B.	-	-	-	-	1	0.8
605	103+40.80	RT.	REQ'D CROSS DRAIN PIPE ARCH 24" EQ. x 104'		C.D.A.	-	104	-	-	-	22.6
606	103+43.35	LT.	REQ'D CROSS DRAIN PIPE ARCH 24" EQ. x 112'		C.D.A.	-	112	-	-	-	24.4
607	103+93.48	RT.	CATCH BASIN (TYPE "C" GRATE)	CB-01	C.B.	-	-	-	-	1	0.8
608	104+00.47	LT.	CATCH BASIN (TYPE "C" GRATE)	CB-01	C.B.	-	-	-	-	1	0.8
609	104+14.23	RT.	REQ'D SIDE DRAIN PIPE ARCH 24" EQ. x 40'		S.D.A.	-	-	-	40	-	4.4
610	104+21.36	LT.	REQ'D SIDE DRAIN PIPE ARCH 24" EQ. x 40'		S.D.A.	-	-	-	40	-	4.4
611	109+44.97	LT.	REQ'D SIDE DRAIN PIPE (EROSION) 18" x 60'		S.D.	-	-	60	-	-	5.6
701	116+44.34	LT./RT.	REQ'D CROSS DRAIN PIPE (2) 36" x 70'		C.D.	140	-	-	-	-	61.3
					TOTALS	**140**	**216**	**60**	**224**	**4**	**141.6**

MATERIAL ABBREVIATIONS & DEFINITIONS

RCP(A) - REINFORCED CONCRETE PIPE (ARCH)
CMP(A) - CORRUGATED METAL PIPE (ARCH)
RPVCP - RIBBED POLYVINYL CHLORIDE PIPE

TYPE APPLICATION ABBREVIATIONS & DEFINITIONS

CB - CATCH BASIN
CD(A) - CROSS DRAIN (ARCH)
SD(A) - SIDE DRAIN PIPE (ARCH)

FILL HEIGHT AND COVER REQUIREMENTS

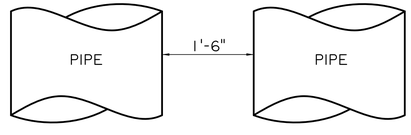
1. THE MIN. COVER FOR ALL PLASTIC TYPES AND SIZES IS 12".
2. MIN. COVER IS MEASURED FROM TOP OF PIPE TO THE TOP OF THE SUBGRADE. MIN. COVER IS ADEQUATE FOR H-20 LOADING WHEN PAVEMENT IS IN PLACE. DURING CONSTRUCTION, WHEN HEAVY LOADS MAY BE DRIVEN OVER OR CLOSE TO BURIED STRUCTURE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL COVER NEEDED TO PROTECT THE PIPE.
3. MAX. FILL HEIGHT IS MEASURED FROM TOP OF PIPE TO TOP OF SURFACING.
4. MAX. FILL HEIGHT FOR THE FOLLOWING PLASTIC TYPES IS:
   a.) RPVCP - MAX. FILL HEIGHT FOR 12"-48" SIZED PIPE = 15'

① ALLOWABLE MATERIALS INCLUDE: RCP, RPVCP

② ALLOWABLE MATERIALS INCLUDE: RCPA (ONLY)

③ ALLOWABLE MATERIALS INCLUDE: RPVCP

△ BEDDING MATERIAL THICKNESS = 6" FOR SIDE DRAIN PIPES AND 12" FOR CROSS DRAIN PIPES



BARREL SPACING FOR MULTIPLE PIPES
(N.T.S.)

SHEET NUMBER 9

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001811

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 1

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

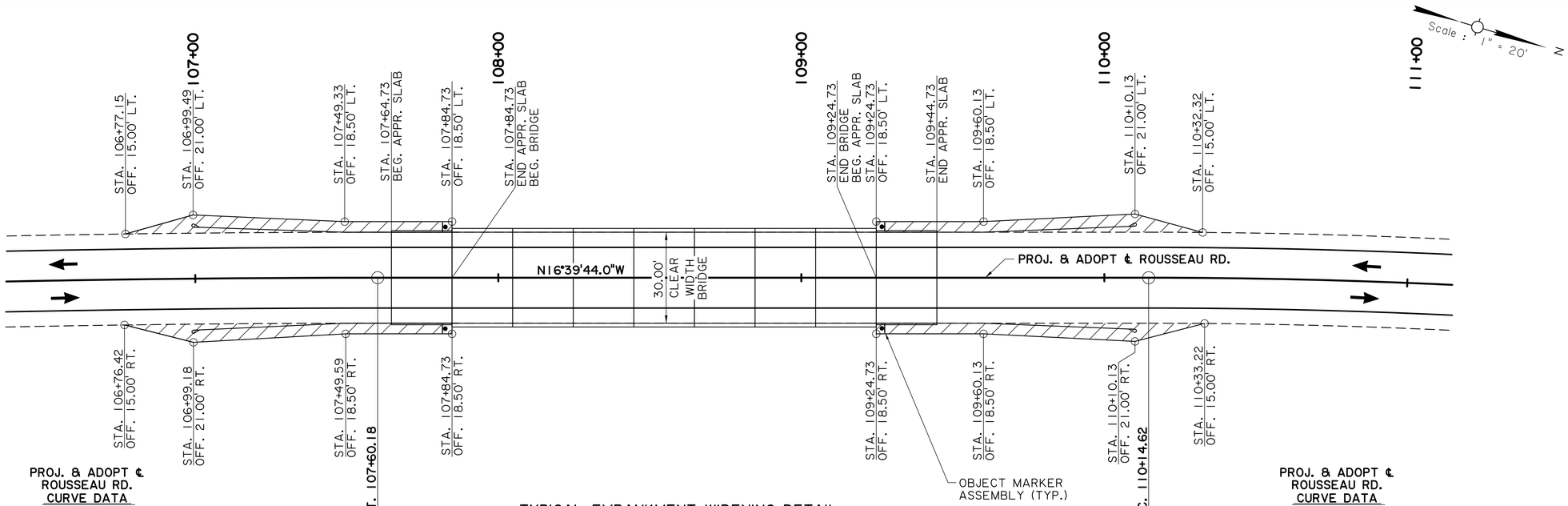
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

SUMMARY OF DRAINAGE STRUCTURES

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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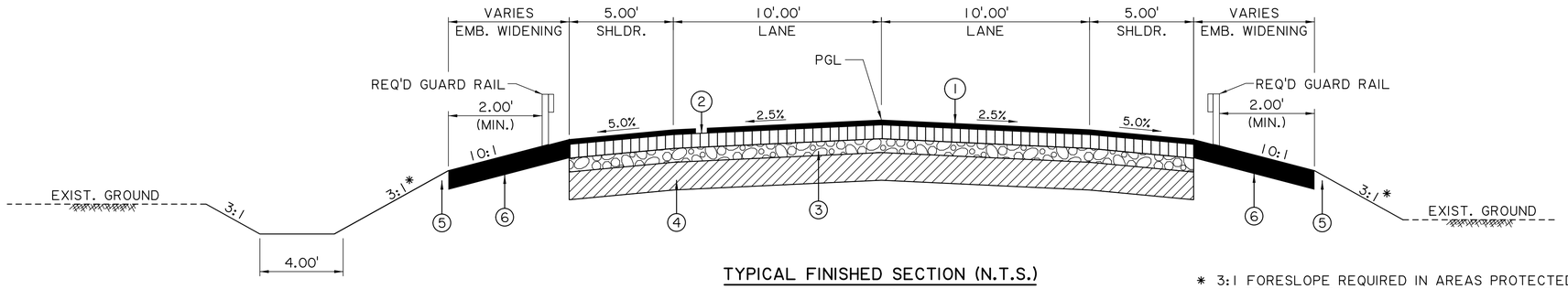


PROJ. & ADOPT ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA. 106+47.37
Δ = 02°09'16.9" RT.
D = 00°57'17.8"
T = 112.83'
L = 225.64'
R = 6,000.00'

TYPICAL EMBANKMENT WIDENING DETAIL
1" = 20'

REQ'D EMBANKMENT WIDENING

PROJ. & ADOPT ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA. 113+09.97
Δ = 15°47'18.9" RT.
D = 02°41'23.8"
T = 295.35'
L = 589.95'
R = 2130.00'

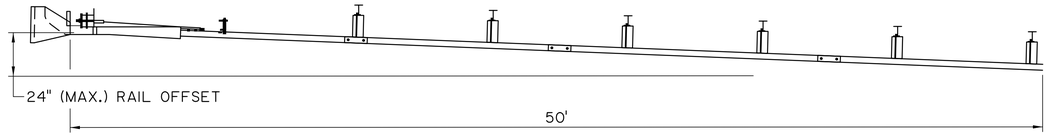


TYPICAL FINISHED SECTION (N.T.S.)
N.T.S.

* 3:1 FORESLOPE REQUIRED IN AREAS PROTECTED BY THE GUARDRAIL. FORESLOPE SHALL TRANSITION FROM 3:1 TO 4:1 OVER A LENGTH OF 10' PRIOR TO THE BEGINNING OF THE UNPROTECTED AREA.

LEGEND

1. 1.5" THICK ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2)
2. 4.0" THICK ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2)
3. 4.0" CLASS II BASE COURSE (STONE ONLY)
4. 8.0" SUBGRADE LAYER (TREATED) (INCLUDED IN ITEM 305-01-02020)
5. EMBANKMENT
6. 5.5" THICK ASPHALT CONCRETE (LEVEL A)



GUARD RAIL TANGENT END TREATMENT OFFSET DETAIL
N.T.S.

NOTE:

GUARD RAIL TRANSITIONS AND BLOCKED OUT GUARD RAILTO BE INSTALLED PARALLEL TO THE ROADWAY FOR ALL BRIDGE SIDES. END TREATMENT SHALL BE OFFSET AS PER MANUFACTURER'S STANDARDS TO ENSURE THE GUARD RAIL IS OUTSIDE OF THE EDGE OF PAVED SHOULDER THROUGHOUT THE HORIZONTAL CURVE.

SHEET NUMBER	10
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220000181

DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	1 OF 1

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

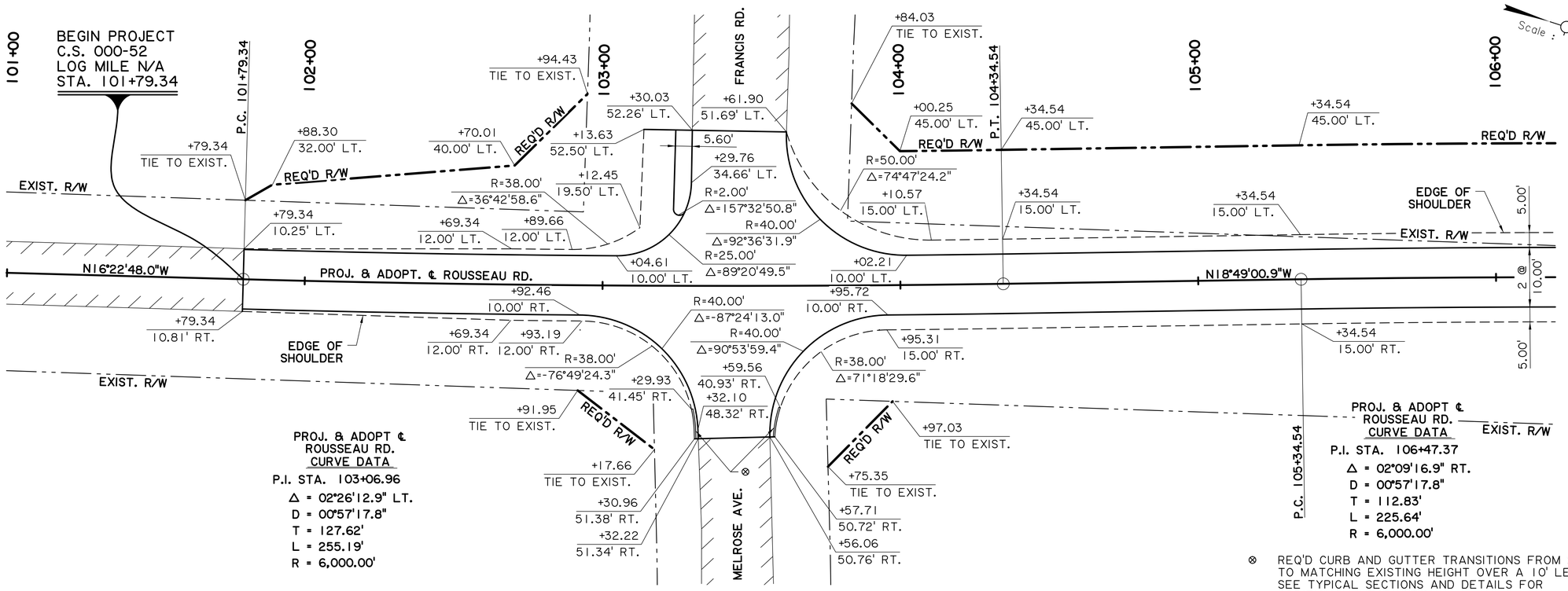
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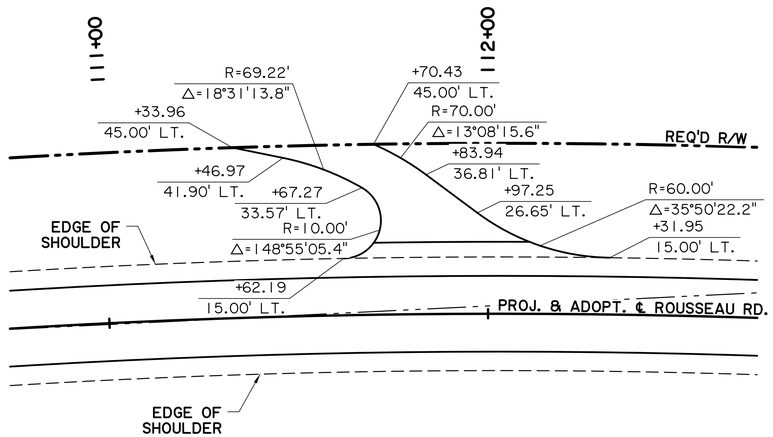
EMBANKMENT WIDENING DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC





FINAL PLANS
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SHEET NUMBER 11
PARISH: ST. TAMMANY
CONTROL SECTION: 000-52
PARISH PROJECT: EN220000181
DESIGN: A. FALCON
CHECK: P. OLIVIER
DETAIL: L. BOURG
CHECK: P. OLIVIER
REVIEW: D. HYMEL
SERIES #: 1 OF 1

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

GEOMETRIC DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

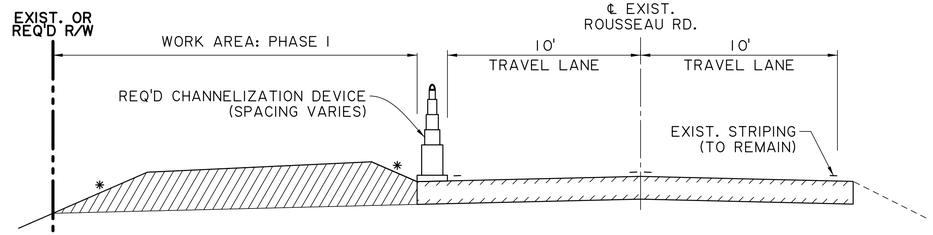
FINAL PLANS
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GENERAL NOTES:

1. THIS IS A SUGGESTED SEQUENCE OF CONSTRUCTION ONLY. CONTRACTOR SHALL SUBMIT THEIR SEQUENCE OF CONSTRUCTION TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR, AT NO ADDITIONAL COST, ANY CHANGES MADE WHICH WILL REQUIRE ADDITIONAL TEMPORARY SIGNS AND BARRICADES.
2. MINIMUM CONSTRUCTION SIGNING IS SHOWN, ANY ADDITIONAL SIGNS SHOWN IN THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DOTD TRAFFIC CONTROL SPECIAL DETAILS, OR REQUIRED BY THE PROJECT ENGINEER, SHALL BE INCLUDED IN ITEM NO. 713-01-00100.
3. THE CONTRACTOR MUST MAINTAIN ADEQUATE DRAINAGE OF THE PROJECT SITE THROUGHOUT THE ENTIRE DURATION OF CONSTRUCTION.
4. ANY EXISTING STRIPING AND SIGNING THAT CONFLICTS WITH CONSTRUCTION STRIPING AND SIGNING SHALL BE REMOVED OR COVERED.
5. TEMPORARY PAVEMENT MARKINGS (STRIPING AND RPMS) USED DURING CONSTRUCTION OF PHASE II SHALL BE CONSIDERED LONG TERM AND SHALL ADHERE TO SECTION 713.07 OF THE SPECIFICATIONS. PAYMENT TO BE INCLUDED IN ITEM NO. 713-01-00100 (LUMP). CONTRACTOR IS RESPONSIBLE FOR REPLACING RPMS THROUGHOUT THE DURATION OF CONSTRUCTION AT NO ADDITIONAL COST.
6. CONTRACTOR SHALL PIN TEMPORARY CONCRETE BARRIERS TO PAVEMENT OR BRIDGE DECK AS SHOWN ON THE TEMPORARY PRECAST BARRIER SPECIAL DETAILS. TEMPORARY PRECAST BARRIERS SHALL BE INSTALLED ON THE PORTION OF BRIDGE AND ROADWAY CONSTRUCTED DURING PHASE I AS SHOWN ON THE PLANS. TEMPORARY BARRIERS SHALL TRANSITION AT A FLARE RATE OF 15:1 ON EITHER SIDE OF THE BRIDGE FOR A TOTAL LENGTH OF 60' BEYOND THE BRIDGE. AN IMPACT ATTENUATOR IS REQUIRED AT BOTH ENDS OF THE TEMPORARY BARRIERS.
7. IF TEMPORARY LANE CLOSURES ARE REQUIRED FOR ANY PAVEMENT CONSTRUCTION ACTIVITIES, THEY SHALL ONLY BE CLOSED DURING DAY TIME WORK HOURS. CONTRACTOR SHALL PERFORM FLAGGING OPERATION DURING TEMPORARY LANE CLOSURES AND INSTALLATION OF TEMPORARY SHEETING AS NEEDED. SEE TEMPORARY TRAFFIC CONTROL DETAIL SHEETS TTC-03 AND TTC-04 FOR ADDITIONAL INFORMATION.
8. CONTRACTOR MUST MAINTAIN ACCESS TO DRIVEWAYS & INTERSECTIONS AT ALL TIMES DURING CONSTRUCTION UTILIZING TRAFFIC MAINTENANCE SURFACING (AGGREGATE) AS NEEDED.
9. TEMPORARY ASPHALT PAVEMENT SHALL BE INSTALLED AS NEEDED (APPROX. STA. 104+00 TO STA. 105+40 AND STA. 113+85 TO STA. 115+00) TO TRANSITION TRAFFIC FROM THE EXISTING ROADWAY TO THE TOP OF BINDER COURSE INSTALLED DURING PHASE I. ASPHALT THICKNESS WILL VARY ATOP EXISTING PAVEMENT BUT SHALL MAINTAIN A MINIMUM THICKNESS OF 6". FINISHED GRADE OF THE ASPHALT SHALL TRANSITION VERTICALLY FROM EXISTING FINISHED GRADE TO THE TOP OF THE PROPOSED BINDER COURSE.

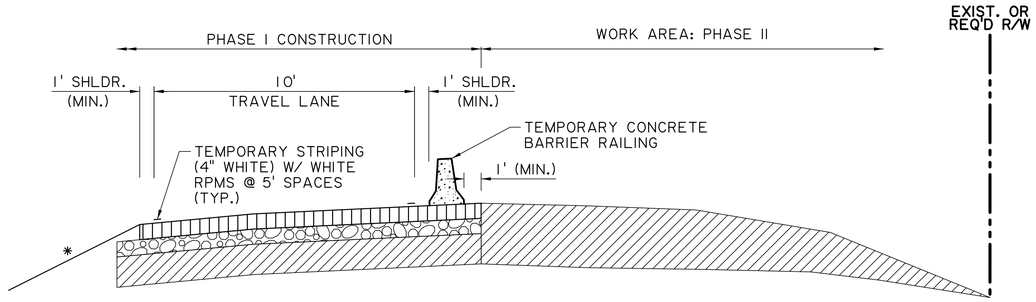
TEMPORARY SIGNAL NOTES:

1. ALL EDGE LINES, LANE LINES AND CENTERLINES SHALL BE MARKED WITH THE APPROPRIATE COLOR MARKINGS. ALL MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION BY THE CONTRACTOR AND SHALL BE REFURBISHED WHEN NEEDED OR WHEN REQUESTED BY THE PROJECT ENGINEER.
2. STOP LINES SHALL BE INSTALLED WITH THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT FOR INTERMEDIATE AND LONG-TERM CLOSURES. EXISTING CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS IN THE ACTIVITY AREA BETWEEN THE STOP LINES SHALL BE REMOVED. AFTER THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS ARE REMOVED, THE STOP LINES SHALL BE REMOVED.
3. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT EQUIPMENT FOR THE DURATION OF THE JOB AS NEEDED TO MAINTAIN A SINGLE LANE OF TRAVEL.
4. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AT LEAST 48 HOURS PRIOR TO THE USE OF THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS. A QUALIFIED VENDOR REPRESENTATIVE SHALL BE ON SITE TO PERFORM THE INITIAL SET UP AND ENTER THE TIMING PARAMETERS. TIMING APPROVAL AND VERIFICATION SHALL BE PERFORMED BY THE CONTRACTOR AND VENDOR.
5. ALL PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC SIGNALS ACCORDING TO PART 4 OF THE MUTCD (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES), SHALL BE WIRELESSLY INTERCONNECTED, HAVE VIDEO DETECTION, AND SHALL BE INSTALLED IN THE POSITION SHOWN ON PLANS.
6. PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS TO BE INCLUDED IN PAY ITEM 713-01-00100.
7. THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT CONTROLLERS SHALL BE PROGRAMMED TO OPERATE BASED ON THE LOCATION SHOWN IN THE PLANS.
8. THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT SHALL INCLUDE A SOLID STATE DIGITAL TRAFFIC SIGNAL CONTROLLER CAPABLE OF OPERATION IN ACCORDANCE WITH THE MUTCD REQUIREMENTS AND NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION) STANDARDS TSI (A CERTIFICATE OF COMPLIANCE MAY BE REQUIRED), ALL PORTABLE TEMPORARY TRAFFIC SIGNAL SYSTEMS SHALL HAVE A CONFLICT MONITOR THAT CONFORMS TO NEMA TSI STANDARDS. THE CONFLICT MONITOR SHALL DETECT THE PRESENCE OF CONFLICTING SIGNAL INDICATIONS, THE ABSENCE OF PROPER VOLTAGES, AND THE PROPER OPERATION OF THE CONTROLLER.
9. PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS SHALL BE DEPLOYED AND ACTIVATED PRIOR TO THE START OF PHASE II.
10. IN THE EVENT OF A PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT MALFUNCTION OR A CONTINUOUS RED FLASH MODE, THE CONTRACTOR SHALL HAVE FLAGGERS PERFORM FLAGGING OPERATIONS ON A 24-HOUR, 7 DAY A WEEK BASIS UNTIL REPAIRS ARE MADE AND THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS ARE FULLY FUNCTIONAL, INCLUDED IN 713-01-00100.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE MOVEMENT AND TIMING ADJUSTMENTS FOR THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO ANY CHANGES BEING MADE RELATED TO THE MOVEMENT AND TIMING ADJUSTMENTS FOR THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNITS' HARDWARE (INCLUDING BUT NOT LIMITED TO THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT ITSELF, STOP BARS, AND SIGNS) SHALL MEET THE MUTCD REQUIREMENTS THROUGH PROJECT CONSTRUCTION.
13. THE SIGNAL HEADS FOR THE PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT ARE TO BE MOUNTED OVERHEAD OF THE LANE THEY ARE SERVICING.

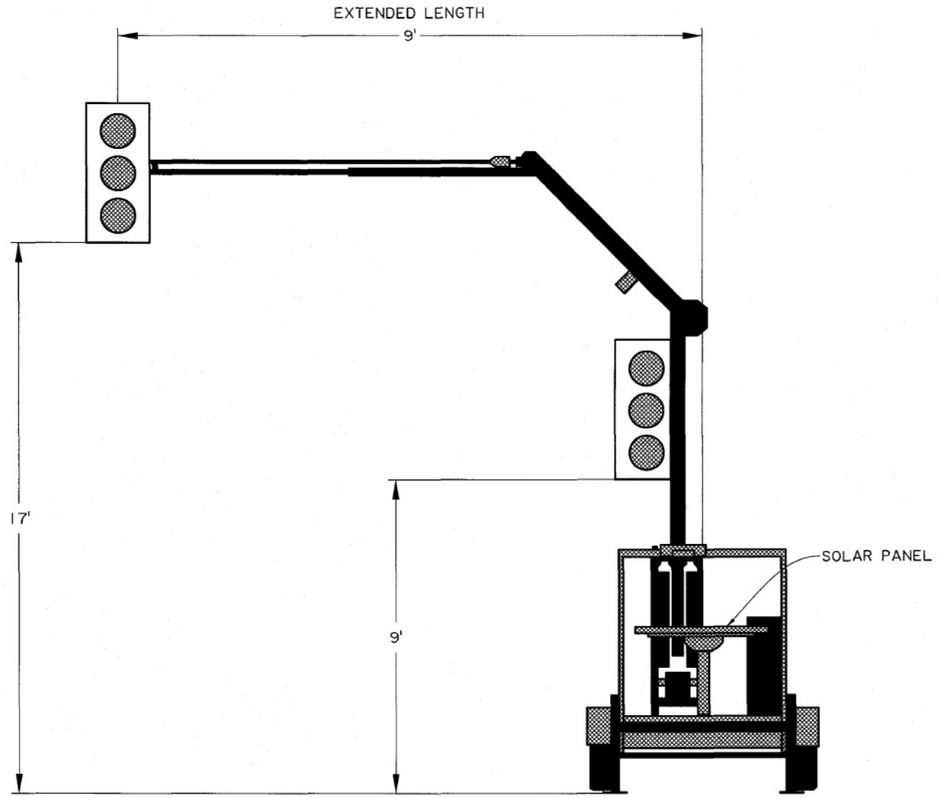


* 3:1 MAXIMUM

TYPICAL SECTION: PHASE I
(N.T.S)



TYPICAL SECTION: PHASE II
(N.T.S)



OPERATIONAL FRONT VIEW OF PORTABLE TEMPORARY TRAFFIC SIGNAL UNIT
N.T.S

SHEET NUMBER 12

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001811

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 3

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

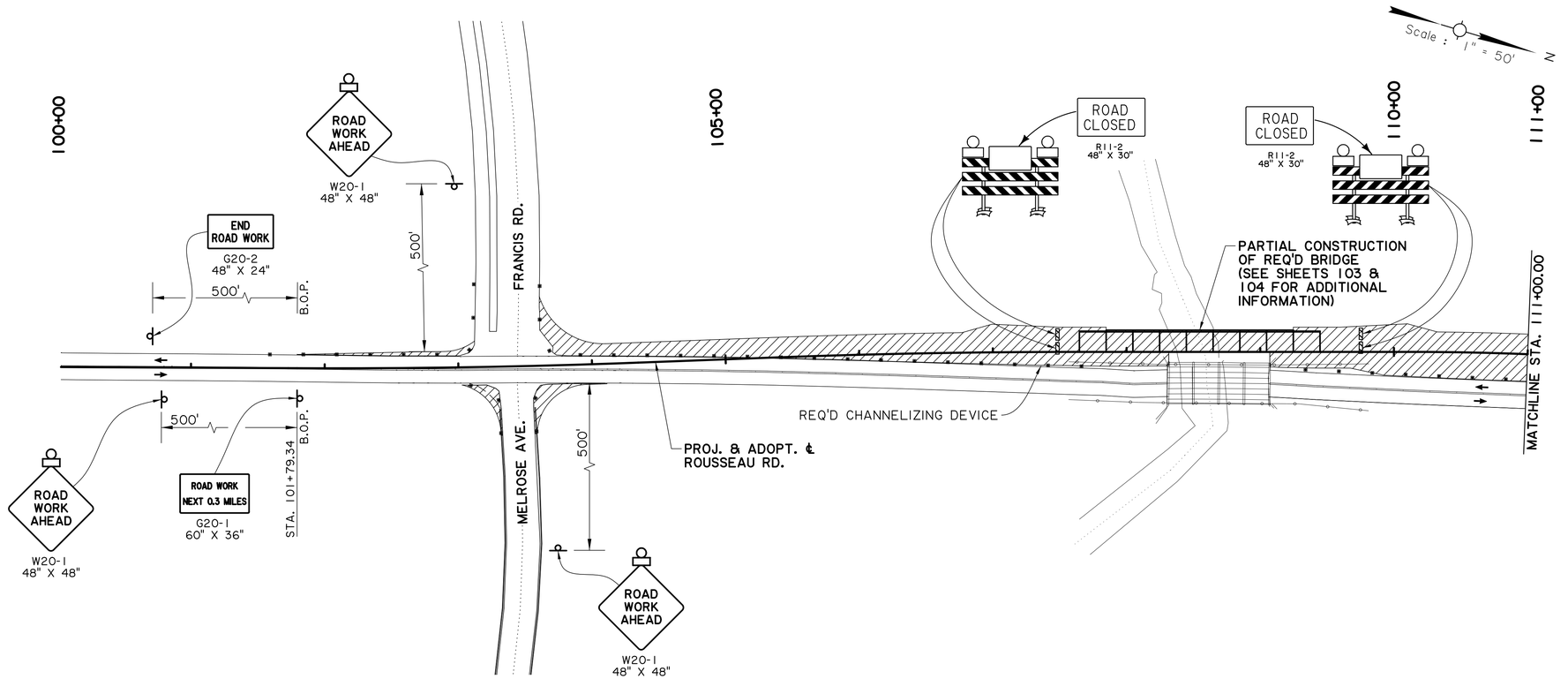
SUGGESTED SEQUENCE OF CONSTRUCTION

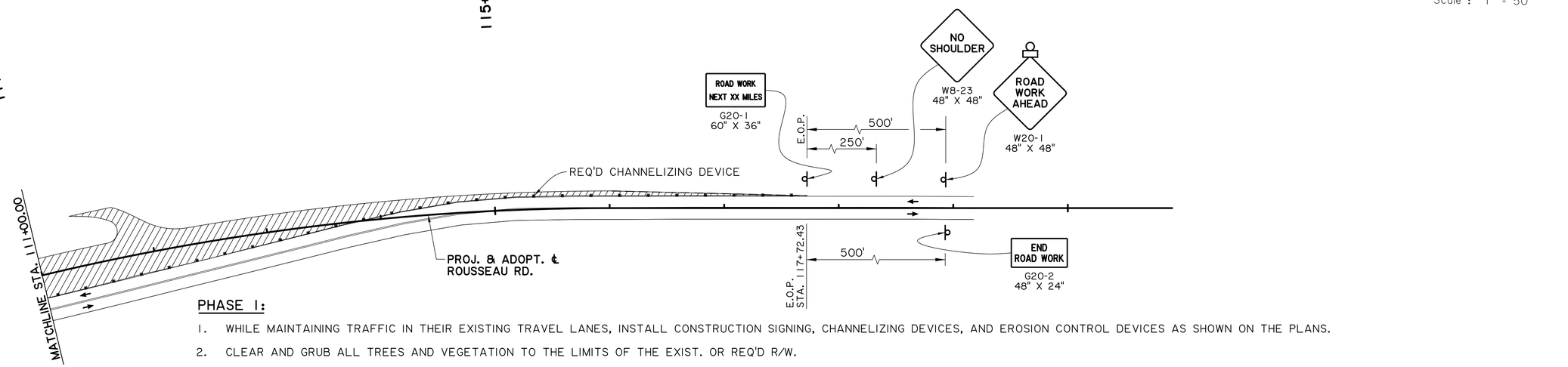
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC

LEGEND:

- TRAFFIC SIGN
- TYPE III BARRICADE
- TEMPORARY CONCRETE BARRIER
- TEMPORARY TRAFFIC SIGNAL
- CONSTRUCTION THIS PHASE
- CHANNELIZING DEVICE
- TYPE "B" LIGHT





PHASE 1:

1. WHILE MAINTAINING TRAFFIC IN THEIR EXISTING TRAVEL LANES, INSTALL CONSTRUCTION SIGNING, CHANNELIZING DEVICES, AND EROSION CONTROL DEVICES AS SHOWN ON THE PLANS.
2. CLEAR AND GRUB ALL TREES AND VEGETATION TO THE LIMITS OF THE EXIST. OR REQ'D R/W.
3. EXCAVATE ROADSIDE DITCHES AND INSTALL DRAINAGE ON THE WEST SIDE OF ROUSSEAU RD. WHILE MAINTAINING ONE TRAVEL LANE AT ALL TIMES AND UNDER FLAGGING OPERATIONS, CONSTRUCT ASPHALT PATCH ATOP CROSS DRAIN AT FRANCIS ST. AND MELROSE AVE.
4. PLACE TEMPORARY SHEETING PRIOR TO CONSTRUCTION OF NEW BRIDGE WHILE MAINTAINING TWO LANES OF TRAFFIC ON THE EXISTING ROADWAY AND BRIDGE.
5. CONSTRUCT EMBANKMENT ALONG WIDENING SIDE OF THE ROADWAY TO THE TOP OF THE SUBGRADE LAYER AS SHOWN ON THE TYPICAL SECTIONS.
6. CONSTRUCT THE PHASE I PORTION OF THE NEW BRIDGE AS SHOWN ON SHEET 103 AND GUARDRAIL ON WEST SIDE OF BRIDGE.
7. CONSTRUCT ADDITIONAL EMBANKMENT AS NEEDED TO ACCOUNT FOR ANY POSSIBLE SETTLEMENT WHICH OCCURRED DURING CONSTRUCTION OF THE NEW BRIDGE.
8. CUT LIME/CEMENT INTO SUBGRADE AND CONSTRUCT BASE COURSE AND BINDER COURSE OUTSIDE OF THE LIMITS OF THE EXISTING ROADWAY AS SHOWN IN THE TYPICAL SECTIONS.
9. PLACE TEMPORARY CONCRETE BARRIERS AND SECURE THEM BY PINNING TO BRIDGE DECK. INSTALL TEMPORARY PAVEMENT MARKINGS AND PORTABLE TEMPORARY TRAFFIC SIGNALS AS SEEN IN PHASE II. INSTALL TEMPORARY ASPHALT WITH LIFTS AS NEEDED TO TRANSITION TRAFFIC TO NEWLY CONSTRUCTED PORTION OF ROADWAY.

SHEET NUMBER 13

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	2 OF 3

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

SUGGESTED SEQUENCE OF CONSTRUCTION
PHASE I

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS

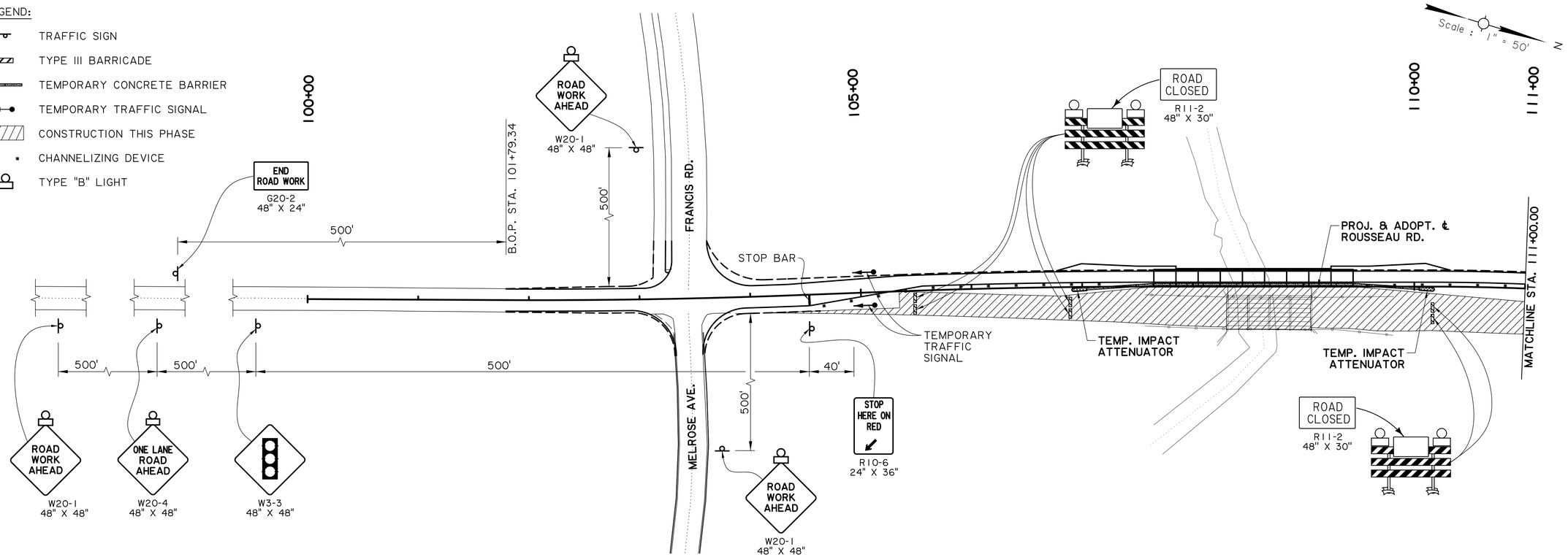
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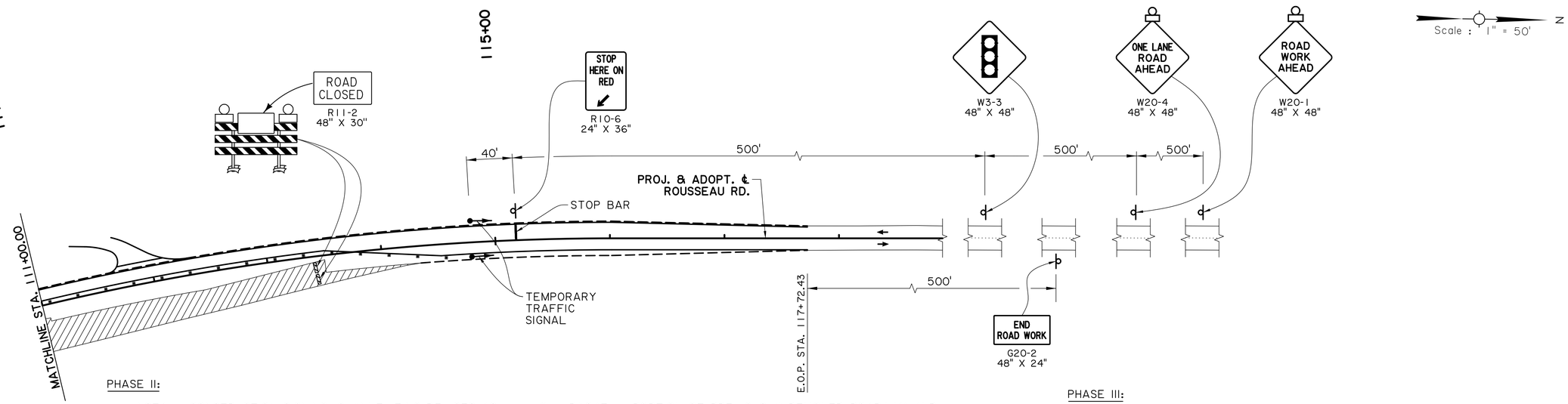
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FINAL PLANS
Sequence of Construction.dgn
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LEGEND:

- TRAFFIC SIGN
- TYPE III BARRICADE
- TEMPORARY CONCRETE BARRIER
- TEMPORARY TRAFFIC SIGNAL
- CONSTRUCTION THIS PHASE
- CHANNELIZING DEVICE
- TYPE "B" LIGHT





PHASE II:

1. INSTALL CONSTRUCTION SIGNING, CHANNELIZING DEVICES AS SHOWN ON THE PLANS.
2. SHIFT TRAFFIC ONTO THE NEWLY CONSTRUCTED PORTION OF THE ROADWAY AND BRIDGE FROM PHASE I.
3. DEMOLISH THE EXISTING BRIDGE AND BRIDGE COMPONENTS.
4. CONSTRUCT REMAINDER OF BRIDGE AS SHOWN ON SHEET 104.
5. REMOVE AND RECONSTRUCT ROADWAY WITHIN PHASE II LIMITS TO TOP OF BINDER COURSE. INSTALL GUARDRAIL ON EAST SIDE OF BRIDGE.
6. BACKFILL PORTION OF PREVIOUSLY REMOVED ROADWAY AND INSTALL ROADSIDE DRAINAGE ON EAST SIDE OF ROUSSEAU RD. RE-GRADE MATERIAL AS NEEDED TO ENSURE POSITIVE DRAINAGE TO PROPOSED STRUCTURES AND EXISTING DITCHES. COST FOR RE-GRADING EMBANKMENT IS INCLUDED IN ITEM NO. 203-06-00100.
7. REMOVE TEMPORARY CONCRETE BARRIERS. PLUG HOLES AS DESCRIBED ON TEMPORARY PRECAST BARRIER STANDARD PLAN.
8. SHIFT TRAFFIC TO FINAL ROADWAY CONFIGURATION AS SHOWN IN TYPICAL SECTIONS.

PHASE III:

1. WHILE MAINTAINING ONE TRAVEL LANE AT ALL TIMES, INSTALL CROSS DRAIN PIPES AND ASPHALT PATCH ALONG ROUSSEAU RD.
2. WHILE MAINTAINING ONE TRAVEL LANE AT ALL TIMES MILL LIMITS OF ROADWAY OUTSIDE OF PHASE I AND II WORK AREAS.
3. WHILE MAINTAINING ONE TRAVEL LANE AT ALL TIMES, CONSTRUCT WEARING COURSE THROUGHOUT ENTIRE LIMITS OF PROJECT, INCLUDING MELROSE AVE. AND FRANCIS DR.
4. INSTALL PERMANENT STRIPING AND SIGNING.

SHEET NUMBER 14

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	3 OF 3

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

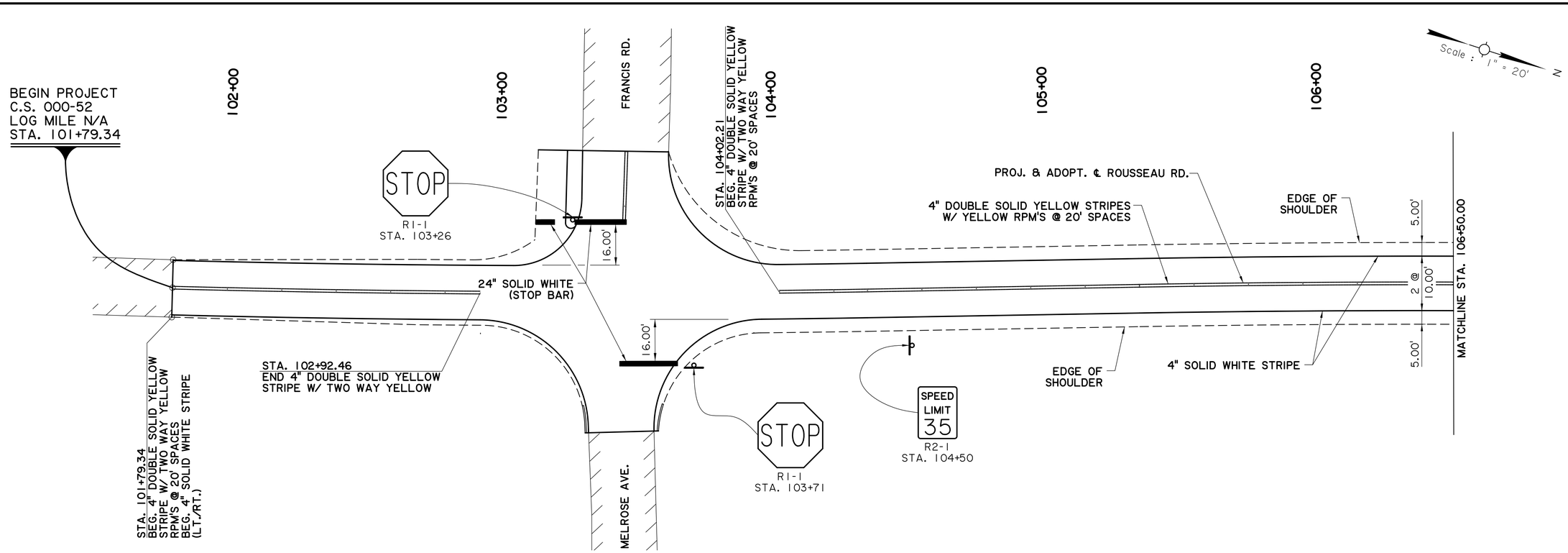
SUGGESTED SEQUENCE OF CONSTRUCTION

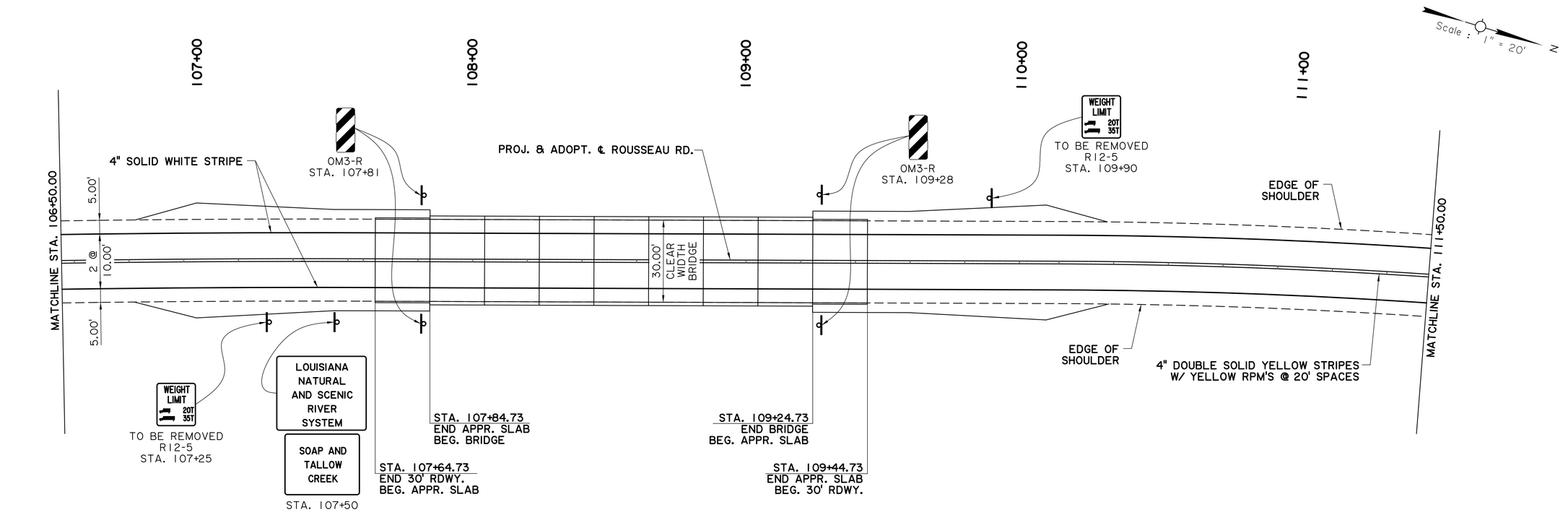
PHASE II

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
Permanent Striping & Signing Layout.dgn
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_100 PCT\015 - Permanent Striping & Signing Layout.dgn
10/6/2025 20:2





SHEET NUMBER 15

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

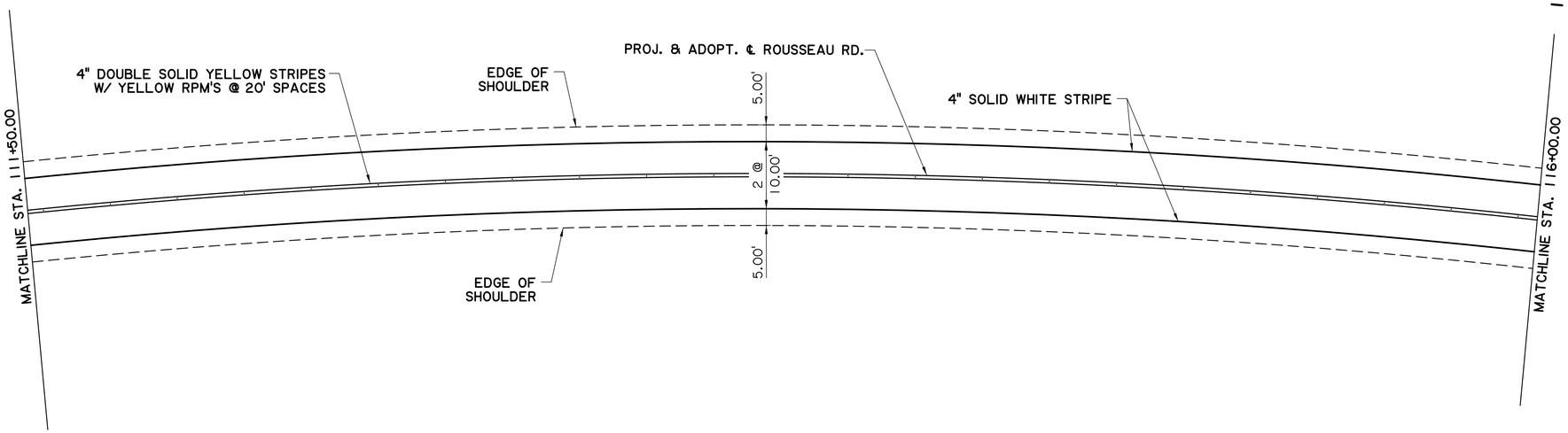
PAVEMENT MARKINGS & PERMANENT SIGNING LAYOUT

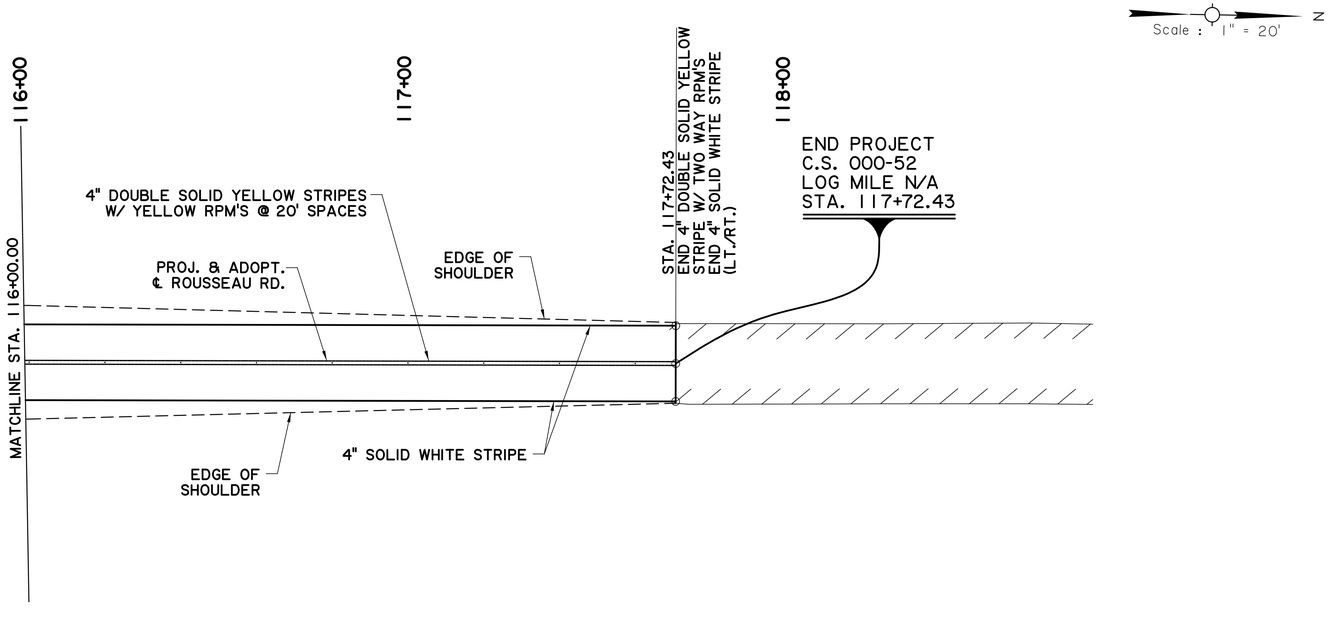
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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10/6/2025 20:2





SHEET NUMBER 16

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001181

DESIGN	A. FALCON	DETAIL	L. BOURG	REVIEW	D. HYMEL
CHECK	P. OLIVIER	CHECK	P. OLIVIER	SERIES #	2 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PAVEMENT MARKINGS & PERMANENT SIGNING LAYOUT

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
Temporary Erosion Control.dgn
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_100 PCT\017 - Temporary Erosion Control.dgn
10/6/2025 20:2

LEGEND
- REQ'D SEDIMENT CHECK DAM (HAY)
- REQ'D SEDIMENT CHECK DAM (STONE)
- SF — REQ'D SILT FENCE
- REQ'D INLET PROTECTION (SILT FENCE)

Scale : 1" = 20'

BEGIN PROJECT
C.S. 000-52
LOG MILE
STA. 101+79.34

P.C. 101+79.34

102+00 103+00 104+00 105+00 106+00 107+00

EXIST. R/W

PROJ. & ADOPT. ℄ ROUSSEAU RD.

REQ'D R/W

FRANCIS RD.

P.T. 104+34.54

℄ REQ'D. LT. DITCH

REQ'D SILT FENCE (TYP.)

L.O.C.

MATCHLINE STA. 107+00.00

REQ'D INLET PROTECTION (SILT FENCE) (TYP.)

MELROSE AVE.

℄ REQ'D. RT. DITCH

REQ'D SEDIMENT CHECK DAM (HAY) (TYP.)

P.C. 105+34.54

107+00 108+00 109+00 110+00 111+00 112+00

SOAP & TALLOW BRANCH

STA. 109+24.73
END BRIDGE
BEG. APPR. SLAB

STA. 109+44.73
END APPR. SLAB
BEG. 30' RDWY.

MATCHLINE STA. 107+00.00

PROJ. & ADOPT. ℄ ROUSSEAU RD.

30.00 CLEAR WIDTH BRIDGE

℄ REQ'D. LT. DITCH

L.O.C.

MATCHLINE STA. 112+00.00

P.T. 107+60.18

STA. 107+64.73
END 30' RDWY.
BEG. APPR. SLAB

STA. 107+84.73
END APPR. SLAB
BEG. BRIDGE

REQ'D 55 LB RIP RAP W/ GEOTEXTILE FABRIC (TYP.)

REQ'D SILT FENCE (TYP.)

P.C. 110+14.62

REQ'D SEDIMENT CHECK DAM (HAY) (TYP.)

SHEET NUMBER	17
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220001811
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	1 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
CERTIFIED

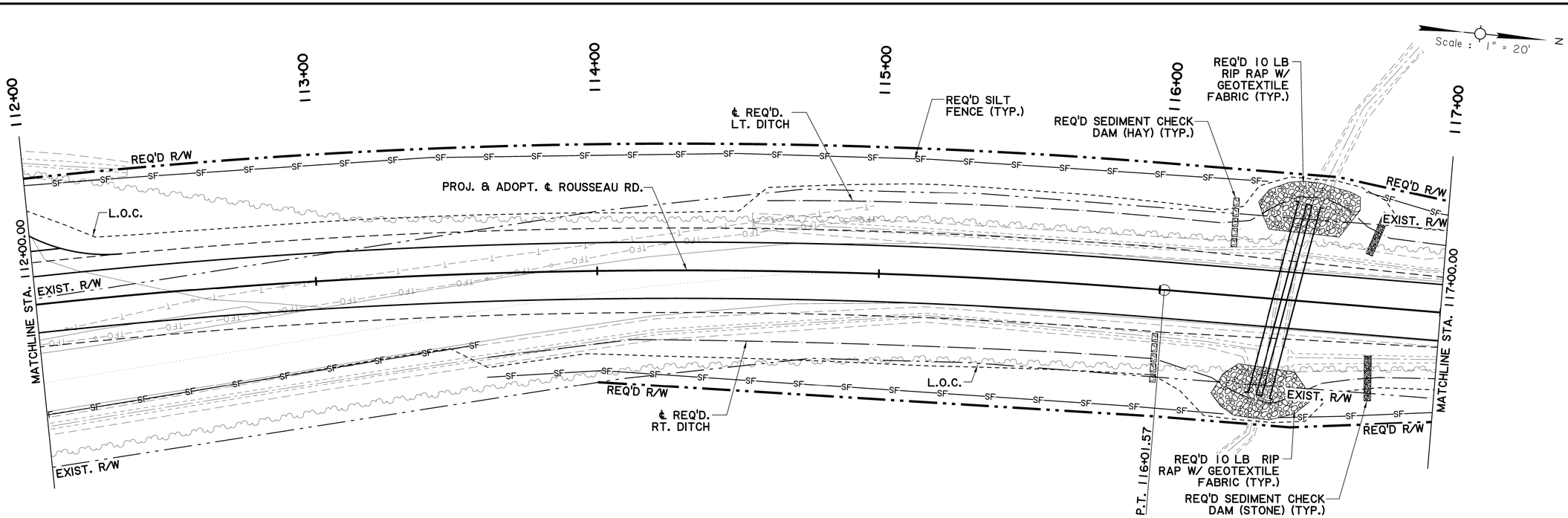
TEMPORARY EROSION CONTROL

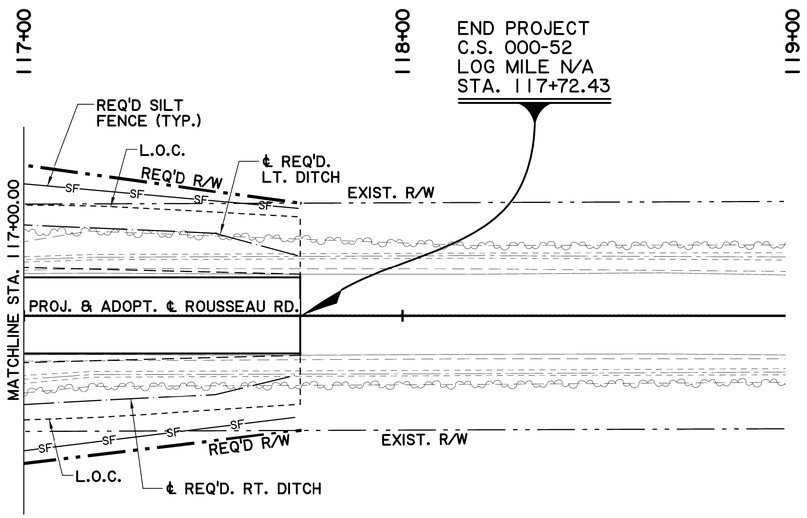
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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10/7/2025 08:0





SHEET NUMBER	18
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220000181
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	2 OF 2

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TEMPORARY EROSION CONTROL

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

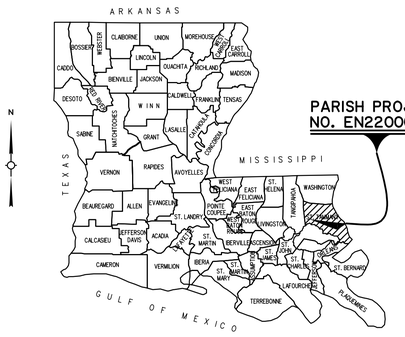
FINAL PLANS
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8/12/2024 13:47

STATE OF LOUISIANA
PARISH OF ST. TAMMANY
RIGHT OF WAY PROPERTY MAP OF PROPOSED
ROADWAY/BRIDGE IMPROVEMENTS

PARISH PROJECT NO. EN22000181

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH
ROUSSEAU RD.



VICINITY MAP

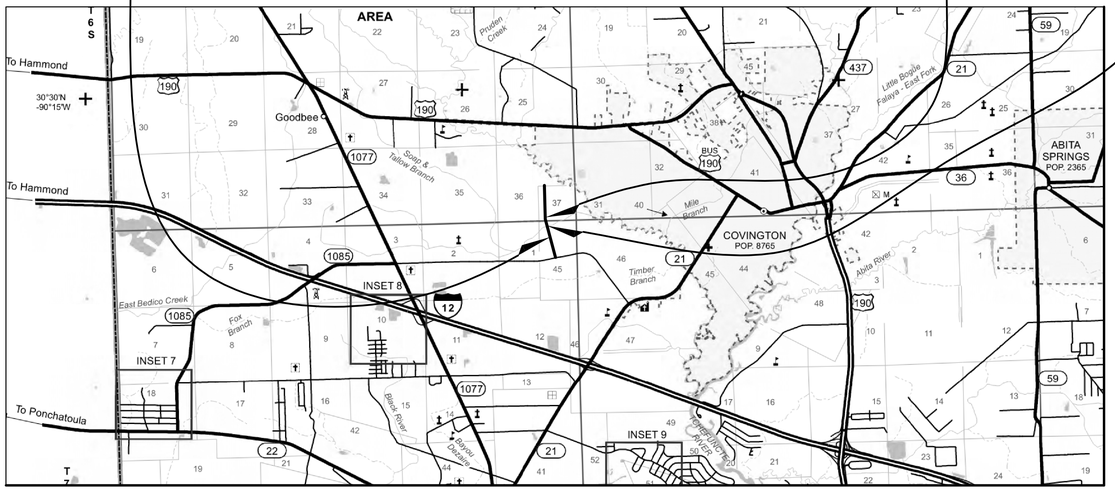
BEGIN PROJECT
C.S. 000-52
LOG MILE N/A
STA. 101+79.34

END PROJECT
C.S. 000-52
LOG MILE N/A
STA. 117+72.43

BRIDGE SITE: 140 FT.
STA. 107+84.73 TO
STA. 109+24.73
SOAP & TALLOW BRANCH

LOCATION OF WORK

CONTROL SECTION	LOG MILE	
	BEGIN	END
000-52	N/A	N/A



LAYOUT MAP

SCALE: 1 INCH = 1 MILE

0

SHEET NUMBER	19
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN22000181
COMPUTED / CHECKED	KGJ / MJL
DETAILED / CHECKED	KGJ / MJL
DATE / SCALE	11/10/2023 / 1"=50'

RIGHT OF WAY MAP
PARISH PROJECT NO. EN22000181
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH
ST. TAMMANY PARISH

CRESCENT ENGINEERING & MAPPING LLC

DATE	REVISION DESCRIPTION	BY
12/01/23	REVISE PARCEL 1-2 TAKING LINES	MJL
06/20/24	REVISE CENTERLINE GEOMETRY	MJL
06/20/24	REVISE PARCELS 1-5 & 2-1 TAKING LINES	MJL

STATE OF LOUISIANA
MATTHEW J. LEDET
License No. 5104
PROFESSIONAL
6/20/24

FILE NO. XX-XX-X-XXX | R/W SHEET NO. TITLE

Final Right of Way Map
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8/12/2024 13:36

GREENSBURG LAND DISTRICT
SECTION 37,T6S - R10E
SECTION 45,T7S - R10E

NOTES:
1. ALL PIPES AND MONUMENTS SHOWN HEREON WERE FOUND.
2. THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON LOUISIANA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83 (2011) EPOCH 2010.00) TO CONVERT FROM GRID BEARINGS TO TRUE BEARINGS USE: 00°35'33.5"

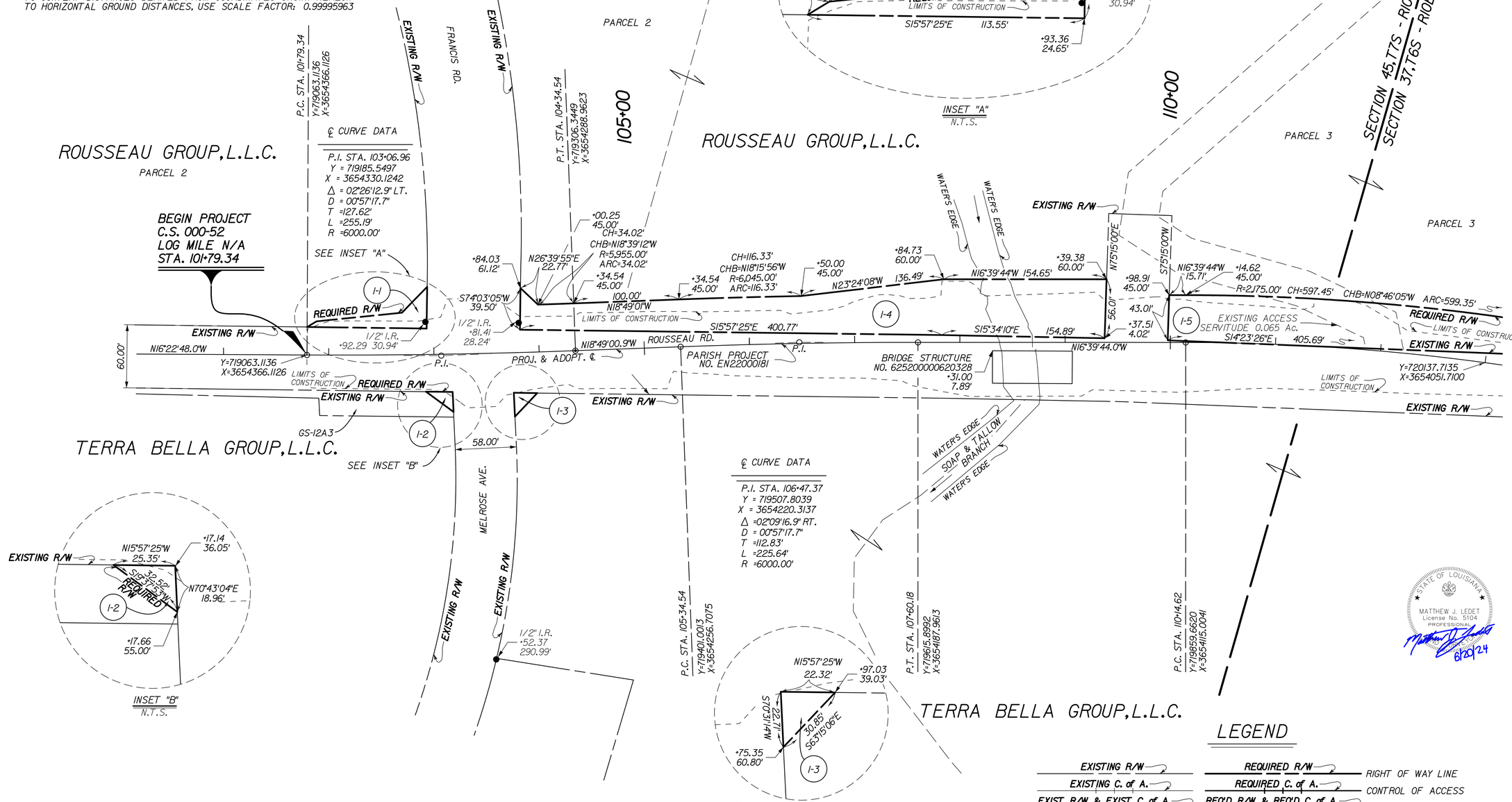
BASE STATIONS:

DN8737, MSIN	AJ7833, HAMM	DP7419, INRI
INFINITY CENTER CORS ARP	HAMMOND CORS ARP	LOYOLA UNIVERSITY CORS ARP
LAT=N30°18'42.20549"	LAT=N30°30'47.05152"	LAT=N29°59'13.21142"
LONG=W89°36'15.5069"	LONG=W90°28'03.42835"	LONG=W90°07'07.83732"
Y=296021.68	Y=733115.66	Y=524621.45
X=740968.87	X=3553447.24	X=3665493.65

3. DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES. TO CONVERT DISTANCES DERIVED FROM COORDINATES SHOWN HEREON TO HORIZONTAL GROUND DISTANCES, USE SCALE FACTOR: 0.99995963

PARCEL CENTERLINE TIES

PARCEL	STATION	OFFSET
I-1	101+79.34	26.57'
I-2	102+91.95	35.33'
I-3	103+74.05	38.09'
I-4	103+81.49	21.65'
I-5	109+97.40	2.02'



I-3	TERRA BELLA GROUP, L.L.C.	INSTR. NO. 1547649 APRIL 18, 2006	0.006 Ac.	253.0 SF
I-2			0.006 Ac.	239.8 SF
I-5	ROUSSEAU GROUP, L.L.C.	INSTR. NO. 1778157 JULY 23, 2010	0.494 Ac.	21516.4 SF
I-4			0.515 Ac.	22435.5 SF
I-1			0.034 Ac.	1489.4 SF
PARCEL	OWNER	ACQUISITION	AREA	AREA

LEGEND

EXISTING R/W	REQUIRED R/W — RIGHT OF WAY LINE
EXISTING C. of A.	REQUIRED C. of A. — CONTROL OF ACCESS
EXIST R/W & EXIST C. of A.	REQ'D R/W & REQ'D C. of A. — RIGHT OF WAY & CONTROL OF ACCESS
	LIMITS OF CONSTRUCTION
	LOT LINE
	APPARENT PROPERTY LINE
	EXISTING SERVITUDE LINE
	SECTION LINE

MATTHEW J. LEDET
License No. 5104
PROFESSIONAL
6/20/24

DATE	REVISION DESCRIPTION	BY
12/01/23	REVISE PARCEL I-2 TAKING LINES	MJL
06/20/24	REVISE CENTERLINE GEOMETRY	MJL
06/20/24	REVISE PARCELS I-5 & 2-I TAKING LINES	MJL

SHEET NUMBER 20
PARISH: ST. TAMMANY
CONTROL SECTION: 000-52
PARISH PROJECT: EN220000181
COMPUTED KGJ
CHECKED MJL
DETAILED KGJ
CHECKED MJL
DATE 11/10/2023
SCALE 1"=50'

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

RIGHT OF WAY MAP
PARISH PROJECT NO. EN220000181
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH
ST. TAMMANY PARISH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FILE NO. XX-XX-X-XXX
R/W SHEET NO. 1

Final Right of Way Map
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8/12/2024 13:21

NOTES:

1. ALL PIPES AND MONUMENTS SHOWN HEREON WERE FOUND.
2. THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON LOUISIANA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83 (2011) EPOCH 2010.00) TO CONVERT FROM GRID BEARINGS TO TRUE BEARINGS USE: 00°35'32.5"

   BASE STATIONS:

DN8737, MSIN	AJ7833, HAMM	DP7419, INRI
INFINITY CENTER CORS ARP	HAMMOND CORS ARP	LOYOLA UNIVERSITY CORS ARP
LAT=N30°18'42.20549"	LAT=N30°30'47.05152"	LAT=N29°59'13.21142"
LONG=W89°36'15.5069"	LONG=W90°28'03.42835"	LONG=W90°07'07.83732"
Y=296021.68	Y=733115.66	Y=524621.45
X=740968.87	X=3553447.24	X=3665493.65

3. DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES. TO CONVERT DISTANCES DERIVED FROM COORDINATES SHOWN HEREON TO HORIZONTAL GROUND DISTANCES, USE SCALE FACTOR: 0.99996000

GREENSBURG LAND DISTRICT
SECTION 37, T6S - R10E

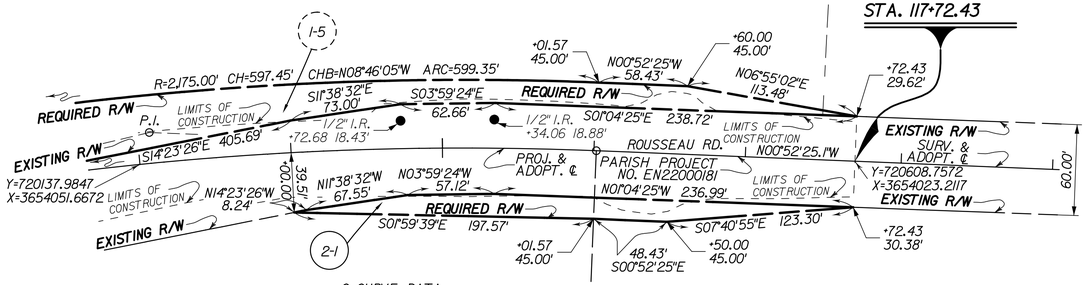
115+00

ROUSSEAU GROUP, L.L.C.

PARCEL 3

PARCEL 4

END PROJECT
C.S. 000-52
LOG MILE N/A
STA. 117+72.43



℄ CURVE DATA

P.I. STA. 113+09.97
Y = 720142.6064
X = 3654030.3201
Δ =15°47'18.9" RT.
D =02°41'23.8"
T =295.35'
L =568.95'
R =2130.00'

P.T. STA. 116+01.57
Y=720437.9175
X=3654025.8168

TERRA BELLA GROUP, L.L.C.

2-I	TERRA BELLA GROUP, L.L.C.	INSTR. NO. 1621744 MAY 18, 2007	0.088 Ac.	3817.7 SF
PARCEL	OWNER	ACQUISITION	AREA	AREA

STATE OF LOUISIANA
MATTHEW J. LEDET
License No. 5104
PROFESSIONAL LAND SURVEYOR
6/20/24

LEGEND

EXISTING R/W / REQUIRED R/W	RIGHT OF WAY LINE
EXISTING C. of A. / REQUIRED C. of A.	CONTROL OF ACCESS
EXIST R/W & EXIST C. of A. / REQ'D R/W & REQ'D C. of A.	RIGHT OF WAY & CONTROL OF ACCESS
	LIMITS OF CONSTRUCTION
	LOT LINE
	APPARENT PROPERTY LINE
	EXISTING SERVITUDE LINE
	SECTION LINE

SHEET NUMBER 21

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001 81

COMPUTED	CHECKED	DETAILED	CHECKED	DATE	SCALE
KGJ	MJL	KGJ	MJL	11/10/2023	1"=50'

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

RIGHT OF WAY MAP
PARISH PROJECT NO. EN220001 81
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH
ST. TAMMANY PARISH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

DATE	REVISION DESCRIPTION	BY
06/20/24	REVISE PARCELS I-5 & 2-I TAKING LINES	MJL
06/20/24	REVISE CENTERLINE GEOMETRY	MJL
12/01/23	REVISE PARCEL 1-2 TAKING LINES	MJL

FILE NO. XX-XX-X-XXX R/W SHEET NO. 2

Final Right of Way Map
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8/12/2024 13:48

GREENSBURG LAND DISTRICT
SECTION 37,T6S - R10E
SECTION 45,T7S - R10E

PARCEL 2

PARCEL 2

FRANCIS RD.

BEGIN PROJECT
C.S. 000-52
LOG MILE N/A
STA. 101+79.34

ROUSSEAU GROUP,L.L.C.
R.A.=10.4 Ac. Approx.
(SCALED)

105+00

110+00

SECTION 45,T7S - R10E
SECTION 37,T6S - R10E

PARCEL 3

115+00

120+00

ROUSSEAU GROUP,L.L.C.
R.A.=49.8 Ac. Approx.
(SCALED)

PARCEL 4

SURV. & ADOPT. ℄

PARISH PROJECT NO. EN220001 81

ROUSSEAU RD.

PROJ. & ADOPT. ℄

MELROSE AVE.

END PROJECT
C.S. 000-52
LOG MILE N/A
STA. 117+72.43

TERRA BELLA GROUP,L.L.C.
R.A.=0.4 Ac. Approx.
(SCALED)

TERRA BELLA GROUP,L.L.C.
R.A.=133.46 Ac.
(PER DEED)

TERRA BELLA GROUP,L.L.C.
R.A.=14.3 Ac. Approx.
within this section
(SCALED)

SECTION 46,T7S - R11E
SECTION 39,T6S - R11E

LEGEND

EXISTING R/W	REQUIRED R/W	RIGHT OF WAY LINE
EXISTING C. of A.	REQUIRED C. of A.	CONTROL OF ACCESS
EXIST R/W & EXIST C. of A.	REQ'D R/W & REQ'D C. of A.	RIGHT OF WAY & CONTROL OF ACCESS
		LIMITS OF CONSTRUCTION
		LOT LINE
		APPARENT PROPERTY LINE
		EXISTING SERVITUDE LINE
		SECTION LINE

PARCEL	OWNER	ACQUISITION	AREA	AREA

STATE OF LOUISIANA
MATTHEW J. LEDET
License No. 5104
PROFESSIONAL
ENGINEER
6/20/24

SHEET NUMBER	22
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220001 81
COMPUTED	KGJ
CHECKED	MJL
DETAILED	KGJ
CHECKED	MJL
DATE	11/10/2023
SCALE	1"=50'

RIGHT OF WAY MAP
PARISH PROJECT NO. EN220001 81
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH
ST. TAMMANY PARISH

CRESCENT ENGINEERING & MAPPING LLC

DATE	REVISION DESCRIPTION	BY
06/20/24	REVISE PARCELS I-5 & 2-1 TAKING LINES	MJL
06/20/24	REVISE CENTERLINE GEOMETRY	MJL
12/01/23	REVISE PARCEL 1-2 TAKING LINES	MJL

FILE NO. XX-XX-X-XXX
R/W SHEET NO. 3

FINAL PLANS
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10/6/2025 20:05

BRIDGE GENERAL NOTES

DESIGN SPECIFICATIONS: STRUCTURE DESIGN IS IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, LADOTD BRIDGE DESIGN & EVALUATION MANUAL AND BRIDGE DESIGN TECHNICAL MEMORANDA AS APPLICABLE. GEOMETRIC DESIGN IS IN ACCORDANCE WITH "A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS 2018, 7TH EDITION". PRECAST CONCRETE PILE DESIGN IS IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION 2012, WITH 2013 INTERIMS.)

DESIGN CRITERIA: THE BRIDGE IS DESIGNED FOR A FUTURE WEARING SURFACE EQUAL TO 25 PSF. LIVE LOAD SHALL BE HL-93 AND LOUISIANA DESIGN VEHICLE LIVE LOAD (LADV-11).

DESIGN SPEED: THE DESIGN SPEED IS 35 MPH.

ELEVATIONS: ALL ELEVATIONS ARE BASED ON N.A.V.D.88.

DIMENSIONS: ALL DIMENSIONS ARE GIVEN AT NORMAL TEMPERATURE (68° F).

CONSTRUCTION SPECIFICATION: "THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES," 2016 EDITION, SHALL GOVERN, EXCEPT AS SUPPLEMENTED OR AMENDED BY THE PLANS, SUPPLEMENTAL SPECIFICATIONS AND/OR SPECIAL PROVISIONS.

CONCRETE: ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS A1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ¾" EXCEPT ALL CORNERS OF BENTS WHICH SHALL BE CHAMFERED 1½" UNLESS OTHERWISE NOTED. NO DEDUCTIONS ARE TO BE MADE IN CONCRETE QUANTITIES FOR CHAMFERS 1½" OR LESS. CONCRETE AND STEEL IN CONCRETE RAILING TO BE PAID FOR PER LINEAR FOOT OF CONCRETE RAILING INCLUDING No. 5 BARS THAT PROJECT INTO RAILING.

FINISH OF CONCRETE: FINISH SURFACES IN ACCORDANCE WITH THE PLANS AND SUBSECTION 805.08. SEE SPECIAL DETAIL BD.2.11.10.0.01-02 FOR FURTHER DETAILS.

REINFORCING STEEL: DIMENSIONS RELATING TO REINFORCING STEEL FABRICATION ARE OUT-TO-OUT OF BAR UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL SPACING ARE CENTER TO CENTER OF BAR. THE MINIMUM COVERING FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY DEFORMED REINFORCING BAR SHALL NOT BE LESS THAN THE FOLLOWING:

TOP OF SLAB = 2½"
BOTTOM OF SLAB = 1½"

ALL OTHER REINFORCING STEEL COVER SHALL BE 2" UNLESS OTHERWISE NOTED IN THE PLANS. SEE STANDARD PLAN SWBS-100 FOR BAR SUPPORTS FOR REINFORCING STEEL. ALL REINFORCING STEEL SHALL BE GRADE 60 STEEL. THE FIRST DIGIT OF REINFORCING BAR NUMBER INDICATES BAR SIZE.

CONSTRUCTION JOINT: WHERE CONSTRUCTION JOINTS ARE USED, NOT LESS THAN (7) SEVEN DAYS SHALL HAVE ELAPSED BETWEEN ADJACENT POURS. THE VERTICAL SURFACES OF THE CONSTRUCTION JOINTS BETWEEN ADJACENT POURS SHALL BE COATED PRIOR TO SUCCEEDING POURS WITH A TYPE V EPOXY RESIN SYSTEM IN ACCORDANCE WITH SUBSECTION 805.05.8.2 OF THE STANDARD SPECIFICATIONS. EPOXY IS TO BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

ENVIRONMENTAL COMPLIANCE: PRIOR TO THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL OBTAIN A COPY OF THE ENVIRONMENTAL CLEARANCE DOCUMENT AS WELL AS COPIES OF ALL PERMITS AND AGREEMENTS OBTAINED BY DOTD. THE CONTRACTOR SHALL THOROUGHLY EXAMINE AND COMPLY WITH ALL REQUIREMENTS SET FORTH IN THOSE DOCUMENTS.

GUARD RAIL: SEE STANDARD PLAN BD.1.1.1.0.01-11 & BD.1.2.0.01 FOR DETAILS.

APPROACH SLABS: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A ¾" CHAMFER, UNLESS OTHERWISE NOTED. ALL OTHER MATERIALS AND WORK ASSOCIATED WITH APPROACH SLABS, INCLUDING CONCRETE, DEFORMED REINFORCING STEEL, & ALL COMPONENTS OF THE CONCRETE SLEEPER SLAB & BASE DRAIN MATERIALS, SHALL BE PAID FOR UNDER ITEM No. 813-01-00100 - "CONCRETE APPROACH SLABS (CAST-IN-PLACE)."

YEAR PLATE: DATE OF CONSTRUCTION IS REQUIRED ON RIGHT WINGWALL OF STRUCTURE FOR ONCOMING LANE. CONFORM TO SPECIAL DETAIL YP-01.

AS-DESIGNED BRIDGE RATING: THE INCLUDED AS-DESIGNED BRIDGE RATING FACTOR TABLE PROVIDES THE AS-DESIGNED BRIDGE RATINGS FOR THE MOST CRITICAL BRIDGE ELEMENT FOR EACH CORRESPONDING RATING VEHICLE ONLY. FOR ADDITIONAL RATING INFORMATION, SEE THE AS-DESIGNED BRIDGE RATING REPORT.

MATERIALS: EXCEPT AS SPECIFICALLY STATED OTHERWISE IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROVIDE ALL MATERIALS NECESSARY FOR THE COMPLETION OF THE CONTRACT. ALL MATERIALS OF EVERY DESCRIPTION FURNISHED BY THE CONTRACTOR FOR PERMANENT INSTALLATION IN THIS PROJECT, INCLUDING ALL MATERIALS AND EQUIPMENT THAT ARE TO BECOME THE PROPERTY OF LA DOTD UPON FINAL ACCEPTANCE OF THE PROJECT, SHALL BE NEW AND IN PRISTINE CONDITION WHEN INSTALLED AND/OR PROCURED FOR USE ON THE PROJECT. MATERIALS THAT ARE INSTALLED IN ACCORDANCE WITH THE AFOREMENTIONED BUT BECOME DAMAGED OR WORN BEYOND WHAT IS TO BE REASONABLY EXPECTED DURING THE DURATION OF THE PROJECT SHALL BE REPLACED WITH THE NEW IN-KIND MATERIALS AT THE SOLE DISCRETION OF THE ENGINEER.

REMOVAL OF BRIDGES: REMOVAL OF EXISTING BRIDGE SHALL INCLUDE THE COMPLETE REMOVAL AND DISPOSAL, OR SALVAGE, OF ALL COMPONENTS OF THE SUPERSTRUCTURE, SUBSTRUCTURE, TIMBER PILES, TIMBER BULKHEADS, STEEL HELPER PILES, STRUCTURAL METALWORK AND ALL MISCELLANEOUS ITEMS THAT ARE ATTACHED TO THE STRUCTURE. BURIED FOUNDATION ELEMENTS THAT DO NOT INTERFERE WITH THE PLACEMENT OF THE NEW FOUNDATIONS NEED ONLY BE REMOVED TO 1'-0" BELOW THE EXISTING OR FINAL GROUNDLINE, WHICHEVER IS LOWER. IF THE EXISTING BRIDGE HAS CREOSOTE TIMBERS, DISPOSAL SHALL BE IN ACCORDANCE WITH SECTION 202.05.6. REMOVAL OF EXISTING CONCRETE APPROACH SLABS SHALL BE PAID FOR UNDER ITEM NO. 202-02-06000 - REMOVAL OF CONCRETE APPROACH SLABS.

DISPOSAL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTAINMENT, COLLECTION, AND DISPOSAL OF ANY REMOVED MATERIAL IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATIONS. ALL DISPOSAL SHALL BE BEYOND THE LIMITS OF THE RIGHT OF WAY.

SALVAGE: SALVAGEABLE MATERIAL INCLUDES STEEL PILES, STRUCTURAL METALWORK, METAL GUARDRAIL AND METAL POSTS. ALL MATERIALS DESIGNATED TO BE SALVAGED SHALL BE DISASSEMBLED AND TRANSPORTED TO A FACILITY DESIGNED BY THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE ENGINEER. CARE SHALL BE TAKEN TO PRESERVE THE CONDITION OF THE SALVAGED MATERIALS AND UPON DELIVERY TO THE DESIGNATED FACILITY, THEY SHALL BE UNLOADED AND NEATLY ARRANGED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. PAYMENT FOR DELIVERING SALVAGEABLE MATERIALS WILL BE MADE UNDER THE ASSOCIATED STRUCTURE REMOVAL PAY ITEM.

EXISTING PILES: THE CONTRACTOR SHALL REMOVE EXISTING PILES THAT INTERFERE WITH THE PLACEMENT OF NEW PILES. THE VOID SHALL BE FILLED WITH NON-PLASTIC FILL TO THE SATISFACTION OF THE ENGINEER PRIOR TO DRIVING NEW PILES. PAYMENT FOR PILE REMOVAL AND NON-PLASTIC FILL IS TO BE MADE UNDER ITEM NO. 202-02-04501, REMOVAL OF BRIDGE.

PILE IDENTIFICATION: ALL PILES SHALL BE IDENTIFIED USING THE FOLLOWING ALPHANUMERIC DESIGNATION FORMAT:

2 A
- 2 — BENT NUMBER
- A — PILE LETTER

THE BENT NUMBER SHALL BE THE NUMERICAL DESIGNATION OF EACH BENT AS SHOWN ON THE GENERAL PLAN. THE PILE LETTER SHALL BE AN ALPHABETIC DESIGNATION BASE ON PILE LOCATION. WHEN LOOKING UPSTATION, THE LEFT MOST PILE SHALL BE ASSIGNED SEQUENTIAL PILE LETTERS FROM LEFT TO RIGHT.

CONCRETE BRIDGE RAILING: ALL CONCRETE AND REINFORCING STEEL IN CONCRETE RAILING TO BE PAID FOR PER LINEAR FOOT OF RAILING, INCLUDING BARS THAT PROJECT INTO THE RAILING FROM THE WINGWALL OR DECK. CONCRETE RAILING TO BE MEASURED FROM THE CENTERLINE TO CENTERLINE OF JOINTS. SEE STANDARD PLAN S.W.B.S.100 FOR BAR SUPPORTS FOR REINFORCING STEEL.

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105	FOUNDATION LAYOUT
106	GEOTECHNICAL EXPLORATION LOGS
107	BD.2.5.1.0.01 - P.P.C. PILES (CS-216)
108	PILE DATA & ELEVATIONS
109-110	BENT DETAILS
111	SPAN DETAILS
112	BD.2.6.1.1.01 (BR COMMON)
113-114	BD.2.6.1.3.01-02 (36 SS)
115	BD.2.6.3.1.01 (TEMPORARY PRECAST BARRIER)
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117	YP-01
118	APPROACH SLAB DETAILS
119	BD.2.10.1.0.7 (APPROACH SLAB DRAINAGE)
120	BD.2.11.3.2.01 (FR-01)
121-122	BD.2.11.10.0.01-02 (CONCRETE SURFACE FINISH)

TOTAL BRIDGE SHEETS = 22

AS-DESIGNED BRIDGE RATING TABLE

STRUCTURE NO. N/A		RECALL NO. 000436	
VEHICLE	SUPERSTRUCTURE	SUBSTRUCTURE	NOTES
HL-93 (INV)	1.331	3.045	-
HL-93 (OPR)	1.726	3.948	-
LADV-11 (INV)	1.024	2.343	M.F. = 1.3

SHEET NUMBER 101

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	00-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	P. OLIVIER	L. BOURG	M. MILLER	D. HYMEL	1 OF 1

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

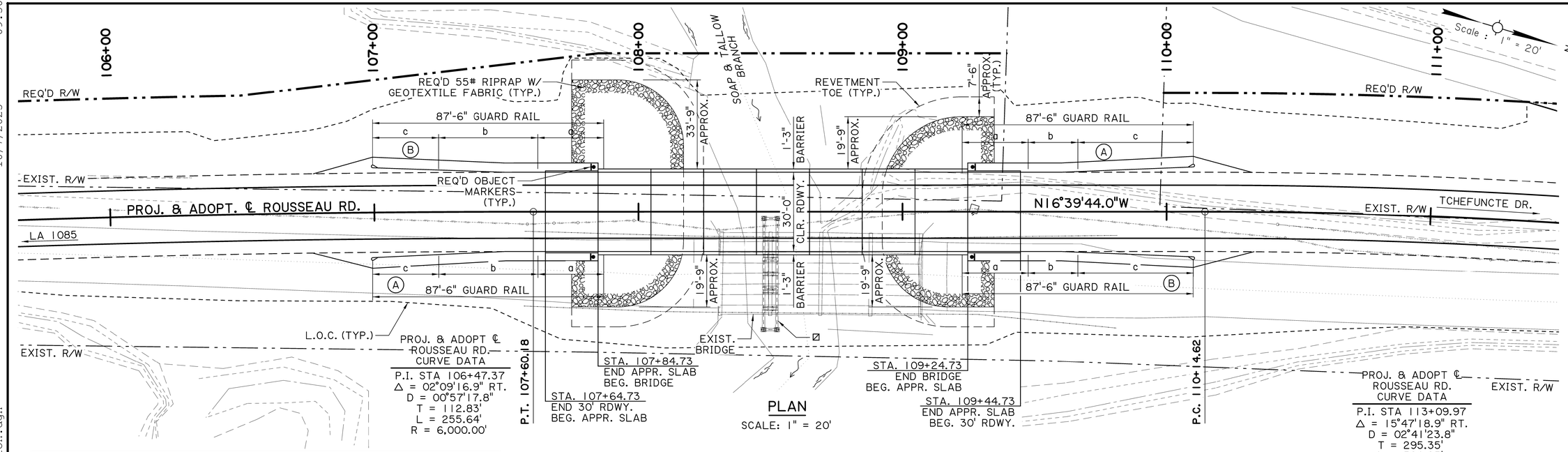
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

GENERAL NOTES & INDEX

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC



PLAN
SCALE: 1" = 20'

Ø ALL COMPONENTS OF THE EXISTING STEEL HELPER BENT SHALL BE CAREFULLY DISASSEMBLED AND DELIVERED TO THE PARISH. DO NOT CUT ANY STEEL MEMBERS.

IN PLACE TO BE REMOVED:
STATION 108+30.55 TO STATION 109+06.40
RECALL NO. 620076
28' (CLR.) X 76' CONC. BRIDGE

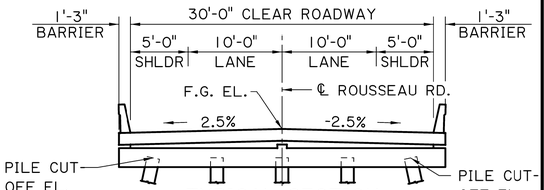
HYDRAULIC DATA					
DRAINAGE AREA (SQ. MI.): 6.89				PROJECTED SCOUR	
BASIN SLOPE (FT./MI.): 5.92					
FLOOD FREQUENCY (YRS.)	25	25	100	FLOOD FREQUENCY (YRS.)	500 YR.
DISCHARGE (C.F.S.)	1,649	1,649	2,127	DISCHARGE (C.F.S.)	2,807
STRUCTURE	EXIST. BRIDGE	PROP. BRIDGE		CONTRACTION SCOUR DEPTH: (FT.)	0.00
SIZE & TYPE	76'(L) x 28'(W)	120'(L) x 30'(W)		MAX. PIER SCOUR DEPTH: (FT.)	4.29
W.S. EL. (BASIN ONLY): (NAVD 88) (FT.)	11.73*	11.02*	11.85*	ABUTMENT SCOUR DEPTH: (FT.)	N/A
DESIGN W.S. EL. (W/ TCHEF. BACKWATER): (NAVD 88) (FT.)	-	18.40⊙	20.70⊙	BRIDGE SCOUR ELEV. (FT./M.S.L.)	-3.11
VELOCITY (FT./SEC.)	8.27	3.97	4.39	⊙ WATER SURFACE ELEVATION INTERPOLATED FROM THE TCHEFUNCTE RIVER PROFILE INCLUDED IN THE ST. TAMMANY PARISH FLOOD INSURANCE STUDY.	
BACKWATER (FT.)	0.13	NEGL.	NEGL.		
AREA OF OPENING (SQ. FT.)	720.7	1,092.2	1,092.2		

* DOES NOT INCLUDE BACKWATER FROM THE TCHEFUNCTE RIVER.

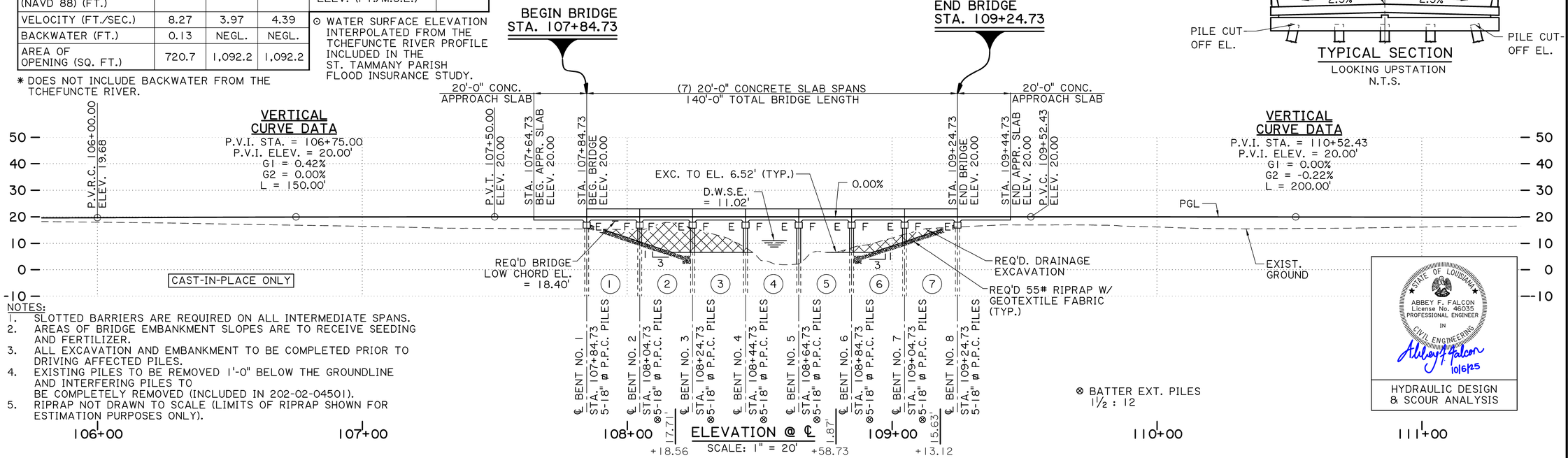
GUARD RAIL DESIGN DATA			
HIGHWAY CLASS	GUARD RAIL DESIGN SPEED (MPH)	2042 ADT	LC (FT)
RURAL LOCAL	35	600	10

GUARD RAIL DATA							
	LR	LA	L2	A:B	X	Y	Z
(A)	85'	10'	5'	0:1	75.00'	7.00'	11.00'
(B)	85'	10'	15'	0:1	75.00'	17.00'	21.00'

GUARD RAIL ITEM LENGTHS		
SECTION	PAY ITEM	LENGTH
a	704-07-00200	25'-0"
b	704-03-00200	12'-6"
c	704-10-00205	50'-0"



TYPICAL SECTION
LOOKING UPSTATION
N.T.S.



ELEVATION @ ℄
SCALE: 1" = 20'

⊗ BATTER EXT. PILES
1½ : 12

NOTES:
1. SLOTTED BARRIERS ARE REQUIRED ON ALL INTERMEDIATE SPANS.
2. AREAS OF BRIDGE EMBANKMENT SLOPES ARE TO RECEIVE SEEDING AND FERTILIZER.
3. ALL EXCAVATION AND EMBANKMENT TO BE COMPLETED PRIOR TO DRIVING AFFECTED PILES.
4. EXISTING PILES TO BE REMOVED 1'-0" BELOW THE GROUNDLINE AND INTERFERING PILES TO BE COMPLETELY REMOVED (INCLUDED IN 202-02-04501).
5. RIPRAP NOT DRAWN TO SCALE (LIMITS OF RIPRAP SHOWN FOR ESTIMATION PURPOSES ONLY).

ABBEY F. FALCON
License No. 46035
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/25

HYDRAULIC DESIGN & SCOUR ANALYSIS

SHEET NUMBER	102
PARISH	ST. TAMMANY
CONTROL SECTION	00-52
STATE PROJECT	EN220001181
DESIGN	M. MILLER
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	M. MILLER
REVIEW	D. HYMEL
SERIES #	1 OF 1

MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

GENERAL PLAN & ELEVATION
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC

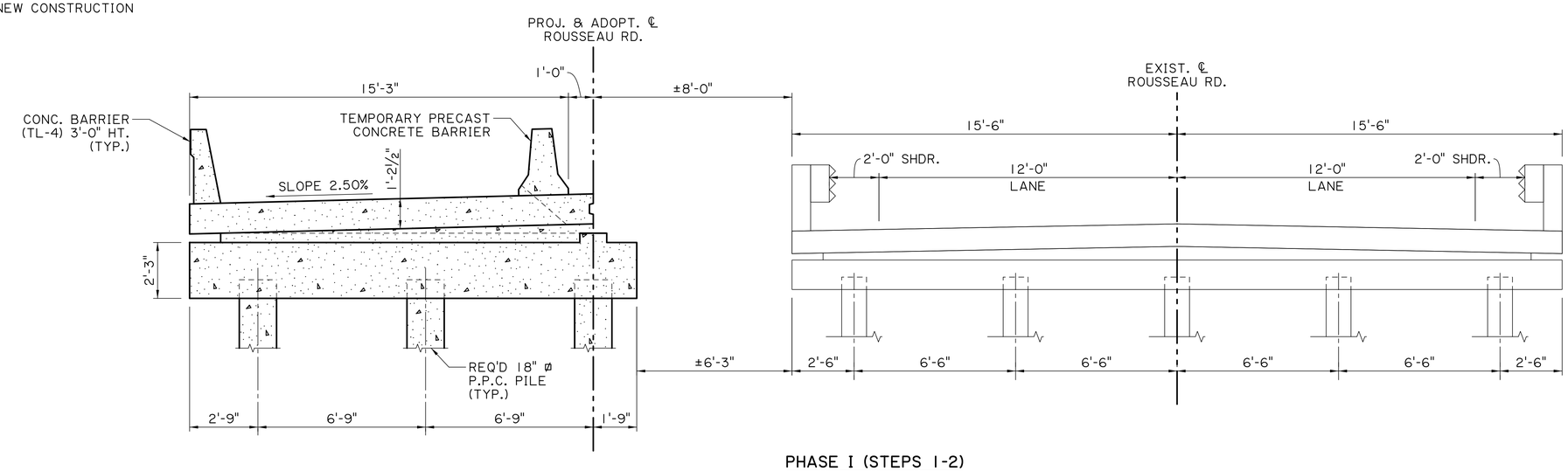
FINAL PLANS
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10/7/2025 09:50

FINAL PLANS
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10/6/2025 20:05

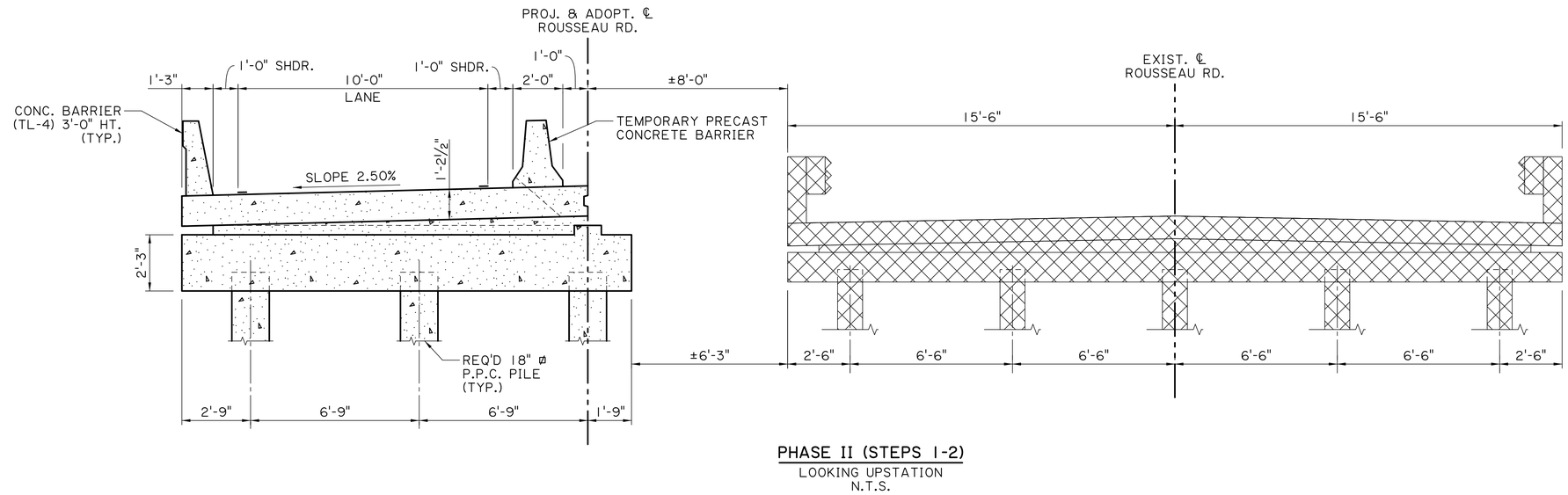
LEGEND:

PHASE II REMOVAL

NEW CONSTRUCTION



PHASE I (STEPS 1-2)
LOOKING UPSTATION
N.T.S.



PHASE II (STEPS 1-2)
LOOKING UPSTATION
N.T.S.

PHASE I

1. CONSTRUCT PHASE I PORTION OF NEW BRIDGE.
2. PLACE TEMPORARY BARRIERS AND SECURE THEM BY PINNING TO DECK.

PHASE II

1. SHIFT TRAFFIC TO PHASE I PORTION OF NEW BRIDGE.
2. DEMOLISH EXISTING BRIDGE AND BRIDGE COMPONENTS.

NOTE:
PHASING OF BRIDGE CONSTRUCTION WILL MATCH ROADWAY SEQUENCE OF CONSTRUCTION. SEE SUGGESTED SEQUENCE OF CONSTRUCTION SERIES FOR MORE INFORMATION.

SHEET NUMBER 103

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	00-52	EN220001181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	P. OLIVIER	L. BOURG	M. MILLER	D. HYMEL	1 OF 2

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

SUGGESTED SEQUENCE OF CONSTRUCTION

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

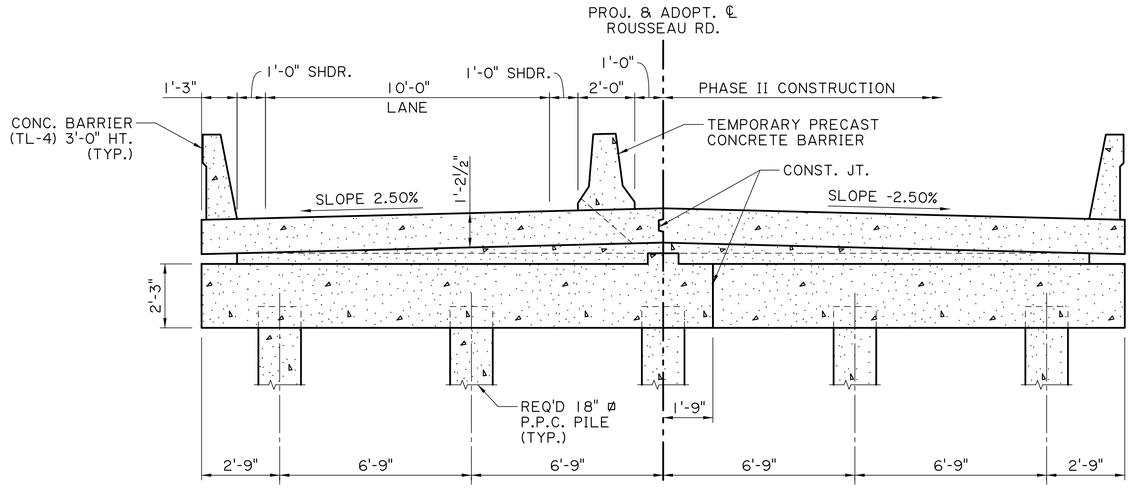
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

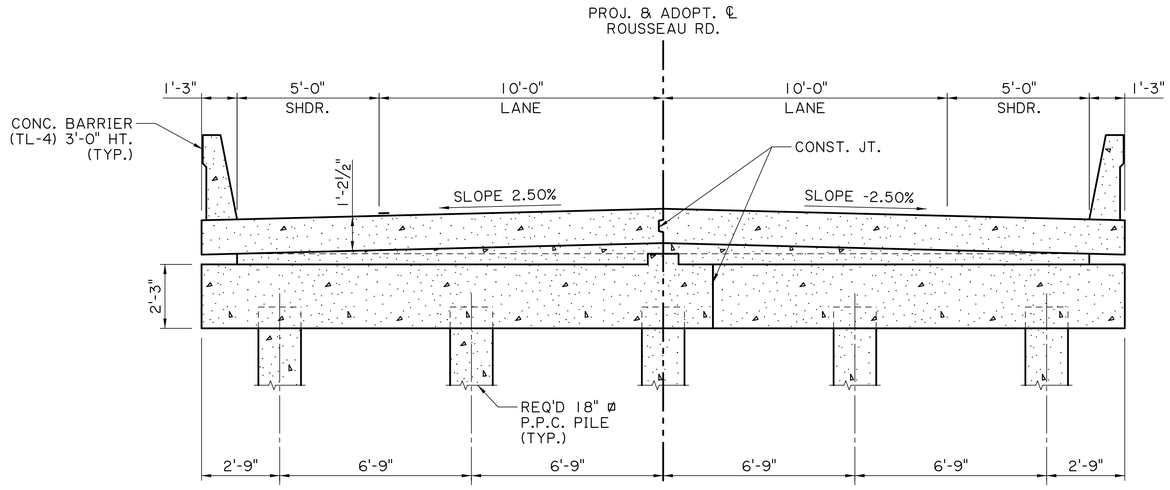
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LEGEND:

NEW CONSTRUCTION



PHASE II (STEP 3)
LOOKING UPSTATION
N.T.S.



PHASE II (STEP 4)
LOOKING UPSTATION
N.T.S.

PHASE II

3. CONSTRUCT REMAINDER OF NEW BRIDGE.
4. REMOVE THE TEMPORARY BARRIERS.

NOTE:
PHASING OF BRIDGE CONSTRUCTION WILL MATCH ROADWAY SEQUENCE OF CONSTRUCTION. SEE SUGGESTED SEQUENCE OF CONSTRUCTION SERIES FOR MORE INFORMATION.

SHEET NUMBER	104

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	00-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	P. OLIVIER	L. BOURG	M. MILLER	D. HYMEL	2 OF 2

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

SUGGESTED SEQUENCE OF CONSTRUCTION

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

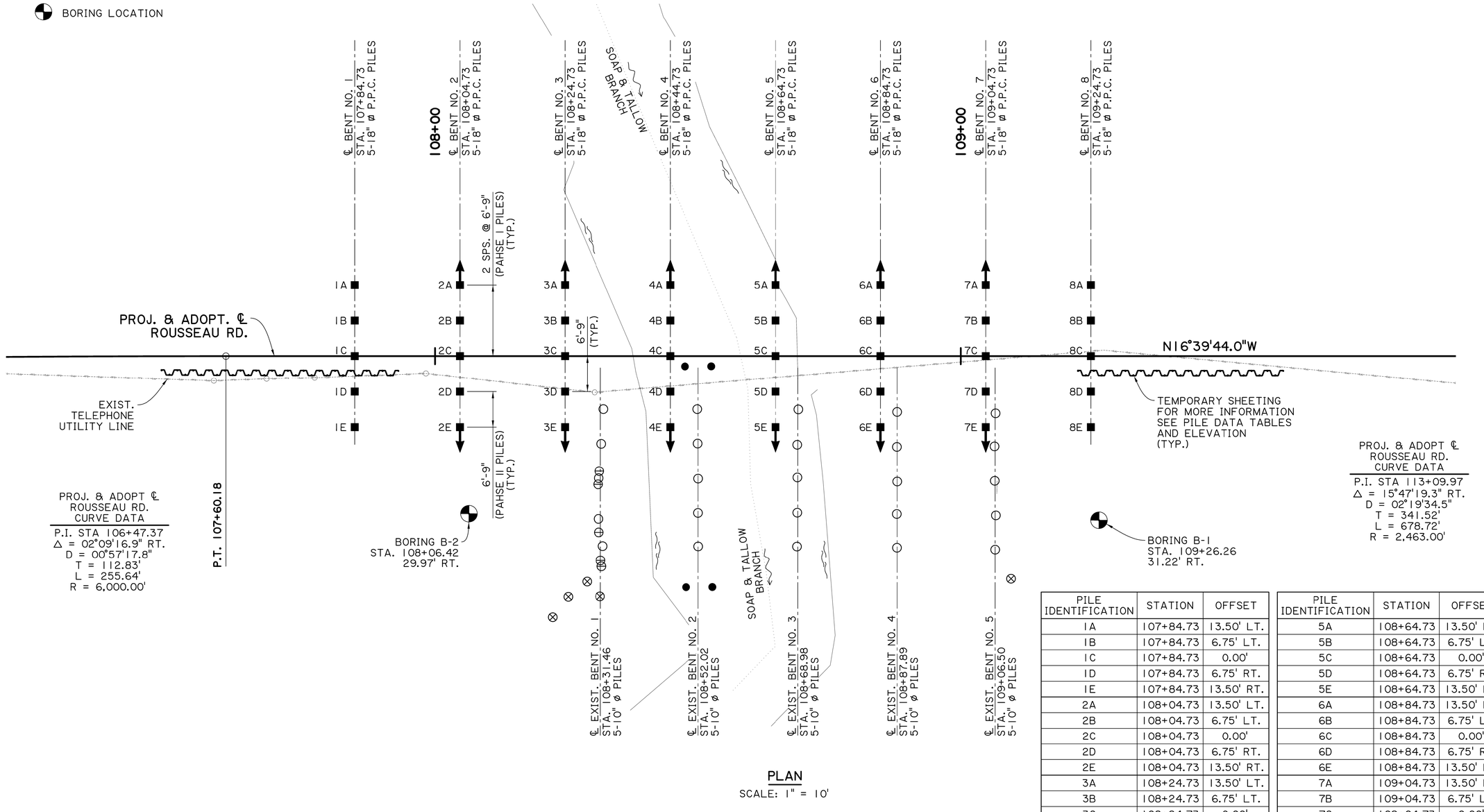
CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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LEGEND:

- ■ REQ'D 18" ø P.P.C. PILE
- ● EXIST. 18" ø STEEL PIPE PILE (HELPER BENT)
- ○ EXIST. 10" ø TIMBER PILE
- ⊗ EXIST. TIMBER WINGWALL PILE
- ⊖ EXIST. HELPER PILE
- → PILE BATTER (1½ ON 12)
- ◓ BORING LOCATION

Scale: 1" = 10'



PROJ. & ADOPT ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA 106+47.37
Δ = 02°09'16.9" RT.
D = 00°57'17.8"
T = 112.83'
L = 255.64'
R = 6,000.00'

PROJ. & ADOPT ℄ ROUSSEAU RD.
CURVE DATA
P.I. STA 113+09.97
Δ = 15°47'19.3" RT.
D = 02°19'34.5"
T = 341.52'
L = 678.72'
R = 2,463.00'

PLAN
SCALE: 1" = 10'

PILE IDENTIFICATION	STATION	OFFSET
1A	107+84.73	13.50' LT.
1B	107+84.73	6.75' LT.
1C	107+84.73	0.00'
1D	107+84.73	6.75' RT.
1E	107+84.73	13.50' RT.
2A	108+04.73	13.50' LT.
2B	108+04.73	6.75' LT.
2C	108+04.73	0.00'
2D	108+04.73	6.75' RT.
2E	108+04.73	13.50' RT.
3A	108+24.73	13.50' LT.
3B	108+24.73	6.75' LT.
3C	108+24.73	0.00'
3D	108+24.73	6.75' RT.
3E	108+24.73	13.50' RT.
4A	108+44.73	13.50' LT.
4B	108+44.73	6.75' LT.
4C	108+44.73	0.00'
4D	108+44.73	6.75' RT.
4E	108+44.73	13.50' RT.

PILE IDENTIFICATION	STATION	OFFSET
5A	108+64.73	13.50' LT.
5B	108+64.73	6.75' LT.
5C	108+64.73	0.00'
5D	108+64.73	6.75' RT.
5E	108+64.73	13.50' RT.
6A	108+84.73	13.50' LT.
6B	108+84.73	6.75' LT.
6C	108+84.73	0.00'
6D	108+84.73	6.75' RT.
6E	108+84.73	13.50' RT.
7A	109+04.73	13.50' LT.
7B	109+04.73	6.75' LT.
7C	109+04.73	0.00'
7D	109+04.73	6.75' RT.
7E	109+04.73	13.50' RT.
8A	109+24.73	13.50' LT.
8B	109+24.73	6.75' LT.
8C	109+24.73	0.00'
8D	109+24.73	6.75' RT.
8E	109+24.73	13.50' RT.

SHEET NUMBER 105

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	00-52	EN220001 81

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	P. OLIVIER	L. BOURG	M. MILLER	D. HYMEL	1 OF 1

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

FOUNDATION LAYOUT

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

12/15/2022 7:41 AM

rousseau road bridge replacement boring logs

DEPTH Feet	GRAPHIC	SOIL TYPE AND COLOR ⊗	WET DENSITY	MOISTURE CONTENT	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	SPT or UU	FAILURE MODE/ SPT TERMINATION	SAMPLE TYPE NUMBER	ELEVATION
0		Gray GRAVELLY SAND		7						A-1	18.8
		Medium stiff light gray and tan LEAN CLAY (CL) w/ trace organics	122	24	39	24		0.87@0.60	M.S.	C-2	
			122	23	41	26		0.57@1.10	M.S.	C-3	
			124	22	40	23		0.83@1.70	M.S.	C-4	
10				25						C-5	8.8
		Stiff gray FAT CLAY (CH)	124	26	52	34		1.87@3.60	M.S.	C-6	
20		--w/ organics	115	39	87	59	99.5	1.27@5.00	M.S.	C-7	-1.2
		Dense light gray SAND (SP-SM) w/ silt		21				11-15-23 (38)	4	D-8	
				27			5.6	17-23-24 (47)	4	D-9	
30				20				13-18-20 (38)	4	D-10	-11.2
		Loose gray SILTY SAND (SM)		25			29.4	4-4-5 (9)	4	D-11	
		Medium stiff to stiff gray SANDY LEAN CLAY (CL)		31				2-3-4 (7)	4	D-12	
40			124	26	35	21	63.6	1.71@10.60	M.S.	C-13	-21.2
		Very stiff gray SANDY LEAN CLAY (CL)		26	47	33	55.1	4-6-10 (16)	4	D-14	
		Very stiff gray FAT CLAY (CH)	105	48	90	61		2.28@13.30	M.S.	C-15	-31.2
50		Stiff to very stiff gray SANDY FAT CLAY (CH)		26	50	34	49.9			C-16	
				24			62.4	7-10-12 (22)	4	D-17	
60		Stiff gray LEAN CLAY (CL)		27				1-3-7 (10)	4	D-18	-41.2
		--w/ sand		22	39	25	82.6	5-6-5 (11)	4	D-19	
		Medium dense gray CLAYEY SAND (SC)	129	19	26	13	43.9	1.91@18.10	BLG.	C-20	
70		Stiff dark gray FAT CLAY (CH)		32	50	34				C-21	-51.2
		--w/ trace organics	115	35	53	33	82.8	1.85@20.80	M.S.	C-22	
80		Very dense light brown SAND (SP-SM) w/ silt		22			11.5	32-50/4"	1	D-23	-61.2
				21				38-50/6"	1	D-24	
				21			7.3	30-50/6"	1	D-25	
90				20				36-50/6"	1	D-26	-71.2
				17			7.4	50/6"	1	D-27	
				18				50/6"	1	D-28	
100				19			7.4	36-50/6"	1	D-29	-81.2
				18				40-50/6"	1	D-30	
		Very dense light brown SILTY SAND (SM)		19			17.8	17-28-39 (67)	4	D-31	-91.2
110		Bottom of hole at 110 feet Backfilled with cement/bentonite grout upon completion.									
120											-101.2

DRILL RIG AND EQUIPMENT

DRILL RIG MODEL:	CME 550X
DRILLING METHOD:	Auger / Rotary Wash
HOLE DIAMETER:	4"
SPT HAMMER / ETR:	N.O. Auto Hammer /71.7%

PL NM LL
10 20 30 40 50 60 70 80 90

BORING NO. B-1	STA.: 109+26.21 ft	WATER LEVEL: No Free Water Encountered ATD
LATITUDE: 30.47394	OFFSET: 29.72 R	
LONGITUDE: -90.14822	DATE TAKEN: 9/19/2022	BACKFILL METHOD: Cement/Bentonite Gr
LRS ID:	RECALL NO.:	SQD. LDR.: K. Cunningham

DEPTH Feet	GRAPHIC	SOIL TYPE AND COLOR ⊗	WET DENSITY	MOISTURE CONTENT	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	SPT or UU	FAILURE MODE/ SPT TERMINATION	SAMPLE TYPE NUMBER	ELEVATION
0		Gray LEAN CLAY (CL)		22						A-1	18.7
		Stiff light gray and tan LEAN CLAY (CL) w/ trace organics	124	22	39	23		1.09@0.60	M.S.	C-2	
			125	22	34	17		1.45@1.10	M.S.	C-3	
		Very stiff gray LEAN CLAY (CL) w/ trace organics	132	17	31	15		3.20@1.70	M.S.	C-4	
10		Medium stiff gray LEAN CLAY (CL) w/ trace gravel and trace organics	128	20	32	17		0.78@2.20	BLG.	C-5	8.7
		Stiff gray and tan LEAN CLAY (CL)	124	27	45	28		1.20@3.60	BLG.	C-6	
20			126	25	39	25		1.00@5.00	M.S.	C-7	-1.3
		Loose light gray SILTY SAND (SM)		20			45.8			C-8	
		Medium dense gray SANDY SILT (MLS)		22		NP	51.7	10-9-11 (20)	4	D-9	
30		Medium stiff gray FAT CLAY (CH)		36	65	46		5-3-3 (6)	4	D-10	-11.3
		Stiff light gray and tan LEAN CLAY (CL)	121	28	49	33		1.32@9.40	M.S.	C-11	
40		Medium dense gray CLAYEY SAND (SC)		24			41.9	4-4-5 (9)	4	D-12	-21.3
		Medium dense gray SILTY SAND (SM)		29			18.8	6-5-9 (14)	4	D-13	
		Very stiff gray FAT CLAY (CH)		30	59	38	94.0	3-12-7 (19)	4	D-14	
50		Medium stiff gray and tan FAT CLAY (CH)	107	51	81	55		0.99@13.90	M.S.	C-15	-31.3
		Very loose gray SAND (SP-SM) w/ silt		24			11.9			C-16	
		Very loose gray SILT (ML)		31		NP	94.9	3-2-1 (3)	4	D-17	-41.3
60		Stiff gray LEAN CLAY (CL)		23	38	22		1-5-8 (13)	4	D-18	
		Stiff dark gray LEAN CLAY (CL) w/ organics	130	23	29	16		1.66@18.30	M.S.	C-19	
70		Wood with trace clay		232						C-20	-51.3
		Dense gray SILTY SAND (SM)		14			37.7	14-11-23 (34)	4	D-21	
		Loose gray SILT (ML)		26		NP	96.9	5-1-6 (7)	4	D-22	
80		Medium stiff gray LEAN CLAY (CL)		23	27	11		4-4-2 (6)	4	D-23	-61.3
		Dense gray SANDY SILT (MLS)		21		NP	56.5			C-24	
		Very dense light brown SAND (SP-SM) w/ silt		23			8.6	25-43-50/6"	1	D-25	
90				24				24-41-42 (83)	4	D-26	-71.3
				16			7.9	50/1"	1	D-27	
				20				49-50/3"	1	D-28	
100				18			8.8	40-50/4"	1	D-29	-81.3
		Medium dense to dense light brown SAND (SP-SM) w/ silt		27				4-4-10 (14)	4	D-30	
				17			8.4	11-22-26 (48)	4	D-31	
				15				8-7-5 (12)	4	D-32	-91.3
110		Medium dense light brown SILTY SAND (SM)		16			15.8	11-13-16 (29)	4	D-33	
		Bottom of hole at 112 feet Backfilled with cement/bentonite grout upon completion.									
120											-101.3

DRILL RIG AND EQUIPMENT

DRILL RIG MODEL:	CME 550X
DRILLING METHOD:	Auger / Rotary Wash
HOLE DIAMETER:	4"
SPT HAMMER / ETR:	N.O. Auto Hammer /71.7%

PL NM LL
10 20 30 40 50 60 70 80 90

BORING NO. B-2	STA.: 108+06.37 ft	WATER LEVEL: No Free Water Encountered ATD
LATITUDE: 30.47362	OFFSET: 28.47 R	
LONGITUDE: -90.14812	DATE TAKEN: 9/21/2022	BACKFILL METHOD: Cement/Bentonite Gr
LRS ID:	RECALL NO.:	SQD. LDR.: K. Cunningham

STANDARD ABBREVIATIONS & DEFINITIONS

SPG, CH, SM, SC, ML, CL, SP-SM, CLS, MLS

N.P. = Non-Plastic
ORG. = Organic

FAILURE MODE:
M.S. = Multiple Shear SL = Slump
S/S = Slickensides YLD. = Yield
V.S. = Vertical Shear 60 S. = Shear Angle

SPT TERMINATION, AASHTO T 206
1 = 7.2.1 – 50 Blows Within A 6" Interval
2 = 7.2.2 – 100 Blows Total
3 = 7.2.3 – No Advancement for 10 Blows
4 = 7.2.4 – Sampler Driven the Entire 18"
5 = Non-standard
6 = WOR "Weight of Rod"
7 = WOH "Weight of Hammer"

SOIL PROPERTIES

⊗	= SOIL TYPE nomenclature is based on ASTM D2487
WET DENSITY	= Wet density of soil specimen, (pounds per cu. ft.) determined by ASTM D7263.
MOISTURE CONTENT	= Moisture Content of soil specimen, expressed as a percentage of the dry weight of the soil, (%), determined by ASTM D2216.
LIQUID LIMIT & PLASTICITY INDEX	= Atterberg limits and indices, ASTM D4318
SPT	= Standard Penetration Test, ASTM D1586, number of blows per each 6 inch increment, unless amount of penetration is shown
UU	= Unconsolidated Undrained triaxial test, ASTM D2850, compressive strength (tons per sq. ft.), of one specimen confined at noted pressure (pounds per sq. in.)
C	= Soil cohesion (tons per sq. ft.)
♦	= Soil angle of internal friction (degrees)
+	= Consolidated drained direct shear test, ASTM D3080, (c – ♦).
*	= Hydrometer test performed, ASTM D7928

MISCELLANEOUS:

C-3 = Location and Identification of thin-walled tube sample, ASTM D1587

C-3 = Location and Identification of thin-walled tube sample, ASTM D1587, with a portion of the sample saved for consolidation testing

D-3 = Location and Identification of SPT sample, ASTM D1586

NO RECV. = No Recovery, unable to recover sample for testing or classification.
DIST. = Disturbed sample recovered with thin-walled tube sampler.
▽ 24 HRS = Water Table depth below ground surface recorded at noted time after completion of borehole.
ETR = Energy Transfer Ratio determined according to ASTM D4633

CORRELATION OF PENETRATION RESISTANCE AND SOIL PROPERTIES

SOIL		DESIGNATION	"N" (blows per ft.)
SAND AND SILT	RELATIVE DENSITY	VERY LOOSE	LESS THAN 4
		LOOSE	4 – 10
		MEDIUM DENSE	10 – 30
		DENSE	30 – 50
		VERY DENSE	OVER 50
CLAY	CONSISTENCY	VERY SOFT	LESS THAN 2
		SOFT	2 – 4
		MEDIUM STIFF	4 – 8
		STIFF	8 – 15
		VERY STIFF	15 – 30
		HARD	OVER 30

SHEET NUMBER 106

PARISH: ST. TAMMANY | CONTROL SECTION | STATE PROJECT

DESIGN | CHECK | DETAIL: JEK | CHECK: CR | REVIEW | SERIES #

STATE OF LOUISIANA
12/30/22
MARK L. WOODWARD
License No. 34304
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
CONFIDENCE

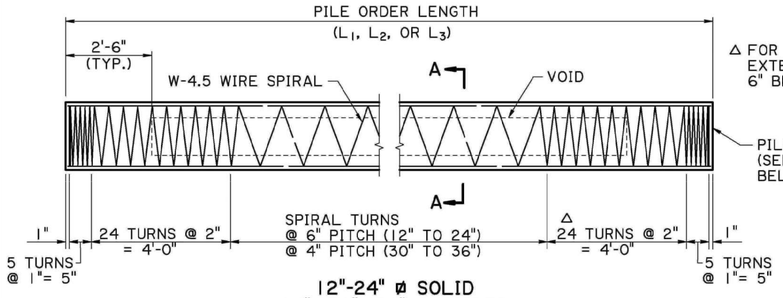
GEOTECHNICAL EXPLORATION LOGS

Rousseau Road Bridge Replacement

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

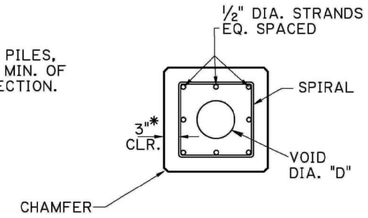
Ardaman & Associates, Inc.

9/18/2017 13:17



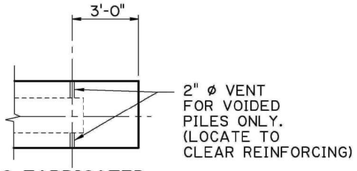
△ FOR CONCRETE FILLED VOIDED PILES, EXTEND 2" SPIRAL PITCH TO A MIN. OF 6" BELOW CONCRETE FILLED SECTION.

12"-24" ø SOLID
24", 30", 36" ø VOIDED
PRECAST-PRESTRESSED CONCRETE PILES



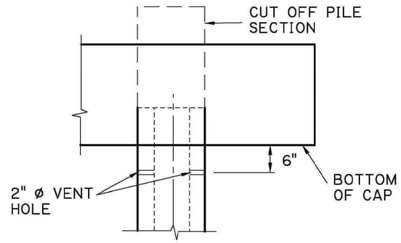
SECTION A-A

* 2" FOR 12" & 14" PILE SIZE.
CLEARANCES MEASURED AT CENTER LINE OF PILE.



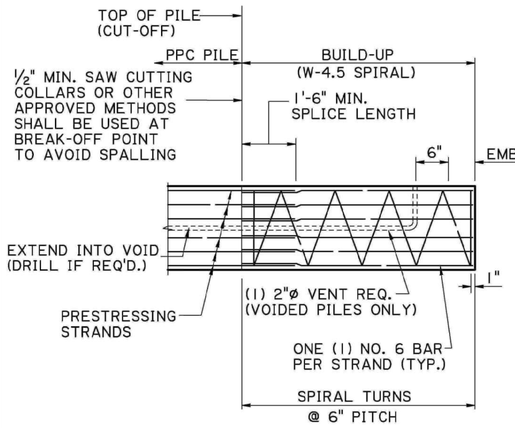
AS FABRICATED PILE HEAD DETAIL

NOTE: VENTS REQUIRED AT PILE HEAD ONLY



CUT OFF PILE HEAD DETAIL

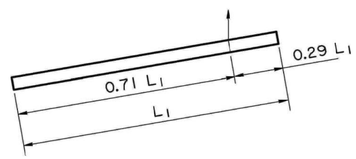
(VOIDED PILES ONLY)



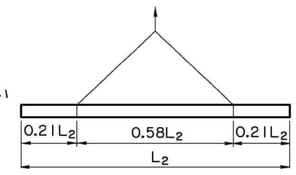
TYP. BUILD-UP WHERE REDRIVING IS NOT REQUIRED

(WHERE REDRIVING IS REQUIRED PILE BUILD-UP IS NOT ALLOWED)

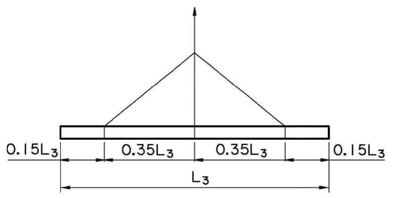
ALL DETAILS NOT TO SCALE



1-POINT PICK-UP



2-POINT PICK-UP



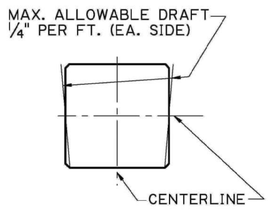
3-POINT PICK-UP

PICK-UP DETAILS

2 POINT PICK-UP SHALL TAKE PRECEDENCE OVER 3 POINT PICK-UP WHERE APPLICABLE.

PILE INFORMATION

PILE SIZE (in.)	SECTION PROPERTIES					SQUARE SPIRAL LAYOUTS					
	VOID "D" (in.)	AREA (in.²)	SECTION MODULUS (in.³)	WEIGHT PER FOOT (lb/ft)	CHAMFER (in.)	NO. OF STRANDS	PRESTRESS IN CONCRETE (psi)		MAX. CASTING LENGTH (ft)		
							AT RELEASE	AT 90 DAYS	L_1	L_2	L_3
12 SOLID	0	144	288	150	¾"	4	830	774	53.3	76.0	105.0
14 SOLID	0	196	457	204	¾"	8	1203	1116	66.0	93.4	130.4
16 SOLID	0	256	683	267	¾"	12	1373	1273	67.6	95.7	136.7
18 SOLID	0	324	972	338	¾"	12	1096	1026	72.0	102.7	142.5
20 SOLID	0	400	1333	417	1½"	16	1180	1106	78.4	111.3	154.6
24 SOLID	0	576	2304	600	1½"	24	1227	1154	86.7	122.7	172.0
24 VOIDED	10.5	489	2254	510	1½"	20	1204	1119	92.9	131.4	183.2
30 VOIDED	16.5	686	4257	715	1½"	28	1203	1120	107.8	152.6	212.5
36 VOIDED	22.5	898	7077	936	1½"	36	1182	1102	120.6	170.9	237.9



DRAFT DETAIL

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

GENERAL NOTES

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6th EDITION 2012, WITH 2013 INTERIMS.

CONCRETE IN PILE: THE CONTRACTOR SHALL DESIGN AND SUBMIT FOR APPROVAL A "P1" CONCRETE MIX WITH A MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 6000 PSI AT 28 DAYS. CONCRETE STRENGTH AT THE TIME OF TRANSFER OF PRESTRESSED FORCE SHALL BE 4500 PSI OR GREATER.

CONCRETE IN BUILD-UP: BUILD-UP CONCRETE SHALL MEET OR EXCEED THE CONCRETE DESIGN REQUIREMENTS OF THE ORIGINAL PILE. BUILT UP CONCRETE NOT MEETING THE ABOVE REQUIREMENTS SHALL BE REMOVED AND REPLACED AT NO DIRECT PAY.

PRESTRESSING STEEL: PRETENSIONED REINFORCEMENT SHALL BE ½" DIA. SEVEN-WIRE, UNCOATED LOW-RELAXATION STRANDS GRADE 270 AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M203. AN INITIAL TENSION OF 30,980 LBS. SHALL BE APPLIED TO EACH STRAND.

DEFORMED REINFORCING STEEL: REINFORCING STEEL SHALL BE DEFORMED STEEL BARS, GRADE 60 AND SHALL MEET THE REQUIREMENTS OF AASHTO M31.

SPIRAL REINFORCING STEEL: SPIRAL REINFORCEMENT SHALL BE SIZE W-4.5 COLD-DRAWN STEEL WIRE AND SHALL CONFORM TO AASHTO M 32M.

FABRICATION TOLERANCES: MANUFACTURE OF THE PILING AND FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH THE "MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF STRUCTURAL PRECAST CONCRETE PRODUCTS (MNL-116, LATEST EDITION) PUBLISHED BY PCI, AND THE DRAFT DETAIL SHOWN BELOW.

CHAMFERS AND CORNERS: ON PILES 18" ø OR SMALLER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE ¾" CHAMFERS. ON PILES 20" ø OR LARGER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 1½" CHAMFERS. A 1" RADIUS CURVE WILL BE PERMITTED IN LIEU OF CHAMFERS SHOWN ABOVE. HOWEVER, ALL PILES FURNISHED SHALL BE OF THE SAME CONFIGURATION.

PICK-UP AND HANDLING: LOADING CRITERIA ARE BASED ON CAREFUL HANDLING OF THE PILE. ROTATION OF THE PILE IN THE SLING SHALL BE PREVENTED UNTIL THE PILE IS IN VERTICAL POSITION.

PICK-UP POINTS FOR ALL THE PILES SHALL BE CLEARLY MARKED ON PILES. SUPPORT FOR STORAGE SHALL BE AT PICK-UP POINTS. IN THE CASE OF 1-POINT PICK-UP, SUPPORT PILE AT $0.29L_1$ FROM EACH END.

PILES SHALL BE MADE AT A CENTRAL PLANT AND BE TRANSPORTED TO THE BRIDGE SITE. BEFORE TRANSPORTATION, ALL PRESTRESSED PILING SHALL BE HELD AT THE PLANT FOR 14 DAYS AFTER CASTING AND SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI.

PICK-UP POINTS SHOWN MAY BE MODIFIED FOR TRANSPORTATION PURPOSES, PROVIDED THE PILE STRESSES ARE IN ACCORDANCE WITH THE DESIGN CRITERIA. ANY SUPPORT CONFIGURATION DIFFERING FROM THOSE SHOWN ON THIS PLAN SHALL REQUIRE STAMPED AND SIGNED CALCULATIONS TO BE SENT TO THE BRIDGE DESIGN ENGINEER FOR REVIEW.

PILES REQUIRING THREE PICK-UP POINTS AND TRUCK TRANSPORTATION SHALL REQUIRE PIVOTING SPREADER BEAMS THAT PROVIDE FOUR POINTS OF SUPPORT TO THE PILE, RESULTING IN PILE STRESSES WITHIN DESIGN CRITERIA. THE TRUCK TRANSPORT SUPPORT POINTS SHALL BE SENT TO THE BRIDGE DESIGN ENGINEER FOR REVIEW.

ALL EMBEDDED LIFTING LOOPS SHALL BE PROVIDED WITH 2" DEEP FOAM BLOCK-OUTS. PRIOR TO TRANSPORT, LIFTING LOOPS SHALL BE REMOVED TO PROVIDE 2" MINIMUM CLEAR COVER. THE REMAINING CAVITIES SHALL BE CLEAR OF ALL SLAG AND LOOSE MATERIAL, AND THEN FILLED WITH A PATCHING MATERIAL FROM QPL NO. 49. THE PATCHING MATERIAL MUST MEET OR EXCEED PILE CONCRETE REQUIREMENTS FOR STRENGTH AND PERMEABILITY.

VENT HOLES: FOR VOIDED PILES THAT REQUIRE BUILD-UP OR CUT-OFF, THE VENT HOLES SHALL BE RE-ESTABLISHED AT 6" BELOW THE BOTTOM OF THE BENT CAP, AS SHOWN IN THE "CUT OFF" AND "BUILD-UP" PILE DETAILS ON THIS PLAN.

SHOP DRAWINGS: ANY DEVIATION FROM THE DETAILS SHOWN ON THIS SHEET, OR ANY DESIGN CHANGES MADE TO THE PILES SHALL REQUIRE SHOP DRAWINGS TO BE SUBMITTED TO THE BRIDGE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

ALLOWABLE HANDLING STRESSES: THE MAXIMUM LENGTHS FOR PICK-UP HAVE BEEN DETERMINED USING THE FOLLOWING AASHTO LRFD STRESSES FOR BOTH 14 AND 90 DAYS.

CONTROL OF CRACKS IN CONCRETE: VOIDS SHALL TERMINATE NOT LESS THAN 12 INCHES BEYOND THE LONGEST PILE SPLICE REBAR EXTENSION.

MOMENT CONNECTIONS: WHENEVER METAL PIPE IS USED TO FORM A MOMENT CONNECTION THE SPIRAL SPACING (2") SHALL EXTEND THE FULL LENGTH OF AND AT LEAST 18 INCHES BEYOND THE END OF THE PILE.

ALLOWABLE TENSILE STRESS (ksi): $0.19\sqrt{f'_c}$
ALLOWABLE COMPRESSIVE STRESS (ksi): $0.45f'_c$
IMPACT FACTOR: 1.5
MIN. FINAL COMPRESSIVE STRESS: 0.7 ksi

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 33976
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
05/17/17

SHEET NUMBER 107

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED V. SANCHEZ
CHECKED A.LANCASTER
DETAILED D. HYMEL
CHECKED V. SANCHEZ
REVIEWED Z.Z. FU
SERIES # 1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PRE-CAST PRESTRESSED CONCRETE PILES

BD.2.5.1.0.01 - P.P.C. PILES (CS-216)

DOTD BRIDGE DESIGN

IP_PWP:d0684423\BD.2.5.1.0.01 CS-216.dgn

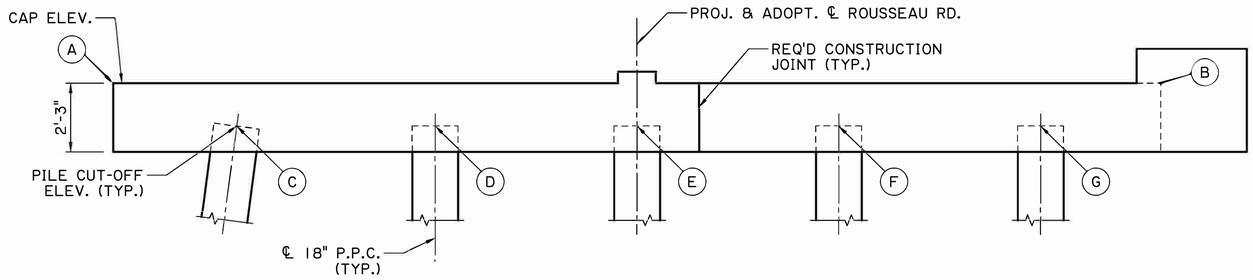
FINAL PLANS
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10/6/2025 17:41

ROUSSEAU ROAD OVER SOAP AND TALLOW BRANCH - PILE DATA TABLE

BENT NO.	STATION	NO. OF PILES PER BENT	PILE TYPE & SIZE	MONITOR PILE REQ'D (Y OR N)	LOAD (TONS)						SOIL RESISTANCE FACTOR (ø)				REQ'D NOMINAL PILE RESISTANCE (TONS)		MAX CUT-OFF EL. (FT.)	PLAN LENGTH (FT.)	PILE PLAN TIP EL. (FT.)	ORDER LENGTH (FT.)	AS-BUILT TIP EL. (FT.)		
					SERVICE		STRENGTH		EXTREME			STRENGTH			WITHOUT PREBORING	PREBORING TO SCOUR DEPTH					MAX.	MIN.	AVG.
					PERMANENT LOAD	TRANSIENT LOAD	COMPRESSION	TENSION	COMPRESSION	TENSION	SERVICE	COMPRESSION	TENSION	EXTREME									
1	107+84.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				
2	108+04.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				
3	108+24.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				
4	108+44.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				
5	108+64.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				
6	108+84.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				
7	109+04.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				
8	109+24.73	5	18" P.P.C.	N	20	35	83				1.0	0.5		1.0	205	178	16.50	68.00	-51.50				

CAP AND PILE CUTOFF ELEVATION (CAST-IN-PLACE)

BENT NO.	CAP ELEVATION (FT.)		CAP SLOPE (%)	PILE CUT-OFF ELEVATION (FT.)				
	A	B		C	D	E	F	G
1-8	18.00	18.00	0.00%	16.50	16.50	16.50	16.50	16.50



HALF ELEVATION - INTERMEDIATE BENT

HALF ELEVATION - END BENT

PILES: ALL PILE REQUIREMENTS INCLUDING SIZE, TYPE, LOCATION, AND MAXIMUM DESIGN LOAD SHALL BE AS DESCRIBED IN THE CONTRACT DOCUMENTS. THE MINIMUM PILE TIP ELEVATION WILL BE THE PLAN TIP ELEVATION AS SHOWN IN THE PRODUCTION PILE DATA TABLE, UNLESS OTHERWISE NOTED OR OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.

PILE CAPACITY VERIFICATION: SHALL BE BASED ON THE MODIFIED GATES DYNAMIC FORMULA:

ENGLISH DYNAMIC FORMULA:

$$R = \frac{\left(1.75\sqrt{E_r}\log(10N_b)\right) - 100}{2}$$

R = Pile Bearing Capacity (Tons)

E_r = Manufacturer's Rated Energy at the field observed ram stroke (foot – pounds)

N_b = Number of Hammer Blows/Inch

REQUIRED NOMINAL RESISTANCE: "WITHOUT PREBORING" SHALL BE USED TO VERIFY PILE CAPACITY IF NO PREDRILLING IS PERFORMED. IF PREDRILLING TO THE SCOUR ELEVATION IS PERFORMED, THE REQUIRED NOMINAL RESISTANCE "PREBORING TO SCOUR" SHALL BE USED FOR PILE CAPACITY VERIFICATION.

TEMPORARY SHEETING

STATION		OFFSET	SIDE CL	TIP ELEV.	CUT-OFF ELEV.	PLAN LENGTH	TYPE	QUANTITY (SQFT)
BEGIN	END							
107+48.00	107+93.00	3'-3"⊗	RT.	4.50'	19.50'	15'-0"	PZ-27	675'
109+22.30	109+61.30	3'-3"⊗	RT.	4.50'	19.50'	15'-0"	PZ-27	585'

SHEET PILE WALL NOTES:

1. MAXIMUM EXCAVATION DEPTH FROM TOP OF WALL TO DREDGE LINE SHALL NOT EXCEED 4' FEET.
2. ALTERNATE SHEET PILE SECTIONS WITH CROSS SECTIONAL PROPERTIES EQUAL TO OR GREATER THAN THE SECTION SPECIFIED MAY BE USED WITH THE PROJECT ENGINEER'S APPROVAL. ANY SUBSTITUTED SECTIONS SHALL FIT THE APPROVED CONSTRUCTION SEQUENCING SCHEME.
3. TEMPORARY SHEETING MAY BE SACRIFICIAL, CUT 3' BELOW GRADE, TO REMAIN.

⊗ FINAL LOCATION AND OFFSET OF WALL SHALL BE DETERMINED IN THE FIELD. FACE OF TEMPORARY SHEETING TO REMAIN MIN 6" OFF EDGE OF PHASE I CONSTRUCTION.

STATE OF LOUISIANA
Mark L. Woodward
License No. 24206
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

GEOTECHNICAL ANALYSIS & DESIGN

SHEET NUMBER 108

ST. TAMMANY | 00-52 | EN220001811
PARISH | CONTROL SECTION | STATE PROJECT

DESIGN M. MILLER | CHECK P. OLIVIER | DETAIL L. BOURG | CHECK M. MILLER | REVIEW D. HYMEL | SERIES # 1 OF 1

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

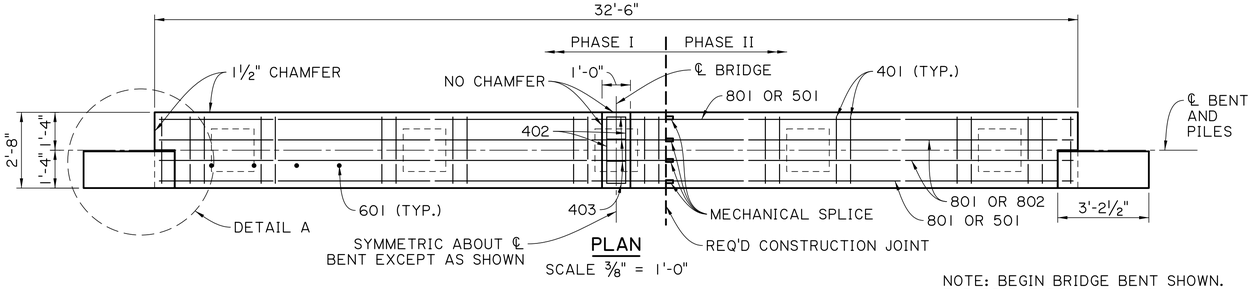
PILE DATA & ELEVATIONS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

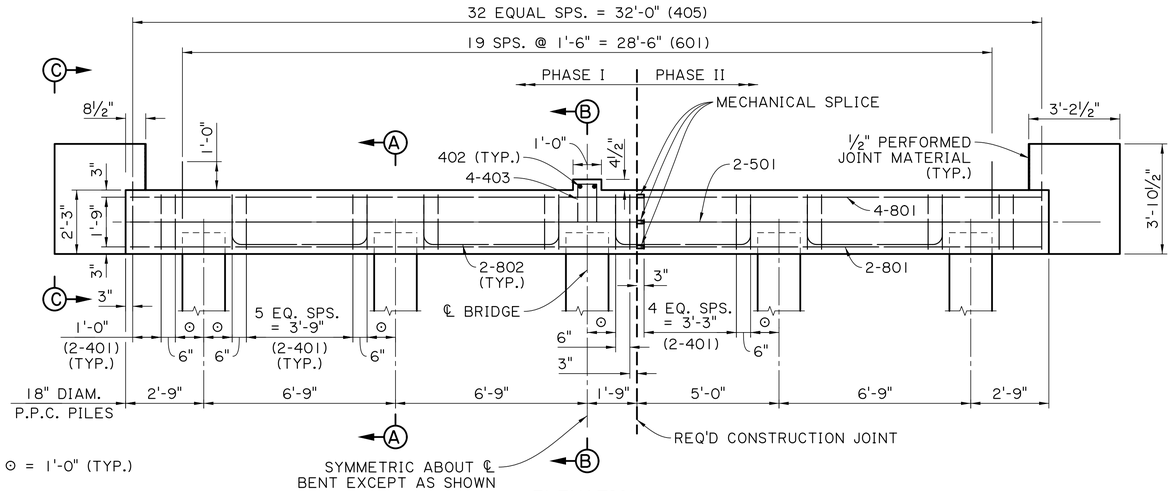
CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_100 PCT\109 - End Bent Detail.dgn
10/7/2025 07:50

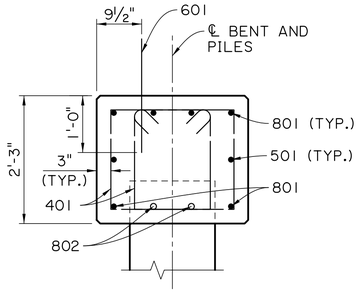


PLAN
SCALE ⅜" = 1'-0"

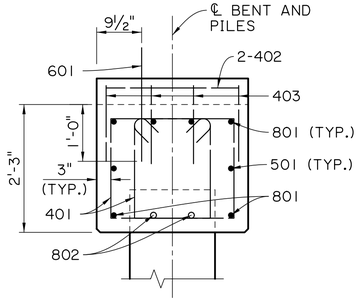
NOTE: BEGIN BRIDGE BENT SHOWN. END BRIDGE BENT IS SIMILAR BY ROTATION



ELEVATION
SCALE ⅜" = 1'-0"



SECTION A-A
SCALE ¾" = 1'-0"



SECTION B-B
SCALE ¾" = 1'-0"

ESTIMATED QUANTITIES (ONE BENT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
* 801	6	32'-0"	192'-0"	LONGIT. IN CAP
△ 802	8	7'-3"	58'-0"	LONGIT. IN CAP BTWN. PILES
TOTAL NO. 8 BARS = 250'-0" = 668 LBS.				
601	20	2'-0"	40'-0"	DOWELS
TOTAL NO. 6 BARS = 40'-0" = 60 LBS.				
* 501	2	32'-0"	64'-0"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 64'-0" = 67 LBS.				
401	76	7'-11"	601'-8"	STIRRUPS IN CAP
402	2	2'-2"	4'-4"	LONGIT. IN KEY
403	4	3'-4"	13'-4"	STIRRUPS IN KEY
404	8	2'-10"	22'-8"	LONGIT. IN WINGWALL
405	12	4'-0"	48'-0"	LONGIT. IN WINGWALL
406	10	9'-8"	96'-8"	STIRRUPS IN WINGWALL
TOTAL NO. 4 BARS = 786'-8" = 525 LBS.				
DEFORMED REINFORCING STEEL = 1320 LBS.				
CLASS A1 CONCRETE = 7.98 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 20 TONS				
SERVICE LIVE LOAD = 35 TONS				
FACTORED TOTAL LOAD = 83 TONS				

* MECHANICALLY SPLICE BARS THAT CROSS THE REQUIRED LONGITUDINAL CONSTRUCTION JOINTS. ESTIMATED NUMBER OF SPLICES:
801: 6
501: 2

△ 802 BARS WITHIN CONSTRUCTION JOINT SHALL BE PLACED IN WHOLE DURING PHASE I AND SHLL BE SUPPORTED AND PROTECTED UNTIL PHASE II.

NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th EDITION.

DESIGN LOAD: LIVE LOAD IS HL-93, AND LADV-11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

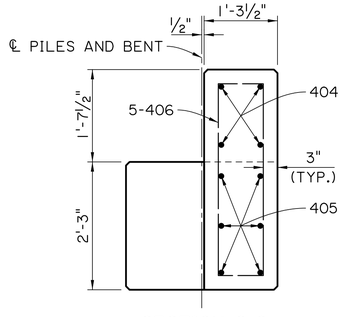
STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED.

REINFORCING STEEL: ALL REINFORCING SHALL BE GRADE 60. DIMENSIONS RELATING TO FABRICATION ARE OUT TO OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS, UNLESS OTHERWISE NOTED. DOWELS (601 BARS) SHALL BE PROVIDED AT ALL FIXED BEARINGS AND APPROACH SLAB BEARINGS (SEE GENERAL PLAN). ALL EXPOSED ENDS OF DOWELS SHALL BE WRAPPED WITH TWO LAYERS OF 15 LB. ASPHALT SATURATED FELT. CLOSE FITTING TUBES OF COMPRESSIBLE MATERIAL NOT LESS THAN 3/16" THICK MAY BE SUBSTITUTED.

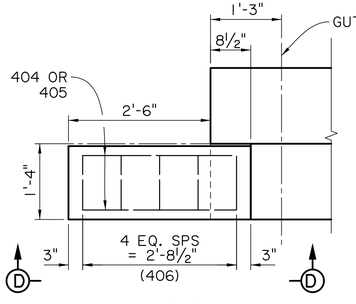
PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED, STRAIGHTED, AND SPLICED USING MECHANICAL SPLICING IN ACCORDANCE WITH THE AML. A TOTAL OF 6 MECHANICAL SPLICES (No. 8 BARS) PER BENT AND A TOTAL OF 2 MECHANICAL SPLICES (No. 5 BARS) PER BENT SHALL BE PAID FOR UNDER DEFORMED REINFORCING STEEL (MECHANICAL SPLICE) - 806-03-00100.

PRECAST CONCRETE PILES: FOR DETAILS SEE STANDARD DETAIL BD.2.5.1.0.01 (CS-216).

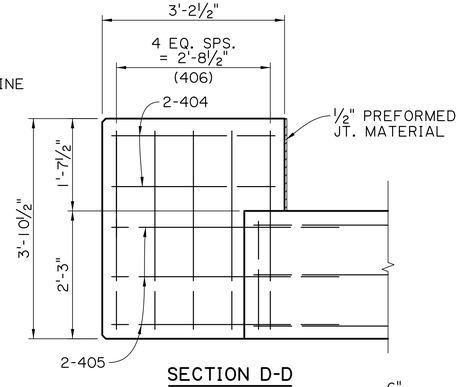
BASIS OF PAYMENT: ALL MATERIAL SHALL BE PAID FOR UNDER "CLASS A1 CONCRETE (BENT CAP)" AND "DEFORMED REINFORCING STEEL" ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET. ELASTOMERIC BEARING PAD TO BE PAID FOR UNDER "ELASTOMERIC BEARING PAD (NON-REINFORCED)".



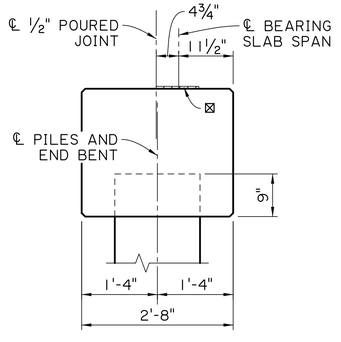
SECTION C-C
SCALE ¾" = 1'-0"



DETAIL A
SCALE ¾" = 1'-0"

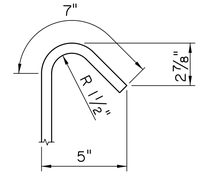


SECTION D-D
SCALE ¾" = 1'-0"

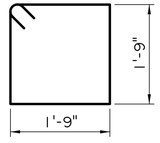


END BENT - SECTION A-A
(SHOWING SPAN PLACEMENT)
SCALE ¾" = 1'-0"

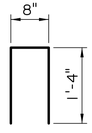
⊠ ½" THICK X 9" WIDE ELASTOMERIC BEARING PAD (70 HARDNESS) ALONG FULL LENGTH OF BENT DIRECTLY UNDERNEATH THE SLAB HAUNCH.



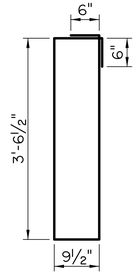
135° HOOK FOR 401
(2"ø PIN)
(N.T.S.)



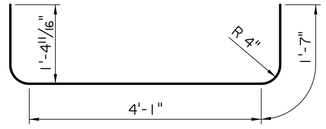
401
(2"ø PIN)
(N.T.S.)



403
(2"ø PIN)
(N.T.S.)



406
(2"ø PIN)
(N.T.S.)



802
(6ø PIN)
(N.T.S.)

SHEET NUMBER	109
PARISH	ST. TAMMANY
CONTROL SECTION	00-52
STATE PROJECT	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	P. OLIVIER	L. BOURG	M. MILLER	D. HYMEL	1 OF 1

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

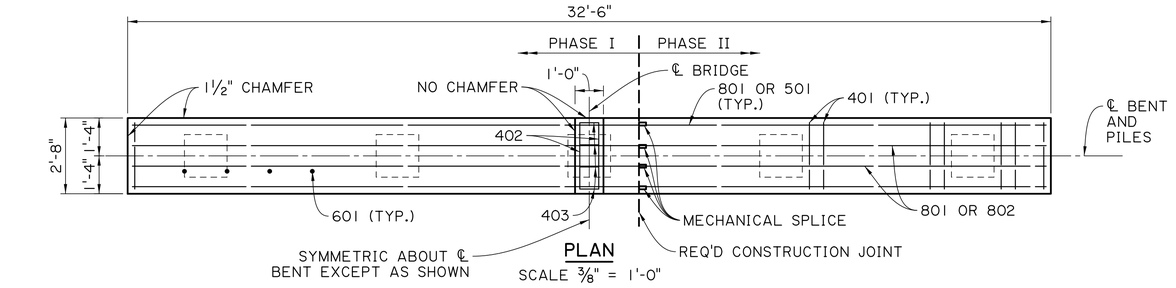
END BENT DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

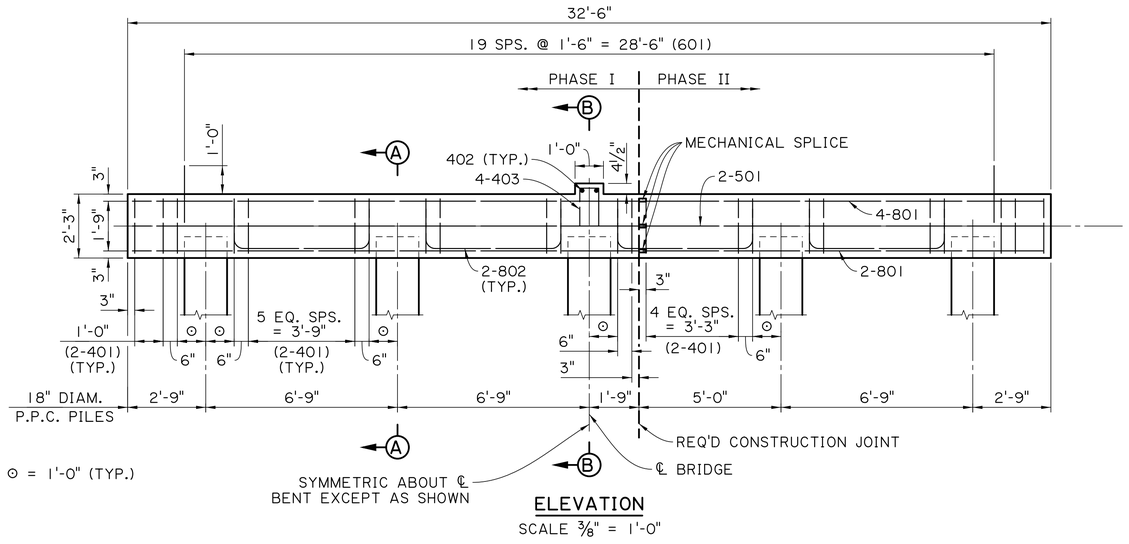
ST. TAMMANY PARISH GOVERNMENT

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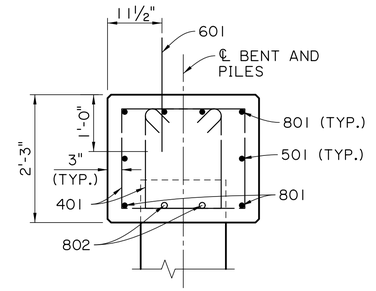
FINAL PLANS
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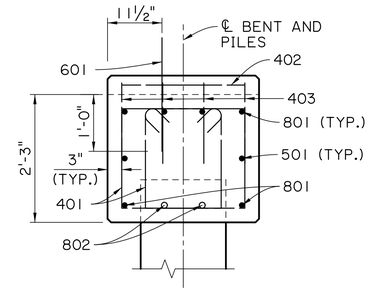
PLAN
SCALE ⅜" = 1'-0"



ELEVATION
SCALE ⅜" = 1'-0"



SECTION A-A
SCALE ¾" = 1'-0"



SECTION B-B
SCALE ¾" = 1'-0"

ESTIMATED QUANTITIES (ONE BENT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
✱ 801	6	32'-0"	192'-0"	LONGIT. IN CAP
△ 802	8	7'-3"	58'-0"	LONGIT. IN CAP BTWN PILES
TOTAL NO. 8 BARS = 250'-0" = 668 LBS.				
601	20	2'-0"	40'-0"	DOWELS
TOTAL NO. 6 BARS = 40'-0" = 60 LBS.				
✱ 501	2	32'-0"	64'-0"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 64'-0" = 67 LBS.				
401	76	7'-11"	601'-8"	STIRRUPS IN CAP
402	2	2'-2"	4'-4"	LONGIT. IN KEY
403	4	3'-4"	13'-4"	STIRRUPS IN KEY
TOTAL NO. 4 BARS = 619'-4" = 414 LBS.				
⊗ DEFORMED REINFORCING STEEL = 1208 LBS.				
CLASS A1 CONCRETE = 6.95 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 20 TONS SERVICE LIVE LOAD = 35 TONS FACTORED TOTAL LOAD = 83 TONS				

⊗ ADD 60 LBS OF REINFORCING STEEL (20-601 DOWELS) WHEN TWO FIXED ENDS OCCUR ON THE SAME BENT.

✱ MECHANICALLY SPLICE BARS THAT CROSS THE REQUIRED LONGITUDINAL CONSTRUCTION JOINTS. ESTIMATED NUMBER OF SPLICES:
801: 6
501: 2

△ 802 BARS WITHIN CONSTRUCTION JOINT SHALL BE PLACED IN WHOLE DURING PHASE I AND SHLL BE SUPPORTED AND PROTECTED UNTIL PHASE II.

NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th EDITION.

DESIGN LOAD: LIVE LOAD IS HL-93, AND LADV-11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED.

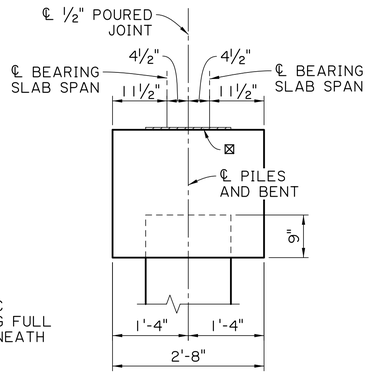
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PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED, STRAIGHTED, AND SPLICED USING MECHANICAL SPLICING IN ACCORDANCE WITH THE AML. A TOTAL OF 6 MECHANICAL SPLICES (No. 8 BARS) PER BENT AND A TOTAL OF 2 MECHANICAL SPLICES (No. 5 BARS) PER BENT SHALL BE PAID FOR UNDER DEFORMED REINFORCING STEEL (MECHANICAL SPLICE) - 806-03-00100.

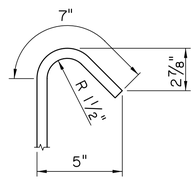
PRECAST CONCRETE PILES: FOR DETAILS SEE STANDARD DETAIL BD.2.5.1.0.01 (CS-216).

BASIS OF PAYMENT: ALL MATERIAL SHALL BE PAID FOR UNDER "CLASS A1 CONCRETE (BENT CAP)" AND "DEFORMED REINFORCING STEEL" ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET. ELASTOMERIC BEARING PAD TO BE PAID FOR UNDER "ELASTOMERIC BEARING PAD (NON-REINFORCED)".

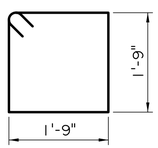
⊠ ½" THICK X 18" WIDE ELASTOMERIC BEARING PAD (70 HARDNESS) ALONG FULL LENGTH OF BENT DIRECTLY UNDERNEATH THE SLAB HAUNCH.



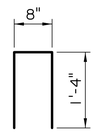
INT. BENT - SECTION A-A
(SHOWING SPAN PLACEMENT)
SCALE ¾" = 1'-0"



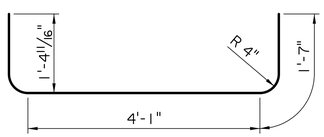
135° HOOK FOR 401
(2"ø PIN)
(N.T.S.)



401
(2"ø PIN)
(N.T.S.)



403
(2"ø PIN)
(N.T.S.)



802
(6ø PIN)
(N.T.S.)

SHEET NUMBER	110
PARISH	ST. TAMMANY
CONTROL SECTION	00-52
STATE PROJECT	EN220000181
DESIGN	M. MILLER
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	M. MILLER
REVIEW	D. HYMEL
SERIES #	1 OF 1

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

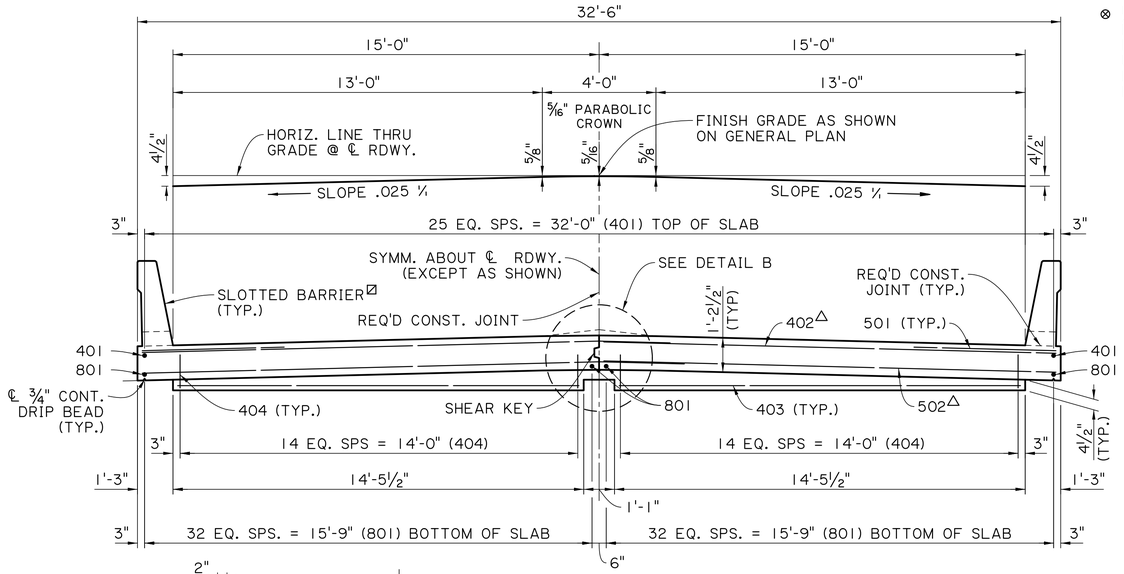
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

INTERMEDIATE BENT DETAILS

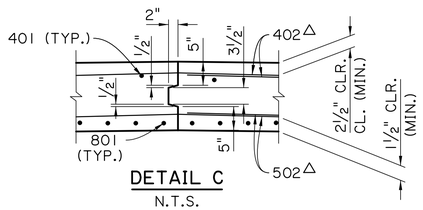
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC



SECTION A-A
SCALE : ⅜" = 1'-0"

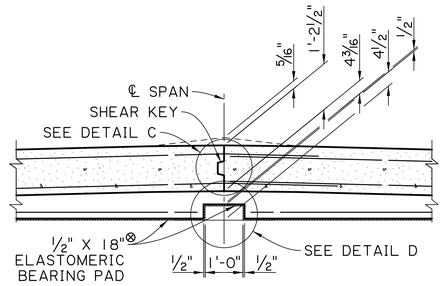


DETAIL C
N.T.S.

☑ STANDARD BARRIER REQUIRED ON THE END SPANS

△ PHASE I AND PHASE II LONGITUDINAL REINFORCING SHALL HAVE MINIMUM LAP LENGTHS OF 2'-6" (402 BARS) AND 3'-0" (502 BARS).

⊗ ½" THICK X 18" WIDE (½" X 9" @ END BENTS) ELASTOMERIC BEARING PAD (70 HARDNESS) ALONG FULL LENGTH OF BENT DIRECTLY UNDERNEATH THE SLAB HAUNCH. ADHESIVE SHALL BE USED IN ACCORDANCE WITH BEARING PAD AND ADHESIVE MANUFACTOR'S RECOMMENDATIONS TO HOLD ½" ELASTOMERIC MATERIAL IN PLACE DURING CONCRETE PLACEMENT.



DETAIL B
SCALE : ½" = 1'-0"

ESTIMATED QUANTITIES (ONE SPAN)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	66	19'-6"	1287'-0"	LONGIT. BOT. OF SLAB
TOTAL NO. 8 BARS = 1287'-0" = 3436 LBS.				
501	60	5'-0"	300'-0"	TRANS. TOP OF SLAB
502	40	35'-0"	1400'-0"	TRANS. BOT. OF SLAB
TOTAL NO. 5 BARS = 1700'-0" = 1773 LBS.				
401	26	19'-6"	507'-0"	LONGIT. TOP OF SLAB
402	16	34'-8"	554'-8"	TRANS. TOP OF SLAB
403	8	14'-0"	112'-0"	LONGIT. IN HAUNCH
404	60	2'-11"	175'-0"	STIRRUPS IN HAUNCH
TOTAL NO. 4 BARS = 1348'-8" = 901 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 6110 LBS.				
CLASS A1 CONCRETE (SLAB SPAN) = 30.13 CU. YDS.				
CONCRETE BRIDGE RAILING = 40.00 LIN. FT.				

SPAN NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9th EDITION.

DESIGN LOAD: THE BRIDGE DECK IS DESIGNED FOR A FUTURE WEARING COURSE OF 25 PSF. THE LIVE LOAD IS HL-93, AND LADV-11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

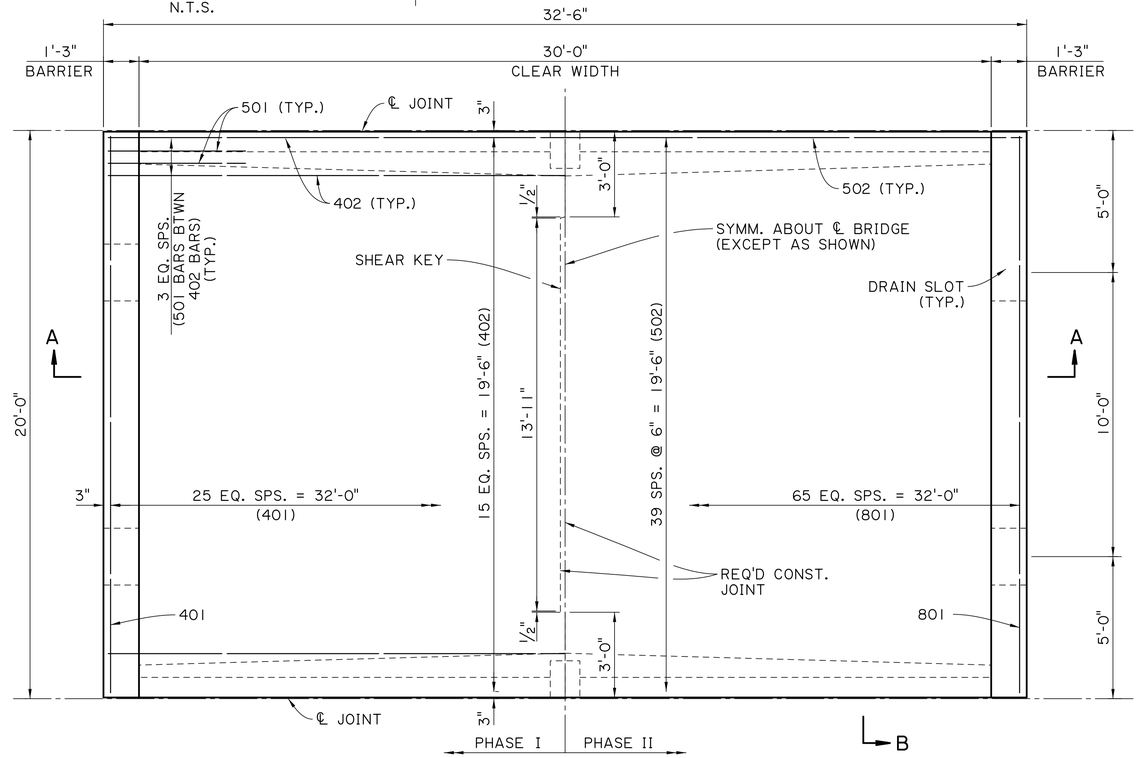
STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE GRADE 60. DIMENSIONS RELATING TO THE FABRICATION ARE OUT-TO-OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS.

PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED AND STRAIGHTED.

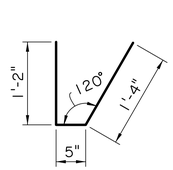
GUARD RAIL: REFER TO THE GENERAL PLAN FOR GUARD RAIL REQUIREMENTS. PROVIDE HOLES FOR GUARD RAIL CONNECTIONS ACCORDING TO STANDARD PLAN BD.1.1.0.01-11 AND BD.1.2.0.01 ON ALL FOUR BRIDGE RAIL ENDS.

BASIS OF PAYMENT: ALL MATERIAL SHALL BE PAID FOR UNDER "CLASS A1 CONCRETE (SLAB SPAN)" AND "DEFORMED REINFORCING STEEL" ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET. BARRIER RAILING AND ASSOCIATED STEEL TO BE PAID FOR UNDER "CONCRETE BRIDGE RAILING (STANDARD)" AND "CONCRETE BRIDGE RAILING (SLOTTED)". PREFORMED JOINT FILLER, BACKER MATERIAL, AND JOINT SEALANT TO BE PAID FOR UNDER "JOINT SEAL (POURED)". ELASTOMERIC BEARING PAD TO BE PAID FOR UNDER "ELASTOMERIC BEARING PAD (NON-REINFORCED)".

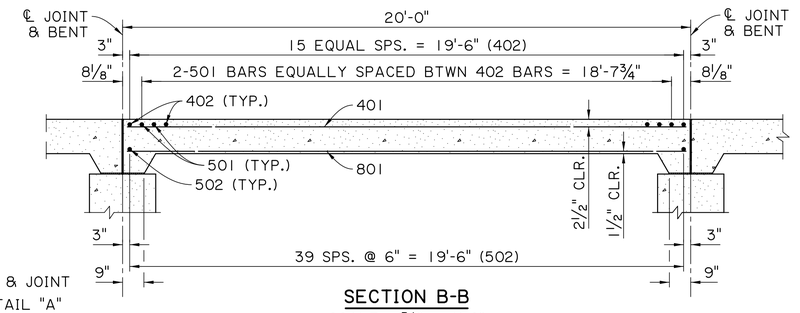


HALF PLAN - TOP REINFORCING
SCALE : ⅜" = 1'-0"

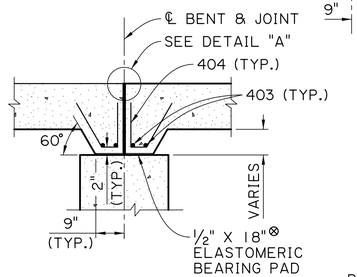
HALF PLAN - BOTTOM REINFORCING
SCALE : ⅜" = 1'-0"



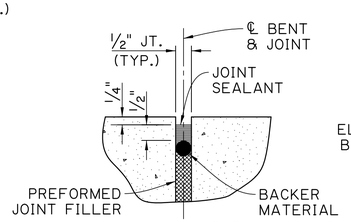
404
2" ø PIN



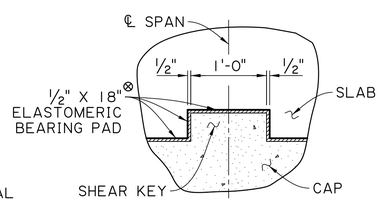
SECTION B-B
SCALE : ⅜" = 1'-0"



DETAIL SHOWING TYPICAL JOINT & HAUNCH
SCALE : ½" = 1'-0"



DETAIL "A"
N.T.S.



DETAIL D
N.T.S.

SHEET NUMBER 111

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	00-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	P. OLIVIER	L. BOURG	M. MILLER	D. HYMEL	1 OF 1

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SPAN DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS

P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_100 PCT\111 - Slab Span Details.dgn 10/6/2025 20:05

8/22/2018 10:35

BRIDGE BARRIER GENERAL NOTES

1. CONSTRUCTION SPECIFICATIONS: CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES , LATEST APPROVED EDITION, EXCEPT AS SUPPLEMENTED OR AMENDED BY THE PLANS, SUPPLEMENTAL SPECIFICATIONS, AND/OR SPECIAL PROVISIONS.

2. CONCRETE: BRIDGE BARRIER RAILING CONCRETE, INCLUDING ANY BARRIER RAILING TRANSITIONS, SHALL CONFORM WITH SECTION 810. UNLESS NOTED OTHERWISE, ALL EXPOSED EDGES OF BARRIER RAILING CONCRETE SHALL BE CHAMFERED $\frac{3}{4}$".

3. BASIS OF PAYMENT: ALL CONCRETE AND REINFORCING STEEL IN BRIDGE BARRIER RAILING AND BARRIER RAILING TRANSITIONS SHALL BE PAID FOR PER LINEAR FOOT OF RAILING, INCLUDING BARS THAT PROJECT INTO THE BARRIER RAILING OR TRANSITIONS FROM THE WINGWALL OR DECK. BARRIER RAILING TO BE MEASURED FROM CENTERLINE TO CENTERLINE OF JOINTS. SEE GENERAL PLAN OR SUMMARY OF ESTIMATED QUANTITIES SHEETS FOR BARRIER RAILING TYPES AND PAY ITEM NUMBERS.

4. CONSTRUCTION JOINT: REQUIRED CONSTRUCTION JOINT BETWEEN BRIDGE BARRIER RAILING AND DECK SLAB SHALL BE POURED IN ACCORDANCE WITH SECTION 805 AND 810 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

5. FINISH OF CONCRETE: ALL CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 805 AND SECTION 810 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

6. REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO SECTION 806 AND SECTION 1009. THE FIRST DIGIT(S) OF THE REINFORCING BAR NUMBER INDICATE(S) BAR SIZE. UNLESS NOTED OTHERWISE, DIMENSIONS RELATING TO REINFORCING STEEL FABRICATION ARE OUT-TO-OUT OF BARS AND DIMENSIONS RELATED TO REINFORCING STEEL SPACING ARE CENTER-TO-CENTER OF BARS.

   THE MINIMUM COVERING FROM THE SURFACE OF THE BARRIER RAILING CONCRETE TO THE FACE OF ANY DEFORMED REINFORCING BAR SHALL NOT BE LESS THAN $1\frac{1}{2}$". WHEN GALVANIZED OR STAINLESS REINFORCING STEEL IS REQUIRED IN THE BRIDGE DECK, LONGITUIDINAL BARS AND STIRRUPS IN THE BARRIER RAIL SHALL HAVE THE SAME PROTECTION.

7. BARRIER JOINTS: ALL BARRIER JOINTS SHALL CONFORM TO SECTION 810.05 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES. SEE BRIDGE GENERAL PLAN FOR SPACING OF OPEN JOINTS.

   AT SPAN EXPANSION JOINTS, GAPS BETWEEN ADJACENT SECTIONS OF BARRIERS SHALL NOT EXCEED 4" UNLESS A SLIDING ARMORED PLATE IS EMPLOYED TO SHIELD THE OPENING.

8. DECK DRAINAGE: SEE GENERAL PLAN OR SPAN DETAILS FOR LOCATIONS AND TYPE OF DECK DRAINAGE.

9. GUARD RAIL: FOR ADDITIONAL GUARD RAIL DETAILS AND INFORMATION, SEE THE BRIDGE GENERAL PLAN AND THE APPLICABLE GUARD RAIL STANDARD PLANS.

10. YEAR PLATE: THE DATE OF CONSTRUCTION IS REQUIRED ON THE OUTSIDE SHOULDER BRIDGE BARRIER TRANSITION FOR ONCOMING LANES OF TRAFFIC, SEE THE YEAR PLATE SPECIAL DETAIL FOR ADDITIONAL INFORMATION. FOR TAPERED DOWN BARRIER TRANSITIONS, THE YEAR PLATE SHALL BE PLACED ON THE OUTSIDE SHOULDER BRIDGE BARRIER.

		BRIDGE STANDARD INDEX NO.	SERIES	DESCRIPTION
COMMON DETAILS		BD.2.6.1.1.01	1 OF 1	BRIDGE BARRIER COMMON - GENERAL NOTES & INDEX
SPECIFIC DETAILS	32" F-SHAPE BRIDGE BARRIER (32FS)	BD.2.6.1.2.01	1 OF 1	* 32" F-SHAPE BRIDGE BARRIER DETAILS
		BD.2.6.1.2.02	1 OF 1	* 32" F-SHAPE TRANSITION ON BRIDGE SPAN
		BD.2.6.1.2.03	1 OF 1	* 32" F-SHAPE TRANSITION ON WINGWALL
		BD.2.6.1.2.04	1 OF 1	* 32" F-SHAPE TRANSITION (40' LONG) TO 4" MOUNTABLE CURB
		BD.2.6.1.2.05	1 OF 1	* 32" F-SHAPE TRANSITION (10' LONG) TO 4" MOUNTABLE CURB
		BD.2.6.1.2.06	1 OF 1	* 32" F-SHAPE TRANSITION (40' LONG) TO 6" BARRIER CURB
		BD.2.6.1.2.07	1 OF 1	* 32" F-SHAPE TRANSITION (10' LONG) TO 6" BARRIER CURB
	36" SINGLE SLOPE BRIDGE BARRIER (36SS)	BD.2.6.1.3.01	1 OF 1	36" SINGLE SLOPE BRIDGE BARRIER DETAILS
		BD.2.6.1.3.02	1 OF 1	36" SINGLE SLOPE TRANSITION ON BRIDGE SPAN
		BD.2.6.1.3.03	1 OF 1	36" SINGLE SLOPE TRANSITION ON WINGWALL
		BD.2.6.1.3.04	1 OF 1	* 36" SINGLE SLOPE TRANSITION (40' LONG) TO 4" MOUNTABLE CURB
		BD.2.6.1.3.05	1 OF 1	* 36" SINGLE SLOPE TRANSITION (10' LONG) TO 4" MOUNTABLE CURB
		BD.2.6.1.3.06	1 OF 1	* 36" SINGLE SLOPE TRANSITION (40' LONG) TO 6" BARRIER CURB
		BD.2.6.1.3.07	1 OF 1	* 36" SINGLE SLOPE TRANSITION (10' LONG) TO 4" BARRIER CURB

NOTE: NOT EVERY SHEET LISTED IN THE INDEX IS APPLICABLE FOR EVERY PROJECT. THE PROJECT'S BRIDGE DESIGN ENGINEER OF RECORD SHALL SELECT THE APPLICABLE BARRIER OR BARRIER TRANSITION SHEETS TO INCLUDE IN EACH PROJECT PLAN SET.

*: TO BE DEVELOPED

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
CARL M. GAUDRY
License No. 37365
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/30/2018

SHEET NUMBER 112

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED	DETAILED	REVIEWED
C. GAUDRY	C. GAUDRY	K. BRAUNER
CHECKED S. MAZUR	CHECKED S.MAZUR	SERIES # 1 OF 1

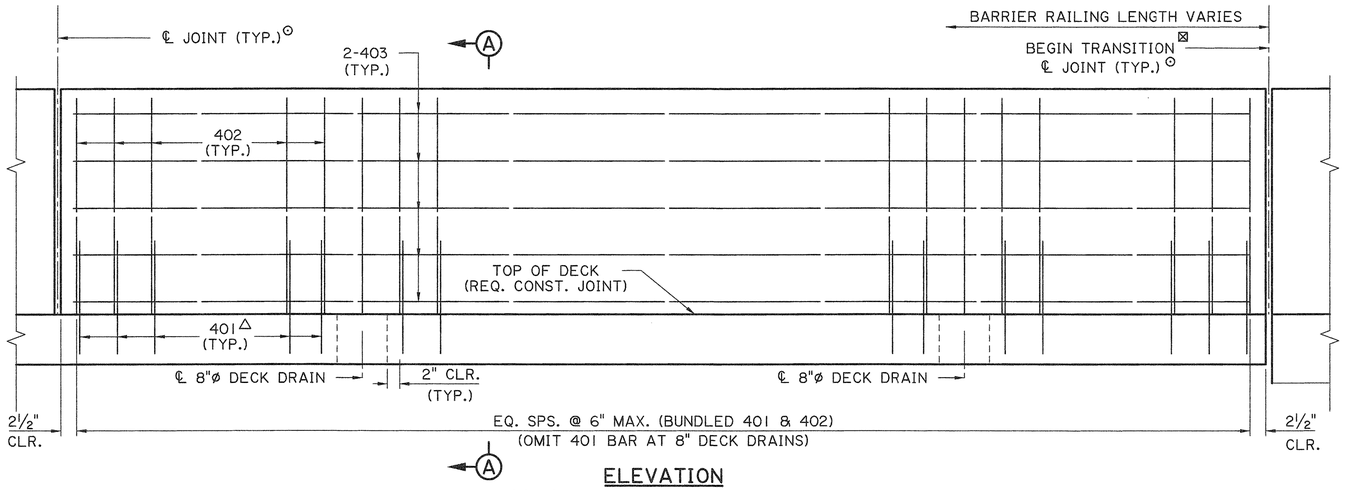
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

GENERAL NOTES & INDEX
BRIDGE BARRIER COMMON DETAILS
BR COMMON

BD.2.6.1.1.01

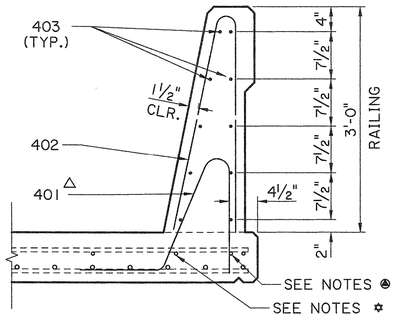
DOTD BRIDGE DESIGN

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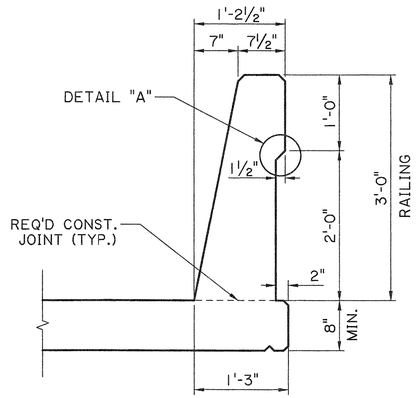


ELEVATION

STANDARD BRIDGE BARRIER RAILING
(WITH 8"ø DECK DRAIN SHOWN)

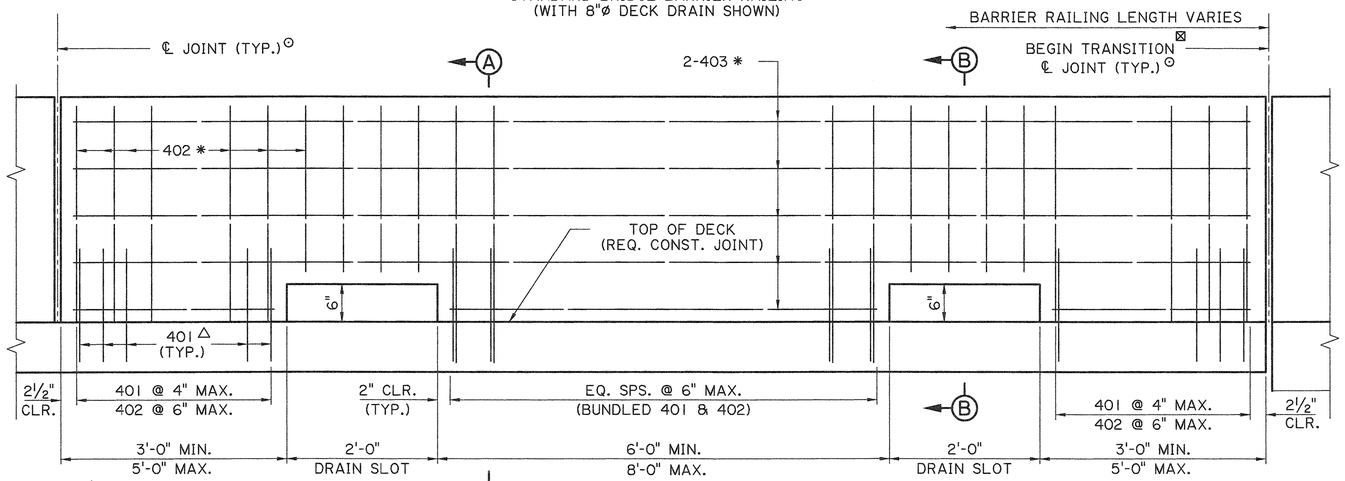


SECTION A-A



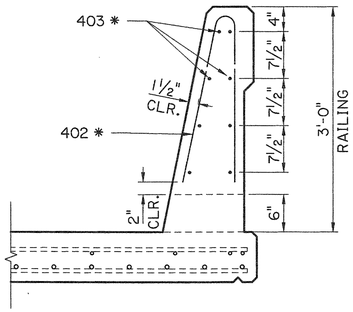
TYPICAL SECTION

SHOWING BARRIER DIMENSIONS
(SURFACE AREA = 6.72 SQFT/FT)

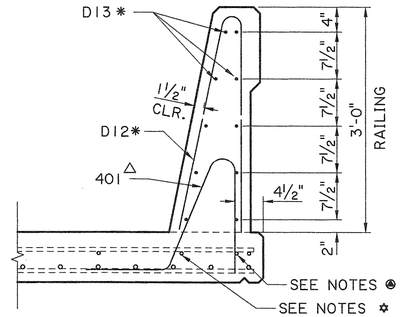


ELEVATION

SLOTTED BRIDGE BARRIER RAILING
WITH HORIZONTAL DRAIN SLOTS



SECTION B-B



OPTIONAL WELDED WIRE REINFORCMENT (WWR)

NOTES:

1. SEE "BRIDGE BARRIER COMMON - GENERAL NOTES & INDEX" SHEET FOR GENERAL BRIDGE BARRIER NOTES.
2. THIS RAIL HAS BEEN SUCCESSFULLY EVALUATED BY FULL-SCALE CRASH TESTING TO MEET MASH TL-4 CRITERIA.
3. REINFORCING STEEL DIMENSIONS SHOWN ARE APPLICABLE FOR DECK THICKNESSES SHOWN IN TABLE. ADJUSTMENTS SHALL BE MADE FOR DECKS WITH OTHER THICKNESSES. SEE SPAN DETAILS FOR DECK THICKNESS.
4. DEFORMED WELDED WIRE REINFORCEMENT (WWR) SHALL BE GRADE 70 AND MEET SECTION 1009 WHEN SUBSTITUTED FOR BARS 402 AND 403, AS SHOWN.

△ 5. OMIT 401 BAR AT 8" DECK DRAINS AND AT BARRIER DRAIN SLOTS.

⊠ 6. REFER TO BRIDGE GENERAL PLAN FOR BARRIER RAILING TRANSITION TYPE. SEE TRANSITION DETAILS FOR MORE INFORMATION.

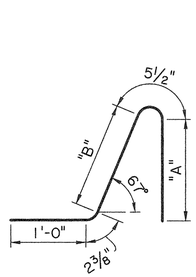
⊙ 7. 1" MINIMUM BARRIER JOINT. WHEN COINCIDENT TO SPAN EXPANSION JOINTS, JOINT SHALL BE EQUAL TO SPAN JOINT WIDTH.

✲ 8. CUT WHERE REQUIRED TO CLEAR DRAIN SLOTS, MAINTAIN 6" MAX. SPACING OF 402 BAR OVER DRAIN SLOTS.

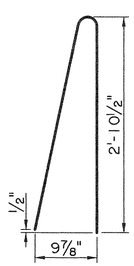
✪ 9. AT THE CONTRACTOR'S OPTION, AN ADDITIONAL BAR CAN BE PLACED IN THE DECK TO AID REBAR PLACEMENT.

✲ 10. TOP LONGITUDINAL SLAB BAR MAY BE ADJUSTED LATERALLY ±3" TO TIE REINFORCING.

401 BAR DIMENSIONS		
DIMENSION	A	B
8" DECK	1'-4¼"	1'-5¼"
8½" DECK	1'-4¾"	1'-5⅞"
9" DECK	1'-5¼"	1'-6⅜"
9½" DECK	1'-5¾"	1'-7"
13" SLAB SPAN	1'-8¾"	1'-10¼"
14½" SLAB SPAN	1'-9⅝"	1'-11¼"



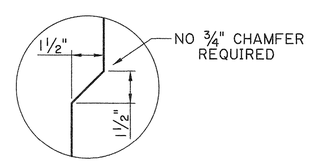
401
(3" ø PIN)



402
(2" ø PIN)

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025



DETAIL "A"

STATE OF LOUISIANA
CARL M. GAUDRY
License No. 37365
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/20/2018

SHEET NUMBER 113

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED	CHECKED	DETAILED	CHECKED	REVIEWED	SERIES #
S. MAZUR	C. GAUDRY	S. MAZUR	C. GAUDRY	K. BRAUNER	1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

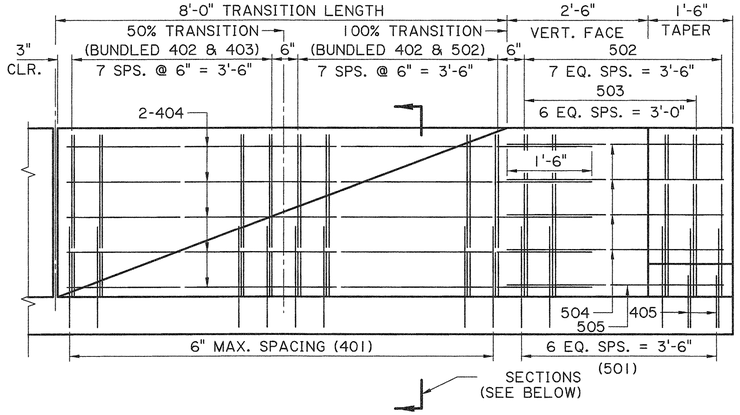
BRIDGE BARRIER DETAILS
36" SINGLE SLOPE
36SS

BD.2.6.1.3.01

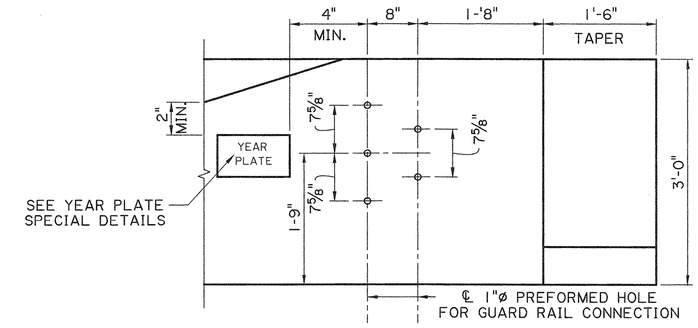
DOTD BRIDGE DESIGN

8/22/2018 10:36

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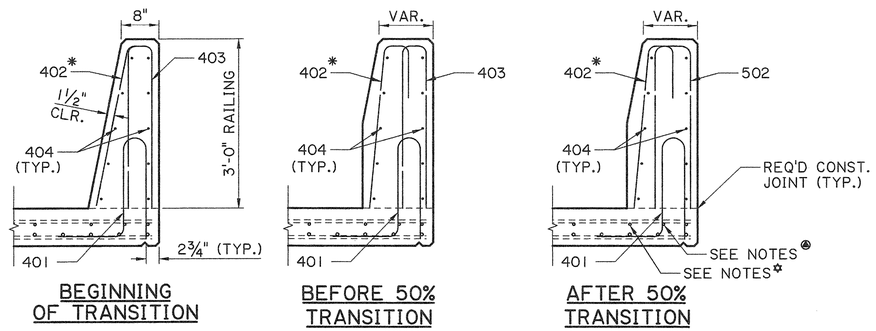


BARRIER RAILING TRANSITION ELEVATION



GUARD RAIL CONNECTION DETAIL

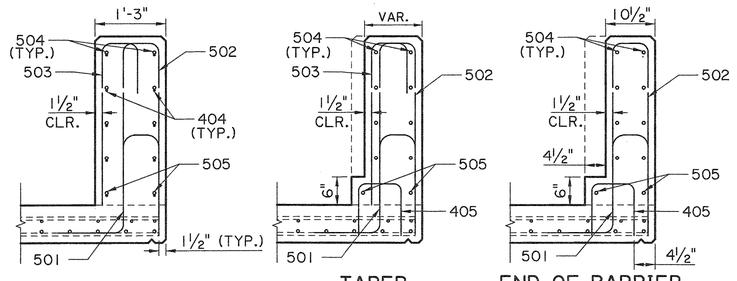
SEE HIGHWAY GUARD RAIL (MASH) STANDARD PLANS FOR MORE INFORMATION



BEGINNING OF TRANSITION

BEFORE 50% TRANSITION

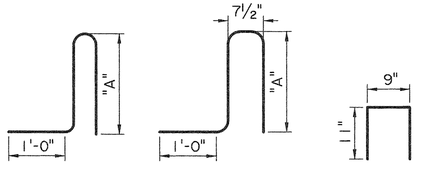
AFTER 50% TRANSITION



VERTICAL FACE

TAPER

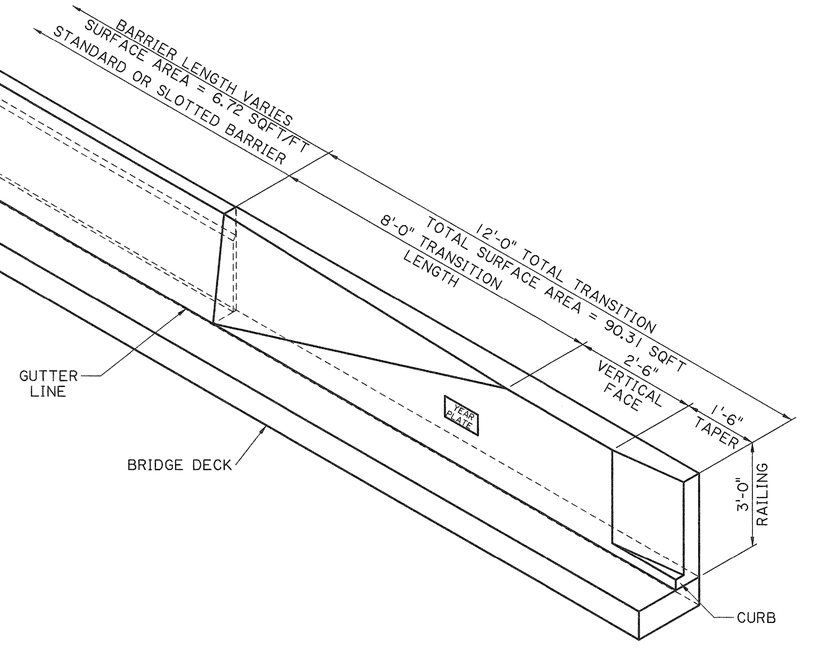
END OF BARRIER



BAR 401 (3¾" ø PIN)

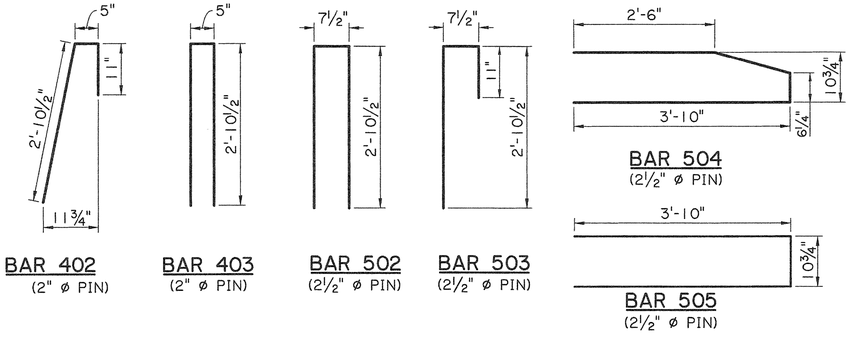
BAR 501 (3¾" ø PIN)

BAR 405 (2" ø PIN)



NOTES:

1. SEE "BRIDGE BARRIER COMMON - GENERAL NOTES & INDEX" SHEET FOR GENERAL BRIDGE BARRIER NOTES.
2. REINFORCING STEEL DIMENSIONS SHOWN ARE APPLICABLE FOR DECK THICKNESSES SHOWN IN TABLE. ADJUSTMENTS SHALL BE MADE FOR DECKS AND SPANS WITH OTHER THICKNESSES. SEE SPAN DETAILS FOR DECK THICKNESS.
3. CURB SHALL BE POURED MONOLITHIC WITH BARRIER.
④ 4. AT THE CONTRACTORS OPTION, AN ADDITIONAL BAR CAN BE PLACED IN THE DECK TO AID REBAR PLACEMENT.
✡ 5. TOP LONGITUDINAL SLAB BAR MAY BE ADJUSTED LATERALLY ±3" TO TIE REINFORCING.
* 6. ADJUST ANGLE OF LEG AS NEEDED TO MAINTAIN MIN. COVER AT FACE OF BARRIER.



BAR 402 (2" ø PIN)

BAR 403 (2" ø PIN)

BAR 502 (2½" ø PIN)

BAR 503 (2½" ø PIN)

BAR 504 (2½" ø PIN)

BAR 505 (2½" ø PIN)

401 & 501 BAR DIMENSIONS	
DIMENSION	"A"
8" DECK	1'-9½"
8½" DECK	1'-10"
9" DECK	1'-10½"
9½" DECK	1'-11"
13 " SLAB SPAN	2'-2"
14½" SLAB SPAN	2'-3"

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

STATE OF LOUISIANA
CARL M. GAUDRY
License No. 37365
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/22/2018

SHEET NUMBER 114

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED	S. MAZUR
CHECKED	C. GAUDRY
DETAILED	S. MAZUR
CHECKED	C. GAUDRY
REVIEWED	K. BRAUNER
SERIES #	1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TRANSITION ON BRIDGE SPAN
36" SINGLE SLOPE BRIDGE BARRIER
36SS

BD.2.6.1.3.02

DOTD BRIDGE DESIGN

8/22/2018 10:36

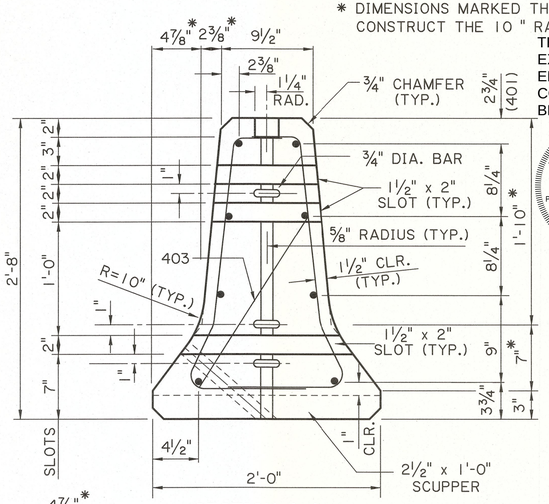
IP_PWP:d0493092\BD.2.6.1.3.02_36in Single Slope Bridge Barrier (raster).dgn

13:24
12/21/2017

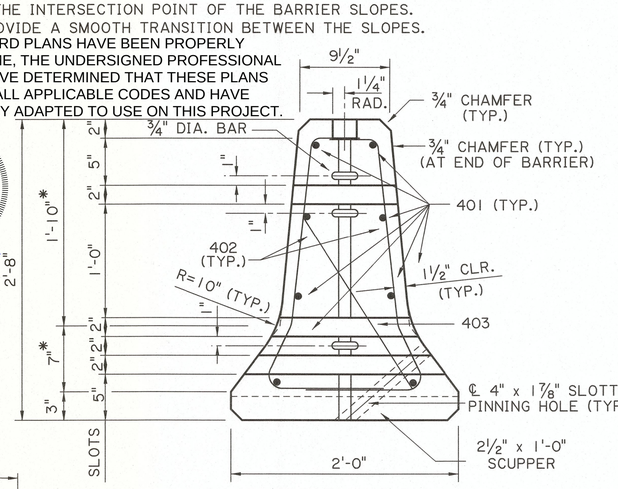
* DIMENSIONS MARKED THUS ARE TO THE INTERSECTION POINT OF THE BARRIER SLOPES. CONSTRUCT THE 10 " RADIUS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE SLOPES.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

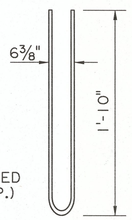


SECTION A-A

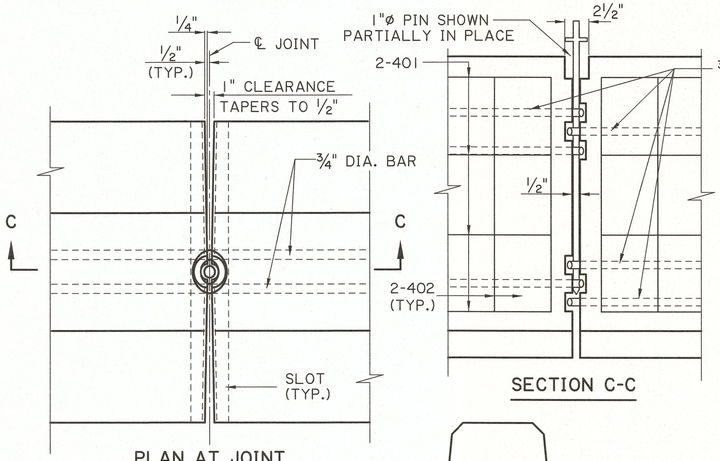


SECTION B-B

DETAIL "B" ⊠

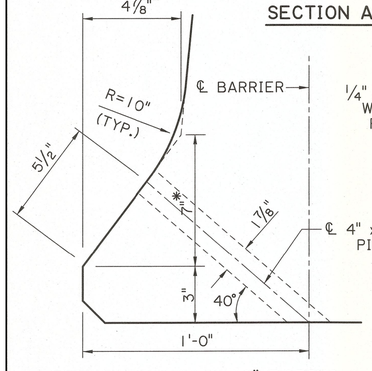


403 BARS
(3"ø PIN)

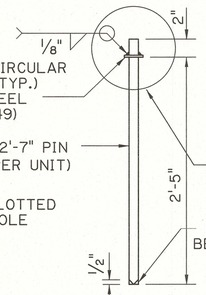


PLAN AT JOINT

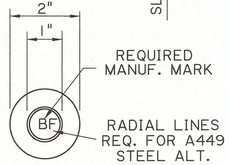
SECTION C-C



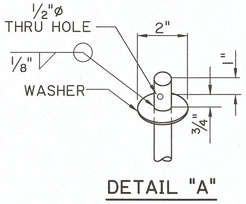
DETAIL SHOWING 10" RADIUS



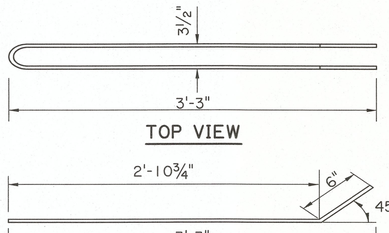
1"ø PIN DETAIL
(TO BE INSERTED BETWEEN BARRIERS)



TOP VIEW 1"ø PIN

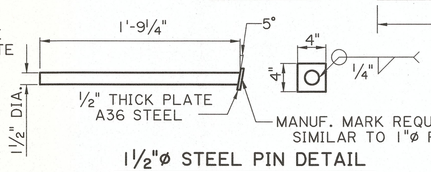


DETAIL "A"



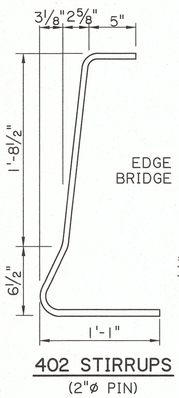
TOP VIEW

SIDE VIEW

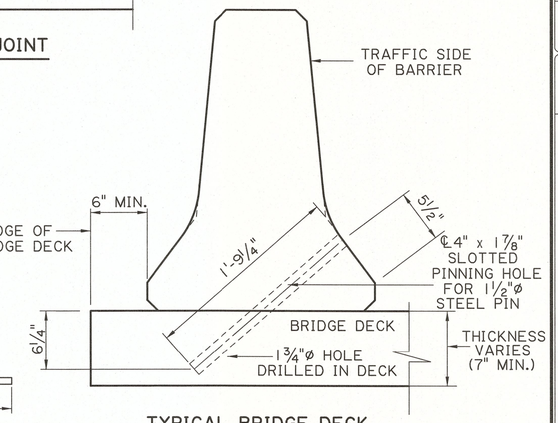


1½"ø STEEL PIN DETAIL
(TO BE USED FOR BRIDGE DECK APPLICATION)

¾" DIA. BAR
(2"ø PIN)



402 STIRRUPS
(2"ø PIN)

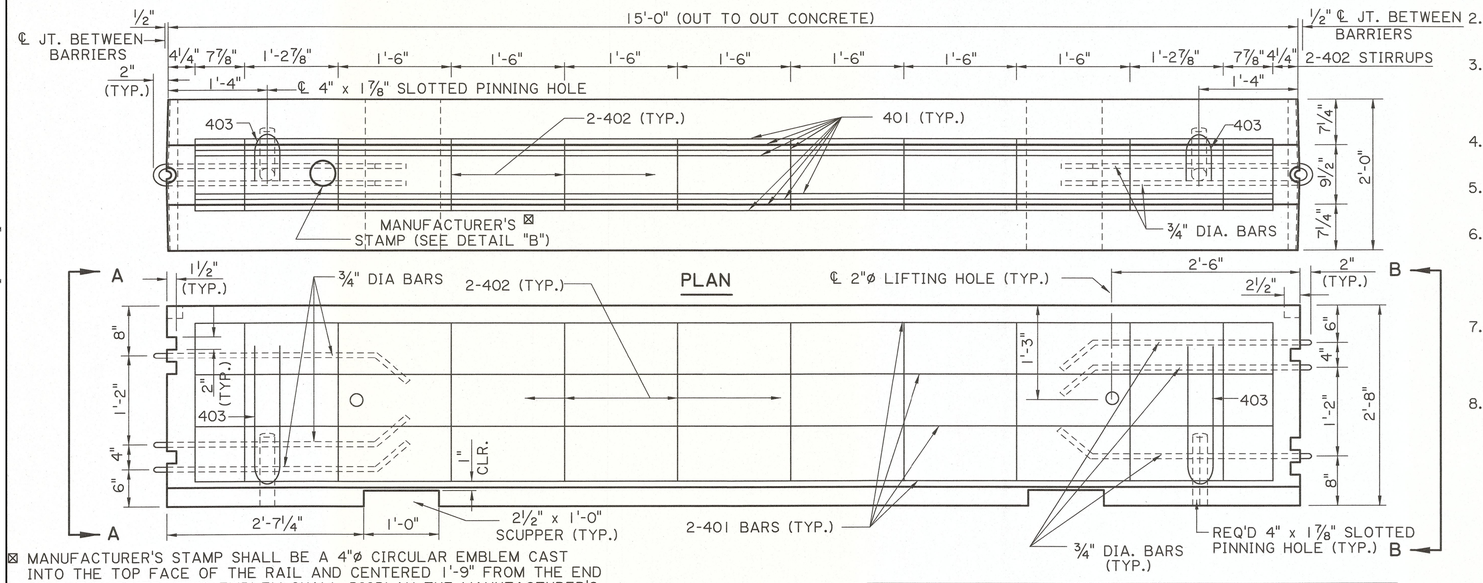


TYPICAL BRIDGE DECK PINNING DETAIL

NOTES:

1. 1"ø PIN SHALL CONFORM TO ASTM A193 GR B7 OR ASTM A449. 1½"ø PIN AND ¾" DIA. BAR SHALL CONFORM TO ASTM A36.
2. ALL REINFORCING STEEL SHALL HAVE A YIELD STRENGTH, fy=60 ksi. ALL REINFORCING STEEL SHALL BE 2" CLEAR FROM FACE OF CONCRETE, UNLESS OTHERWISE NOTED.
3. CONCRETE SHALL BE CLASS A1. FOR TEMPORARY CONCRETE BARRIERS, SURFACE RESISTIVITY REQUIREMENTS IN THE STANDARD SPECIFICATIONS SHALL NOT APPLY AND TABLE 901-6, ACCEPTANCE AND PAYMENT SCHEDULES FOR STRUCTURAL CONCRETE (SURFACE RESISTIVITY), WILL NOT BE ENFORCED.
4. UPON COMPLETION OF PROJECT, THE CONTRACTOR SHALL REMOVE AND TRANSPORT THE BARRIER UNITS AS DIRECTED BY THE PROJECT ENGINEER.
5. GALVANIZING: 1"ø & 1½"ø PIN AND ¾" DIA. BAR SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123.
6. BRIDGE DECK PINNING: WHEN REQUIRED, THE BARRIER PINNING HOLES PROVIDE A METHOD OF LATERALLY RESTRAINING THE BARRIER. EACH BARRIER SHALL REQUIRE TWO HOLES DRILLED INTO THE BRIDGE DECK AS DETAILED, SO THAT TWO PINS MAY BE PLACED INTO THE BARRIER HOLES AND INTO THE DECK. UPON BARRIER REMOVAL, THE DECK HOLES SHALL BE REPAIRED WITH NON-SHRINK GROUT AS DIRECTED BY THE ENGINEER.
7. PAYMENT: QUANTITIES SHOWN ARE FOR ESTIMATION PURPOSES ONLY. CLASS A1 CONCRETE, REINFORCING STEEL, STEEL BARS, PINS, WASHERS, DRILLING & GROUTING FOR BRIDGE DECK PINS, AND GALVANIZING ARE TO BE INCLUDED IN THE PRICE FOR "TEMPORARY PRECAST CONCRETE BARRIER".
8. PRECAST TEMPORARY CONCRETE BARRIERS SHALL ONLY BE PRODUCED BY A MANUFACTURER LISTED ON THE APPROVED MATERIALS LIST.

ESTIMATED QUANTITIES-ONE (1) 15'-0" PRECAST BARRIER				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
401	8	14'-4"	114'-8"	LONGITUDINAL
402	24	3'-9"	90'-0"	STIRRUPS
403	2	3'-11⅝"	7'-11¼"	PINNING HOLE
TOTAL NO. 4 BARS = 212'-7¼" = 142 LBS.				
DEFORMED REINFORCING STEEL=142 LBS.				
6-¾" DIA. BAR (A 36 STEEL) = 41'-9" = 63 LBS.				
CLASS A1 CONCRETE= 1.76 CU. YDS.				
BARRIER WEIGHT= 7,136 LBS.				



ELEVATION

⊠ MANUFACTURER'S STAMP SHALL BE A 4"ø CIRCULAR EMBLEM CAST INTO THE TOP FACE OF THE RAIL AND CENTERED 1'-9" FROM THE END OF THE BARRIER. THIS EMBLEM SHALL DISPLAY THE MANUFACTURER'S NAME, LOGO, OR INITIALS, ALONG WITH THE YEAR IN WHICH THE BARRIER WAS FABRICATED (EX. 08) AND THE NUMBER OF THE LATEST REVISION SHOWN ON THIS DETAIL (EX. R0, R1, ETC.).

THESE DETAILS HAVE BEEN SUCCESSFULLY CRASH TESTED AS AN NCHRP 350 TEST LEVEL 3 BARRIER AND SHALL BE USED IN WORK ZONES PARALLEL TO THE DIRECTION OF TRAFFIC.

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY
3	11/30/17	ADDED MANUFACTURERS NOTE	K.M.B.
2	9/8/2017	REVISED CONCRETE NOTE	K.M.B.
1	2/9/2017	UPDATED FOR 2016 SPECIFICATIONS	K.M.B.

SHEET NUMBER	115
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGNED	K. BRAUNER
CHECKED	P. FOSSIER
DETAILED	G. GRASS
CHECKED	K. BRAUNER
REVIEWED	JULY 2008
SERIES #	

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/21/17

TEMPORARY PRECAST BARRIER

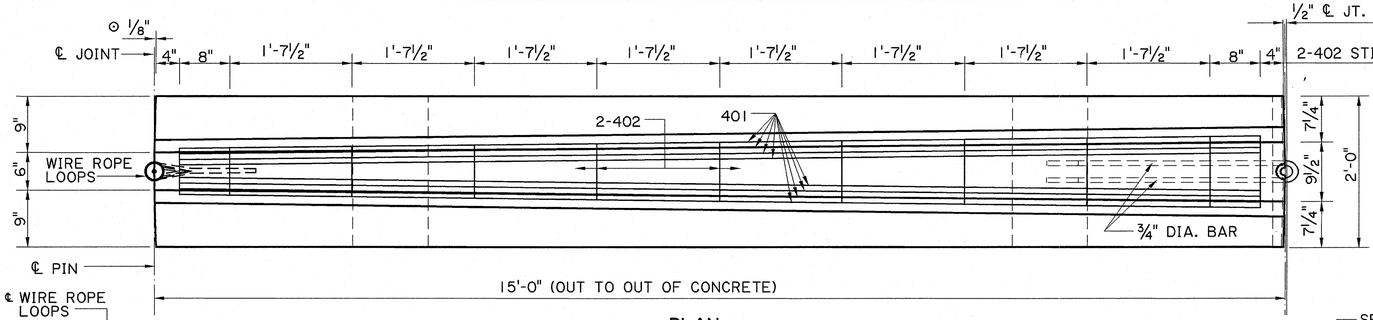
F SHAPE

BD.2.6.3.1.01

DOTD BRIDGE DESIGN

IP_PWP:d0695339\BD.2.6.3.1.01 - Temporary Precast Barrier-raster.dgn

10:17
5/23/2017
IP_PWP:d0695339\Temporary Precast Barrier Transition.dgn

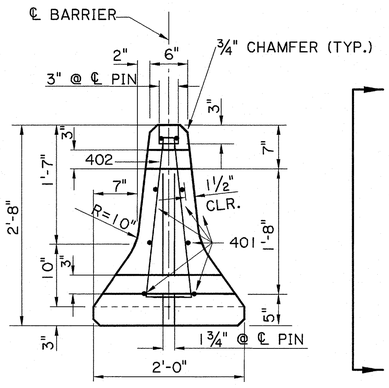


PLAN

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

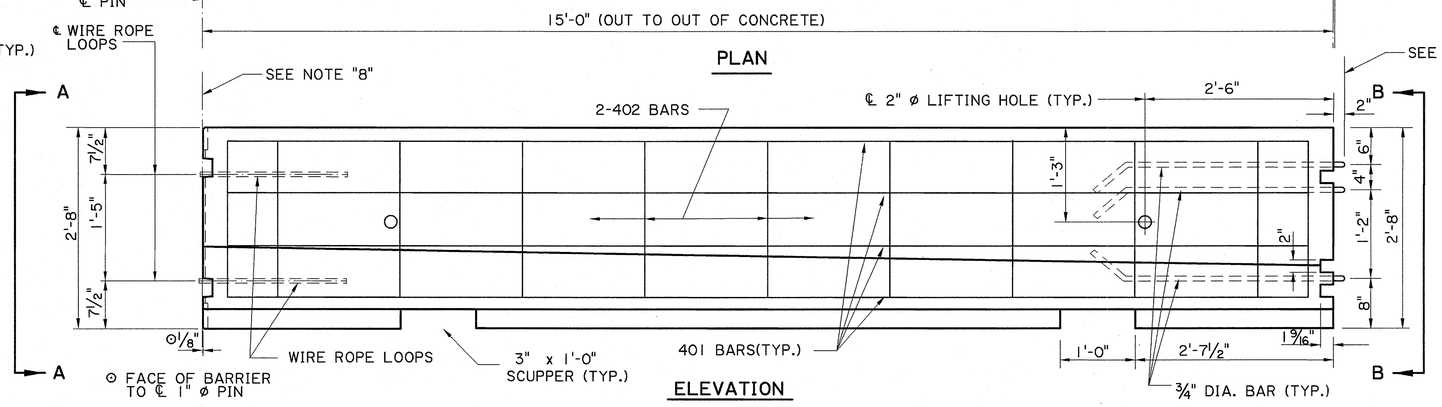
STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

* DIMENSIONS MARKED THUS ARE TO THE INTERSECTION POINT OF THE BARRIER SLOPES. CONSTRUCT THE 10 " RADIUS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE SLOPES.

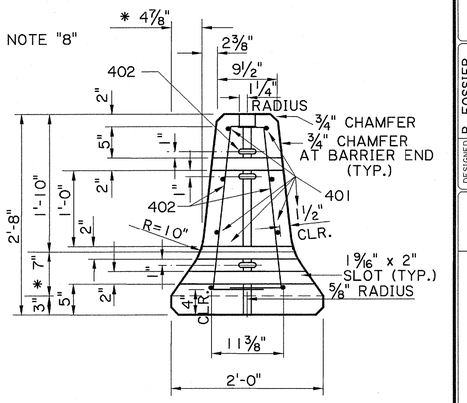


SECTION A-A

SHOWING JERSEY BARRIER END (SEE NOTE "8")

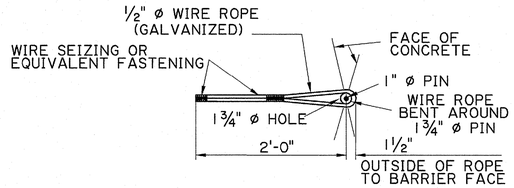


ELEVATION

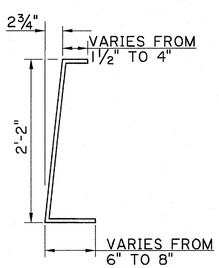


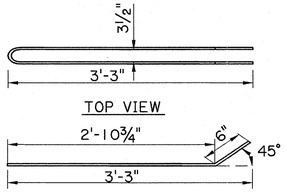
SECTION B-B

SHOWING "F" SHAPE BARRIER END (SEE NOTE "8")

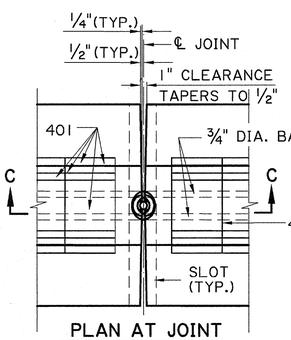


WIRE ROPE LOOP DETAIL

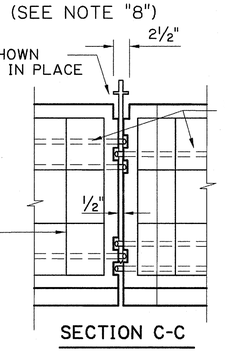




¾" DIA. BAR- A36
2" ø PIN

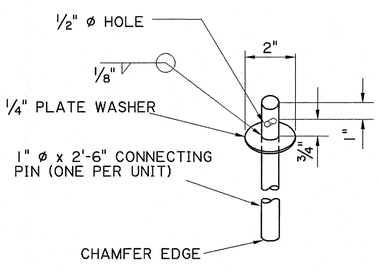


PLAN AT JOINT

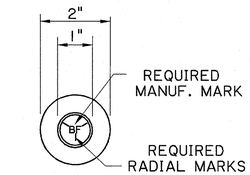


SECTION C-C

SHOWING CONNECTION AT F SHAPE BARRIER END

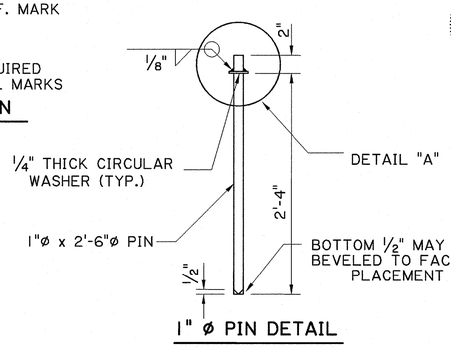


DETAIL "A"

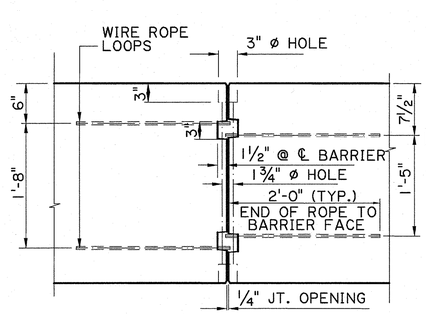


TOP VIEW 1" ø PIN

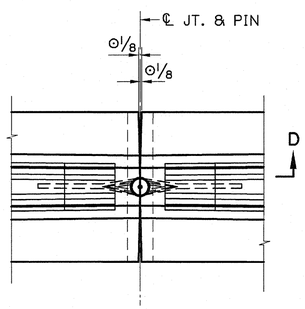
402 STIRRUPS



1" ø PIN DETAIL



SECTION D-D



PLAN AT JOINT

SHOWING CONNECTION AT JERSEY SHAPE BARRIER END

ESTIMATED QUANTITIES-ONE (1) 15'-0" PRECAST TRANSITION BARRIER						
BAR	NO.	SHORT BAR	VARIES (FT.)	LONG BAR	TOTAL LENGTH	LOCATION
401	8			14'-4"	114'-8"	LONGITUDINAL
402	22	2'-9"	.01984	3'-2"	65'-1"	STIRRUPS
TOTAL NO. 4 BARS = 179'-9" = 120 LBS.						
DEFORMED REINFORCING STEEL=120 LBS.						
¾" DIA. BAR-A36 STEEL = 20'-3" = 30 LBS.						
CLASS AI CONCRETE= 1.71 CU. YDS.						
BARRIER WEIGHT= 6,771 LBS.						

STATE OF LOUISIANA
PAUL B. FOSSIER, JR
REG. No. 21028
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
11-10-08

NOTES:

1. TRANSITION BARRIER TO BE USED ONLY WHEN JOINING A TEMPORARY "JERSEY" BARRIER TO A TEMPORARY "F" SHAPE BARRIER. MULTIPLE USE OF THE BARRIER TRANSITION IS NOT ALLOWED ON A PROJECT.
2. 1" ø STEEL PIN: PIN SHALL CONFORM TO ASTM A449 OR ASTM A193, GRADE B7. ¾" DIA. STEEL BAR SHALL CONFORM TO ASTM A36.
3. ALL REINFORCING STEEL SHALL HAVE A YIELD STRENGTH, fy=60 ksi. ALL REINFORCING STEEL SHALL BE 2" CLEAR FROM FACE OF CONCRETE, UNLESS OTHERWISE NOTED.
4. CONCRETE BARRIER SHALL BE CLASS AI. ALL PRECAST BARRIER UNITS SHALL BE HELD AT THE PLANT A MINIMUM OF 10 DAYS AFTER CASTING.
5. UPON COMPLETION OF PROJECT, THE CONTRACTOR SHALL REMOVE AND TRANSPORT THE BARRIER UNITS AS DIRECTED BY THE PROJECT ENGINEER.
6. GALVANIZING: 1" ø PIN,½" WIRE ROPE LOOP, AND ¾" DIA. BARS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123.
7. PAYMENT: QUANTITIES SHOWN ARE FOR ESTIMATION PURPOSES ONLY. CLASS AI CONCRETE, REINFORCING STEEL, PINS, A36 STEEL, WASHERS,WIRE LOOP, AND GALVANIZING ARE TO BE INCLUDED IN PRICE FOR TEMPORARY PRECAST CONCRETE BARRIER (CONTRACTOR FURNISHED) OR TEMPORARY PRECAST CONCRETE BARRIER (DEPARTMENT FURNISHED) PAY ITEM.
8. CONTRACTOR IS REQUIRED TO ORIENT THE TEMPORARY BARRIERS ("JERSEY" SHAPE OR "F" SHAPE) SO THAT EACH BARRIER END WILL CONNECT TO THE PROPER TRANSITION BARRIER END CONNECTION.

SHEET NUMBER	116

PARISH	FEDERAL PROJECT	STATE PROJECT
ST. TAMMANY	000-52	

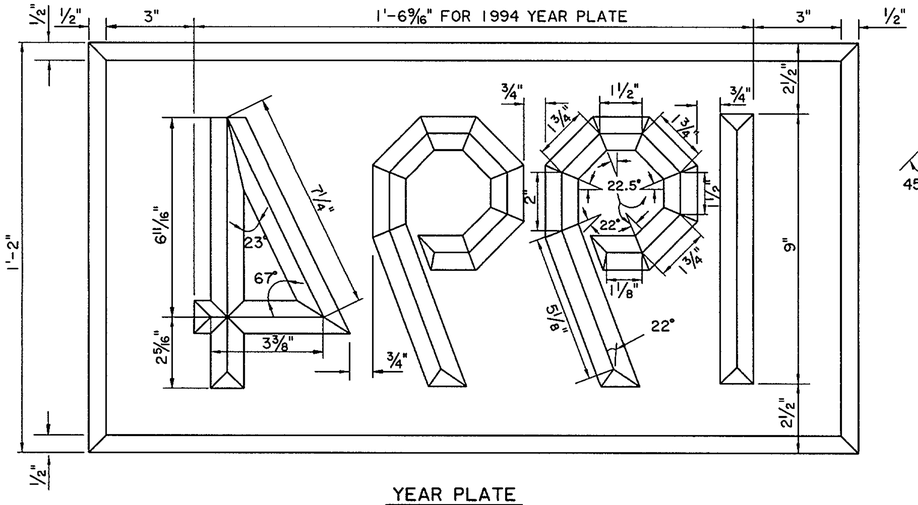
DESIGNED	DETAILED	DRAWN	CHECKED	DATE	SHEET
P. FOSSIER	G. GRASS	K.M.B.	P. FOSSIER	OCT.,2008	

NO.	DATE	REVISION DESCRIPTION	BY
2	2/9/2017	UPDATED FOR 2016 SPECIFICATIONS	K.M.B.

TEMPORARY PRECAST BARRIER TRANSITION "F" SHAPE TO "N.J." SHAPE

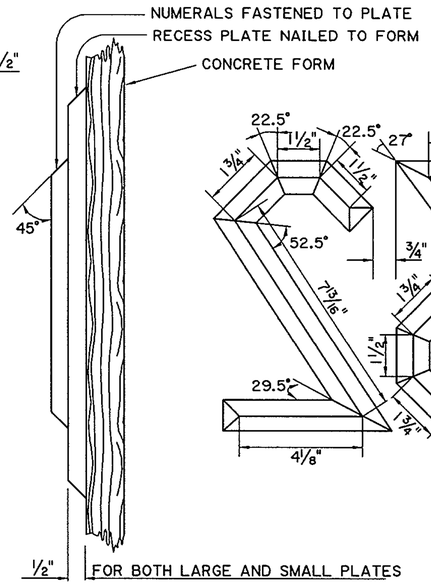
BD.2.6.3.2.01

BRIDGE AND STRUCTURAL DESIGN

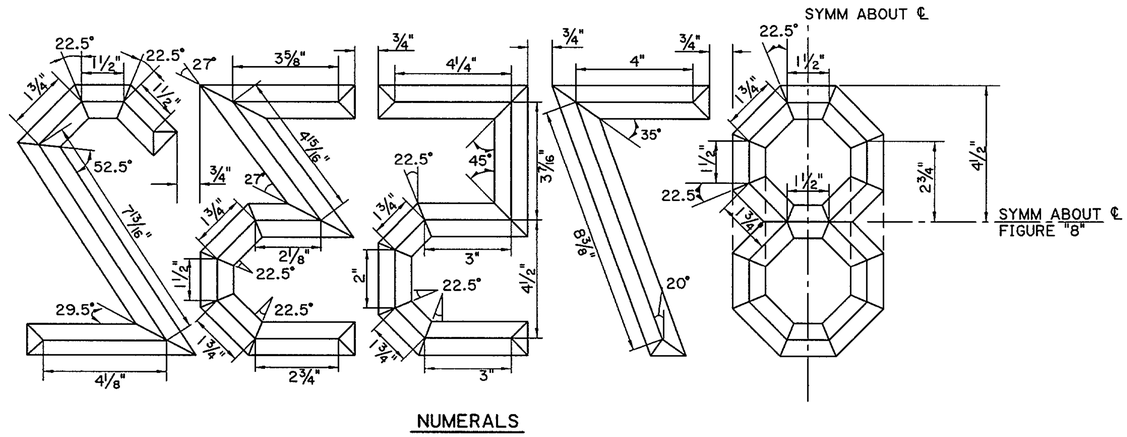


YEAR PLATE

DIMENSIONS SHOWN ARE FOR LARGE YEAR PLATE.
USE ONE HALF (½) ABOVE DIMENSIONS FOR SMALL YEAR PLATE.
YEAR PLATE TO CORRESPOND TO YEAR IN WHICH STRUCTURE IS COMPLETED.

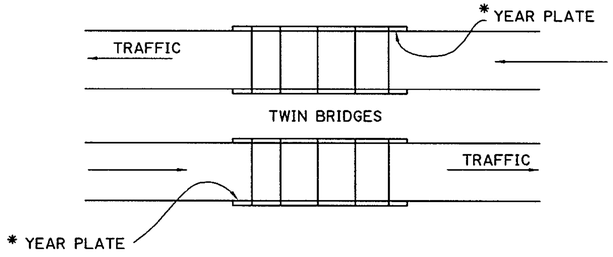


FOR BOTH LARGE AND SMALL PLATES



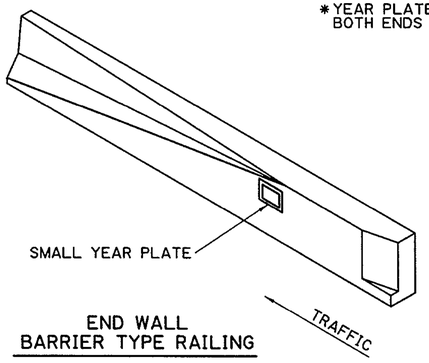
NUMERALS

NOTE:
FIGURE "6" TO BE "9" INVERTED.
FIGURE "0" TO BE MADE USING DASHED LINES INDICATED ON DETAIL OF FIGURE "8."
DIMENSIONS SHOWN ARE FOR LARGE YEAR PLATE.
USE ONE-HALF (½) ABOVE DIMENSIONS FOR SMALL YEAR PLATE.

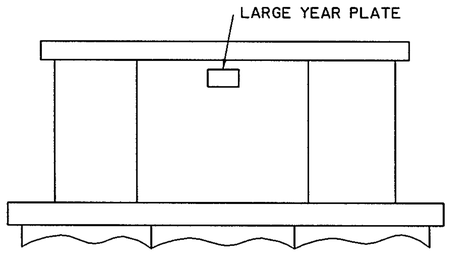


BRIDGE PLAN

*YEAR PLATE ON THE APPROACH SIDE OF
BOTH ENDS ON TWO-WAY TRAFFIC BRIDGES.



END WALL
BARRIER TYPE RAILING

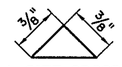


PIER ELEVATION

SKETCHES SHOWING LOCATION OF YEAR PLATE ON VARIOUS CONCRETE STRUCTURES

FULL SIZE CROSS-SECTION
OF ¾" CHAMFER STRIP TO
BE USED IN CONSTRUCTION
OF ALL NUMERALS.

CHAMFER STRIP FOR
LARGE YEAR PLATE



FULL SIZE CROSS SECTION
OF ⅜" CHAMFER STRIP TO
BE USED IN CONSTRUCTION
OF ALL NUMERALS.

CHAMFER STRIP FOR
SMALL YEAR PLATE

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

STATE OF LOUISIANA
PAUL B. FOSSIER, JR.
REG. No. 21028
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/28/00

SHEET NUMBER 117
PARISH ST. TAMMANY
FEDERAL PROJECT
STATE PROJECT
DESIGNED
CHECKED
DETAILED G. GRASS
CHECKED P. FOSSIER
DATE JULY, 2000
SHEET
BY
NO. DATE REVISION DESCRIPTION

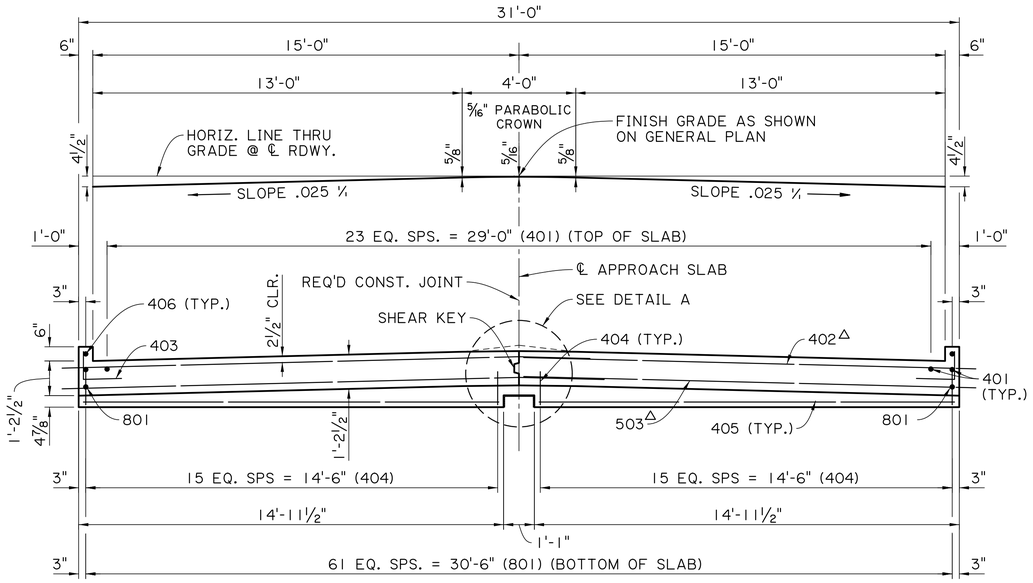
YEAR PLATE
FOR CONCRETE STRUCTURES

STANDARD DETAIL YP-01

BRIDGE AND STRUCTURAL DESIGN

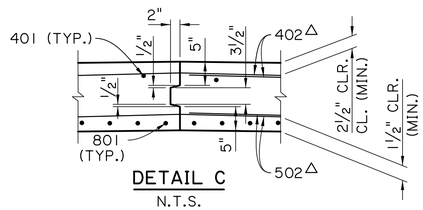
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SECTION A-A

SCALE: ⅜" = 1'-0"

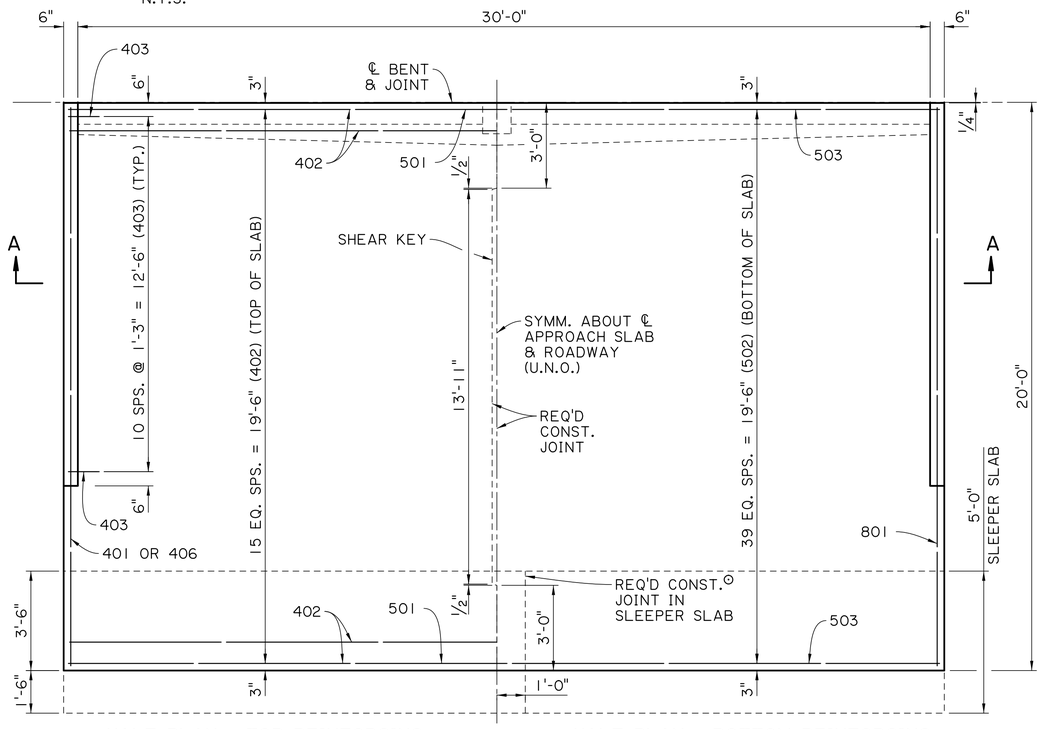


DETAIL C

N.T.S.

△ PHASE I AND PHASE II LONGITUDINAL REINFORCING SHALL HAVE MINIMUM LAP LENGTHS OF 2'-6" (402 BARS) AND 3'-0" (503 BARS).

⊙ PHASE I AND PHASE II LONGITUDINAL REINFORCING SHALL HAVE MINIMUM LAP LENGTHS OF 3'-0" (501 BARS).

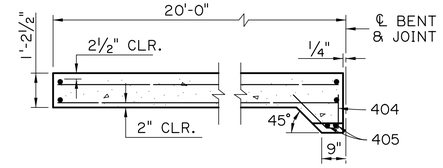


HALF PLAN - TOP REINFORCING

SCALE: ⅜" = 1'-0"

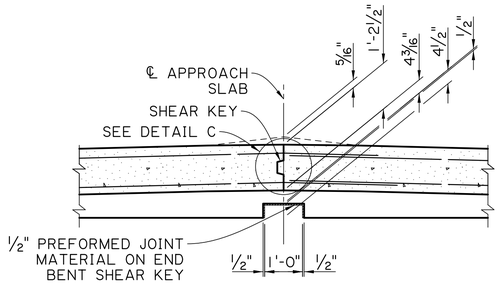
HALF PLAN - BOTTOM REINFORCING

SCALE: ⅜" = 1'-0"



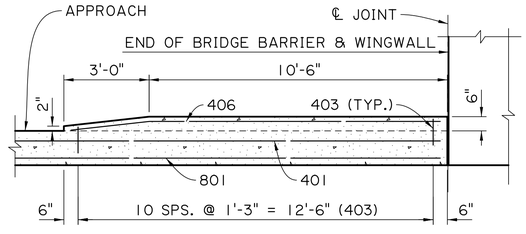
SECTION ALONG ℄ ROADWAY

SCALE: ⅜" = 1'-0"



DETAIL A

SCALE : ½" = 1'-0"



CURB DETAIL

SCALE : ½" = 1'-0"

ESTIMATED QUANTITIES (ONE SLAB)				
BAR	NO.	LONG BAR	TOTAL LENGTH	LOCATION
801	62	19'-8"	1219'-4"	LONGIT. BOT. OF SLAB
TOTAL NO. 8 BARS = 1219'-4" = 3256 LBS.				
501	14	33'-8"	471'-4"	TRANSV. TOP & BOT. OF SLEEPER SLAB
502	42	4'-8"	196'-0"	LONGIT. IN SLEEPER SLAB
503	40	33'-8"	1346'-8"	TRANSV. BOT. OF SLAB
TOTAL NO. 5 BARS = 2014'-0" = 2101 LBS.				
401	24	19'-8"	472'-0"	LONGIT. TOP OF SLAB
402	16	33'-2"	530'-8"	TRANSV. TOP OF SLAB
403	22	2'-0"	44'-0"	DOWELS IN CURB
404	32	3'-3"	104'-0"	STIRRUPS IN HAUNCH
405	4	14'-6"	58'-0"	LONGIT. IN HAUNCH
406	2	13'-1"	26'-2"	LONGIT. IN CURB
TOTAL NO. 4 BARS = 1234'-10" = 825 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 6181 LBS.				
CONCRETE APPROACH SLAB = 68.89 SQ. YDS.				

APPROACH SLAB NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9th EDITION.

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

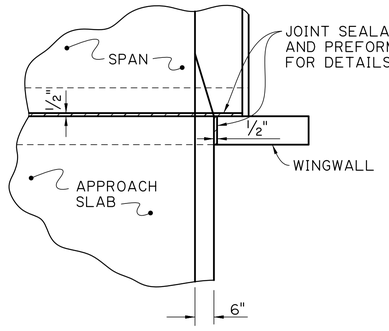
REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE GRADE 60. DIMENSIONS RELATING TO THE FABRICATION ARE OUT-TO-OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS.

PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED AND STRAIGHTED.

BEDDING MATERIAL: FOR DETAILS OF BEDDING MATERIAL AND UNDERDRAINS. SEE STANDARD DETAIL BD.2.1.0.1.0.07.

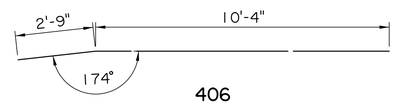
BASIS OF PAYMENT: ALL MATERIAL, INCLUDING DEFORMED REINFORCING STEEL, CONCRETE CURB, PORTLAND CONCRETE CEMENT AND PCC SLEEPER SLAB SHALL BE PAID FOR UNDER "CONCRETE APPROACH SLABS "(CAST-IN-PLACE)" ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET. AREA OF APPROACH SLAB IS MEASURED FROM BACK OF CURB TO BACK OF CURB. PREFORMED JOINT FILLER, BACKER MATERIAL, AND JOINT SEALANT TO BE PAID FOR UNDER "JOINT SEAL (POURED)", AND ELASTOMERIC BEARING PAD TO BE PAID FOR UNDER "ELASTOMERIC BEARING PAD (NON-REINFORCED)".

SLEEPER SLAB:
REINFORCED CONCRETE SLEEPER SLAB REQUIRED BENEATH APPROACH SLAB. SEE TYPICAL SECTIONS AND DETAILS SHEET 6 OF 6 FOR ADDITIONAL INFORMATION.



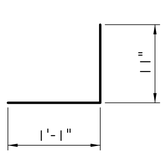
JOINT DETAIL

N.T.S.



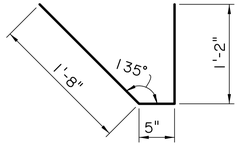
406

2" ø PIN



403

2" ø PIN



404

2" ø PIN

SHEET NUMBER 118

ST. TAMMANY | 00-52 | EN220000181
PARISH | CONTROL SECTION | STATE PROJECT

DESIGN M. MILLER | CHECK P. OLIVIER | DETAIL L. BOURG | CHECK M. MILLER | REVIEW D. HYMEL | SERIES # 1 OF 1

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

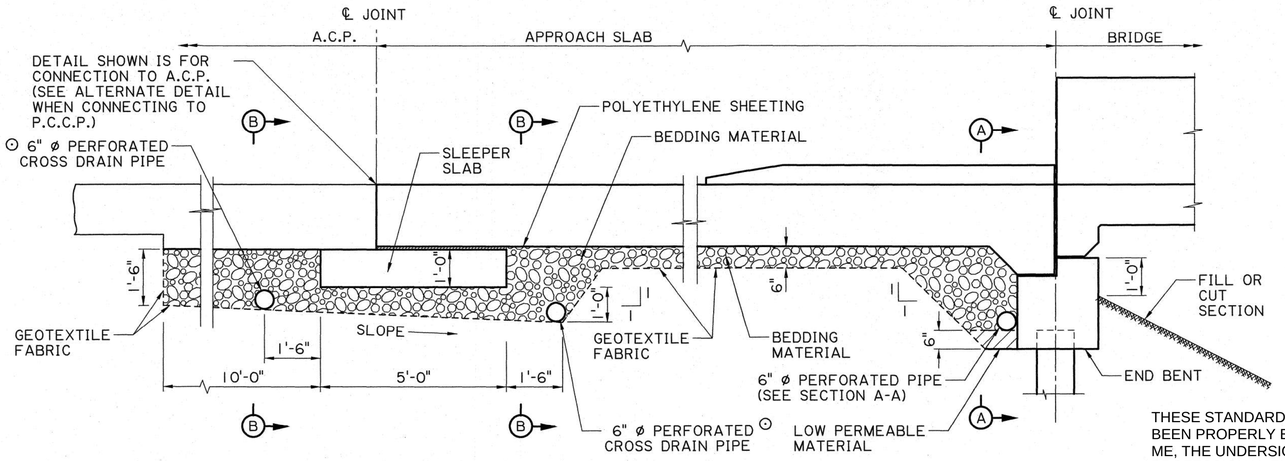
APPROACH SLAB DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC

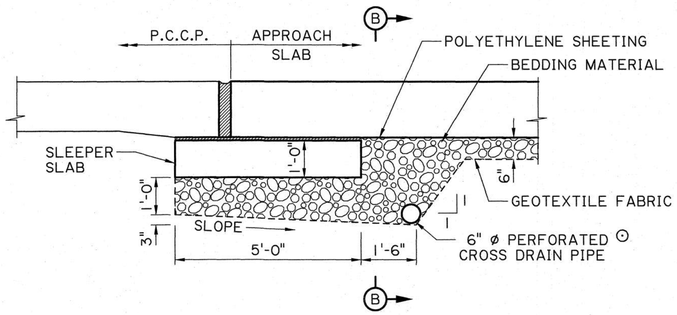
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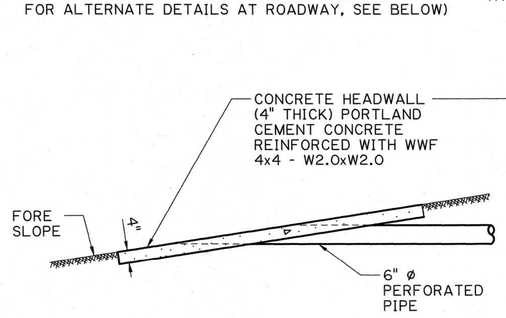


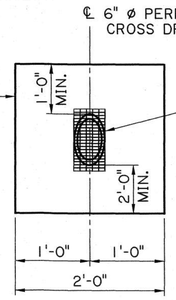
ELEVATION @ APPROACH SLAB

(SLAB SPAN BRIDGE SHOWN.
QUAD BEAM DETAIL SIMILAR)
(ASPHALTIC CONCRETE ROADWAY SHOWN.
FOR ALTERNATE DETAILS AT ROADWAY, SEE BELOW)

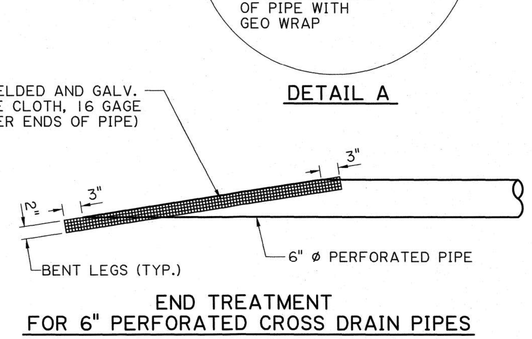


ALTERNATE DETAIL FOR P.C.C.P. ROADWAY

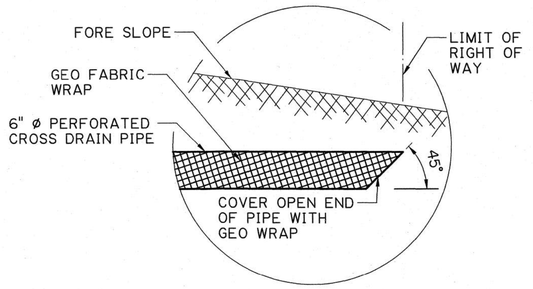




CONCRETE HEADWALL



END TREATMENT
FOR 6" PERFORATED CROSS DRAIN PIPES



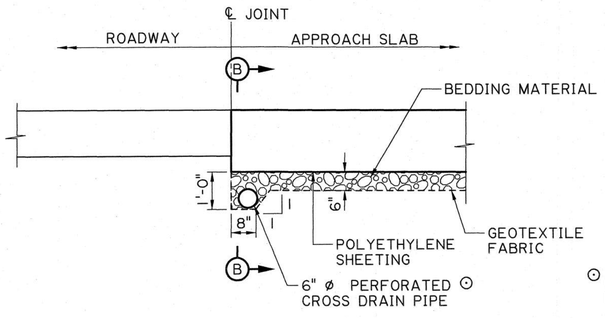
DETAIL A

NOTES:

1. INSTALL POLYETHYLENE SHEETING (6 MIL. THICKNESS) BETWEEN THE BEDDING MATERIAL AND APPROACH SLAB. INSTALL GEOTEXTILE FABRIC DIRECTLY BELOW THE BEDDING MATERIAL. LIMITS SHALL BE THE OUTER EDGES OF THE APPROACH SLAB.
2. UNDERDRAIN MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 813 OF THE STANDARD SPECIFICATIONS.
3. LOW PERMEABLE MATERIAL SHALL BE DEFINED AS A SOIL HAVING THE SAME PI LIMITS AS PLASTIC SOIL BLANKETS, SEE SECTION 203.10.
4. WRAP GEOTEXTILE FABRIC (CLASS C OR D) AROUND THE PERFORATED PIPE AS SHOWN.
- ⊙ 5. FOR ROADWAYS WITH A ONE-WAY TANGENT, THE 6" ø CROSS DRAINAGE PIPE MAY SLOPE ONE-WAY WITH ONLY ONE CONCRETE HEADWALL AT THE LOWER END. PLUG THE HIGH END OF THE 6" ø PIPE.
- ⚠ 6. CROSS DRAIN PIPE SHALL NOT EXCEED LIMITS OF RIGHT OF WAY (SEE DETAIL "A").
- ⊡ 7. APPROACH SLAB WITHOUT SLEEPER SLAB TO ONLY BE USED ON OFF-SYSTEM PROJECTS OR BY SPECIAL PERMISSION FROM THE BRIDGE DESIGN ADMINISTRATOR.

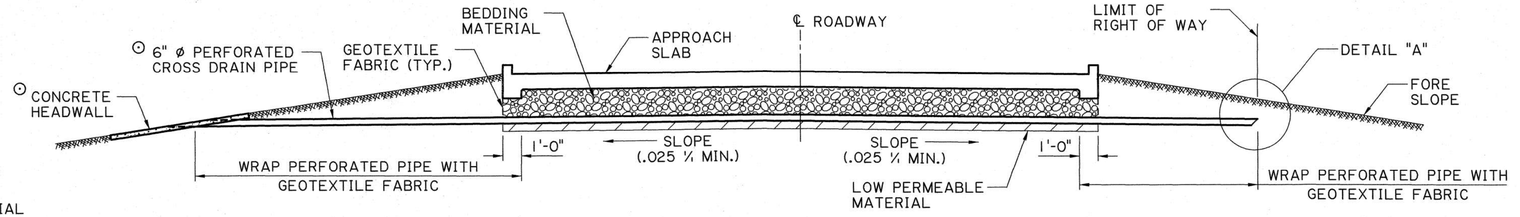
THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025



⊡ ALTERNATE DETAIL FOR APPROACH SLAB WITHOUT SLEEPER SLAB

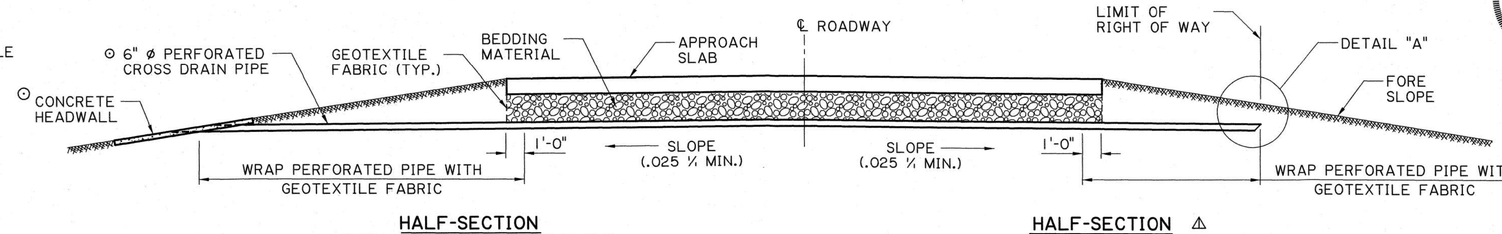
(NOTE: SECTION A-A ALSO APPLIES TO APPROACH SLABS WITHOUT A SLEEPER SLAB AND OFF-SYSTEM BRIDGES)



HALF-SECTION
(WITH HEADWALL ON FORE SLOPE)

SECTION A-A

HALF-SECTION ⚠
(AT LIMIT OF R.O.W.)



HALF-SECTION
(WITH HEADWALL ON FORE SLOPE)

SECTION B-B

HALF-SECTION ⚠
(AT LIMIT OF R.O.W.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35575
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/19/17

(ALL DETAILS ON THIS SHEET ARE N.T.S.)

SHEET NUMBER	119
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGNED A.LANCASTER	DETAILED A. KUYORO
CHECKED X. WANG	CHECKED A.LANCASTER
QUANTITY CHECKED	REVIEWED Z.Z. FU
	SERIES # 1 OF 1

NO.	DATE	BY	REVISION OR CHANGE ORDER DESCRIPTION

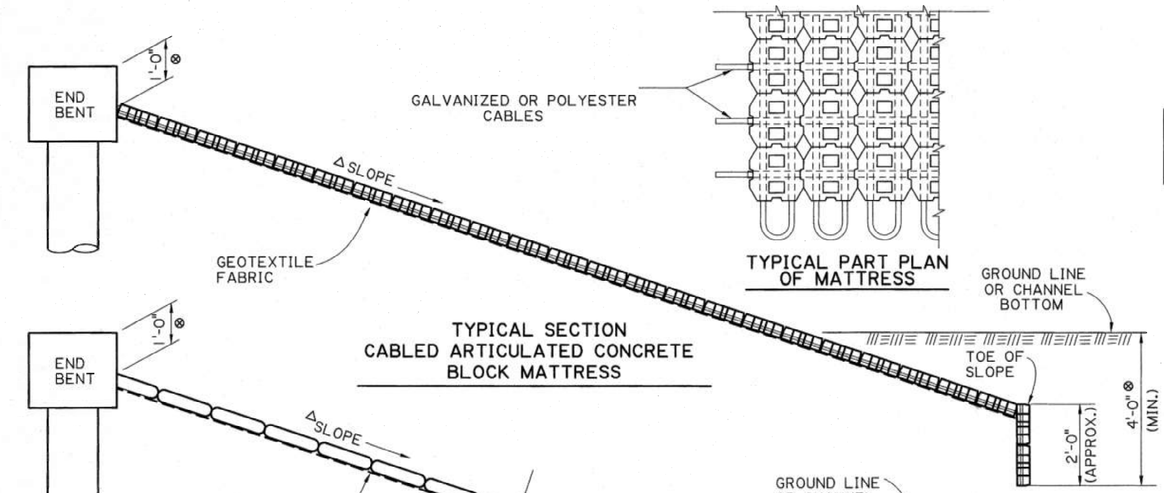
DRAINAGE DETAILS FOR CONCRETE APPROACH SLABS

SLAB SPANS AND QUAD BEAM BRIDGES

BD.2.10.1.0.07 - APPROACH SLAB COMMON

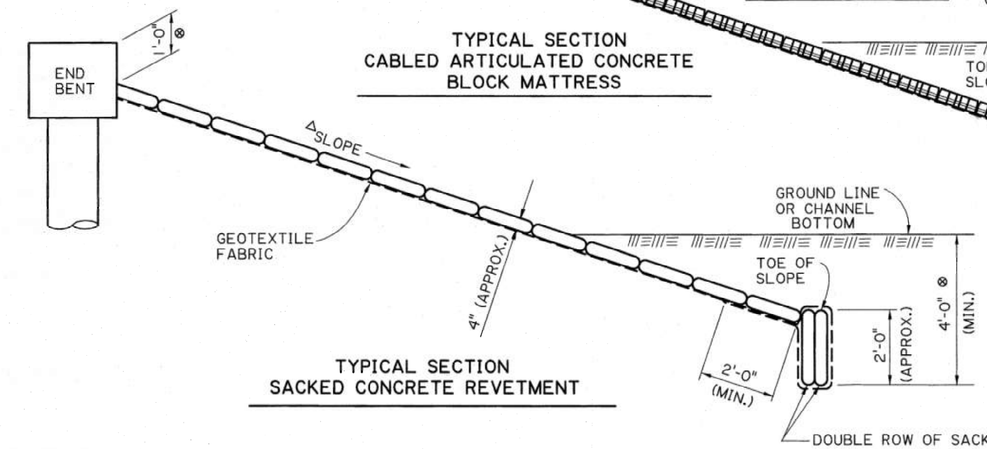
BRIDGE AND STRUCTURAL DESIGN

6/1/2017 12:3

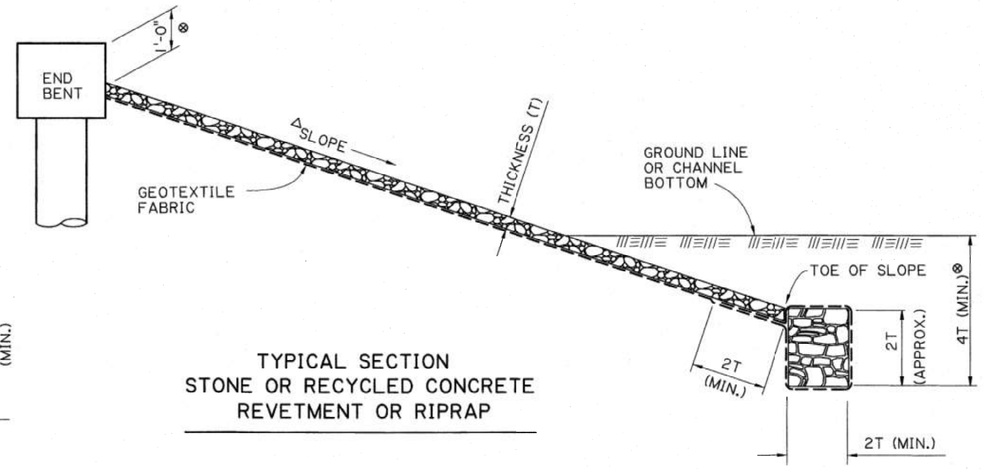


TYPICAL PART PLAN OF MATTRESS

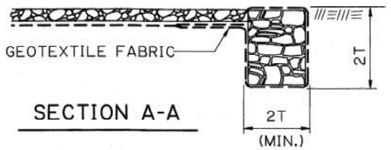
TYPICAL SECTION
CABLED ARTICULATED CONCRETE
BLOCK MATTRESS



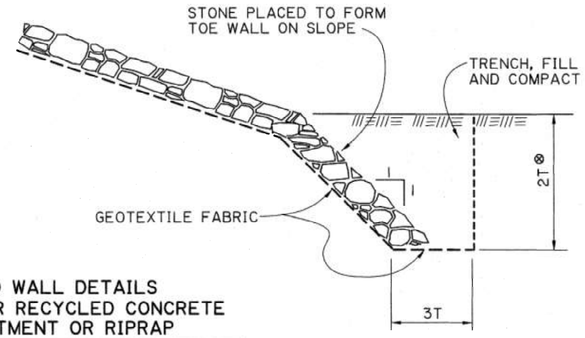
TYPICAL SECTION
SACKED CONCRETE REVETMENT



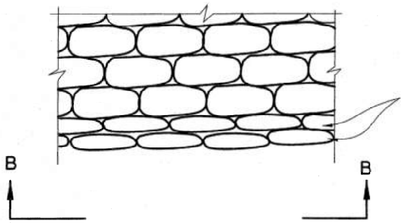
TYPICAL SECTION
STONE OR RECYCLED CONCRETE
REVETMENT OR RIPRAP



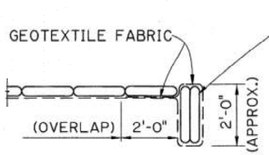
SECTION A-A



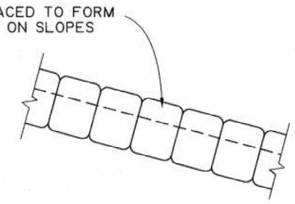
END WALL DETAILS
STONE OR RECYCLED CONCRETE
REVETMENT OR RIPRAP



TYPICAL PART PLAN

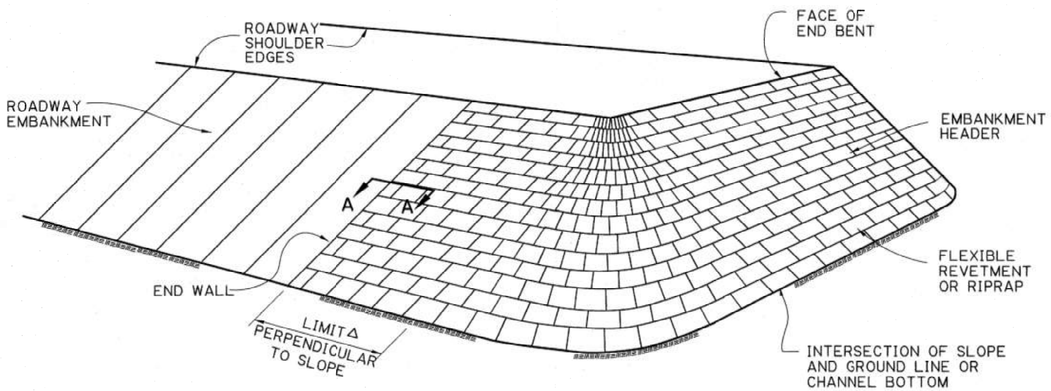


SECTION A-A



SECTION B-B

END WALL DETAILS
FOR SACKED REVETMENT



GENERAL VIEW OF
EMBANKMENT SLOPE PROTECTION

GENERAL NOTES:

RIPRAP AND FLEXIBLE REVETMENT SHALL BE PLACED IN ACCORDANCE WITH THE LATEST SECTIONS 711 AND 712 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

GEOTEXTILE FABRIC WILL BE MEASURED AND PAID FOR UNDER ITS OWN PAY ITEM WHEN USED WITH RIPRAP BUT WILL BE CONSIDERED AN INCIDENTAL ITEM AND BE INCLUDED IN THE PAY ITEM FOR REVETMENT.

ALTERNATE DESIGNS MAY BE SUBMITTED TO THE HYDRAULIC ENGINEER FOR APPROVAL.

ELEVATION OF TOE OF SLOPE TO REMAIN CONSTANT FOR ALL PROTECTED SIDES OF THE EMBANKMENT, UNLESS OTHERWISE NOTED.

WHERE SLOPE PROTECTION FOR ADJACENT EMBANKMENTS INTERSECT, TERMINATE EACH WITH A TOE WALL AS DETAILED ON THIS SHEET EXCEPT WALLS ABUT.

RIPRAP CLASS (LBS.)	MINIMUM THICKNESS (T) (INCHES)
☑ 30	14
✱ 55	18
✱ 130	24
✱ 250	30

✱ STONE ONLY
☑ EQUIVALENT TO STONE OR RECYCLED CONCRETE REVETMENT.
⊗ UNLESS OTHERWISE SHOWN ON PLANS.
△ SEE GENERAL PLAN FOR EMBANKMENT HEADER SLOPE AND LIMITS OF SLOPE PROTECTION ALONG ROADWAY EMBANKMENT.

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

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STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
5/30/17

ALL DETAILS NTS

SHEET NUMBER 120

PARISH	FEDERAL PROJECT	STATE PROJECT
ST. TAMMANY		

DESIGNED	DETAILED	DATE
A. ALLEN	G.GRASS	MAY, 2000
CHECKED	CHECKED	SHEET
	P. FOSSIER	

NO.	DATE	REVISION DESCRIPTION	BY
1	12-18-09	ARTICULATED CONCRETE MATTRESS	P.B.F.

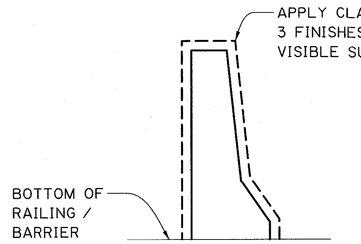
FLEXIBLE REVETMENT
AND RIPRAP

STANDARD DETAIL BD.2.11.3.2.01 (FR-01)

BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d0695347\FR-01.dgn

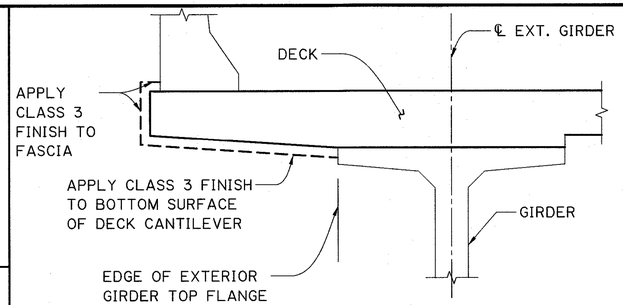
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4/24/2017
FINAL PLANS
IP_PWP:d0722711\BD.2.11.10.0.01 - Concrete Surface Finish (1 of 2).dgn



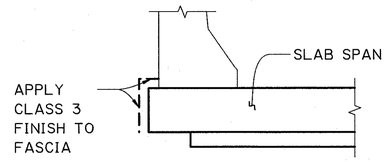
DETAIL 1
(N.T.S.)

NOTE:
VISIBLE CONCRETE PORTIONS OF HANDRAILING SHALL BE FINISHED WITH A CLASS 2 & CLASS 3 SURFACE FINISH. SEE PLANS FOR DETAILS WHEN THESE COMPONENTS ARE REQUIRED.

BRIDGE RAILING / PERMANENT ROADWAY BARRIER / PIER PROTECTION



DECK



SLAB

DETAIL 2
(N.T.S.)

DECK / SLAB

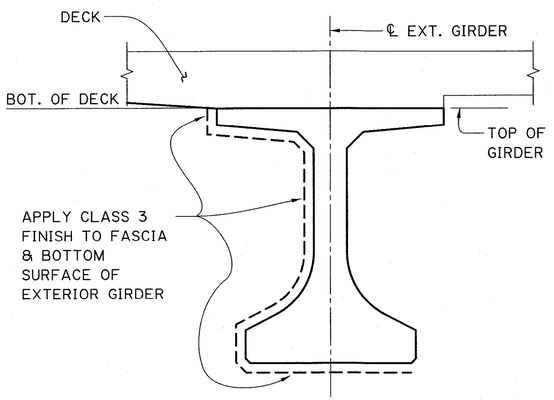
NOTES:

1. CONFORM TO SECTION 805.08 CONCRETE SURFACE FINISHES OF THE 2016 LADOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.
2. APPLY FINISHES TO STRUCTURAL CONCRETE COMPONENTS IN ACCORDANCE WITH THE DETAILS ON THIS SHEET AND QUANTITIES SPECIFIED ON SHEET 2 OF 2.
3. DETAILS SHOWN ARE TYPICAL AND ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY, ACTUAL SURFACE SHAPES MAY VARY. REFER TO THE SUMMARY TABLES ON SHEET 2 OF 2 FOR REQUIRED LOCATION OF SURFACE FINISHES AND QUANTITIES.
4. THE TERM "VISIBLE" USED HEREIN IS TAKEN TO MEAN VISIBLE AFTER CONSTRUCTION IS COMPLETE, FINISHED GROUND LINES ARE IN PLACE, AND WITH RESPECT TO THE WATER SURFACE ELEVATION AT THE TIME OF APPLICATION.

⊗ 5. EXTEND CLASS 3 FINISH TO 1'-0" BELOW FINISHED GROUND LINE.

△ 6. THE "SURFACE FINISH WATER ELEVATION" ▽ SHALL BE TAKEN AS THE WATER SURFACE ELEVATION AT THE TIME OF THE CONCRETE SURFACE FINISH APPLICATION. EXTEND SURFACE FINISH TO THIS ELEVATION.

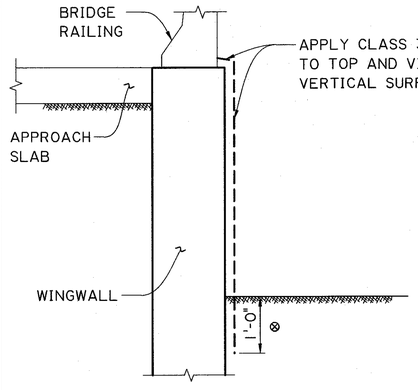
STATE OF LOUISIANA
ANDREW WINDMANN
License No. 39042
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
Andrew Windmann
4/24/2017



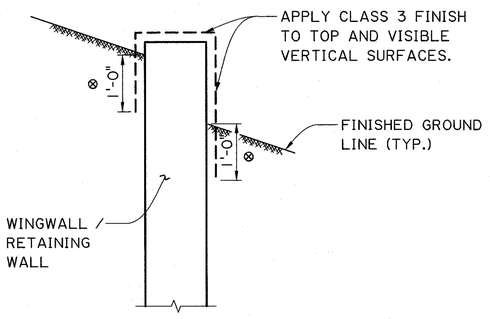
DETAIL 3
(N.T.S.)

NOTE:
GIRDER TYPE VARIES. LG GIRDER SHOWN FOR ILLUSTRATION PURPOSE ONLY.

EXTERIOR CONCRETE GIRDER



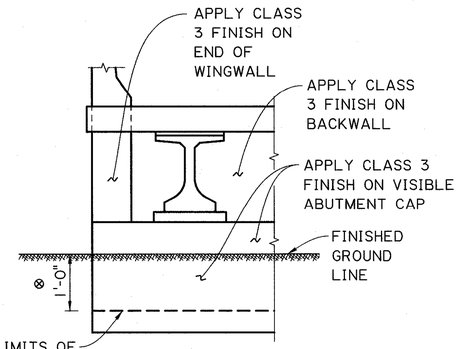
SECTION
WINGWALL PARALLEL TO ROADWAY



SECTION
WINGWALL PERPENDICULAR TO ROADWAY OR CAST-IN-PLACE RETAINING WALL

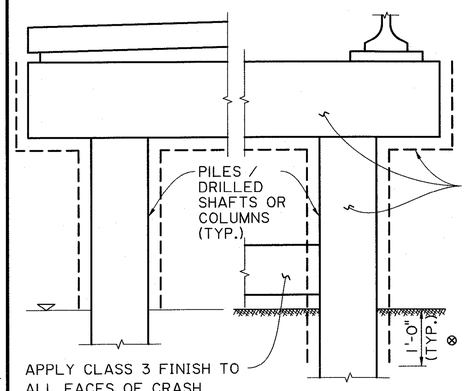
DETAIL 4
(N.T.S.)

WINGWALL & CAST-IN-PLACE RETAINING WALL

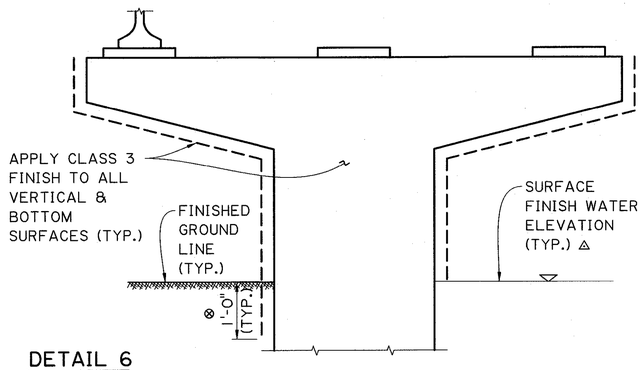


DETAIL 5
(N.T.S.)

BACKWALL & ABUTMENT CAP



HALF SECTION
SLAB SPAN BRIDGE

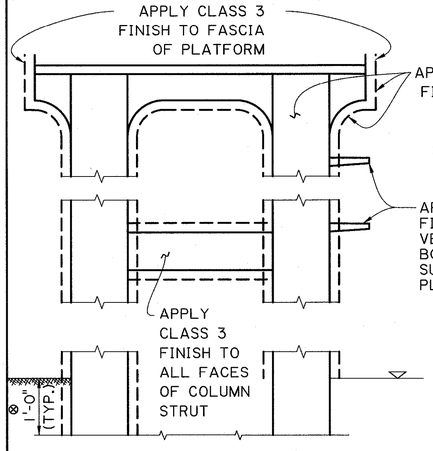


HALF SECTION
GIRDER BRIDGE

DETAIL 6
(N.T.S.)

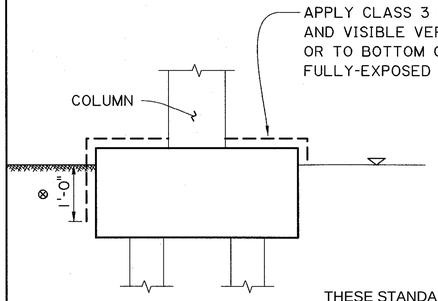
SECTION
HAMMERHEAD BENT

COLUMN BENT, PILE BENT, & HAMMERHEAD BENT



DETAIL 7
(N.T.S.)

CONCRETE TOWER



DETAIL 8
(N.T.S.)

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

EXPOSED FOOTING

SHEET NUMBER 121
PARISH: ST. TAMANY
CONTROL SECTION: 000-52
STATE PROJECT:
DESIGNED: A.WINDMANN
CHECKED: A.LANCASTER
DETAILED: J.PRESTRIDGE
CHECKED: A.WINDMANN
REVIEWED: Z. FU
SERIES #: 1 OF 2

NO.	DATE	BY	REVISION OR CHANGE ORDER DESCRIPTION

CONCRETE SURFACE FINISH (CLASS 2 & CLASS 3)

BD.2.11.10.0.01 - CONC. SURFACE FINISHES

DOTD BRIDGE DESIGN

SUMMARY OF SURFACE FINISH QUANTITIES			
STRUCTURE COMPONENT	**CLASS 2 (SQ. FT.) (805-18-00100)**	**CLASS 3 (SQ. FT.) (805-18-00200)**	**LOCATION (STATIONS, BENT NOS., SPAN NOS., ECT.)**
STRUCTURE RECALL NO: 620076			WATER SURFACE ELEVATION = 11.02' ⚠
BRIDGE RAILING	1,920	1,920	STA. 107+84.73 TO 109+24.73
WINGWALL	N/A	28	STA. 107+84.73 TO 109+24.73
SLAB		377	STA. 107+84.73 TO 109+24.73
BENT CAP		1,478	STA. 107+84.73 TO 109+24.73
PILES		851	STA. 107+84.73 TO 109+24.73
SUB TOTAL:	1,920	4,654	

TOTAL CONCRETE FINISH (CLASS 2) (ITEM NO. 805-18-00100) =	**1,920 SQ. FT.**
TOTAL CONCRETE FINISH (CLASS 3) (ITEM NO. 805-18-00200) =	**4,654 SQ. FT.**

NOTES:

SEE SHEET 1 OF 2 FOR DETAILS / APPLICATION OF CONCRETE SURFACE FINISH.

⚠ THE ELEVATION PROVIDED IS FOR ESTIMATION PURPOSES ONLY AND REPRESENTS THE WATER SURFACE ELEVATION AT THE TIME OF THE SURVEY. SEE NOTE 6 ON SHEET 1 OF 2 FOR INFORMATION REGARDING THE ACTUAL LIMITS FOR APPLICATION.

FINAL PLANS

P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_100 PCT\122 - Concrete Surface Finish.dgn 10/6/2025 20:05

SHEET NUMBER 122

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	00-52	EN220001811

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	P. OLIVIER	L. BOURG	M. MILLER	D. HYMEL	2 OF 2

STATE OF LOUISIANA
MEGAN M. MILLER
License No. 39897
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

CONCRETE SURFACE FINISH
(CLASS 2 & CLASS 3)

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

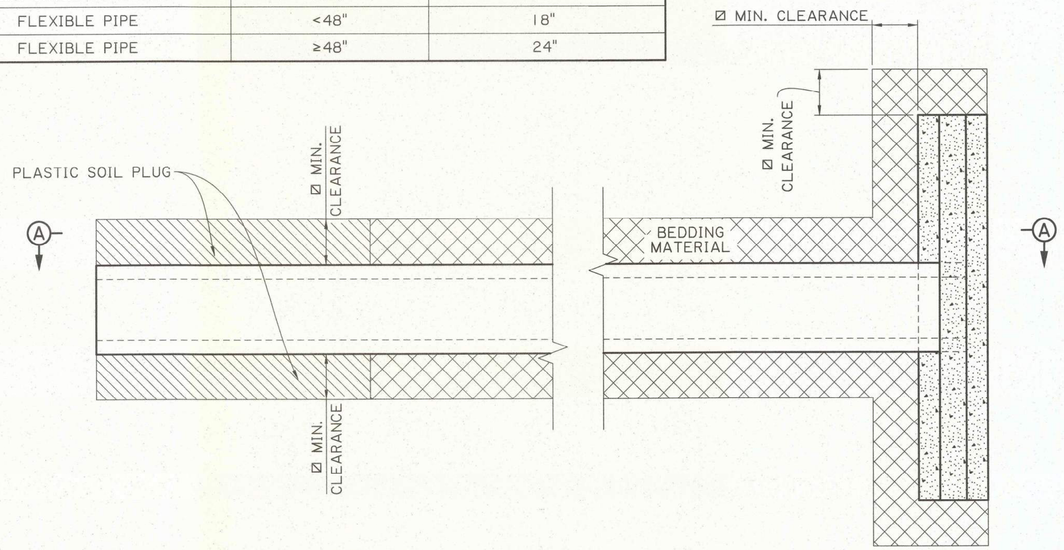
CRESCENT ENGINEERING & MAPPING LLC

10/23/2023 09:45

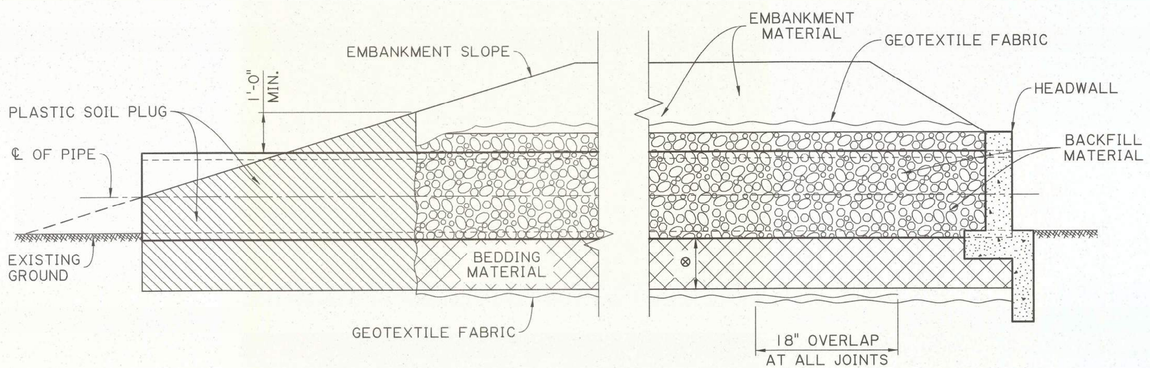
GENERAL NOTES :

1. REINFORCED CONCRETE PIPE AND FLEXIBLE PIPE ARE SHOWN AS TYPICAL STRUCTURES. DETAILS ALSO APPLY TO REINFORCED CONCRETE BOX CULVERT, REINFORCED CONCRETE PIPE ARCH, CORRUGATED METAL PIPE ARCH, AND CORRUGATED STRUCTURAL PLATE STRUCTURES.
2. CONSTRUCTION COVER REQUIREMENTS MAY EXCEED FINAL COVER.
3. CROSS DRAIN DETAILS APPLY TO ALL REACHES OF PIPE UNDER RIGID OR FLEXIBLE ROADWAYS.
4. FOR STRUCTURES INSTALLED OUTSIDE THE LIMITS OF THE ROADWAY, THE 12" OF FINAL BACKFILL ABOVE TYPE B BACKFILL UP TO THE EXISTING GROUND SHALL BE PLASTIC SOIL BLANKET MATERIAL. IF THE EMBANKMENT TO BE INSTALLED IS GREATER THAN 12" ABOVE EXISTING GROUND IN THE AREA OVER THE STRUCTURE, THEN THE PLASTIC SOIL BLANKET IS NOT REQUIRED AND TYPE B BACKFILL MAY EXTEND TO EXISTING GROUND.

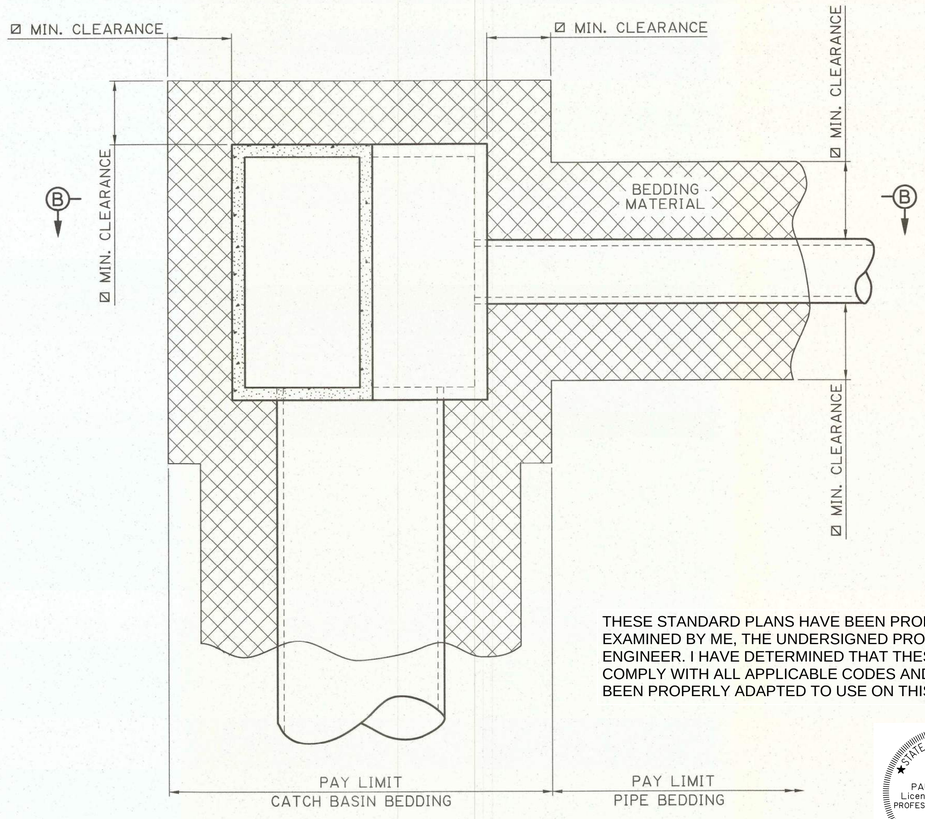
Ø MINIMUM TRENCH CLEARANCE		
TYPE OF STRUCTURE	INSIDE DIAMETER	MIN. CLEARANCE
REINFORCED CONCRETE	ALL	18"
FLEXIBLE PIPE	<48"	18"
FLEXIBLE PIPE	≥48"	24"



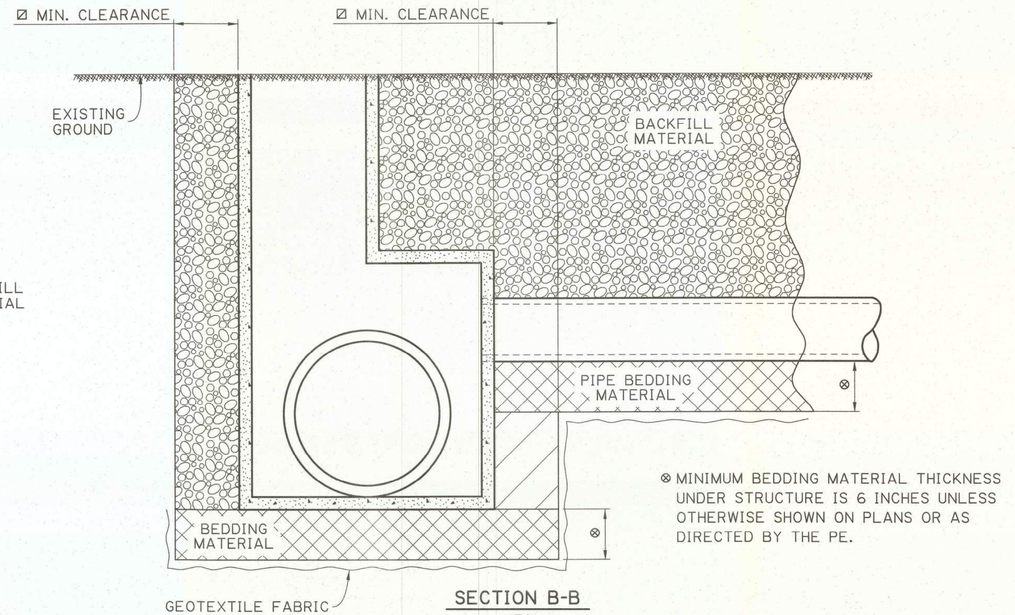
TYPICAL CROSS DRAIN INSTALLATION
WITH AND WITHOUT HEADWALL
(EMBANKMENT MATERIAL NOT SHOWN FOR CLARITY)
NTS



SECTION A-A
WITH AND WITHOUT HEADWALL
NTS



TYPICAL CATCH BASIN AND STORM DRAIN INSTALLATION
NTS



SECTION B-B
NTS

⊗ MINIMUM BEDDING MATERIAL THICKNESS UNDER STRUCTURE IS 6 INCHES UNLESS OTHERWISE SHOWN ON PLANS OR AS DIRECTED BY THE PE.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2023

SHEET NUMBER	301
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	

DESIGN	C. NICKEL
CHECK	J. RAUSER
DETAIL	L. HASTINGS
CHECK	A. NICKEL
REVIEW	C. NICKEL
SERIES #	1 OF 2

STATE OF LOUISIANA
CHRISTOPHER J. NICKEL
License No. 30572
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/23/2023

APPROVED BY CHIEF ENGINEER:
DATE: 10/26/2023

STATE OF LOUISIANA
UNDER JURISDICTION
OF THE
DEPARTMENT OF
TRANSPORTATION
AND DEVELOPMENT
CERTIFIED

DRAINAGE STRUCTURES
BEDDING & BACKFILL
BM-01
STANDARD PLAN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
PAVEMENT & GEOTECHNICAL SERVICES

⍁ MINIMUM TRENCH CLEARANCE		
TYPE OF STRUCTURE	INSIDE DIAMETER	MIN. CLEARANCE
REINFORCED CONCRETE	ALL	18"
FLEXIBLE PIPE	<48"	18"
FLEXIBLE PIPE	≥48"	24"

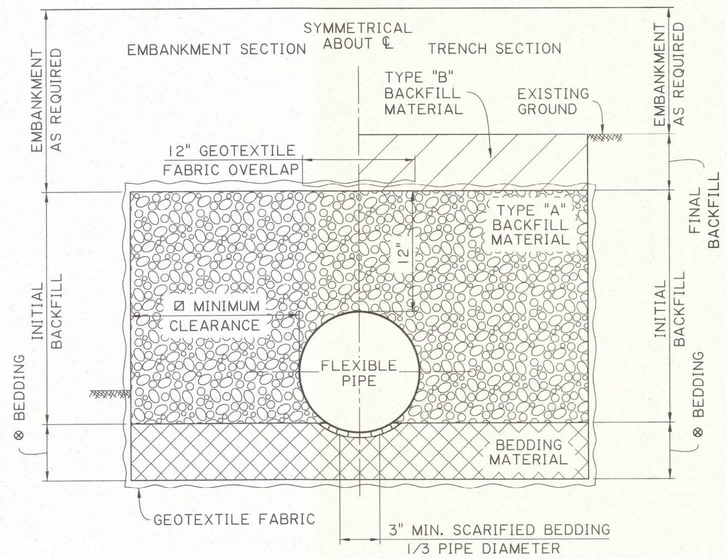
THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2023

⊗ MINIMUM BEDDING MATERIAL THICKNESS UNDER STRUCTURE IS 6 INCHES UNLESS OTHERWISE SHOWN ON PLANS OR AS DIRECTED BY THE PE.

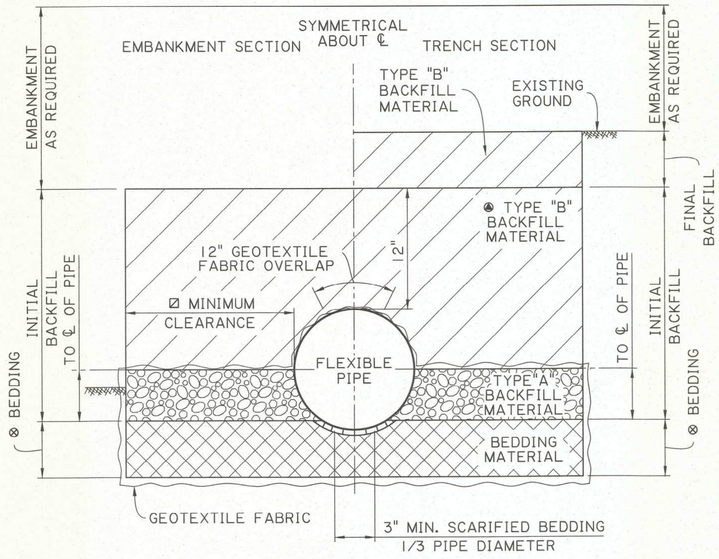
△ NO BEDDING MATERIAL REQUIRED UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE PE.

⍟ REFER TO NOTE 3 ON SHEET 1 OF THIS SERIES.



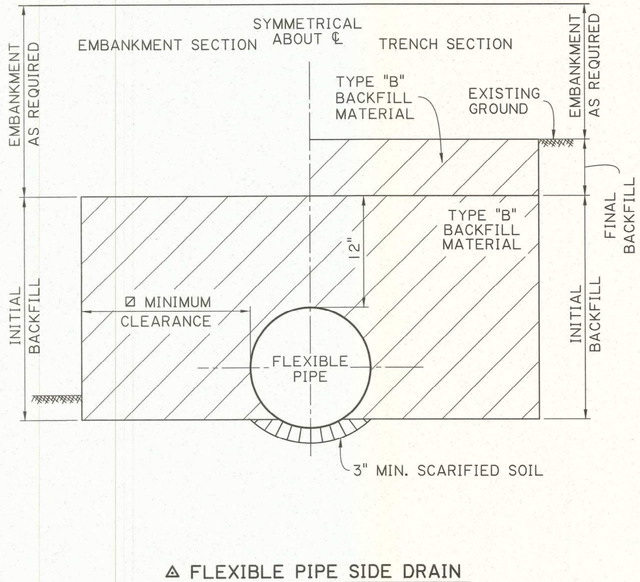
FLEXIBLE PIPE CROSS DRAIN

TRENCH AND EMBANKMENT INSTALLATIONS
SCALE: 1½"=1'-0"



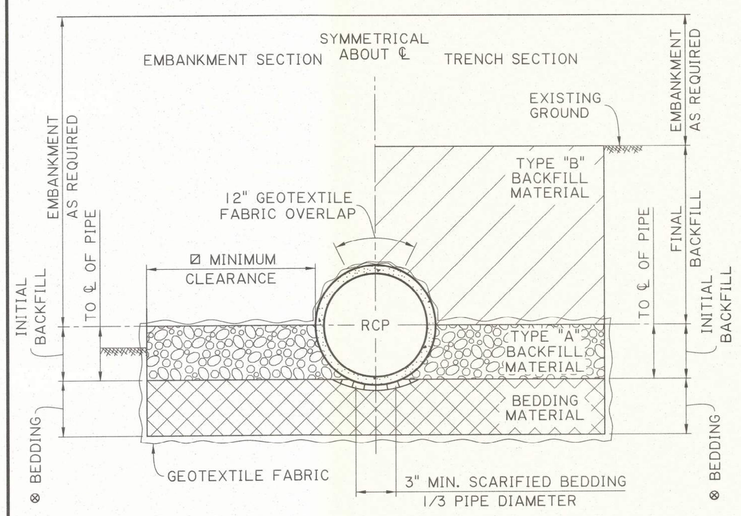
FLEXIBLE PIPE STORM DRAIN

TRENCH AND EMBANKMENT INSTALLATIONS
SCALE: 1½"=1'-0"



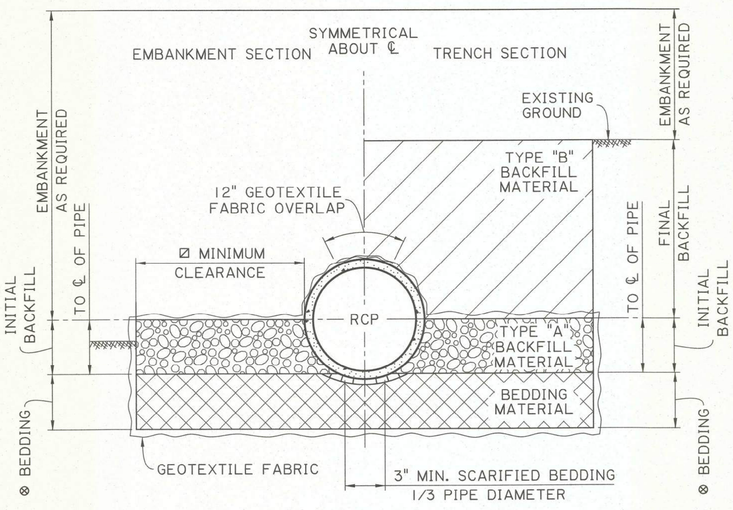
△ FLEXIBLE PIPE SIDE DRAIN

TRENCH AND EMBANKMENT INSTALLATIONS
SCALE: 1½"=1'-0"



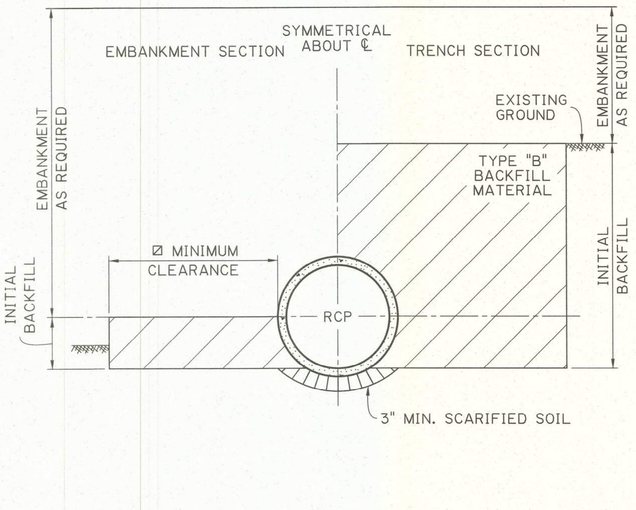
REINFORCED CONCRETE PIPE CROSS DRAIN

TRENCH AND EMBANKMENT INSTALLATIONS
SCALE: 1½"=1'-0"



REINFORCED CONCRETE PIPE STORM DRAIN

TRENCH AND EMBANKMENT INSTALLATIONS
SCALE: 1½"=1'-0"



△ REINFORCED CONCRETE PIPE SIDE DRAIN

TRENCH AND EMBANKMENT INSTALLATIONS
SCALE: 1½"=1'-0"

SHEET NUMBER	302
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN C. NICKEL / CHECK J. RAUSER	DETAIL L. HASTINGS / CHECK A. NICKEL	REVIEW C. NICKEL / SERIES # 2 OF 2

STATE OF LOUISIANA
CHRISTOPHER J. NICKEL
License No. 30572
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/23/2023

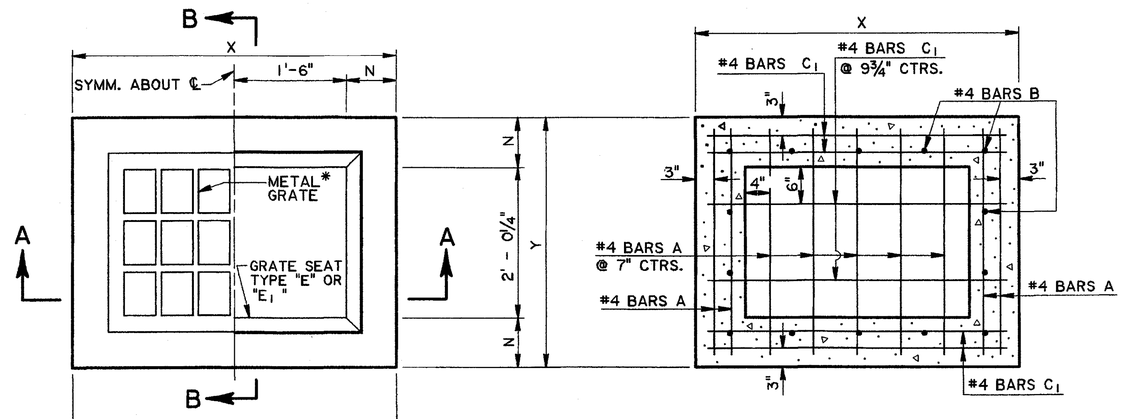
APPROVED BY CHIEF ENGINEER:
DATE: 10/26/2023

DRAINAGE STRUCTURES
TYPICAL SECTIONS FOR CROSS DRAINS & SIDE DRAINS
STANDARD PLAN NO. BM-01

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
PAVEMENT & GEOTECHNICAL SERVICES

09:18
10/23/2023

10/17/2014 15:29



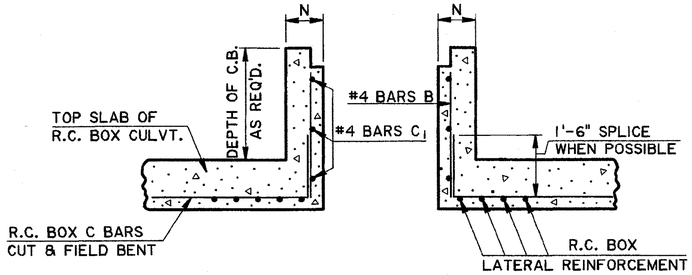
PLAN

* GRATE TO BE TYPE "B" OR "C" TYPE "B" SHOWN.

HORIZONTAL SECTION

SHOWING BOTTOM SLAB REINFORCING STEEL

DIMENSIONS			
DEPTH OF BASIN	N	X	Y
FT.	IN.	FT.- IN.	FT.- IN.
0 - 8	7	4-2	3-2¼
8.1 - 12	8	4-4	3-4¼

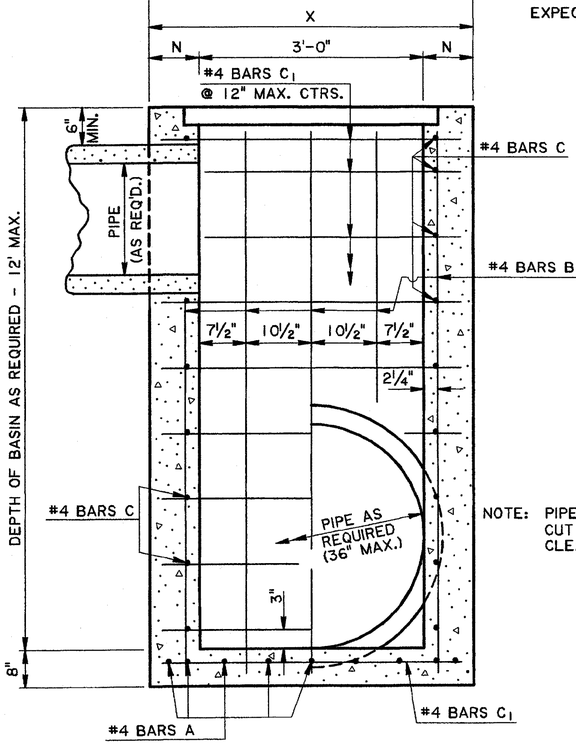


LONGITUDINAL SECTION

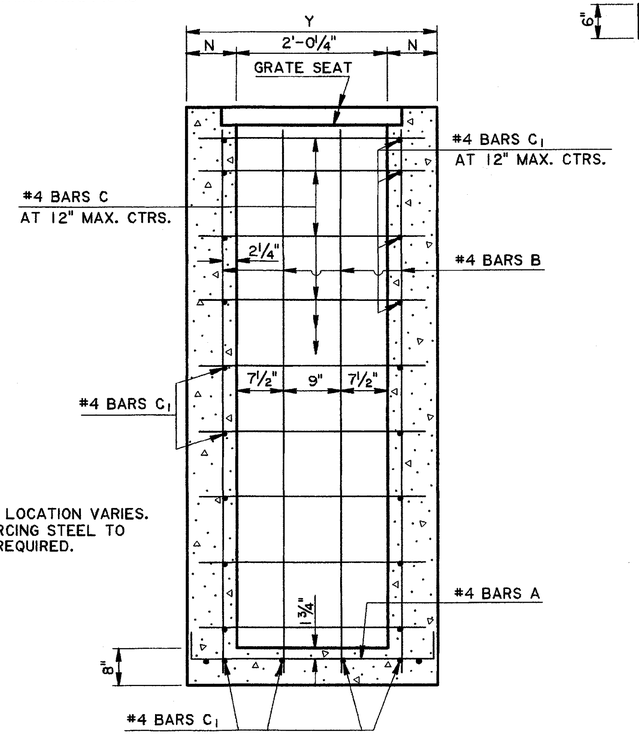
SHOWING CATCH BASIN
USED WITH R.C. BOX CULVERT.

NOTE: TYPE "B" GRATE TO BE USED WHERE NO PEDESTRIAN TRAFFIC IS EXPECTED.

TYPE "C" GRATE TO BE USED WHERE PEDESTRIAN TRAFFIC IS EXPECTED.

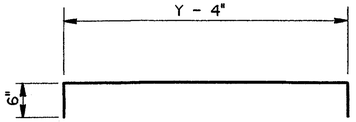


SECTION A-A

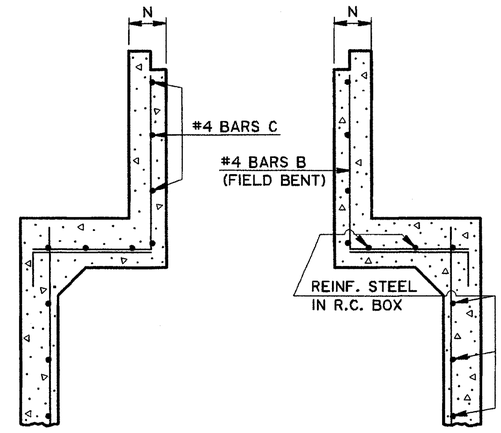


SECTION B-B

NOTE: PIPE SIZE & LOCATION VARIES. CUT REINFORCING STEEL TO CLEAR, AS REQUIRED.



#4 BARS A



TRANSVERSE SECTION

SHOWING CATCH BASIN
USED WITH R.C. BOX CULVERT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

GENERAL NOTES:

SECTION 702 OF THE CURRENT DOTD STANDARD SPECIFICATIONS SHALL APPLY.

DIMENSIONS RELATING TO REINFORCING STEEL ARE TO BAR CENTERS.

VERTICAL REINFORCING STEEL MAY BE SPLICED. SPLICE LENGTH IS 35 DIAMETERS.

FOR DETAILS OF GRATE AND SEAT, SEE STD. PLAN MC-01 (TYPE B or C).

SEE PLANS FOR TYPE OF GRATE TO BE USED FOR EACH CATCH BASIN.

SHEET NUMBER 303

PARISH ST. TAMMANY | FEDERAL PROJECT | STATE PROJECT

DESIGNED PAA | DETAILED KAJ | DATE 1-31-97
CHECKED | CHECKED WMR | SHEET 1 OF 1

BY JCM
DATE 11-2-00 Converted Metric CB-01M to English CB-01
REVISION DESCRIPTION

APPROVED BY CHIEF ENGINEER: [signature] DATE: 11-2-00

CONCRETE OPEN TOP CATCH BASIN
Max. Pipe: 36" x 24"
Max. Depth: 12'
To Be Used In Conjunction With Std. Plan MC-01

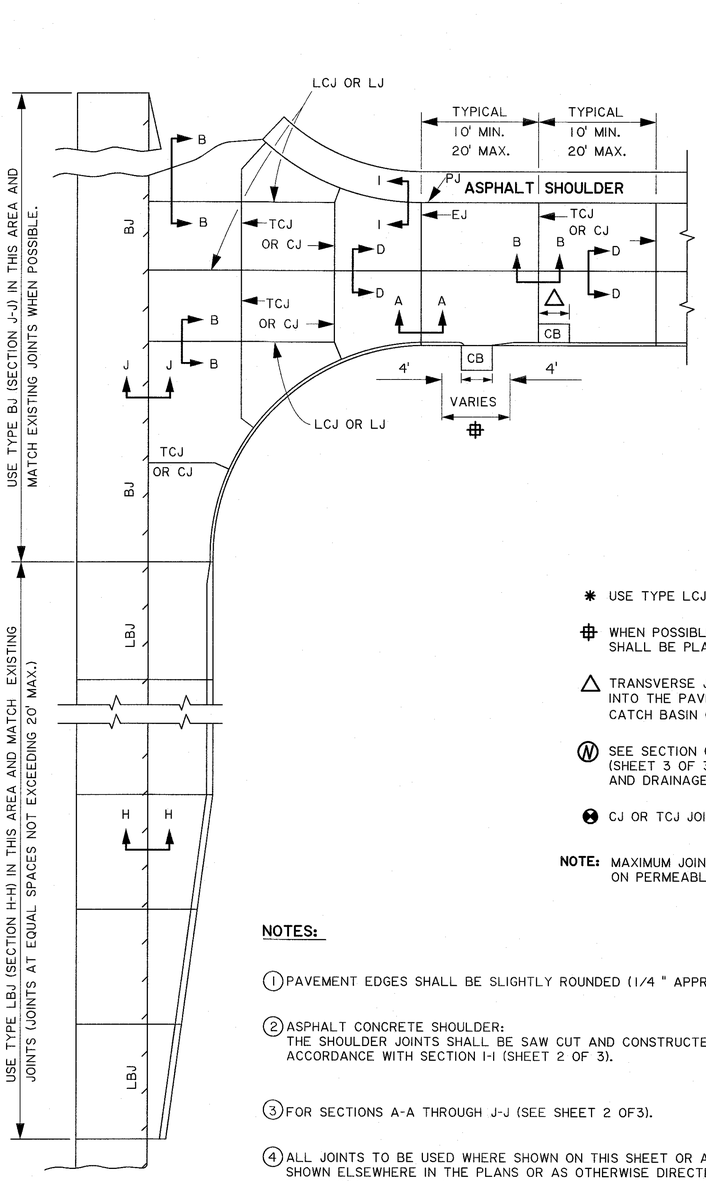
STANDARD PLAN CB-01

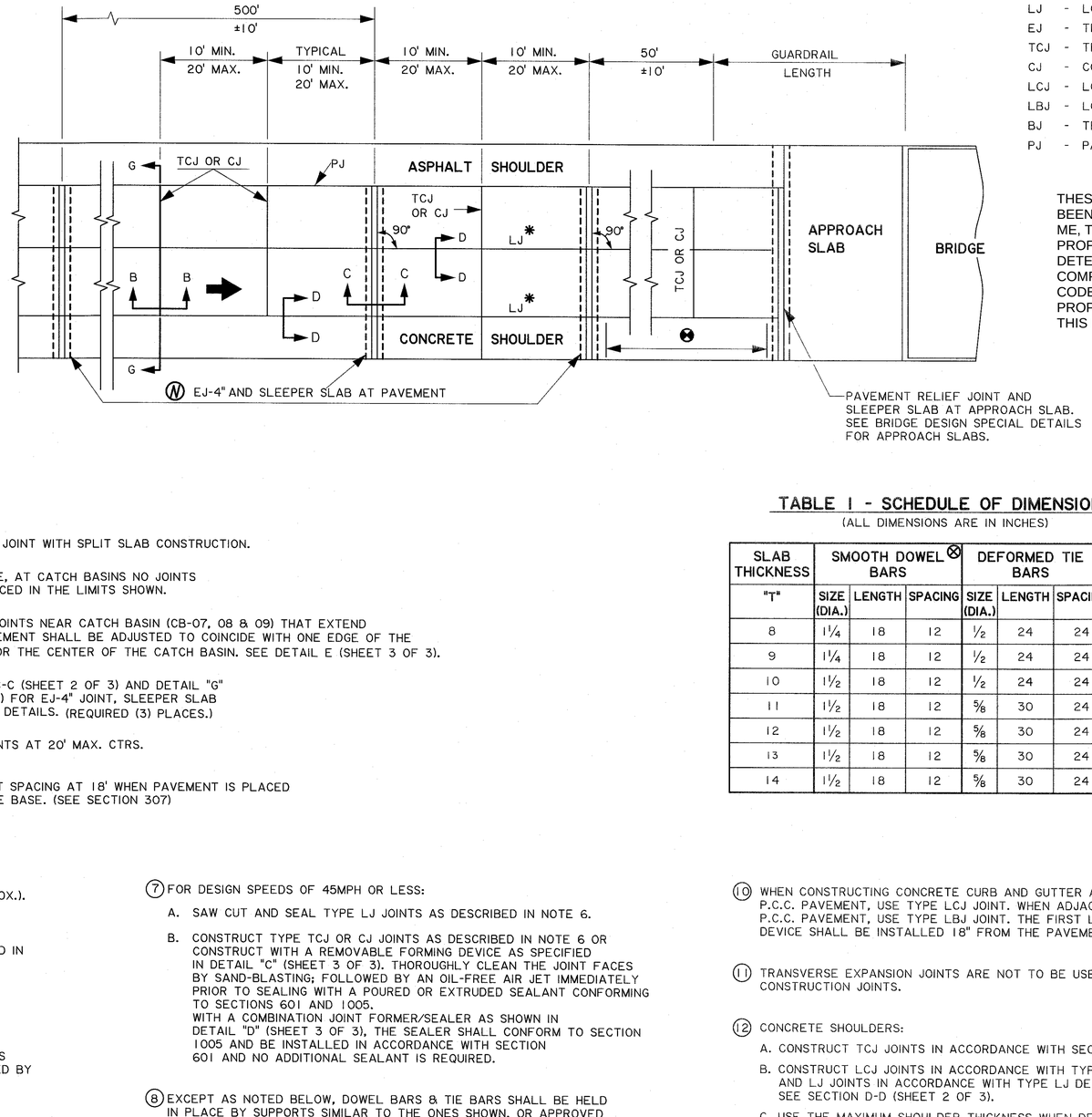
HYDRAULICS SECTION

IP_PWP:d0551794\CB-01.dgn

PLAN VIEW

ROADWAY SHOWING JOINTS





JOINT ABBREVIATIONS:

- LJ - LONGITUDINAL JOINT
- EJ - TRANSVERSE EXPANSION JOINT
- TCJ - TRANSVERSE CONTRACTION JOINT
- CJ - CONSTRUCTION JOINT
- LCJ - LONGITUDINAL CONSTRUCTION JOINT
- LBJ - LONGITUDINAL BUTT JOINT
- BJ - TRANSVERSE BUTT JOINT
- PJ - PAVEMENT EDGE SEAL JOINT

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

✱ USE TYPE LCJ JOINT WITH SPLIT SLAB CONSTRUCTION.

WHEN POSSIBLE, AT CATCH BASINS NO JOINTS SHALL BE PLACED IN THE LIMITS SHOWN.

△ TRANSVERSE JOINTS NEAR CATCH BASIN (CB-07, 08 & 09) THAT EXTEND INTO THE PAVEMENT SHALL BE ADJUSTED TO COINCIDE WITH ONE EDGE OF THE CATCH BASIN OR THE CENTER OF THE CATCH BASIN. SEE DETAIL E (SHEET 3 OF 3).

Ⓝ SEE SECTION C-C (SHEET 2 OF 3) AND DETAIL "G" (SHEET 3 OF 3) FOR EJ-4" JOINT, SLEEPER SLAB AND DRAINAGE DETAILS. (REQUIRED (3) PLACES.)

CJ OR TCJ JOINTS AT 20' MAX. CTRS.

NOTE: MAXIMUM JOINT SPACING AT 18' WHEN PAVEMENT IS PLACED ON PERMEABLE BASE. (SEE SECTION 307)

TABLE I - SCHEDULE OF DIMENSIONS

(ALL DIMENSIONS ARE IN INCHES)

SLAB THICKNESS	SMOOTH DOWEL ⊗ BARS			DEFORMED TIE ⊠ BARS			KEYWAY ⊛	
"T"	SIZE (DIA.)	LENGTH	SPACING	SIZE (DIA.)	LENGTH	SPACING	A ±1/4"	B ±1/4"
8	1 1/4	18	12	1/2	24	24	2 1/2	1 1/4
9	1 1/4	18	12	1/2	24	24	2 1/2	1 1/4
10	1 1/2	18	12	1/2	24	24	2 1/2	1 1/4
11	1 1/2	18	12	5/8	30	24	2 1/2	1 1/4
12	1 1/2	18	12	5/8	30	24	3	1 1/2
13	1 1/2	18	12	5/8	30	24	3	1 1/2
14	1 1/2	18	12	5/8	30	24	3	1 1/2

NOTES:

1. PAVEMENT EDGES SHALL BE SLIGHTLY ROUNDED (1/4 " APPROX.).
2. ASPHALT CONCRETE SHOULDER:
   THE SHOULDER JOINTS SHALL BE SAW CUT AND CONSTRUCTED IN ACCORDANCE WITH SECTION I-I (SHEET 2 OF 3).
3. FOR SECTIONS A-A THROUGH J-J (SEE SHEET 2 OF3).
4. ALL JOINTS TO BE USED WHERE SHOWN ON THIS SHEET OR AS SHOWN ELSEWHERE IN THE PLANS OR AS OTHERWISE DIRECTED BY THE ENGINEER.
5. ON TYPE EJ ALTERNATE JOINTS, SPOT WELD ALTERNATE ENDS OF DOWEL BARS TO DOWEL BASKETS AND PLACE EXPANSION TUBES ON FREE ENDS OF DOWEL BARS.
6. FOR DESIGN SPEEDS GREATER THAN 45MPH:
   SAW CUT AND CONSTRUCT THE TYPE LJ, TCJ, AND CJ JOINTS AS IN DETAILS "A, B OR C" TO A DEPTH OF T/3 INCHES. THOROUGHLY CLEAN THE JOINT FACES BY SANDBLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A POURED OR EXTRUDED SEALANT CONFORMING TO SECTION 1005.
7. FOR DESIGN SPEEDS OF 45MPH OR LESS:
   A. SAW CUT AND SEAL TYPE LJ JOINTS AS DESCRIBED IN NOTE 6.
   B. CONSTRUCT TYPE TCJ OR CJ JOINTS AS DESCRIBED IN NOTE 6 OR CONSTRUCT WITH A REMOVABLE FORMING DEVICE AS SPECIFIED IN DETAIL "C" (SHEET 3 OF 3). THOROUGHLY CLEAN THE JOINT FACES BY SAND-BLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A POURED OR EXTRUDED SEALANT CONFORMING TO SECTIONS 601 AND 1005.
   WITH A COMBINATION JOINT FORMER/SEALER AS SHOWN IN DETAIL "D" (SHEET 3 OF 3), THE SEALER SHALL CONFORM TO SECTION 1005 AND BE INSTALLED IN ACCORDANCE WITH SECTION 601 AND NO ADDITIONAL SEALANT IS REQUIRED.
8. EXCEPT AS NOTED BELOW, DOWEL BARS & TIE BARS SHALL BE HELD IN PLACE BY SUPPORTS SIMILAR TO THE ONES SHOWN, OR APPROVED EQUALS. APPROVED MECHANICAL PLACEMENT OF DOWEL BARS AND TIE BARS WILL BE ALLOWED WITH ALL PAVING METHODS.
9. INSTALL GEOTEXTILE FABRIC (TYPE B, C, OR D) UNDER ALL TCJ, CJ, AND EJ ALTERNATE JOINTS WHEN CONCRETE PAVEMENT IS PLACED ON PERMEABLE BASE. WHEN DOWEL BARS ARE MECHANICALLY IMPLANTED, THE GEOTEXTILE FABRIC SHALL BE ANCHORED TO THE BASE COURSE WITH PINS.
10. WHEN CONSTRUCTING CONCRETE CURB AND GUTTER ADJACENT TO NEW P.C.C. PAVEMENT, USE TYPE LCJ JOINT. WHEN ADJACENT TO EXISTING P.C.C. PAVEMENT, USE TYPE LBJ JOINT. THE FIRST LOAD TRANSFER DEVICE SHALL BE INSTALLED 18" FROM THE PAVEMENT EDGE.
11. TRANSVERSE EXPANSION JOINTS ARE NOT TO BE USED FOR CONSTRUCTION JOINTS.
12. CONCRETE SHOULDERS:
   A. CONSTRUCT TCJ JOINTS IN ACCORDANCE WITH SECTION B-B (SHEET 2 OF 3).
   B. CONSTRUCT LCJ JOINTS IN ACCORDANCE WITH TYPE LCJ DETAIL AND LJ JOINTS IN ACCORDANCE WITH TYPE LJ DETAIL. SEE SECTION D-D (SHEET 2 OF 3).
   C. USE THE MAXIMUM SHOULDER THICKNESS WHEN DETERMINING DOWEL BAR AND TIE BAR SIZES IN TABLE I.
   D. WHEN SKEWED JOINTS ARE USED ON MAINLINE PAVING THE SHOULDER TCJ JOINTS MAY BE SKEWED OR CONSTRUCTED AT 90°.
   E. SHOULDER JOINTS AND JOINT MATERIALS SHALL MATCH THE MAINLINE.
   F. HEIGHT OF DOWEL BASKET SHALL BE BASED ON THE THINNEST SHOULDER THICKNESS. VARYING HEIGHT DOWEL BASKETS WILL BE ALLOWED TO KEEP THE DOWEL BAR LOCATED WITHIN TOLERANCE.
13. TIE BARS SHALL NOT BE PLACED WITHIN 18" OF CONTRACTION OR EXPANSION JOINTS.

NOT TO SCALE

SHEET NUMBER 304

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
T. LAM	D. SMITH	T. LAM	D. SMITH		1 OF 3

STATE OF LOUISIANA
DAVID S. SMITH
License No. 30565
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/1/21

APPROVED BY CHIEF ENGINEER: DATE: 10/13/2021

PORTLAND CEMENT CONCRETE PAVEMENT DETAILS

STANDARD PLAN CP-01

DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

ROAD DESIGN

NOTES:

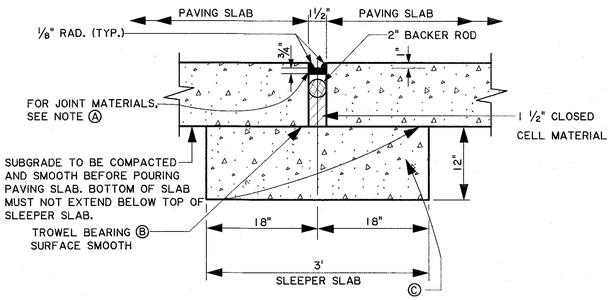
(A) ONE OR TWO COMPONENT SILICONE CONFORMING TO SECTION 1005.

(B) TAR PAPER EQUIVALENT TO 30 lbs./100 ft² SHALL BE PLACED BETWEEN THE SLEEPER SLAB AND THE PAVING SLAB.

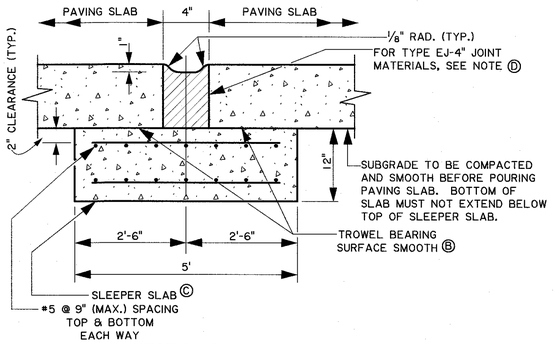
(C) SLEEPER SLAB SHALL BE CONSTRUCTED OF CLASS "A1" OR PAVEMENT TYPE CONCRETE AND INCLUDED IN THE COST OF THE PAVEMENT. PROVIDE DEFORMED GRADE 60 REINFORCING STEEL.

(D) JOINT SHALL BE FILLED WITH A PREFORMED POLYURETHANE FOAM TYPE FILLER CONFORMING TO SECTION 1005.

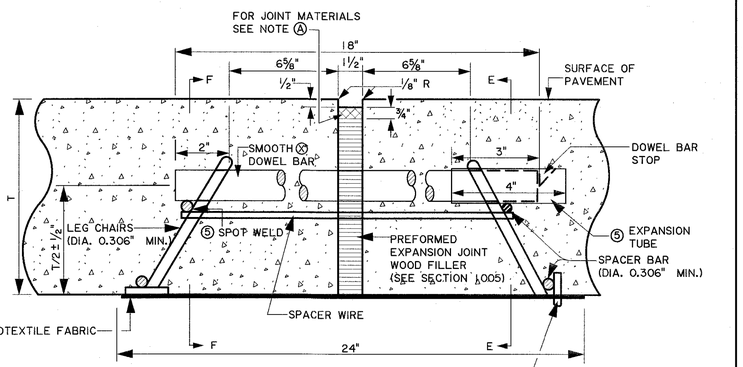
(E) SEE DETAIL "G" - EJ-4" BASE DRAIN OUTLET FOR UNDERDRAIN DETAILS (SHEET 3 OF 3)



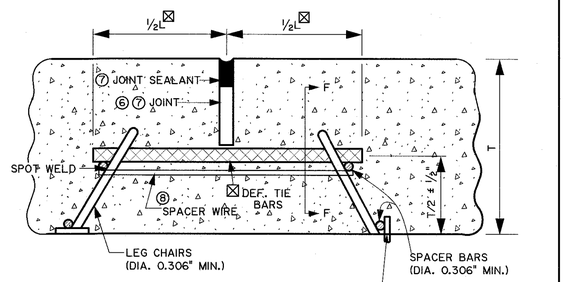
SECTION A-A
TYPE EJ-1½"



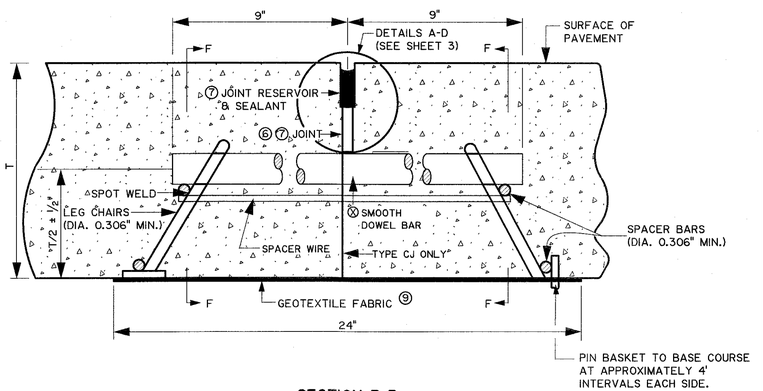
SECTION C-C
TYPE EJ-4" JOINT
AND SLEEPER SLAB



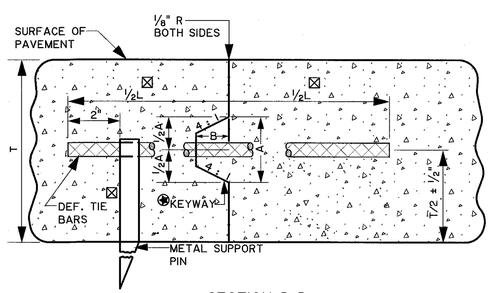
TYPE EJ ALTERNATE ⑧
(TRANSVERSE EXPANSION JOINT)
(NOT ALLOWED FOR DESIGN SPEED > 45 MPH)
⊗ SEE TABLE 1 (SHEET 1 OF 3)



SECTION D-D
TYPE LJ (WITHOUT KEYWAY)
(LONGITUDINAL JOINT)
(REQUIRED WHEN PAVEMENT WIDTH EXCEEDS 15') (SEE NOTE ⑥)
⊠ SEE TABLE 1 (SHEET 1 OF 3)



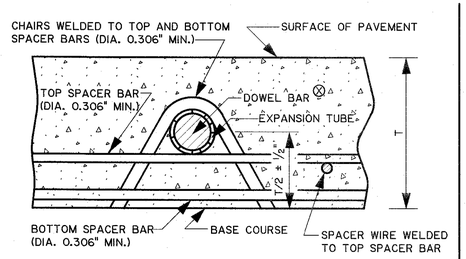
SECTION B-B
TYPE TCJ OR CJ ⑧
(TRANSVERSE CONTRACTION JOINT OR CONSTRUCTION JOINT)
⊗ SEE TABLE 1 (SHEET 1 OF 3)



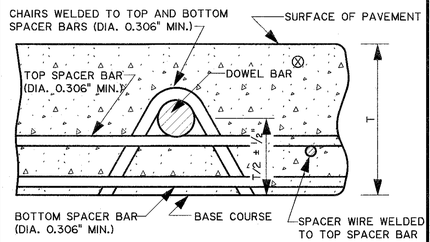
SECTION D-D
TYPE LCJ (WITH KEYWAY)
(LONGITUDINAL CONSTRUCTION JOINT)

⊛ FOR KEYWAY DIMENSIONS A & B SEE TABLE 1. IN LIEU OF THE KEYWAY, ONE OF THE FOLLOWING OPTIONS WILL BE ALLOWED:
A. INSTALL TIE BARS OF THE SIZE SHOWN IN TABLE 1, AT ½ THE SPACING.
B. INSTALL TIE BARS ¼" LARGER THAN THE TIE BAR DIAMETER SHOWN SHOWN IN TABLE 1, AT THE SAME SPACING.

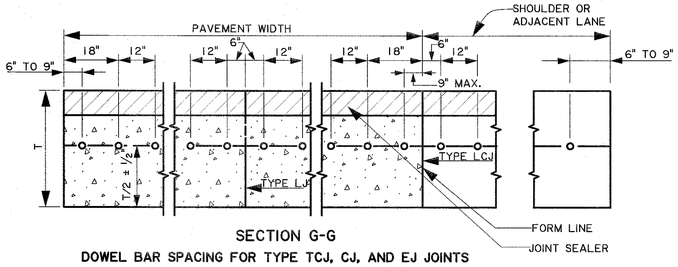
⊠ SEE TABLE 1 (SHEET 1 OF 3)



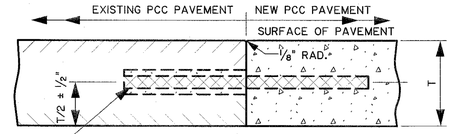
SECTION E-E
⊗ SEE TABLE 1 (SHEET 1 OF 3)



SECTION F-F
⊗ SEE TABLE 1 (SHEET 1 OF 3)

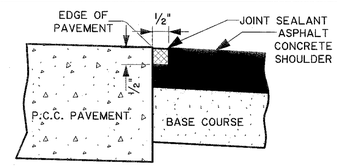


SECTION G-G
DOWEL BAR SPACING FOR TYPE TCJ, CJ, AND EJ JOINTS

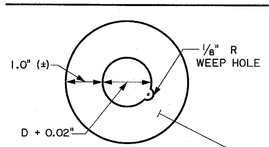


SECTION H-H
TYPE LBJ
(LONGITUDINAL BUTT JOINT)

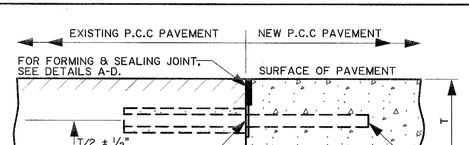
⊠ DEFORMED TIE BARS OF THE SIZE, LENGTH AND ONE HALF THE SPACING SPECIFIED IN TABLE 1 SHALL BE USED. THE BARS SHALL BE INSTALLED IN EXISTING PAVEMENT BY DRILLING HOLES ⅛" LARGER THAN THE BAR DIAMETER TO A REQUIRED DEPTH OF ½ THE BAR LENGTH. THE HOLES SHALL BE DRILLED AND FILLED IN ACCORDANCE WITH SECTION 601 BEFORE INSERTION OF THE TIE BARS.



SECTION I-I
TYPE PJ
(HOT POURED SEALANT SECTION 1005)



GROUT RETENTION DISK
D = DOWEL DIAMETER
(INCLUDING PROTECTIVE COATING)



SECTION J-J
TYPE BJ
(TRANSVERSE BUTT JOINT)

⊗ SMOOTH DOWEL BARS OF THE SIZE, LENGTH AND SPACING SPECIFIED IN TABLE 1 SHALL BE USED. THE BARS SHALL BE INSTALLED IN EXISTING PAVEMENT BY DRILLING HOLES ⅛" LARGER THAN THE BAR DIAMETER TO A REQUIRED DEPTH OF ½ THE BAR LENGTH. THE HOLES SHALL BE DRILLED AND FILLED IN ACCORDANCE WITH SECTION 601 BEFORE INSERTION OF THE DOWEL BARS.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

APPROVED BY CHIEF ENGINEER: DATE: 10/13/2021

STATE OF LOUISIANA — DAVID S. SMITH — License No. 30565 — PROFESSIONAL ENGINEER IN CIVIL ENGINEERING — 10/11/21

STATE OF LOUISIANA — PAUL OLIVIER — License No. 39967 — PROFESSIONAL ENGINEER IN CIVIL ENGINEERING — 10/6/2025

NOT TO SCALE

SHEET NUMBER	305	
PARISH: ST. TAMMANY	CONTROL SECTION: 000-52	STATE PROJECT:
DESIGN: T. LAM	CHECK: D. SMITH	REVIEW: SERIES # 2 OF 3
DETAIL: T. LAM	CHECK: D. SMITH	

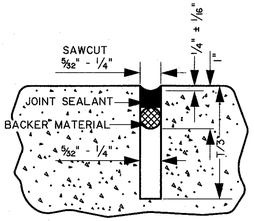
PORTLAND CEMENT CONCRETE PAVEMENT DETAILS

STANDARD PLAN: CP-01

DOTD — LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

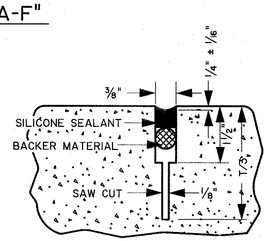
ROAD DESIGN

DETAILS "A-F"

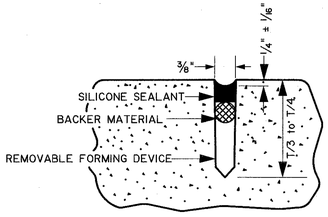


DETAIL "A"

USE THIS DETAIL IN CONJUNCTION WITH TYPE TCJ (SECTION B-B) AND TYPE LJ JOINT (SECTION D-D) AND NOTES ⑥ & ⑦ ON SHEET # 1.



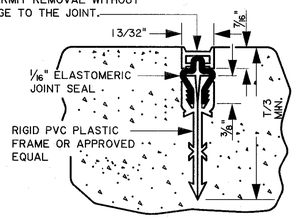
DETAIL "B"



DETAIL "C"

NOT ALLOWED FOR DESIGN SPEEDS GREATER THAN 45 MPH.

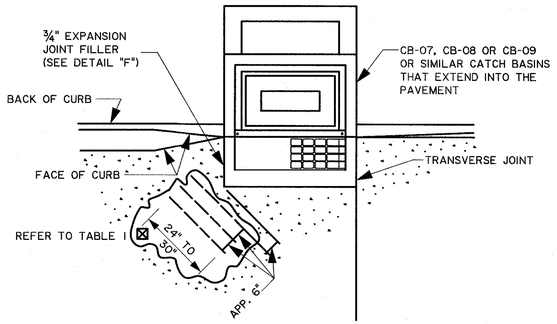
REMOVE CAP AFTER CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT REMOVAL WITHOUT DAMAGE TO THE JOINT.



DETAIL "D"

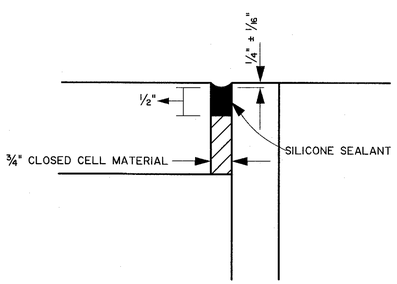
NOT ALLOWED WHEN THE PAVEMENT IS PLACED ON PERMEABLE BASES

NOT ALLOWED FOR DESIGN SPEEDS GREATER THAN 45 MPH.



DETAIL "E"

TRANSVERSE JOINT AT CATCH BASIN



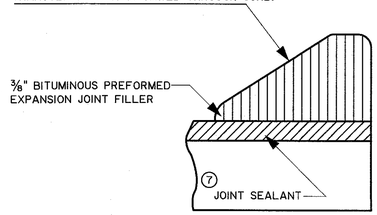
DETAIL "F"

AFTER CATCH BASIN TOP IS POURED, THE TOP OF THE 3/4 " JOINT FILLER IS TO BE REMOVED TO THE DEPTH SHOWN PRIOR TO SEALING. THE CURB FACES ADJACENT TO THE BASIN SHALL ALSO BE SEALED. JOINT FACES SHALL BE CLEANED IN ACCORDANCE WITH SECTION 601.

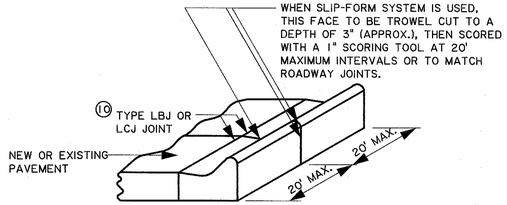
NOTE: SEE STANDARD PLAN DW-01 AND PLANS FOR CURB PLACEMENT DETAILS.

NOTE:

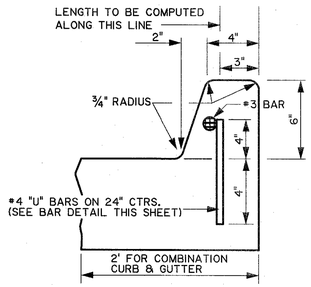
WHEN CURB IS POURED MONOLITHICALLY WITH PAVEMENT, THE BITUMINOUS PREFORMED EXPANSION JOINT FILLER SHALL EXTEND TO THE TOP OF JOINT INSERT. WHEN TRANSVERSE JOINTS ARE CONSTRUCTED BY SAWING, THE INITIAL SAW CUT SHALL EXTEND THRU THE CURBED SECTION (CURB AND UNDER-LYING PAVEMENT). THE SUBSEQUENT WIDENING CUT FOR THE JOINT SEALANT RESERVOIR SHALL EXTEND INTO THE CURB FOR A DISTANCE NECESSARY TO ENSURE THE SPECIFIED RESERVOIR DEPTH IS BEING MAINTAINED AT THE GUTTER LINE. ALL CURB FACES REGARDLESS OF CURB TYPE SHALL BE SEALED WHEN TRANSVERSE JOINT IS SAWED THROUGH CURB.



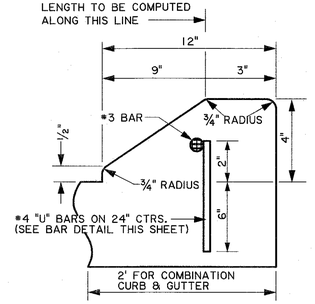
JOINT FILLER DETAIL FOR INTEGRAL CONCRETE CURB (MOUNTABLE OR BARRIER TYPE)



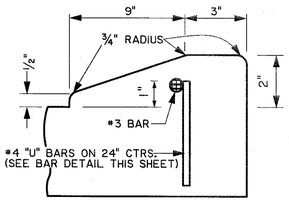
DETAIL SHOWING JOINTS IN CONCRETE CURB AND GUTTER (EXTEND ALL TCJ THROUGH CURB & GUTTER)



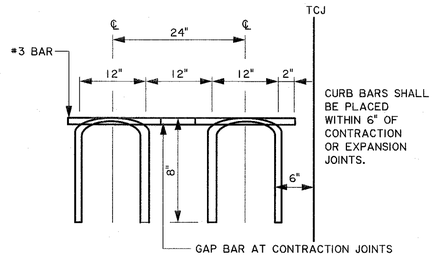
(BARRIER TYPE)



(MOUNTABLE TYPE)



MODIFIED BARRIER OR MOUNTABLE CURB THRU DRIVEWAY



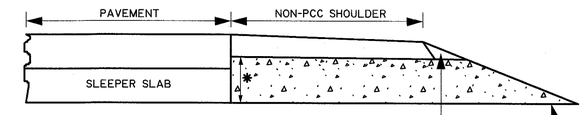
BAR DETAIL

SHOWING DIMENSIONS AND SPACING OF #4 "U" BARS AND LONGITUDINAL BARS FOR CONC. CURB

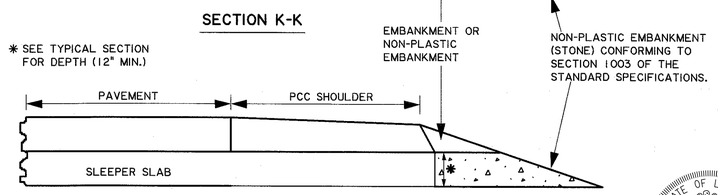
CURB DETAILS

NOTES:

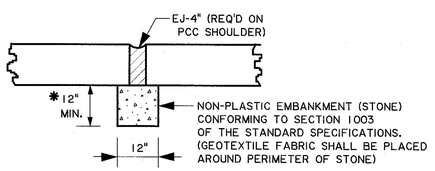
- POUR CURB INTEGRAL WITH PCC PAVEMENT OR GUTTER TO INSURE MONOLITHIC CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER. CURB BARS ARE NOT REQUIRED WHERE CURB IS CONSTRUCTED MONOLITHIC WITH THE PAVEMENT.
- ALL BARS SHOWN SHALL BE DEFORMED REINFORCING STEEL.
- WHEN REPLACING OR ADDING CONCRETE CURB TO EXISTING PAVEMENT, CONNECT THE NEW CONCRETE CURB TO THE PAVEMENT WITH THE DEFORMED REINFORCING STEEL SHOWN BY DRILLING HOLES INTO THE EXISTING PAVEMENT 1/8" LARGER THAN THE BAR DIAMETER. ANCHOR THE BARS WITH AN APPROVED EPOXY RESIN SYSTEM FROM THE DOTD AML. APPLY EPOXY ADHESIVE, COMPLYING WITH AASHTO M235, TYPE V, TO THE SURFACE AREA WHERE THE CONCRETE CURB WILL BE PLACED. INCLUDE ALL COST RELATED TO THE CONSTRUCTION OF THE CURB, INCLUDING THE DRILLED HOLES, DEFORMED REINFORCING BARS, AND EPOXY, IN THE UNIT PRICE FOR THE CURB ITEM.



SECTION K-K



SECTION L-L (WITH CONCRETE SHOULDER)



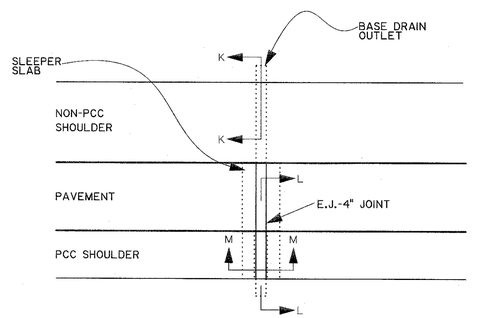
SECTION M-M

(SLEEPER SLAB NOT SHOWN)

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

A BASE DRAIN OUTLET WILL BE REQUIRED AT E.J.-4" JOINTS UNLESS A SHOULDER UNDER DRAIN SYSTEM IS SPECIFIED ON THE PLANS, IN WHICH CASE, THE SHOULDER UNDER DRAIN FOR THE E.J. JOINT SHALL BE CONNECTED TO THE NEAREST STORM SEWER OR DISCHARGED THROUGH A HEADWALL. THE COST FOR THE BASE DRAIN OUTLET FOR THE E.J. JOINT IS TO BE INCLUDED IN THE COST OF THE PAVEMENT.



PLAN - BASE DRAIN OUTLET AT 4" E.J. EJ-4" JOINTS

DETAIL "G" - EJ-4" BASE DRAIN OUTLET

NOT TO SCALE

SHEET NUMBER	306
PARISH: ST. TAMMANY	CONTROL SECTION: 000-52
DESIGN: T. LAM / CHECK: D. SMITH	DETAIL: T. LAM / CHECK: D. SMITH
REVIEW	SERIES # 3 OF 3

STATE OF LOUISIANA
DAVID S. SMITH
License No. 30565
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/11/21

APPROVED BY CHIEF ENGINEER:
DATE: 10/13/2021

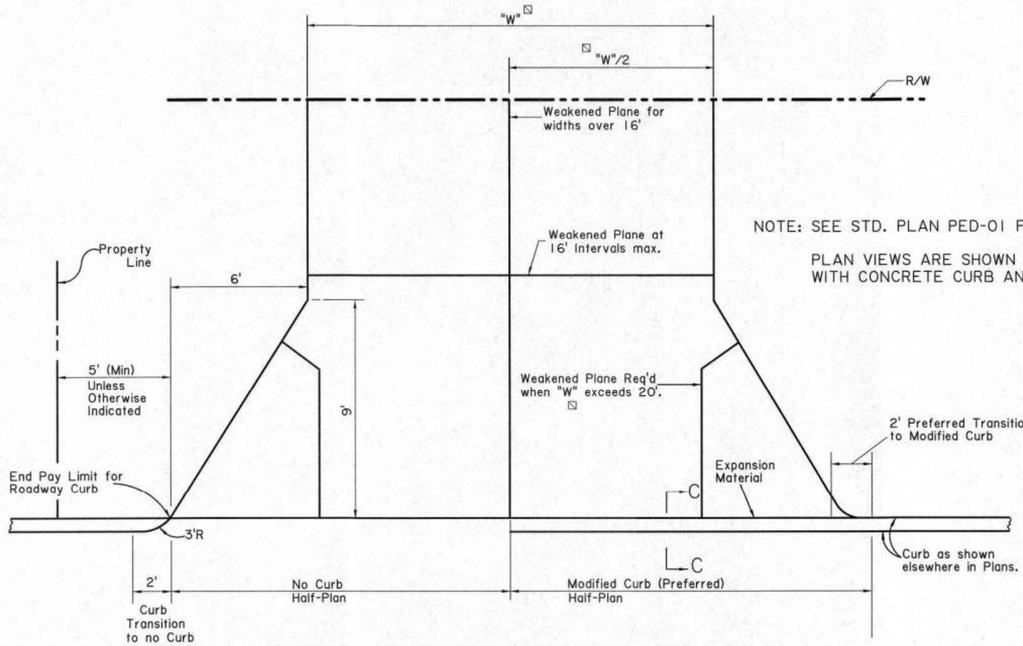
PORTLAND CEMENT CONCRETE PAVEMENT DETAILS

STANDARD SHEET NO. CP-01

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

ROAD DESIGN

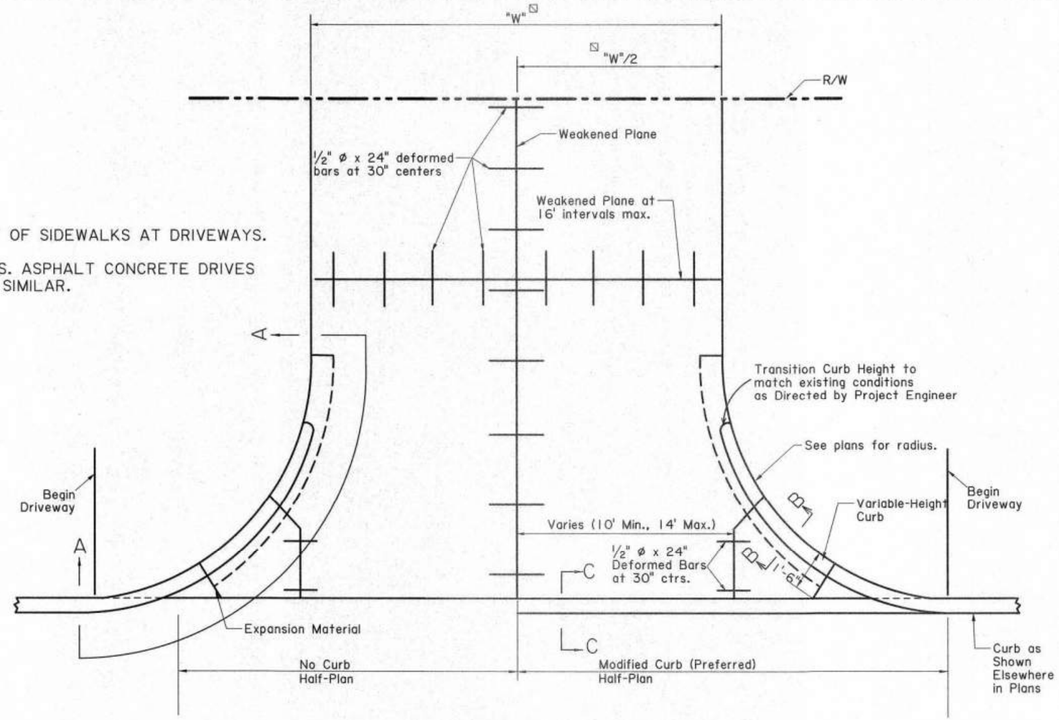
R:\Unit022\Driveway Standards\DRIVEWAY STANDARDS UPDATE - Aidan Eymard 2021\MicroStation Files\DW01 NEWEST.dgn 8/2/2022 08:53



PLAN OF RESIDENTIAL DRIVEWAY

NOTE: SEE STD. PLAN PED-01 FOR TREATMENT OF SIDEWALKS AT DRIVEWAYS.

PLAN VIEWS ARE SHOWN FOR PCC DRIVES. ASPHALT CONCRETE DRIVES WITH CONCRETE CURB AND GUTTER ARE SIMILAR.



PLAN OF COMMERCIAL DRIVEWAY

NOTE: MODIFIED CURB TO BE PAID FOR AS CURB AND WILL BE USED AS SHOWN IN THE PLANS OR WHEN DIRECTED BY THE PROJECT ENGINEER.

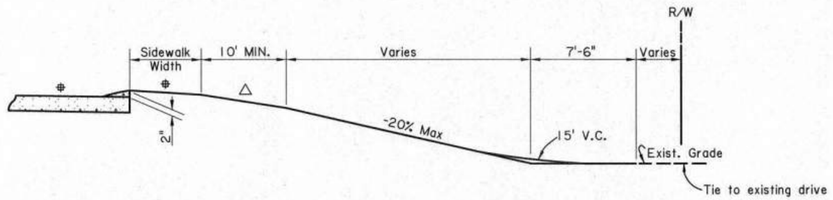
WHEN CURB IS REQUIRED ALONG RADII OF DRIVEWAY, PAYMENT FOR TOE WALL AND CURB WILL BE INCLUDED IN THE PRICE FOR DRIVEWAY ITEMS.

WHEN CURB IS NOT REQUIRED ALONG RADII, TRANSITION CURB AS SHOWN ON RESIDENTIAL DRIVEWAY.

NOTE: MODIFIED CURB TO BE PAID FOR AS CURB AND WILL BE USED AS SHOWN IN THE PLANS OR WHEN DIRECTED BY THE PROJECT ENGINEER.

RADII TRANSITION SHAPE MAY BE USED IN LIEU OF A FLARE.

"W" = Width as per plans



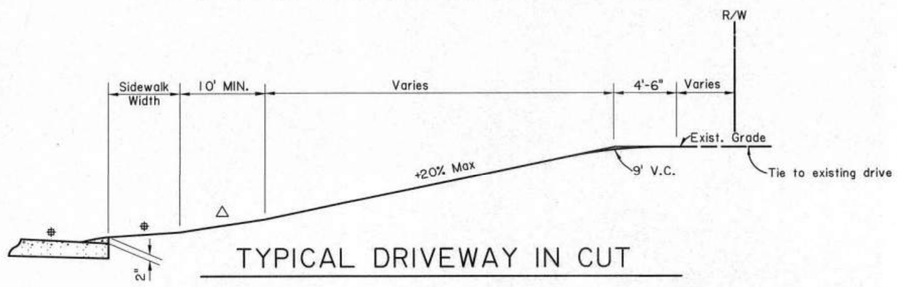
TYPICAL DRIVEWAY IN FILL

NOTES:

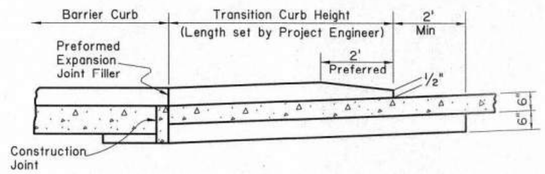
1. DRIVEWAY PROFILES SHOWN ASSUME A SIDEWALK ADJACENT TO THE CURB.

△ 2. MAXIMUM DRIVEWAY GRADE SHALL BE 20% (25% FOR SPECIAL CASES). MAXIMUM BREAK IN GRADE WITHOUT A VERTICAL CURVE SHALL BE 10% FOR CRESTS AND 9% FOR SAGS, AT NOT LESS THAN 10' INTERVALS.

⌖ 3. ROADWAY AND SIDEWALK SLOPES VARY AS PER PLANS.

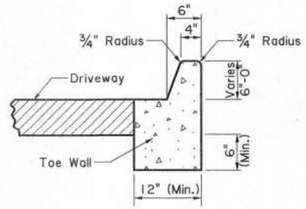


TYPICAL DRIVEWAY IN CUT



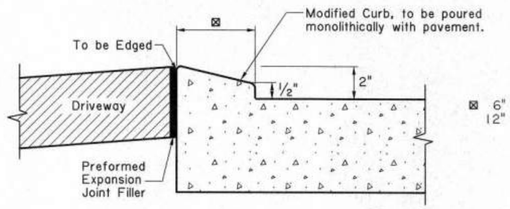
SECTION A-A

(Weakened Plane not shown.)



SECTION B-B

NOTE: For PCC Driveway, Curb, Toe Wall & Driveway to be poured monolithically.



SECTION C-C

NOTE: See Std. Plan CP-01 for Curb construction

⊠ 6" to match Barrier Curb
12" to match Mountable Curb

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

SHEET NUMBER 307

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES # 1 OF 3
P. TONEY	R. MCMILLAN	P. TONEY	R. MCMILLAN	D. SMITH	

STATE OF LOUISIANA
AIDAN EYMARD
License No. 46220
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/2/2022

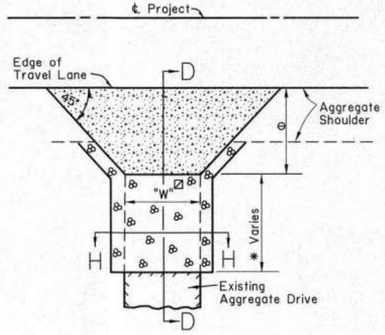
APPROVED BY CHIEF ENGINEER: DATE: 8/4/2022

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

DRIVEWAYS ON CURBED ROADWAYS

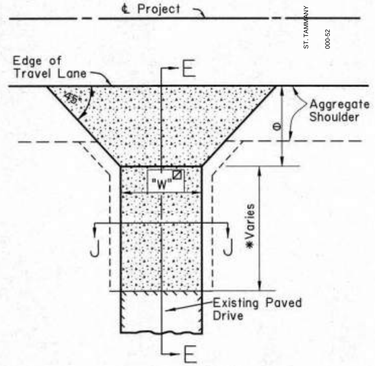
STANDARD PLAN DW-01

STANDARD PLAN



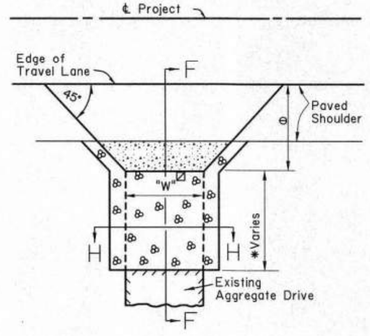
TYPE "A"

Paved Driveway Flare
Along Aggregate Shoulder



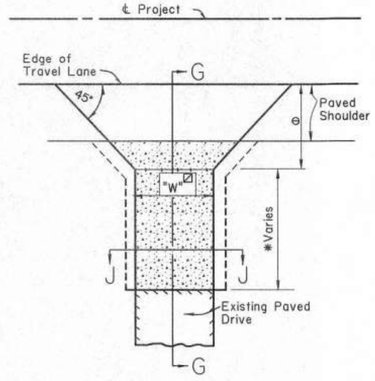
TYPE "B"

Paved Driveway Flare
Along Aggregate Shoulder
Connecting Existing Paved Drive



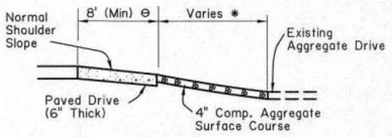
TYPE "C"

Paved Driveway Flare
Along Paved Shoulder

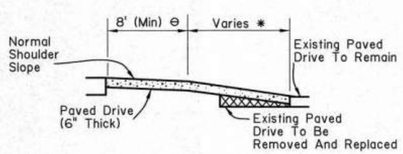


TYPE "D"

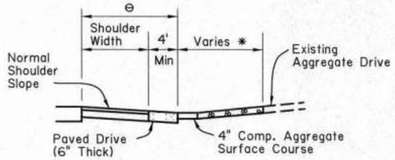
Paved Driveway Flare
Along Paved Shoulder
Connecting Existing Paved Drive



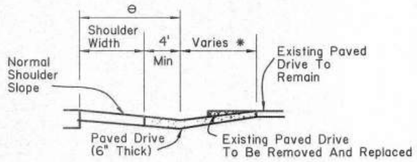
SECTION D-D



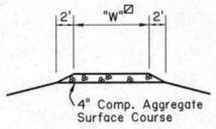
SECTION E-E



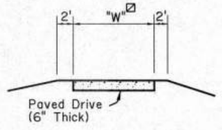
SECTION F-F



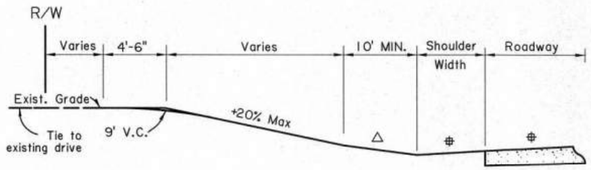
SECTION G-G



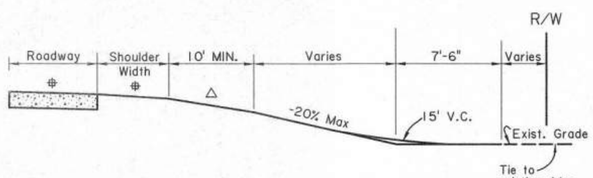
SECTION H-H



SECTION J-J



TYPICAL DRIVEWAY IN CUT



TYPICAL DRIVEWAY IN FILL

Ø "W" = Width as per plans

NOTES:

1. PORTLAND CEMENT CONCRETE DRIVES WILL BE CONSTRUCTED TO REPLACE OR CONNECT TO EXISTING CONCRETE DRIVES.

* 2. SEE PLANS: APPLIES WHERE EXISTING DRIVE IS TO BE REMOVED FOR ROADWAY CONSTRUCTION AND/OR TO ACHIEVE VERTICAL GEOMETRY REQUIREMENTS.

⊖ 3. PAVEMENT SHALL EXTEND 8' MINIMUM FROM EDGE OF PAVED ROADWAY SURFACE (TRAVEL LANE) FOR SINGLE-FAMILY RESIDENTIAL/NON-COMMERCIAL AGRICULTURE TYPE CONNECTIONS, AND 25' FOR TRAFFIC GENERATOR (COMMERCIAL) TYPE CONNECTIONS, OR AS PER THE PLANS. PAVED DRIVEWAY FLARE SHALL EXTEND 4' MINIMUM FROM EDGE OF PAVED SHOULDER. RADII TRANSITION SHAPE MAY BE USED IN LIEU OF FLARE.

4. COMPACTION OF SUBGRADE AND GRADING WORK FOR CONSTRUCTION OF DRIVES SHALL BE SATISFACTORY TO THE ENGINEER AND PAYMENT SHALL BE INCLUDED IN THE DRIVEWAY ITEMS.

△ 5. MAXIMUM DRIVEWAY GRADE SHALL BE 20% (25% FOR SPECIAL CASES). MAXIMUM BREAK IN GRADE WITHOUT A VERTICAL CURVE SHALL BE 10% FOR CRESTS AND 9% FOR SAGS, AT NOT LESS THAN 10' INTERVALS.

⊕ 6. ROADWAY AND SHOULDER SLOPES VARY AS PER PLANS

LEGEND

ASPHALT

AGGREGATE

REMOVAL

SHEET NUMBER

PARISH	CONTROL SECTION	STATE PROJECT

DESIGN	P. TONEY	DETAIL	P. TONEY	D. SMITH
CHECK	R. MCMILLAN	CHECK	R. MCMILLAN	REVIEW
				SERIES * 2 OF 3

STATE OF LOUISIANA
AIDAN EYMARD
License No. 46220
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/2/2022

APPROVED BY CHIEF ENGINEER: DATE: 8/4/2022

DRIVEWAYS ON NON-CURBED ROADWAYS

STANDARD PLAN DW-01

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

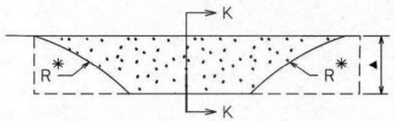
STANDARD PLAN

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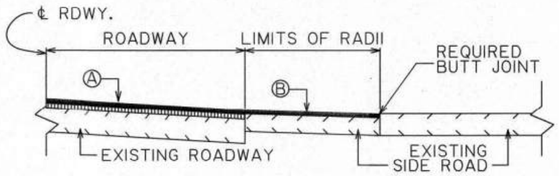
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ST. TAMMANY
000-52

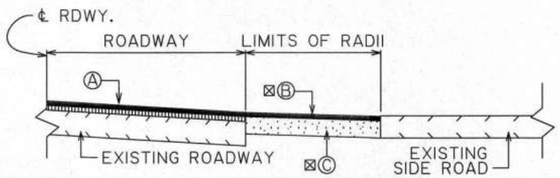
TURNOUT TIE-IN DETAILS FOR OVERLAY PROJECTS



DETAIL OF APRON AT TURNOUT (TYPICAL)



SECTION K-K (PAVED SIDE ROAD)



SECTION K-K (UNPAVED SIDE ROAD)

Ⓐ ASPHALT CONCRETE (COURSES AND TYPES SHOWN ON ROADWAY TYPICAL SECTION)

Ⓑ ASPHALT CONCRETE (THICKNESS SHALL MATCH ROADWAY WEARING SURFACE)

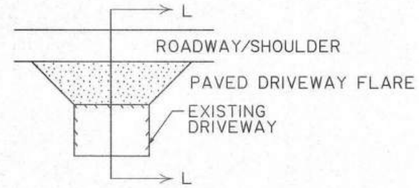
⊠Ⓒ ASPHALT CONCRETE BASE COURSE

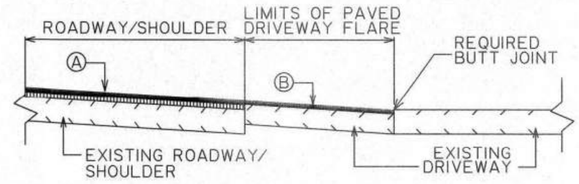
* MATCH EXISTING RADIUS

▲ VERTICAL TRANSITION FROM ROADWAY TO BUTT JOINT TIE-IN WHERE NEEDED

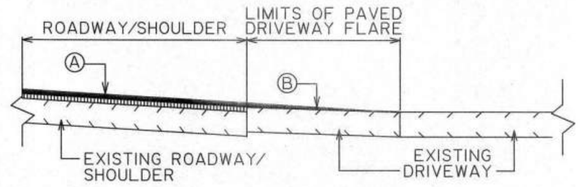
⊠ TOTAL THICKNESS OF WEARING COURSE AND BASE COURSE SHALL BE A MINIMUM OF 6"

DRIVEWAY TIE-IN DETAILS FOR OVERLAY PROJECTS





SECTION L-L (ALTERNATE 1)



SECTION L-L (ALTERNATE 2)

Ⓐ ASPHALT CONCRETE (COURSES AND TYPES SHOWN ON ROADWAY TYPICAL SECTION)

Ⓑ ASPHALT CONCRETE (THICKNESS SHALL MATCH ROADWAY WEARING COURSE)

NOTES:
1. DRIVE WIDTHS AND FLARE DIMENSIONS TO BE ADJUSTED TO MATCH EXISTING CONDITIONS AS DIRECTED BY THE PROJECT ENGINEER.
2. TYPE OF TIE-IN AND LENGTH OF OVERLAY TRANSITION TO BE SET BY PROJECT ENGINEER TO ACHIEVE A SUITABLE CONNECTION FOR EXISTING DRIVE.
3. REFER TO SHEET 2 OF DW-01 FOR SUGGESTED TIE-IN CRITERIA OF STEEP GRADES.

SHEET NUMBER

PARISH	CONTROL SECTION	STATE PROJECT

DESIGN	P. TONEY
CHECK	R. MCMILLAN
DETAIL	P. TONEY
CHECK	R. MCMILLAN
REVIEW	D. SMITH
SERIES #	3 OF 3

STATE OF LOUISIANA
AIDAN EYMARD
License No. 46220
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/2/2022

APPROVED BY CHIEF ENGINEER: DATE: 8/4/2022

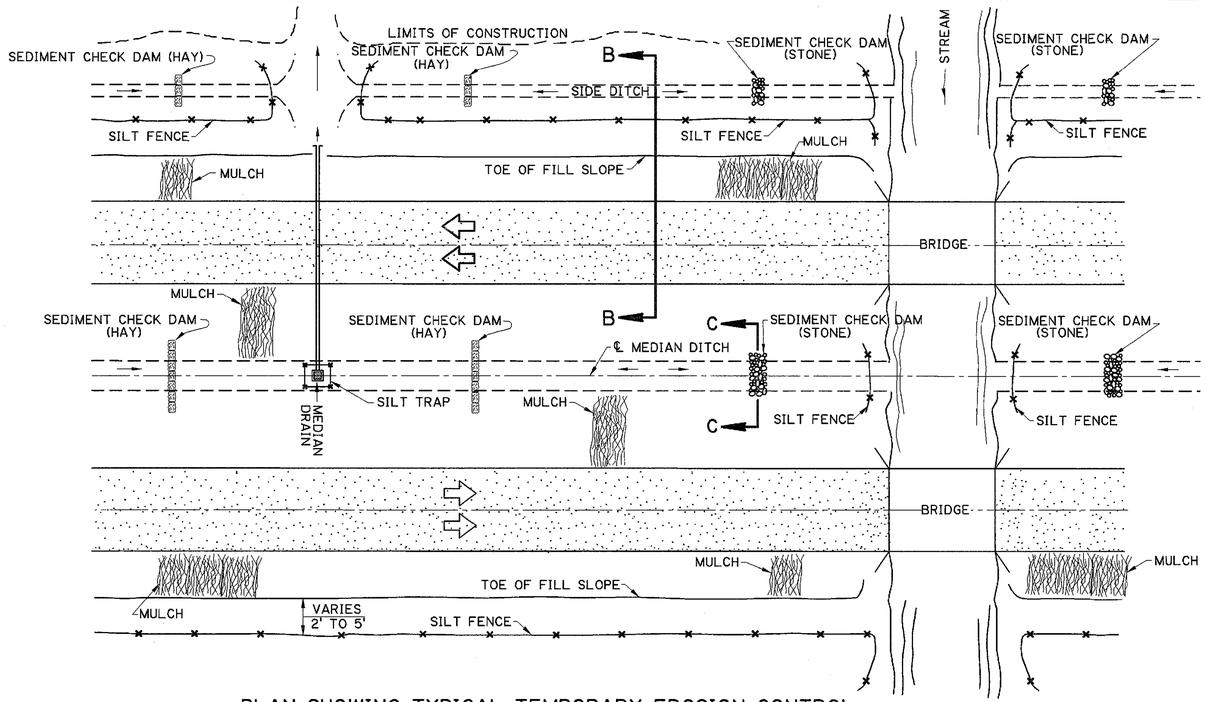
STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
APPROVED

TURNOUT AND DRIVEWAY TIE-IN DETAILS

STANDARD PLAN DW-01

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

STANDARD PLAN

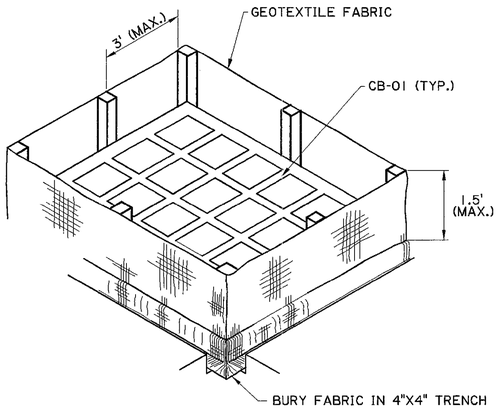


PLAN SHOWING TYPICAL TEMPORARY EROSION CONTROL

MULCHES

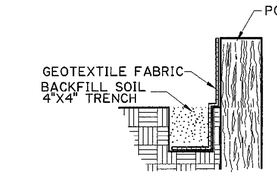
MULCHES ARE THE APPLICATION OF MATS OF MATERIAL PLACED ON THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND TO REDUCE THE VELOCITY OF OVERLAND FLOW. MULCHES CAN BE ORGANIC OR SYNTHETIC. MULCHES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW GUIDELINES FOR THE USE OF MULCHES ARE:

1. USE ON CUT AND EMBANKMENT SLOPES WHICH HAVE NOT BEEN COMPLETED TO PLAN GRADE OR WHERE THE WEATHER OR SOIL CONDITIONS WILL NOT PERMIT COMPLETING THEM WITHIN A REASONABLE TIME
2. USE ON CLEARED, GRUBBED , AND SCALPED AREAS WHERE SOIL EROSION IS LIKELY TO OCCUR
3. USE WITH TEMPORARY SEEDING

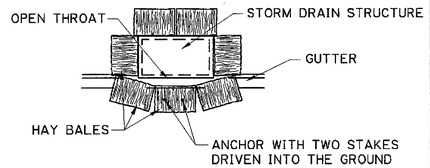


ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC

(BACKFILL SOIL NOT SHOWN)



SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC



PLAN SHOWING HAY BALES

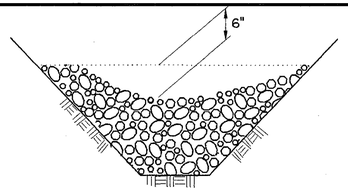
PAY ITEM: TEMPORARY HAY OR STRAW BALES

TEMPORARY INLET SILT TRAP

THE TEMPORARY DROP INLET SILT TRAP IS TO BE USED FOR SMALL DRAINAGE AREAS (LESS THAN 1 ACRE) WHERE THE STORM DRAIN IS FUNCTIONAL BEFORE THE AREA IS STABILIZED. THE TRAP CAN BE EITHER GEOTEXTILE FABRIC OR HAY BALES.

1. THE GEOTEXTILE FABRIC SHALL CONFORM TO PROJECT SPECIFICATIONS FOR GEOTEXTILE FABRIC (CLASS G).
2. WOODEN STAKES SUPPORTING THE FABRIC SHALL BE 2" X 2" OR 2" X 4" WITH A MINIMUM LENGTH OF 3 FEET. THE STAKES SHALL BE SPACED AROUND THE INLET AT A MAXIMUM SPACING OF 3 FEET.
3. THE HEIGHT OF THE FABRIC ABOVE THE INLET SHALL BE LIMITED TO 1.5' AND THE BOTTOM OF THE FABRIC SHALL BE BURIED IN A TRENCH APPROXIMATELY 4" WIDE BY 4" DEEP. THE FABRIC SHALL BE STAPLED TO THE POST WITH ½" STAPLES.
4. THE TRAP SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM. THE SEDIMENT SHOULD BE REMOVED AND EACH STAKE SHOULD BE FIRMLY IN THE GROUND.
5. HAY BALES SHALL BE PLACED SO THAT THE BINDING WIRE OR TWINE IS NOT IN CONTACT WITH THE GROUND.

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CIVIL ENGINEERING
10/6/2025



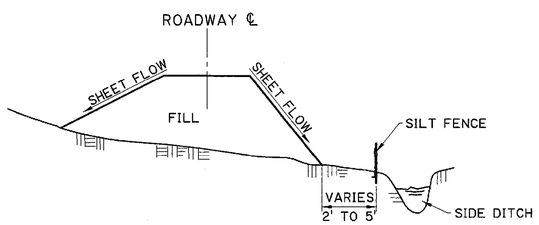
SECTION C-C

TEMPORARY SEDIMENT CHECK DAM (STONE)

PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (STONE)

NOTES:
A STONE CHECK DAM IS A SMALL TEMPORARY DAM CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH. THE PURPOSE OF THIS MEASURE IS TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS, THEREBY REDUCING EROSION OF THE SWALE OR DITCH. THE STONE CHECK DAM WILL TRAP SMALL AMOUNTS OF SEDIMENTS GENERATED IN THE DITCH ITSELF, HOWEVER IT SHOULD NOT BE USED AS A SEDIMENT TRAPPING DEVICE. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF STONE CHECK DAMS ARE:

1. USE IN SMALL OPEN CHANNELS WHICH DRAIN 10 ACRES OR LESS
2. DO NOT USE IN A LIVE STREAM
3. USE IN A TEMPORARY DITCH OR SWALE WHICH, BECAUSE OF THEIR SHORT LENGTH OF SERVICE, CANNOT RECEIVE A NON- ERODIBLE LINING
4. USE IN PERMANENT DITCHES OR SWALES WHICH WILL NOT RECEIVE A PERMANENT LINING FOR AN EXTENDED PERIOD OF TIME
5. USE IN TEMPORARY OR PERMANENT DITCHES OR SWALES WHICH NEED PROTECTION DURING THE ESTABLISHMENT OF GRASS LININGS
6. FOR STONE SPECIFICATIONS, SEE PROJECT SPECIFICATIONS FOR RIPRAP, (CLASS 2 LB)

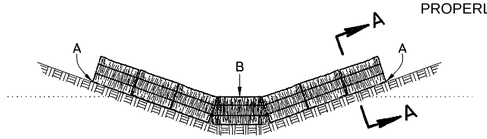


SECTION B-B

TEMPORARY SILT FENCE APPLICATION

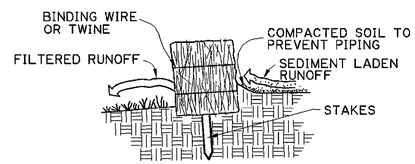
(FOR CONSTRUCTION DETAILS AND SPECIFICATIONS SEE SHEET 2 OF 2.)

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.



POINTS A SHOULD BE HIGHER THAN POINT B.

ELEVATION



SECTION A-A

TEMPORARY SEDIMENT CHECK DAM (HAY)

PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (HAY)

NOTES:
A HAY BALE BARRIER IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A ROW OF ENTRENCHED AND ANCHORED BALES OF STRAW OR HAY. THE HAY BALE BARRIER IS ALSO USED AS A CHECK DAM TO REDUCE THE VELOCITY IN SMALL DITCHES OR SWALES. THE HAY BALES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL.
A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A HAY BALE BARRIER ARE:

1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION
2. USE IN MINOR SWALES OR DITCHES WHERE THE MAXIMUM DRAINAGE AREA IS 2 ACRES
3. ONLY USE WHERE THE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS
4. DO NOT USE IN LIVE STREAMS OR IN SWALES OR DITCHES WHERE THERE IS A POSSIBILITY OF A WASHOUT

SHEET NUMBER	310
PARISH	ST. TAMMANY
FEDERAL PROJECT	
STATE PROJECT	
DESIGNED	JCM
CHECKED	
DETAILED	KAJ
CHECKED	JCM
DATE	1-14-94
SHEET	1 OF 2

NO.	DATE	REVISION DESCRIPTION	BY
1	10-1-08	REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS	MH

APPROVED BY CHIEF ENGINEER: [signature] DATE: 10-1-08

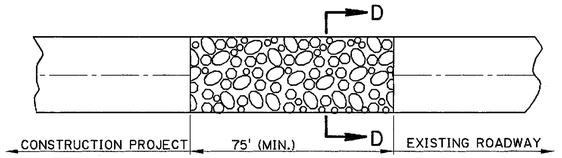
TEMPORARY EROSION CONTROL DETAILS

STANDARD DWG. NO. EC-01

HYDRAULICS SECTION

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PLAN



SECTION D-D

TEMPORARY STONE CONSTRUCTION ENTRANCE

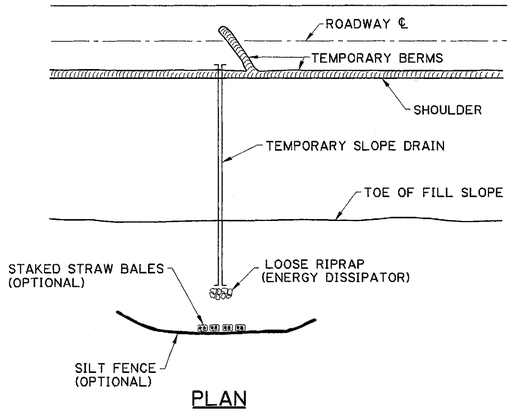
PAY ITEM: TEMPORARY STONE CONSTRUCTION ENTRANCE

NOTES:

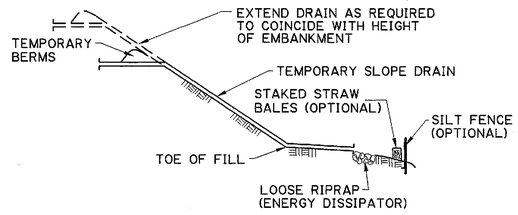
TEMPORARY STONE CONSTRUCTION ENTRANCE AND/OR WASH RACK

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PUBLIC ROADS. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLE ENTERS A PUBLIC ROAD. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A STONE ENTRANCE AND/OR WASH RACKS ARE:

1. THE STONE LAYER MUST BE AT LEAST 6 INCHES THICK.
2. THE STONE SHALL CONFORM TO PROJECT SPECIFICATIONS FOR RIPRAP (CLASS 2 LB).
3. THE LENGTH OF THE PAD MUST BE A LEAST 75 FEET AND IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR INGRESS AND EGRESS.
4. A GEOTEXTILE FABRIC UNDERLINER IS REQUIRED. THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR GEOTEXTILE FABRIC (CLASS D).
5. IF A WASH RACK IS NECESSARY, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF-SITE.



PLAN



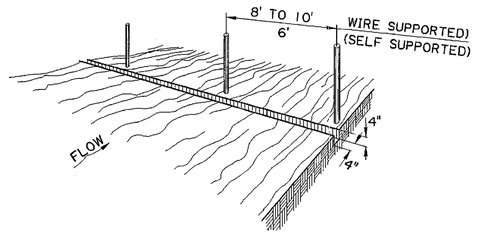
ELEVATION

TEMPORARY SLOPE DRAIN

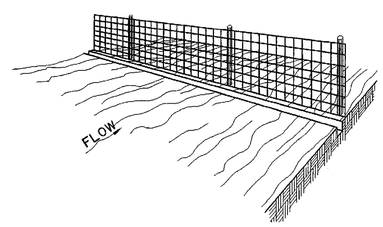
A TEMPORARY SLOPE DRAIN IS A DEVICE USED TO CARRY WATER FROM THE CONSTRUCTION WORK AREA TO A LOWER ELEVATION. SLOPE DRAINS MAY BE PLASTIC SHEET, METAL OR PLASTIC PIPE, STONE GUTTERS, FIBER MATS, OR CONCRETE OR ASPHALT DITCHES. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A TEMPORARY SLOPE DRAIN ARE:

1. THE SPACING OF THE SLOPE DRAINS VARIES WITH THE ROAD GRADE.
   FOR GRADES: 0.0% - 2.0% USE 500' SPACING
   2.1% - 5.0% USE 200' SPACING
   GREATER THAN 5.0% USE 100' SPACING
2. SLOPE DRAIN MATERIAL: SMOOTH PIPE - 8" MINIMUM - 3 MILS THICK MIN.
   CORRUGATED PIPE - 12" MINIMUM
   PLASTIC SHEETING - 4' WIDE MINIMUM
   PLASTIC SHEETING - 3 MILS THICK MIN.
3. PLASTIC SHEETING CAN BE STAKED DOWN OR WEIGHTED WITH ROCKS OR LOGS. THE AREA UNDER THE SHEETING SHOULD BE SHAPED TO PROVIDE AN ADEQUATE CHANNEL.
4. THE OUTLET END SHOULD BE PROTECTED OR HAVE SOME MEANS OF DISSIPATING ENERGY. THE FLOW SHOULD BE DIRECTED THROUGH A SEDIMENT TRAP SUCH AS A SILT FENCE, HAY BALES, OR OTHER APPROVED SEDIMENT CONTROL DEVICES.
5. TO INSURE PROPER OPERATION, TEMPORARY SLOPE DRAINS SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM, FOR CLOGGING OR DISPLACEMENT. EROSION AT THE OUTLET SHOULD BE CHECKED AND THE SILT TRAPS CLEANED IF NECESSARY.

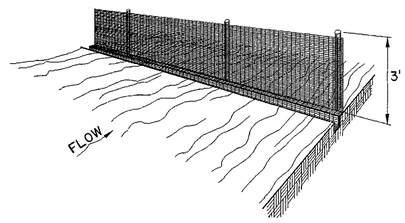
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



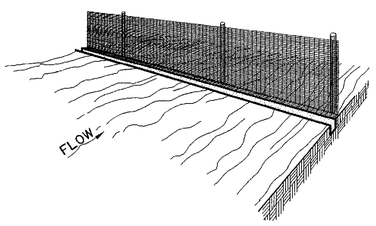
2. STAPLE WIRE FENCING TO THE POSTS.



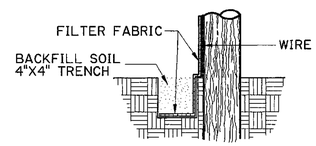
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT EXCAVATED SOIL.



EXTENSION OF FABRIC INTO THE TRENCH.



CONSTRUCTION OF TEMPORARY SILT FENCING

(WIRE SUPPORTED SILT FENCE IS SHOWN. SELF SUPPORTED SILT FENCE WILL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.)

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

NOTES:

SILT FENCING IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A FILTER FABRIC SUPPORTED BY POSTS AND STRETCHED ACROSS AN AREA TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT. THE SILT FENCING SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW BASIC GUIDELINES FOR THE USE OF SILT FENCING ARE:

1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION
2. USE WHERE THE MAXIMUM DRAINAGE AREA BEHIND THE SILT FENCE IS ¼ ACRE PER 100 FEET OF SILT FENCE LENGTH
3. USE WHERE THE MAXIMUM SLOPE LENGTH BEHIND THE BARRIER IS 100 FEET
4. USE THERE THE MAXIMUM GRADIENT BEHIND THE BARRIER IS 2:1
5. DO NOT USE SILT FENCES IN LIVE STREAMS OR IN DITCHES OR SWALES WHERE FLOWS EXCEED ONE CUBIC FOOT PER SECOND

SHEET NUMBER 311

PARISH: ST. TAMMANY | FEDERAL PROJECT | STATE PROJECT

DESIGNED JCM | DETAILED KAJ | DATE 1-14-94
CHECKED | CHECKED JCM | SHEET 2 OF 2

BY	REVISION DESCRIPTION	DATE
MH	REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS	10-1-08

APPROVED BY CHIEF ENGINEER: Wilbert J. Temple

DATE: 10-1-08

TEMPORARY EROSION CONTROL DETAILS

ST. STANDARD PLANS | EC-01

HYDRAULICS SECTION

14-OCT-2008 17:18

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GUARD RAIL GENERAL NOTES:

1. DESIGN REFERENCE: THE LATEST EDITIONS OF THE AASHTO ROADSIDE DESIGN GUIDE (RDG) AND THE LADOTD BRIDGE DESIGN AND EVALUATION MANUAL (BDEM), PART II, VOLUME 4 - HIGHWAY SAFETY.

2. GUARD RAIL LENGTH: TOTAL GUARD RAIL LENGTH AND LENGTH OF NEED SHALL BE BASED ON THE LATEST AASHTO ROADSIDE DESIGN GUIDE LENGTH OF NEED REQUIREMENTS. TOTAL LENGTH OF GUARD RAIL SHALL NOT BE LESS THAN 75'-0" BASED ON A LENGTH OF LENGTH OF NEED OF X=62'-6". A DESIGN WAIVER IS REQUIRED FOR GUARD RAIL LENGTHS NOT MEETING THESE REQUIREMENTS.

3. FOR BRIDGES WITH GUARD RAILS IN URBAN AREAS WITH A DESIGN SPEED OF 45 MPH OR LESS, SEE DOTD EDSM NO. II.3.1.4 FOR DESIGN INFORMATION.

4. FOR GUARD RAIL ON EXISTING HIGHWAYS, SEE DOTD EDSM NO. II.3.1.3 FOR DESIGN INFORMATION.

5. EMBANKMENT WIDENING IS TO PROVIDE SLOPES NOT STEEPER THAN 10H:1V IN FRONT OF THE GUARD RAIL.

6. ALL GUARD RAIL COMPONENTS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFIC PLAN LAYOUT DETAILS, GUARD RAIL DESIGN DATA, PAY ITEMS, AND QUANTITY TABLES PROVIDED IN THE PROJECT PLANS.

7. LONGITUDINAL DIMENSIONS FOR GUARD RAIL ARE MEASURED ALONG THE PROJECTED FACE OF RAILING.

8. THE QUANTITY FOR THE EMBANKMENT WIDENING IS TO BE INCLUDED IN THE EMBANKMENT PAY ITEM QUANTITY FOR THE ROADWAY.

9. A TANGENT END TREATMENT MAY BE USED AS AN ALTERNATE TO THE FLARED END TREATMENT. A ZERO FLARE RATE (b/a=0) IS REQUIRED WHEN THE TANGENT END TREATMENT IS USED AND THE LENGTH OF NEED "X" SHALL BE CALCULATED BASED ON A "ZERO" FLARE RATE.

10. THE POINT WITHIN THE GUARD RAIL END TREATMENT WHERE THE LENGTH OF NEED TERMINATES MAY VARY WITH EACH TYPE OF GUARD RAIL END TREATMENT. THE 12'-6" LENGTH APPLIES TO MOST END TREATMENTS.

11. RETROREFLECTIVE ADHESIVE SHEETING (12" X 2'-8")(TYPE III HIGH INTENSITY OBJECT MARKER PATTERN) SHALL BE APPLIED TO THE END TREATMENT NOSE. SEE THE LATEST LA. STANDARD SPECS. FOR ROADS AND BRIDGES FOR SPECIFICATIONS AND THE SHEETING MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION. FOR PATTERN DETAIL, SEE OBJECT MARKER STANDARD PLANS.

12. GUARD RAIL INSTALLATIONS MAY BE PAVED BY USING CONCRETE PAVING OR ASPHALT CONCRETE. THE INCIDENTAL CONCRETE OR ASPHALT WILL BE USED IF A LAYOUT DETAIL, PAY ITEM, AND QUANTITY IS INDICATED IN THE PLANS. SEE SHEET 11 FOR REQUIRED POST DETAILS WHEN PAVING IS USED AROUND POSTS.

⊙13. GUARD RAIL END TREATMENTS SHALL BE SELECTED FROM THE DOTD APPROVED MATERIALS LIST (AML), AND SHALL BE AASHTO MASH, TEST LEVEL 3 (TL-3) UNLESS OTHERWISE NOTED IN THE PLANS. IF TEST LEVEL 2 (TL-2) GUARD RAIL END TREATMENTS ARE USED, A DESIGN WAIVER SHALL BE REQUIRED. IF MASH FLARED END TREATMENTS ARE NOT AVAILABLE, USE GUARD RAIL END TREATMENT, NCHRP 350 - 31" (TL-3 FLARED), WITH APPROVAL OF PROJECT ENGINEER.

⊕14. FLARED GUARD RAIL END TREATMENTS (12'-6" OR 18'-9"), (PAY ITEMS 704-10-00105 AND 704-10-00110) ARE GENERIC TEST LEVEL 2 (TL-2) NCHRP 350 SYSTEMS THAT CAN ONLY BE USED WITH PERMISSION FROM THE BRIDGE DESIGN ENGINEER ADMINISTRATOR AND AN APPROVED DESIGN WAIVER. SEE BRIDGE DESIGN SPECIAL DETAILS FOR THESE END TREATMENT DETAILS.

15. GUARD RAIL DESIGN VARIABLES FOR STANDARD PLAN SHEETS:

L_1 = LENGTH OF TANGENT SECTION OF RAIL IN ADVANCE OF OBJECT. (FT)

L_2 = DISTANCE FROM EDGE OF TRAVEL LANE TO TANGENT SECTION OF RAIL. (FT)

L_3 = DISTANCE FROM EDGE OF TRAVEL LANE TO OBJECT OF CONCERN.

L_R = RUNOUT LENGTH (FT)

L_C = REQUIRED CLEAR ZONE (FT)

L_A = DISTANCE FROM THE EDGE OF THE TRAVEL LANE TO THE LATERAL EXTENT OF THE OBJECT. (FT)

$L_A = L_C$ FOR BRIDGE APPLICATIONS

X = CALCULATED LENGTH OF NEED (FT)

Y = DISTANCE FROM EDGE OF THE TRAVEL LANE TO THE BEGINNING OF THE LENGTH OF NEED.

Z = DISTANCE FROM EDGE OF THE TRAVEL LANE TO THE EDGE OF EMBANKMENT.

b/a = FLARE RATE (VERTICAL/HORIZONTAL)

FOR CLEAR ZONE, RUNOUT, FLARE RATE, SHYLINE, AND HORIZONTAL CURVE ADJUSTMENTS, SEE LATEST AASHTO ROADSIDE DESIGN GUIDE AND THE DOTD BRIDGE DESIGN AND EVALUATION MANUAL.

16. STEEL POSTS MAY BE USED AS AN ALTERNATE TO WOOD POSTS, UNLESS SHOWN OTHERWISE.

17. INTERMIXING OF STEEL AND WOOD POSTS IN ANY ONE SECTION OF THE GUARD RAIL SHALL NOT BE PERMITTED.

18. ALL MATERIAL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.

19. GUARD RAIL HEIGHT TOLERANCE ALLOWED FOR INSTALLATION IS 1 INCH ABOVE AND 0.5 INCH BELOW THE SPECIFIED HEIGHT.

20. GUARD RAIL TRAILING END ANCHORAGE SHALL BE USED TO ANCHOR DOWNSTREAM END OF GUARD RAIL ONLY WHEN TYPICAL GUARD RAIL END TREATMENTS ARE NOT REQUIRED.

21. STANDARD COMPONENTS: STANDARD GUARD RAIL COMPONENTS, INCLUDING POSTS, PANELS, AND BOLT SYSTEM ARE BASED UPON ENGLISH UNIT CONVERSIONS OF THE AASHTO-AGC-ARTBA JOINT COMMITTEE TASK FORCE 13 REPORT: A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE.

*22. IF OFF-SYSTEM BRIDGE OR BOX CULVERT DETAILS ARE USED, THE PLANS MUST ALSO INCLUDE THE COMMON DETAILS (SHTS. 1-11).

GUARD RAIL AND RELATED PAY ITEMS :

	202-02-14500	REMOVAL OF GUARD RAIL, (LN FT)
	704-01-01000	GUARD RAIL (SINGLE THRIE BEAM) (3'-1½" POST SPACING), (LN FT)
	704-01-01020	GUARD RAIL (SINGLE THRIE BEAM) (6'-3" POST SPACING), (LN FT)
	704-01-02000	GUARD RAIL (DOUBLE THRIE BEAM) (3'-1½" POST SPACING), (LN FT)
	704-01-02020	GUARD RAIL (DOUBLE THRIE BEAM) (6'-3" POST SPACING), (LN FT)
	704-03-00200	BLOCKED OUT GUARD RAIL - 31", (6'-3" POST SPACING), (LN FT)
	704-04-00200	BLOCKED OUT GUARD RAIL - 31", (DOUBLE FACED, 6'-3" POST SPACING), (LN FT)
	704-05-00300	GUARD RAIL ANCHOR SECTIONS - 31", (TRAILING END), (LN FT)
	704-06-00100	GUARD RAIL BRIDGE ATTACHMENTS, (LN FT)
	704-06-00200	GUARD RAIL BRIDGE ATTACHMENTS (SINGLE THRIE BEAM), (LN FT)
	704-07-00200	GUARD RAIL TRANSITION, (DOUBLE THRIE BEAM), (LN FT)
	704-09-00100	GUARD RAIL ANCHOR BLOCK, (EA.)
⊕	704-10-00105	GUARD RAIL END TREATMENT (FLARED, 12'-6" LENGTH), (EA.)
⊕	704-10-00110	GUARD RAIL END TREATMENT (FLARED, 18'-9" LENGTH), (EA.)
⊙	704-10-00120	GUARD RAIL END TREATMENT, MASH, (TL-3 FLARED), (EA.)
⊙	704-10-00204	GUARD RAIL END TREATMENT, MASH, (TL-2 TANGENT), (EA.)
⊙	704-10-00205	GUARD RAIL END TREATMENT, MASH, (TL-3 TANGENT), (EA.)
⊙	704-10-00305	GUARD RAIL END TREATMENT, MASH, (TL-3 BI-DIRECTIONAL), (EA.)
⊙	704-10-00310	GUARD RAIL END TREATMENT, NCHRP 350 - 31" (TL-3 FLARED), (EA.)
	810-06-00100	CONCRETE PIER PROTECTION SYSTEM (VEHICLE), (LN FT)

⊙ SEE NOTE NO.13

⊕ SEE NOTE NO.14

GUARD RAIL STANDARD PLAN INDEX

	BRIDGE STANDARD INDEX NO.	SERIES	DESCRIPTION
COMMON DETAILS	BD.1.1.0.01	1 OF 11	GENERAL NOTES, PAY ITEMS, STANDARD PLAN INDEX
BRIDGE END AND NON-BRIDGE APPLICATIONS	BD.1.1.0.02	2 OF 11	BRIDGE APPLICATION, TYPICAL LAYOUT
	BD.1.1.0.03	3 OF 11	THRIE BEAM GUARD RAIL TRANSITION TO BRIDGE RAIL
	BD.1.1.0.04	4 OF 11	NON BRIDGE APPLICATION, TYPICAL LAYOUT
	BD.1.1.0.05	5 OF 11	NON BRIDGE APPLICATION, TYPICAL LAYOUT
	BD.1.1.0.06	6 OF 11	TYPICAL DETAILS AND SECTIONS
	BD.1.1.0.07	7 OF 11	TRAILING END DETAILS
	BD.1.1.0.08	8 OF 11	TRAILING END DETAILS
	BD.1.1.0.09	9 OF 11	RAIL STRUCTURAL DETAILS
	BD.1.1.0.10	10 OF 11	GUARD RAIL POST AND BLOCK DETAILS
	BD.1.1.0.11	11 OF 11	MISCELLANEOUS DETAILS, MOW STRIPS AND CONCRETE ANCHORS
* OFF - SYSTEM BRIDGE	BD.1.2.0.01	1 OF 1	OFF-SYSTEM BRIDGE GUARD RAIL DETAILS
* BOX CULVERT DETAILS	BD.1.3.0.01	1 OF 1	BOX CULVERT GUARD RAIL DETAILS

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STATE OF LOUISIANA
PAUL OLIVIER
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IN
CIVIL ENGINEERING
10/6/2025

SHEET NUMBER 312

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	P. FOSSIER
CHECK	K. BRAUNER
DETAIL	J. DOUCET
CHECK	K. BRAUNER
REVIEW	C. GUIDRY
SERIES #	1 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER:
DATE: 4/13/2023

HIGHWAY GUARD RAIL (MASH)
GENERAL NOTES, PAY ITEMS
AND STANDARD PLAN INDEX

BD.1.1.0.01

GR-MASH-ON

STANDARD PLAN

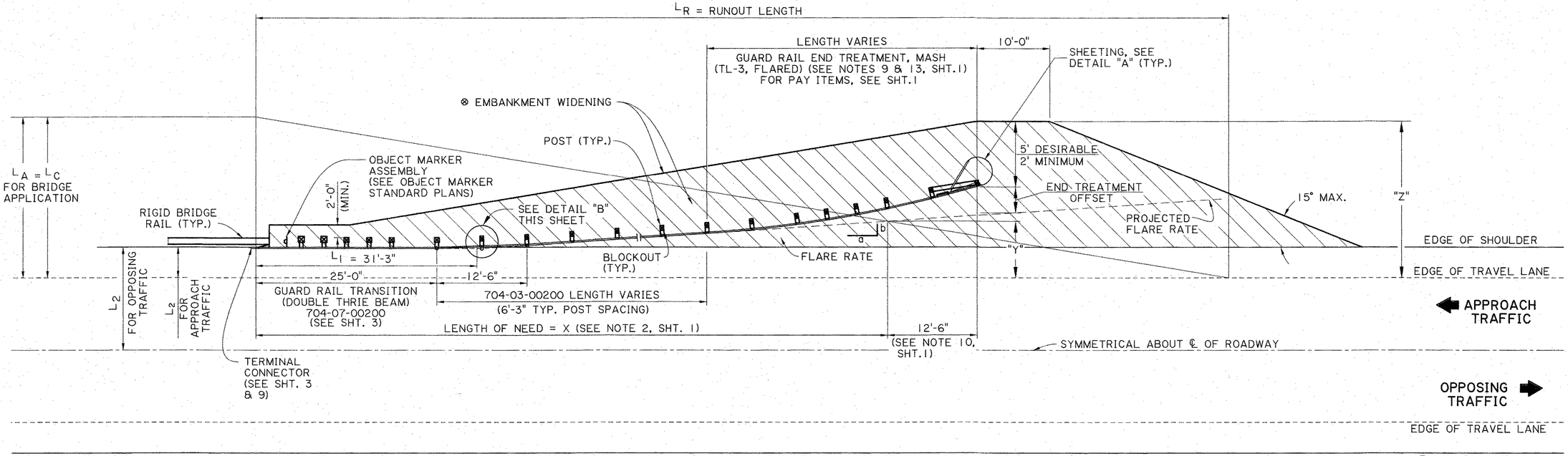
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

LAW LADOTD WARNING

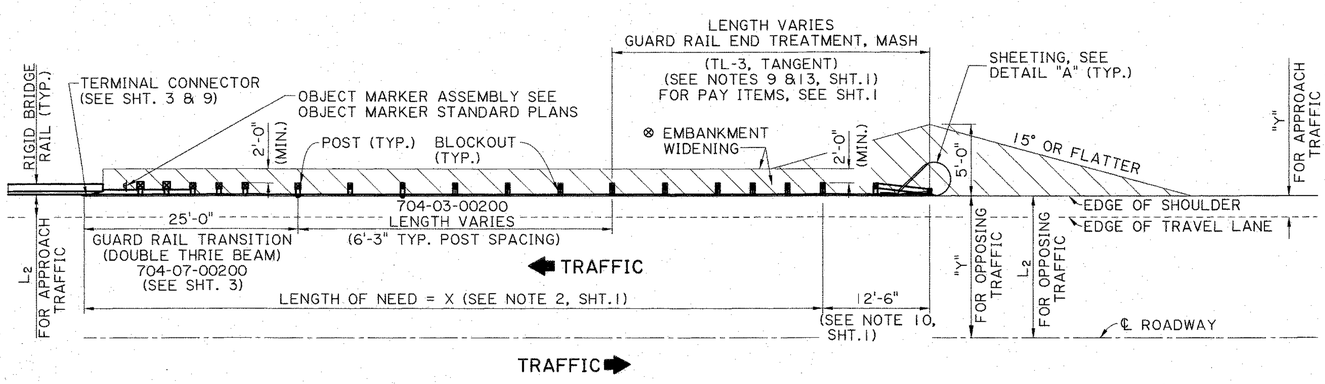
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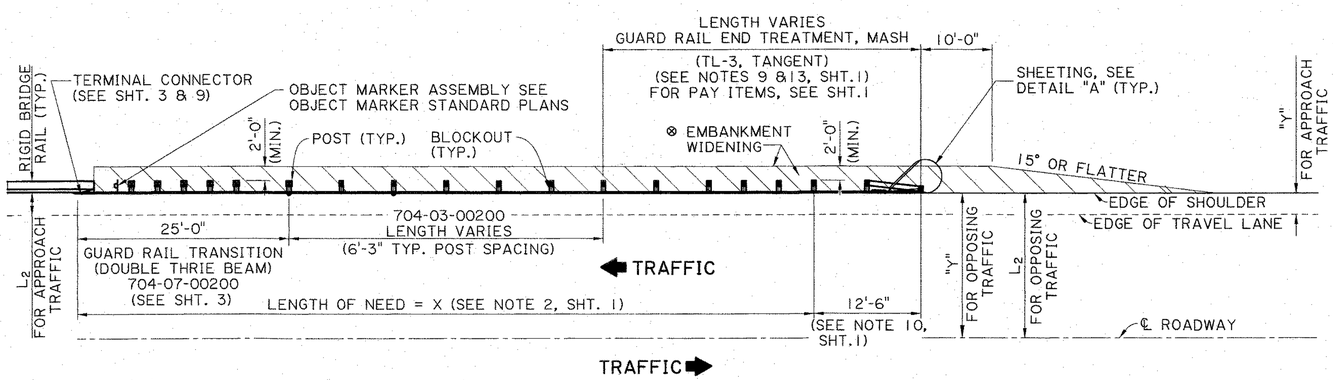
TYPICAL BRIDGE GUARD RAIL LAYOUT WITH FLARED END TREATMENT - PLAN

NOTE: LAYOUT SIMILAR FOR OTHER QUADRANTS OF BRIDGE END
⊗ SEE NOTES 5, 8, AND 12, SHT. 1.



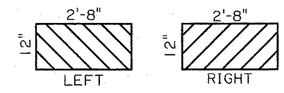
TYPICAL BRIDGE GUARD RAIL LAYOUT WITH TANGENT END TREATMENT - PREFERRED GRADING - PLAN

⊗ SEE NOTES 5, 8, AND 12, SHT. 1.



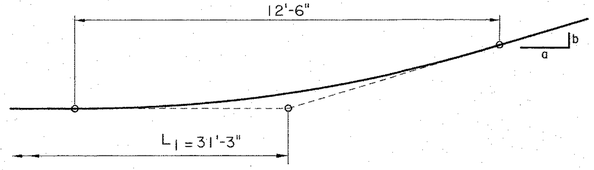
TYPICAL BRIDGE GUARD RAIL LAYOUT WITH TANGENT END TREATMENT - ALTERNATIVE GRADING - PLAN

⊗ SEE NOTES 5, 8, AND 12, SHT. 1.

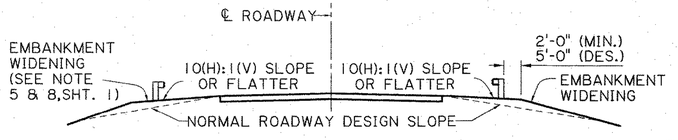


DETAIL "A"

RETROREFLECTIVE SHEETING
(SEE SHT. 1 NOTE 11)



DETAIL "B"



TYPICAL EMBANKMENT WIDENING SECTION

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2023

NOTES:

THE DETAILS SHOWN ON THIS SHEET SHALL BE USED TO CONNECT GUARD RAIL TO RIGID BRIDGE RAILS. DETAILS FOR CONNECTING TO A FLEXIBLE BRIDGE RAIL ARE SHOWN ON STANDARD PLAN GRR-06, "APPROACH GUARD RAIL FOR STRUCTURES WITH FLEXIBLE RAILS.".

SHEET NUMBER 313

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	P. FOSSIER
CHECK	K. BRAUNER
DETAIL	J. DOUCET
CHECK	K. BRAUNER
REVIEW	C. GUIDRY
SERIES #	2 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER: DATE: 4/13/2023

HIGHWAY GUARD RAIL (MASH)
BRIDGE APPLICATION
(TYPICAL LAYOUT)

BD.1.1.0.02

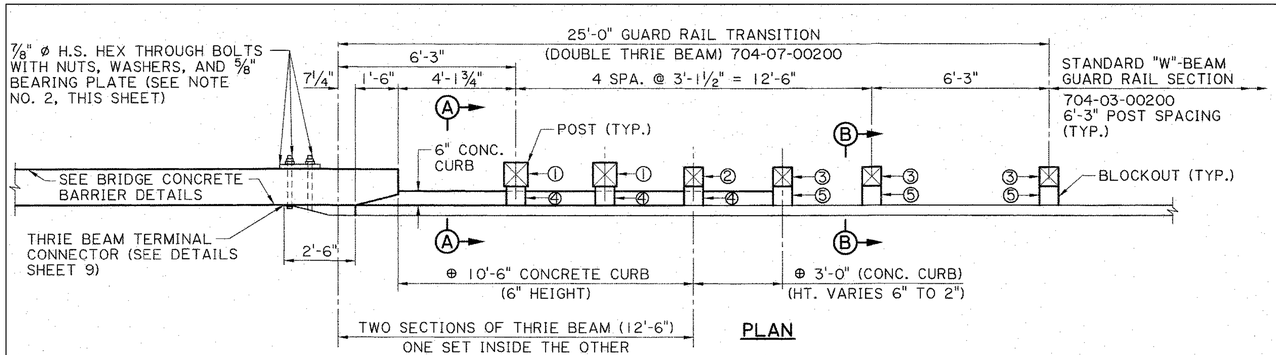
STANDARD PLAN NO. GR-MASH-ON

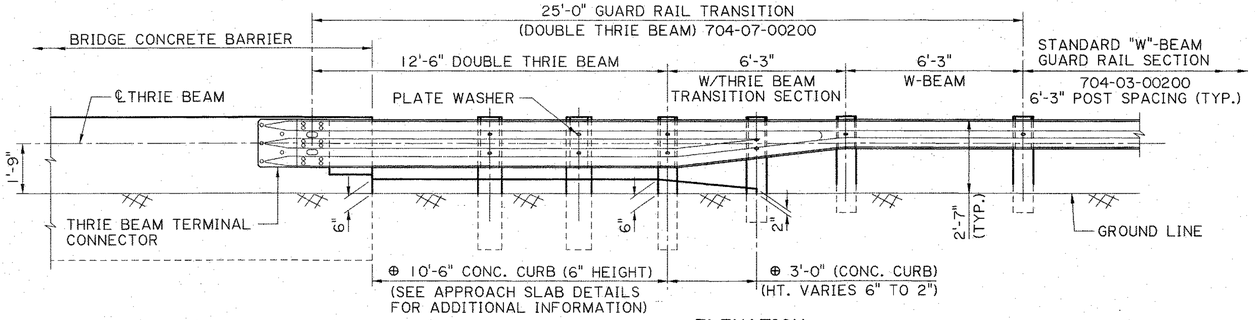
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

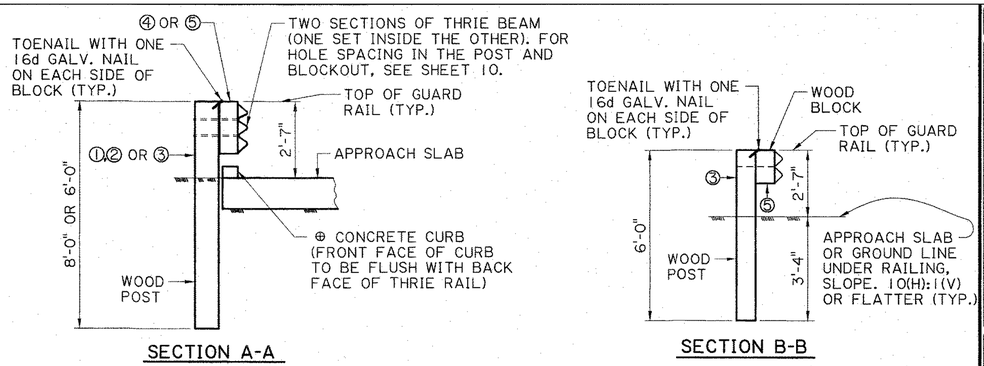
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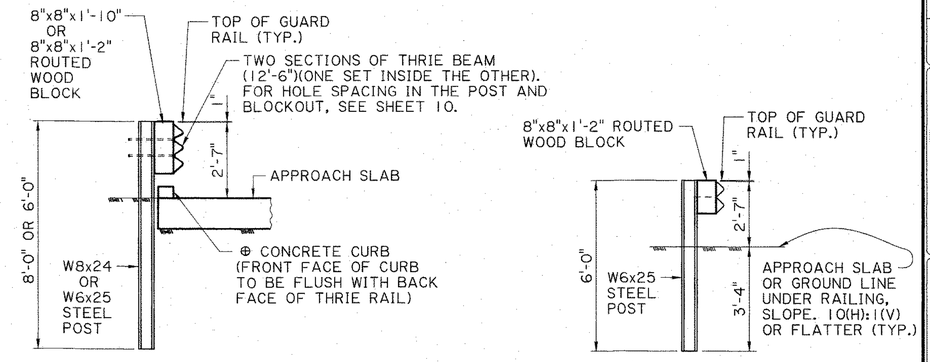
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4/17/2023
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NOTES

1. THIS GUARD RAIL TRANSITION IS APPROPRIATE FOR CONNECTION TO THE CONCRETE BARRIER SHAPE AS SHOWN. SEE BRIDGE BARRIER RAILING DETAILS FOR INFORMATION.
2. 7/8" ø H.S. BOLTS FOR CONCRETE BARRIER AND THRIE BEAM TERMINAL CONNECTOR SHALL BE ASTM A449. FOR 5/8" STEEL BEARING PLATE, SEE SHEET 9. GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM A153.

* 3. STEEL POST ALTERNATES: STEEL POSTS ARE ALLOWED AS AN ALTERNATE TO WOOD POSTS. USE W8 x 24 STEEL POST ALTERNATE FOR 10" x 10" WOOD POST. USE W6 x 25 STEEL POST ALTERNATE FOR 8" x 8" WOOD POST. USE SAME LENGTHS AS WOOD POSTS.

4. BLOCKOUTS: USE WOOD BLOCKOUTS ONLY, STEEL AND RECYCLED BLOCKOUTS ARE NOT PERMITTED FOR THE GUARD RAIL TRANSITION. ALL WOOD BLOCKOUTS ARE REQUIRED TO BE ROUTED WHEN USED WITH STEEL POSTS. SEE SHEET 10.
5. INTERMIXING OF STEEL AND WOOD POSTS IN THE GUARD RAIL TO BRIDGE RAIL TRANSITION SECTION IS NOT ALLOWED.

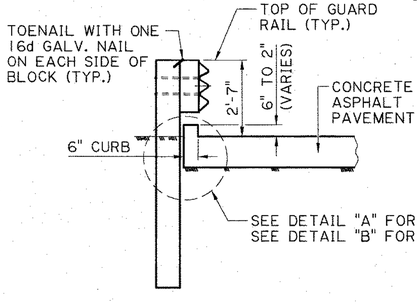
⊕ 6. FOR GUARD RAIL TRANSITIONS CONSTRUCTED WITH NEW APPROACH SLABS, CONCRETE CURBS SHALL BE USED AND PAID FOR WITH THE APPROACH SLAB PAY ITEM. FOR GUARD RAIL TRANSITIONS CONSTRUCTED WHEN THE APPROACH SLAB OR PAVEMENT IS EXISTING AND A NEW CURB IS NEEDED, THE ASPHALT CURB ALTERNATE DETAIL SHALL BE USED ON ASPHALT PAVEMENTS, AND PAID FOR UNDER 707-04-00100, "ASPHALT CURB" OR AS INDICATED IN THE PLANS. ON EXISTING CONCRETE PAVEMENTS, THE CONCRETE CURB ALTERNATE DETAIL SHALL BE USED AND PAID FOR UNDER 707-01-00100, "CONCRETE CURB" OR AS INDICATED IN THE PLANS.

7. THE USE OF THIS BRIDGE BARRIER TRANSITION HAS ONLY BEEN APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, THEIR CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

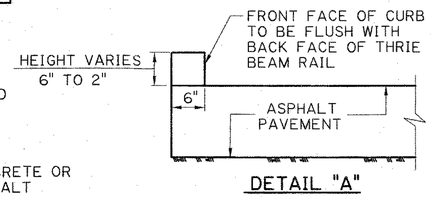
*WOOD POST & WOOD BLOCKOUT FOR GUARD RAIL TRANSITION

NO.	SIZE (WIDTHxDEPTHxLENGTH)
①	10" x 10" x 8'-0" POST
②	8" x 8" x 8'-0" POST
③	8" x 8" x 6'-0" POST
④	8" x 8" x 1'-10" BLOCKOUT
⑤	8" x 8" x 1'-2" BLOCKOUT

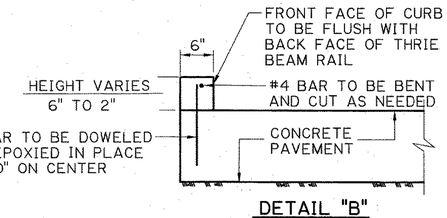
*SEE NOTE FOR STEEL POST ALTERNATE



⊕CURB ALTERNATE FOR EXISTING PAVEMENTS - SECTION A-A
N.T.S.



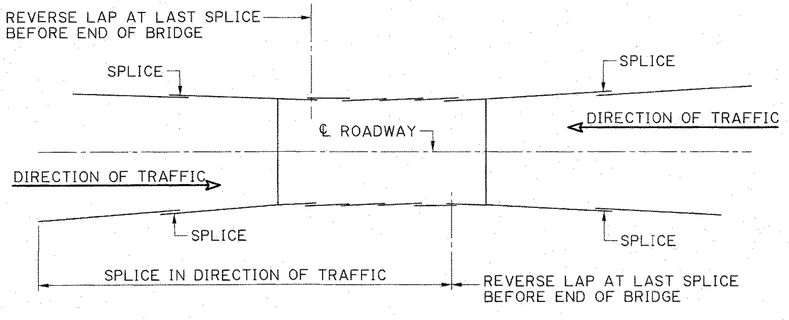
DETAIL "A"
N.T.S.



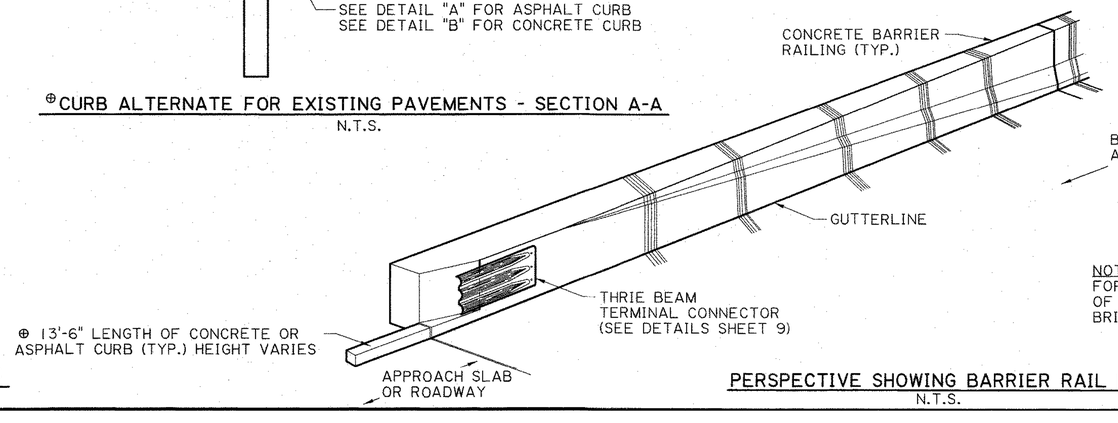
DETAIL "B"
N.T.S.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025



LAYOUT SHOWING DIRECTION OF GUARD RAIL SPLICE FOR TWO WAY TRAFFIC
N.T.S.



PERSPECTIVE SHOWING BARRIER RAIL END
N.T.S.

NOTE:
FOR TRANSITION LENGTH & DETAILS OF THE CONCRETE BARRIER, SEE BRIDGE BARRIER RAILING DETAILS.

SHEET NUMBER	314
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN	P. FOSSIER
CHECK	K. BRAUNER
DETAIL	J. DOUCET
CHECK	K. BRAUNER
REVIEW	C. GUIDRY
SERIES #	3 OF 11

KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

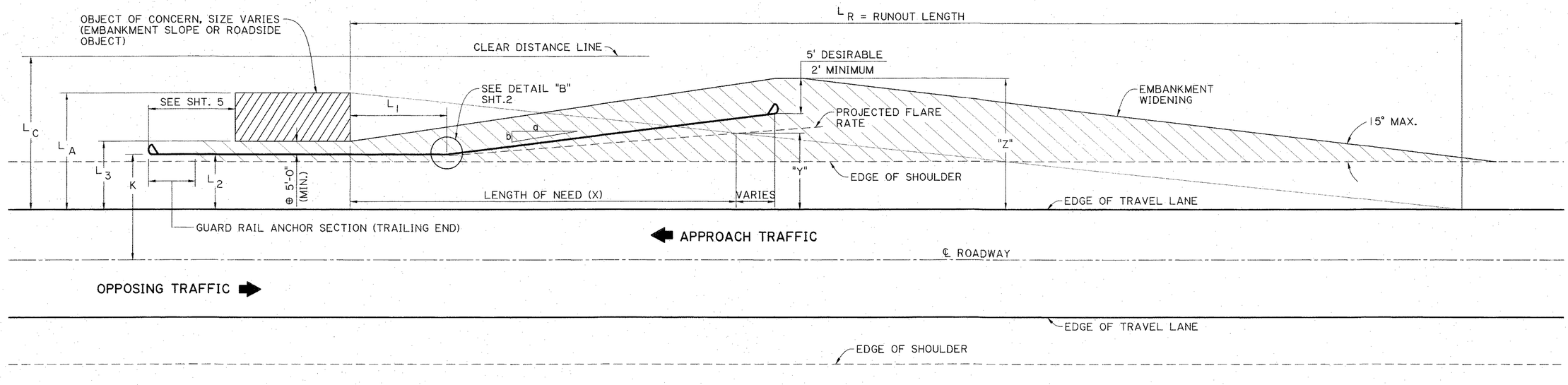
APPROVED BY CHIEF ENGINEER:
DATE: 4/13/2023

HIGHWAY GUARD RAIL (MASH)
THRIE BEAM GUARD RAIL
TRANSITION TO BRIDGE RAIL

BD.1.1.0.03
GR-MASH-ON
STANDARD PLAN

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

12:49
4/17/2023

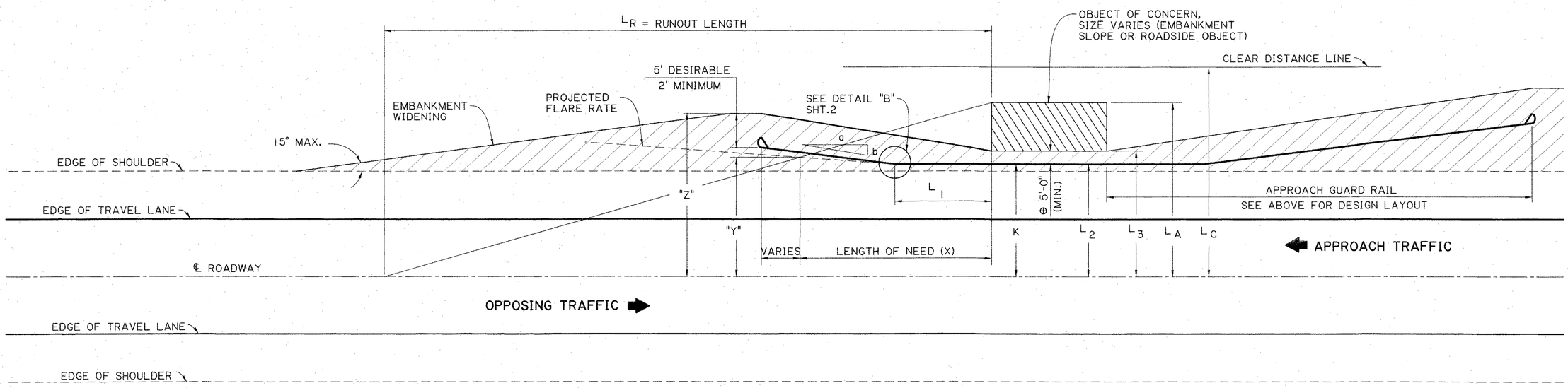


GUARD RAIL LAYOUT FOR SHOULDER APPLICATIONS - APPROACH VARIABLES

(GUARD RAIL OUTSIDE OF OPPOSING TRAFFIC'S CLEAR ZONE ; K > Lc)
N.T.S.

⊕ MINIMUM DISTANCE MEASURED FROM BACK FACE OF GUARD RAIL TO FRONT FACE OF OBJECT OF CONCERN.

LAYOUT FOR TANGENT GUARD RAIL SECTIONS AND END TREATMENTS SIMILAR. FOR EMBANKMENT WIDENING DETAILS, SEE SHT. NO. 2.



GUARD RAIL LAYOUT FOR SHOULDER APPLICATIONS - OPPOSING VARIABLES

(GUARD RAIL INSIDE OF OPPOSING TRAFFIC'S CLEAR ZONE ; K < Lc)
N.T.S.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

SHEET NUMBER 315

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	P. FOSSIER
CHECK	K. BRAUNER
DETAIL	J. DOUCET
CHECK	K. BRAUNER
REVIEW	C. GUIDRY
SERIES #	4 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER:
4/13/2023
DATE:

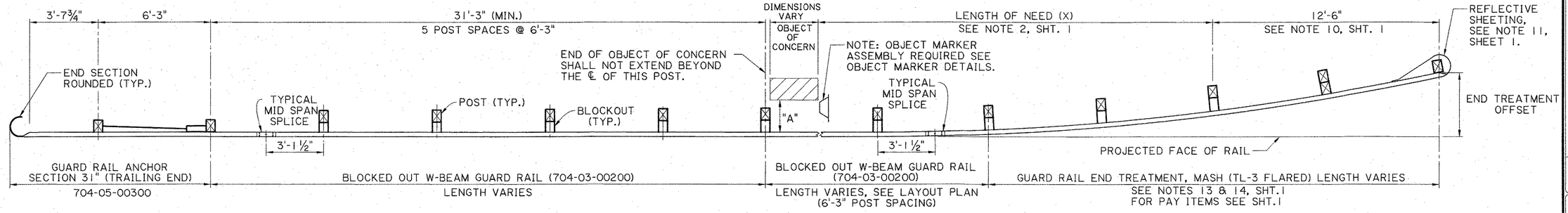
HIGHWAY GUARD RAIL (MASH)
NON-BRIDGE APPLICATION
(TYPICAL LAYOUT)

BD.1.1.0.04
GR-MASH-ON
STANDARD PLANS

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

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4/17/2023

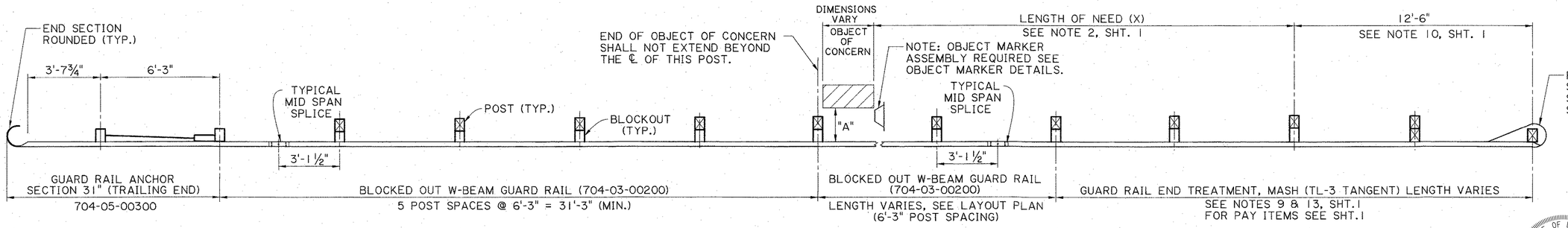


FOR TRAILING END TERMINAL DETAILS AND NOTES, SEE SHTS. 7 & 8.

BACK FACE OF GUARD RAIL TO FRONT FACE OF OBJECT = "A" = 5'-0" MIN.

PLAN - NON-BRIDGE END APPLICATION - FLARED

N.T.S.

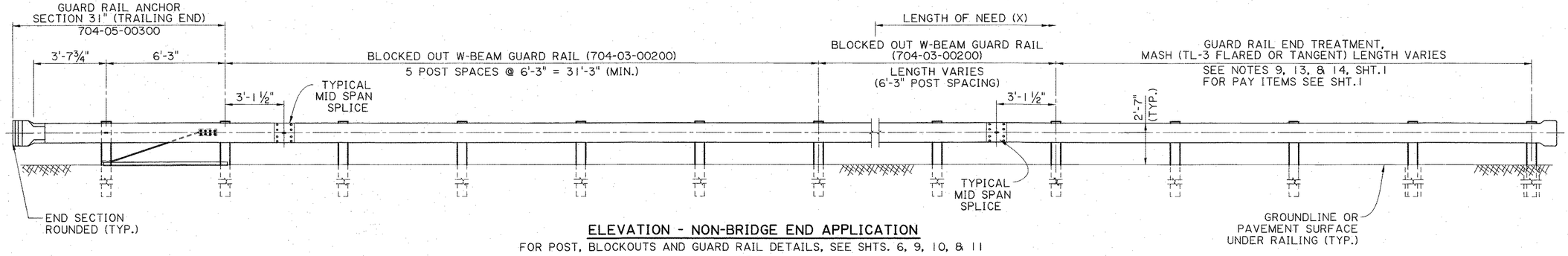


FOR TRAILING END TERMINAL DETAILS AND NOTES, SEE SHTS. 7 & 8.

BACK FACE OF GUARD RAIL TO FRONT FACE OF OBJECT = "A" = 5'-0" MIN.

PLAN - NON-BRIDGE END APPLICATION - TANGENT

N.T.S.



ELEVATION - NON-BRIDGE END APPLICATION

FOR POST, BLOCKOUTS AND GUARD RAIL DETAILS, SEE SHTS. 6, 9, 10, & 11

N.T.S.

SHEET NUMBER	316
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN	P. FOSSIER
CHECK	K. BRAUNER
DETAIL	J. DOUCET
CHECK	K. BRAUNER
REVIEW	C. GUIDRY
SERIES #	5 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER:
DATE: 4/13/2023

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

HIGHWAY GUARD RAIL (MASH)
NON-BRIDGE APPLICATION
(TYPICAL LAYOUT)

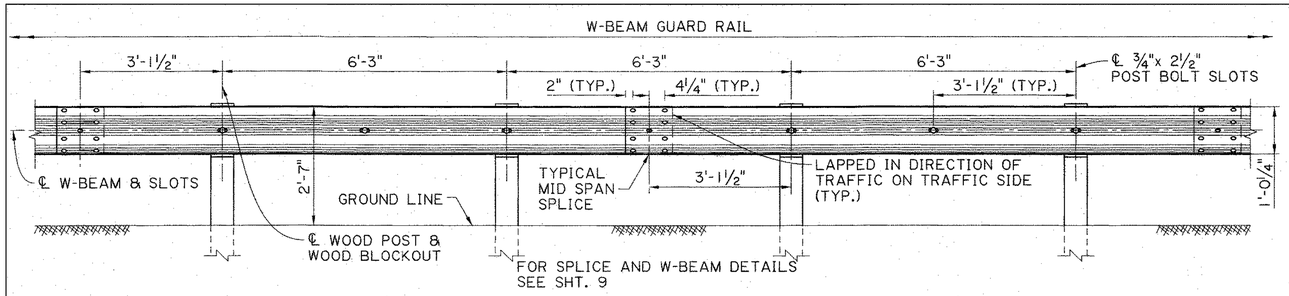
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GR-MASH-ON
STANDARD SHEET NO.

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

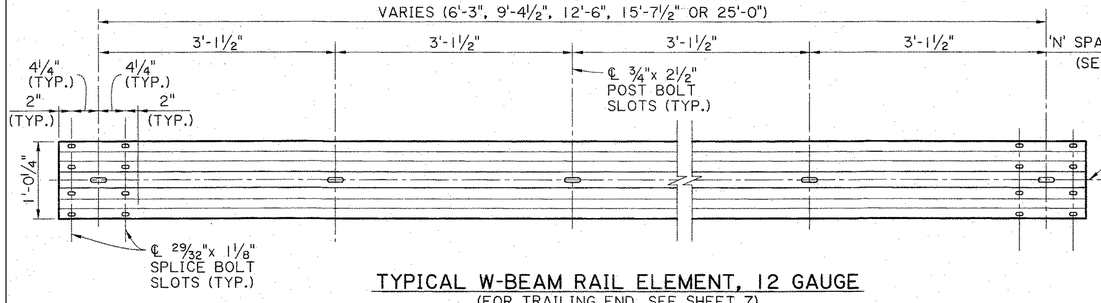
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4/17/2023 12:58



TYPICAL W-BEAM RAIL ELEMENT, 12 GAUGE

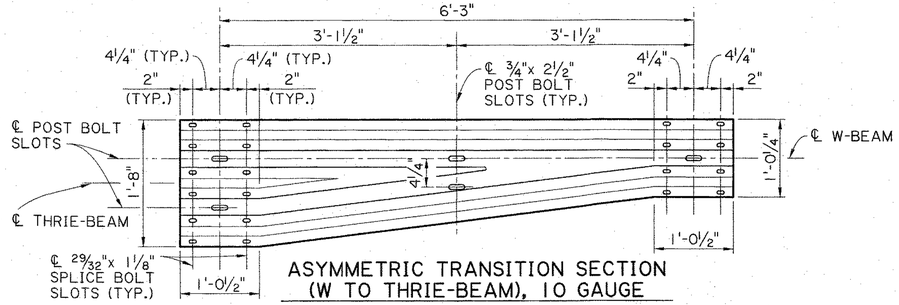
N.T.S.



TYPICAL W-BEAM RAIL ELEMENT, 12 GAUGE

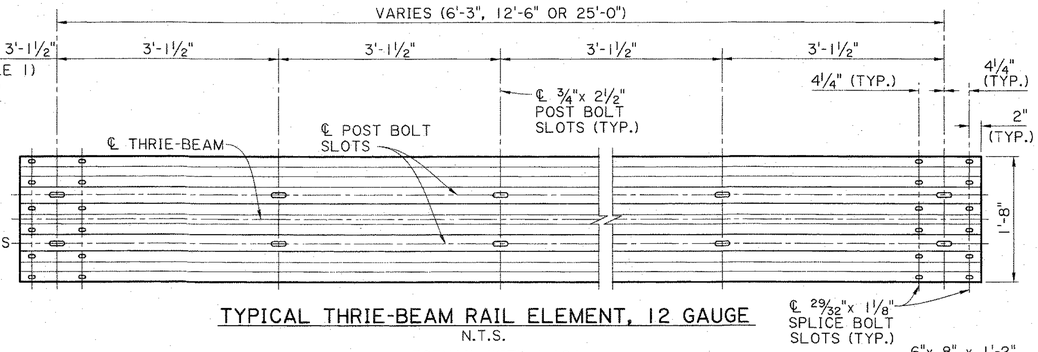
(FOR TRAILING END, SEE SHEET 7)

N.T.S.



ASYMMETRIC TRANSITION SECTION (W TO THRIE-BEAM), 10 GAUGE

N.T.S.



TYPICAL THRIE-BEAM RAIL ELEMENT, 12 GAUGE

N.T.S.

* W6x8.5 MAY BE USED AS AN ALTERNATE.

TABLE 1: ELEMENT SUMMARY TABLE:

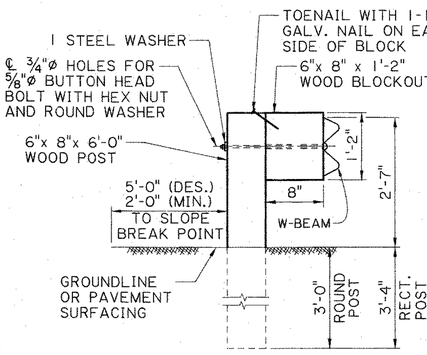
PANEL TYPE	NUMBER OF SPACES 'N'	GAUGE
6'-3" W-BEAM	2	12
9'-4½" W-BEAM	3	12
12'-6" W-BEAM	4	12
15'-7½" W-BEAM	5	12
25'-0" W-BEAM	8	12

PANEL TYPE	NUMBER OF SPACES 'N'	GAUGE
6'-3" THRIE-BEAM	2	12
12'-6" THRIE-BEAM	4	12
25'-0" THRIE-BEAM	8	12
THRIE-BEAM TRANSITION	2	10

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

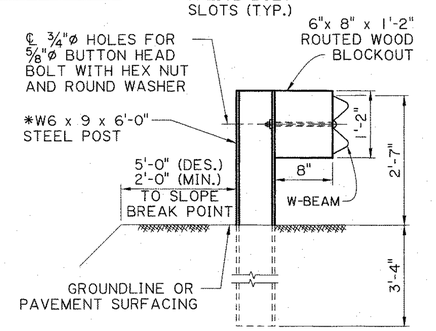
STATE OF LOUISIANA — PAUL OLIVIER — License No. 39967 — PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

10/6/2023



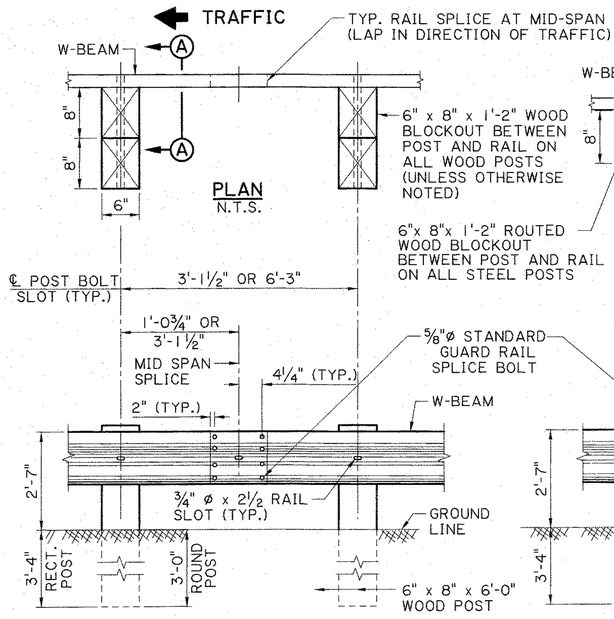
TYPICAL SECTION: A-A ◈ WOOD POST & WOOD BLOCKOUT (W-BEAM)

N.T.S.



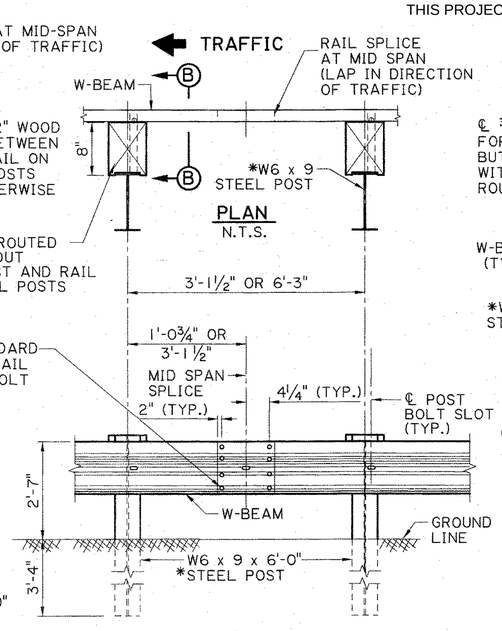
TYPICAL SECTION: B-B STEEL POST & WOOD BLOCKOUT (W-BEAM)

N.T.S.



DETAIL OF 6" x 8" x 6'-0" WOOD POSTS ◈ AND WOOD BLOCKS-STD. GUARD RAIL

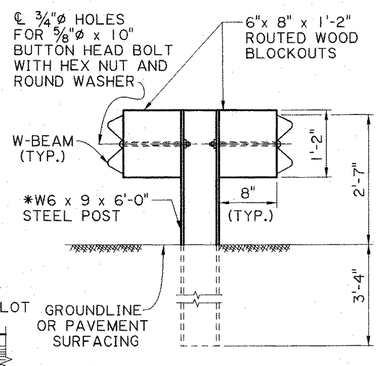
N.T.S.



*DETAIL OF W6 x 9 STEEL POSTS AND WOOD BLOCKS-STD. GUARD RAIL

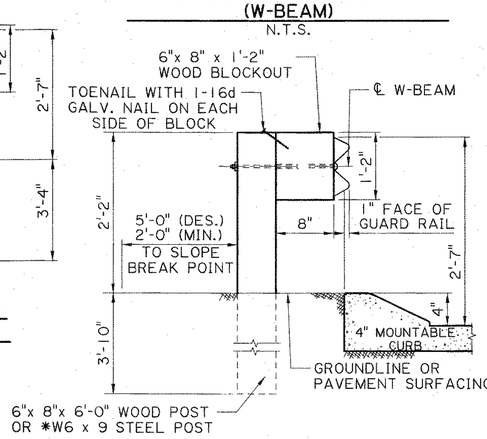
N.T.S.

◈ 7 ½"ø x 6'-0" ROUND WOOD POST AND WOOD BLOCK MAY BE USED IN LIEU OF 6" X 8" X 6'-0" WOOD POSTS AND WOOD BLOCK. SEE SHEET 10.



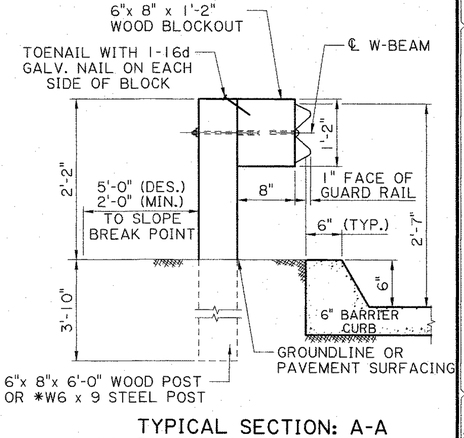
TYPICAL W-BEAM MEDIAN BARRIER DETAIL STEEL POST ONLY

N.T.S.



TYPICAL SECTION: A-A WOOD POST & WOOD BLOCKOUT WITH 4" MOUNTABLE CURB

N.T.S.



TYPICAL SECTION: A-A WOOD POST & WOOD BLOCKOUT WITH 6" BARRIER CURB

N.T.S.

SHEET NUMBER 317

ST. TAMMANY | 000-52 | PARISH | CONTROL SECTION | STATE PROJECT

DESIGN P. FOSSIER | K. BRAUNER | DETAIL J. DOUCET | K. BRAUNER | REVIEW C. GUIDRY | SERIES # 6 OF 11

STATE OF LOUISIANA — KURT M. BRAUNER — License No. 30567 — PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

3/2/23

APPROVED BY CHIEF ENGINEER: DATE: 4/13/2023

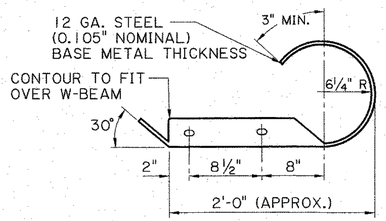
HIGHWAY GUARD RAIL (MASH) TYPICAL DETAILS AND SECTIONS

BD. 1.1.0.06 | GR-MASH-ON | STANDARD PLANS

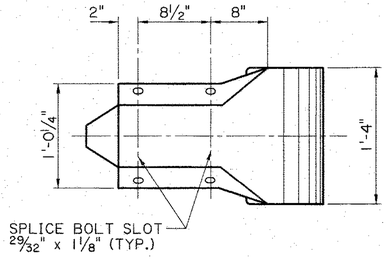
BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d1098226\BD.1.1.0.06 - HIGHWAY GUARD RAIL (MASH)_raster.dgn

4/17/2023 13:01

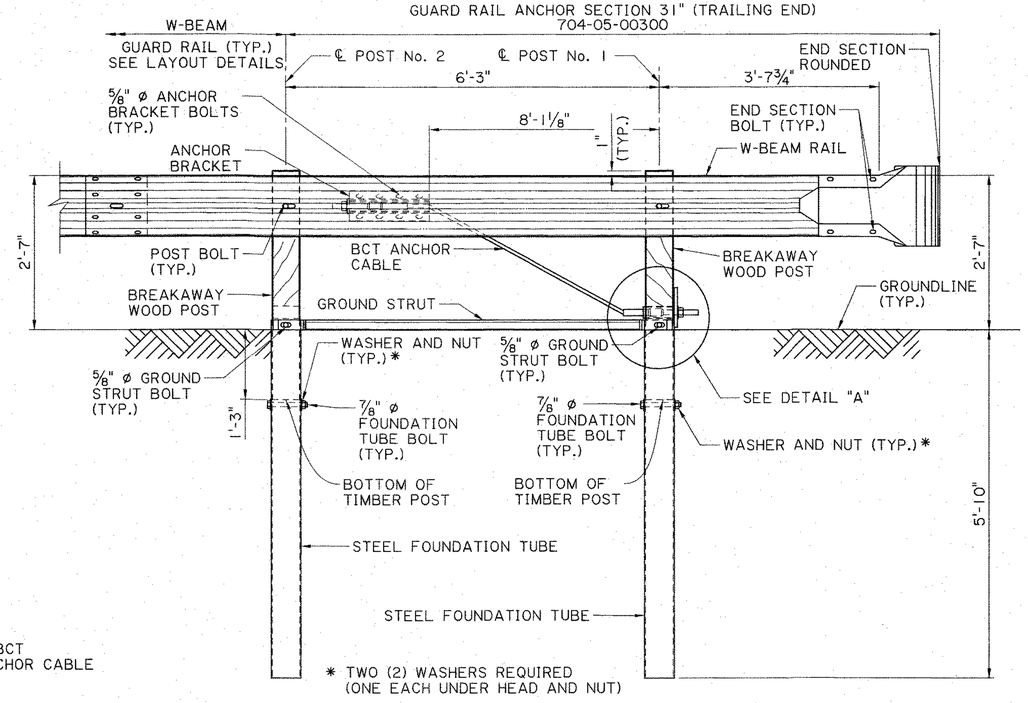


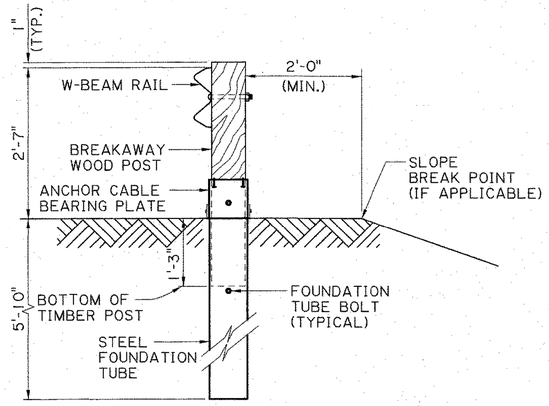
PLAN VIEW



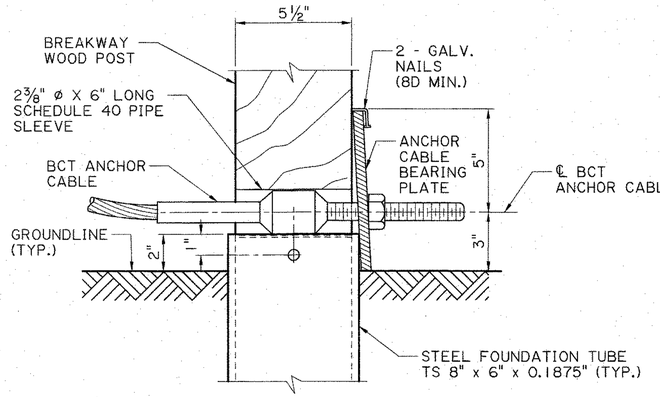
FRONT VIEW

W BEAM END SECTION ROUNDED
N.T.S.





SECTION A-A - POST No. 1
N.T.S.



DETAIL "A" - POST No. 1
POST #1 GROUND STRUT NOT SHOWN FOR CLARITY.
POST #2 SIMILAR W/O BCT ANCHOR CABLE AND BEARING PLATE.

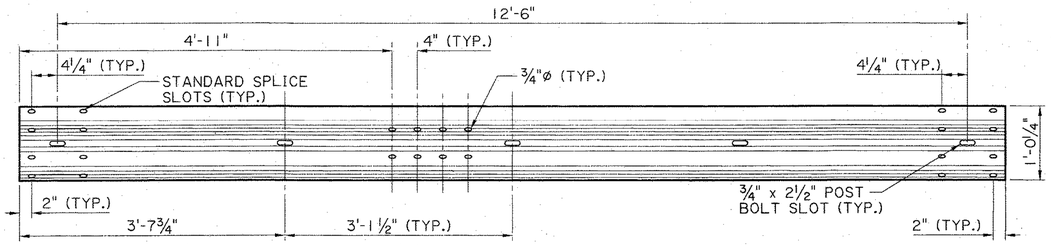
N.T.S.

TRAILING END RAIL DETAIL - ELEVATION
NOTE: FOR OTHER TRAILING END TERMINAL DETAILS, SEE SHT. 8 OF 11.

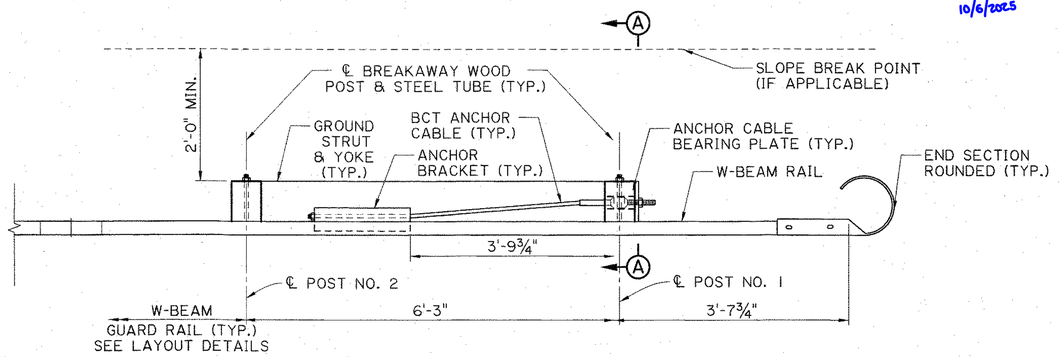
N.T.S.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025



TYPICAL 12'-6" W-BEAM SECTION, 12 GAUGE, TRAILING END SECTION
N.T.S.



TRAILING END RAIL DETAIL - PLAN
N.T.S.

SHEET NUMBER	318
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN	P. FOSSIER
CHECK	K. BRAUNER
DETAIL	J. DOUCET
CHECK	K. BRAUNER
REVIEW	C. GUIDRY
SERIES #	7 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER: DATE: 4/13/2023

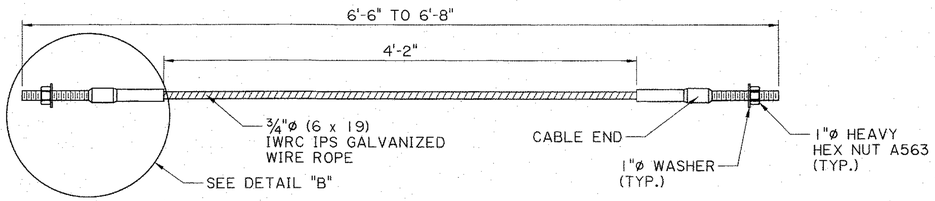
HIGHWAY GUARD RAIL (MASH) TRAILING END DETAILS

BD.1.1.0.07
GR-MASH-ON
STANDARD PLAN

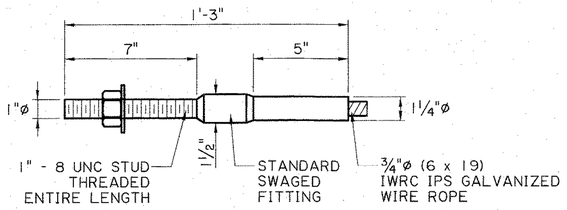
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d1098226\BD.1.1.0.07 - HIGHWAY GUARD RAIL (MASH)_raster.dgn

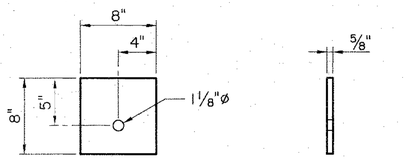
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BCT ANCHOR CABLE
N.T.S.



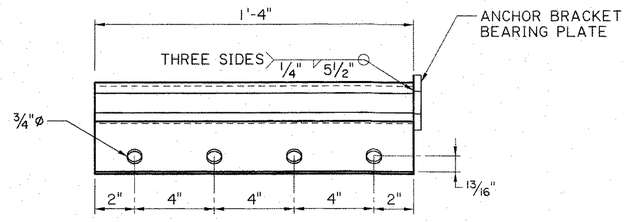
DETAIL "B"

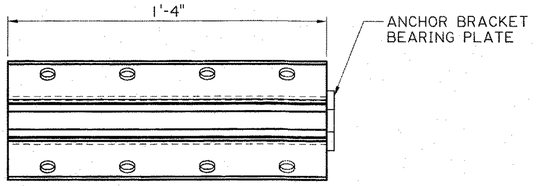


SIDE VIEW

FRONT VIEW

ANCHOR CABLE
BEARING PLATE
N.T.S.



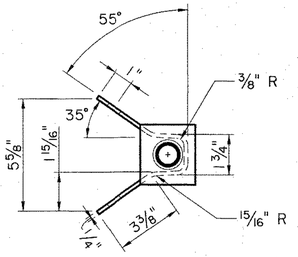


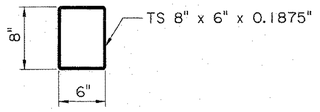
STEEL ANCHOR BRACKET
N.T.S.

NOTES:

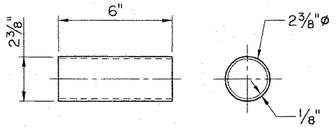
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE ⅝" DIAMETER ASTM A307 HEX HEAD BOLTS AND REQUIRE ASTM A563 A NUTS AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS EACH. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

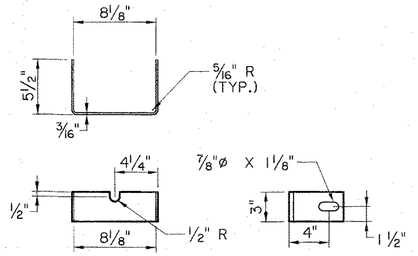




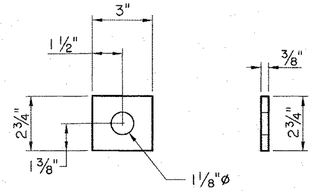
PLAN VIEW



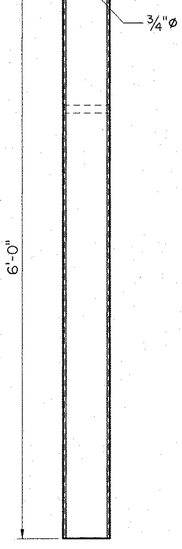
2⅜"ø POST SLEEVE
N.T.S.

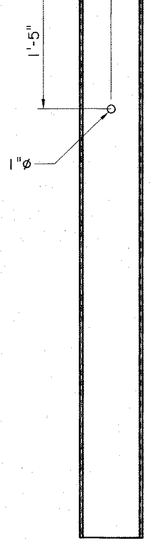


YOKE DETAIL
N.T.S.



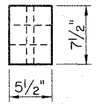
ANCHOR BRACKET
BEARING PLATE
N.T.S.



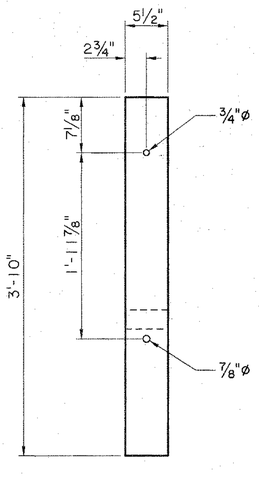


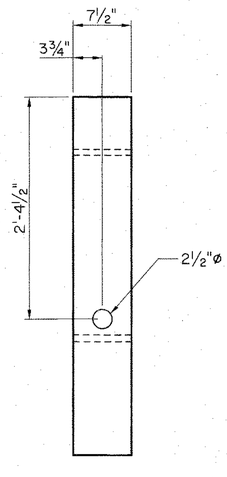
FRONT VIEW SIDE VIEW

FOUNDATION TUBE
N.T.S.



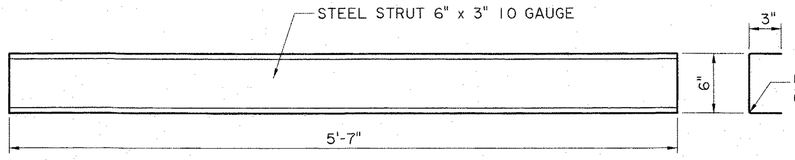
PLAN VIEW





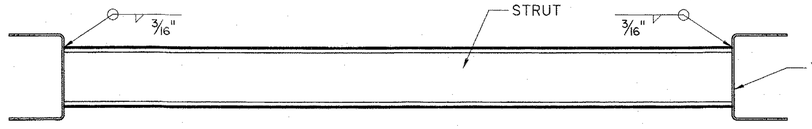
FRONT VIEW SIDE VIEW

BREAKAWAY WOOD POST
N.T.S.

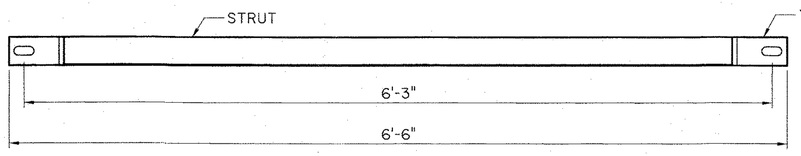


STRUT - PLAN VIEW
N.T.S.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.



PLAN VIEW



FRONT VIEW
GROUND STRUT DETAIL
N.T.S.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2023

SHEET NUMBER 319

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	P. FOSSIER	DETAIL	J. DOUCET
CHECK	K. BRAUNER	CHECK	K. BRAUNER
REVIEW	C. GUIDRY	SERIES #	8 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER: DATE: 1/8/2003

HIGHWAY GUARD RAIL (MASH)
TRAILING END DETAILS

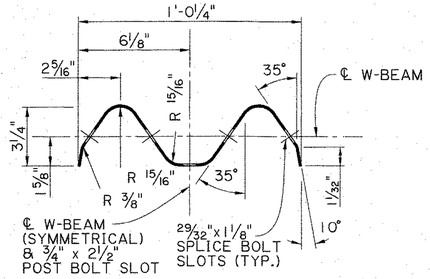
BD.1.1.0.08 GR-MASH-ON STANDARD SHEET

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

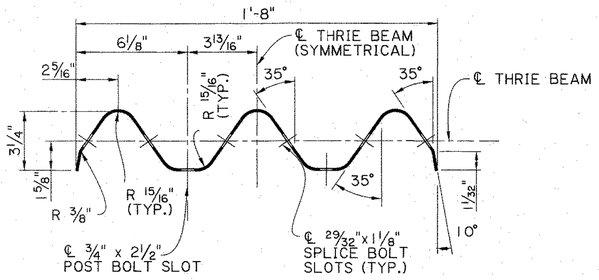
IP_PWP:d1098226\BD.1.1.0.08 - HIGHWAY GUARD RAIL (MASH)_raster.dgn

4/17/2023 13:17



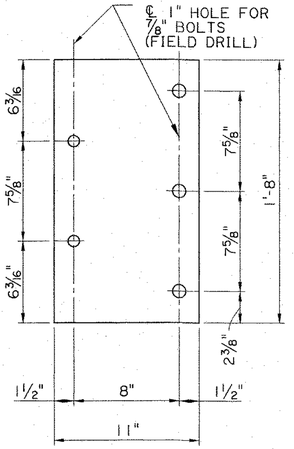
TYPICAL W BEAM

N.T.S.



TYPICAL THRIE BEAM

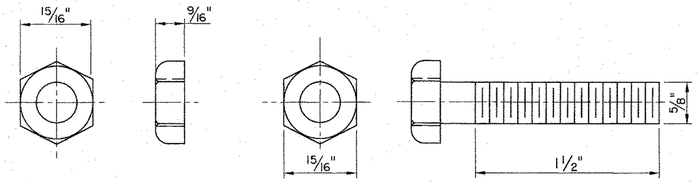
N.T.S.



⅝"ø BEARING PLATE

(FOR ANCHORING THRIE BEAM TO CONCRETE BARRIER RAIL)

N.T.S.

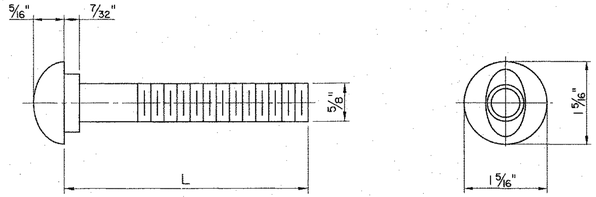


NUT BOLT

⅝"ø HEX BOLT & HEX NUT

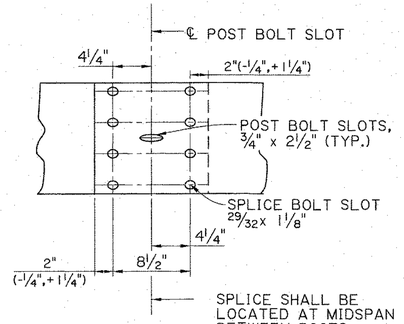
(FOR FASTENING THE ANCHOR BRACKET TO RAIL IN TRAILING END)

N.T.S.



⅝"ø BUTTON HEAD BOLT

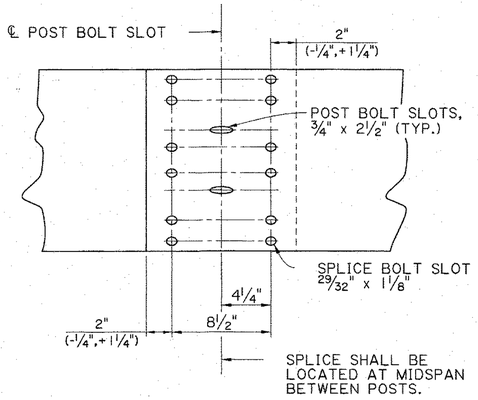
N.T.S.



TYPICAL W-BEAM SPLICE DETAIL - ELEVATION

⅝"ø x 1¼" BUTTON HEAD OVAL SHOULDER BOLTS WITH ⅝"ø RECESSED HEX NUTS-TOTAL 8 PER SPLICE. LAP IN DIRECTION OF TRAFFIC.

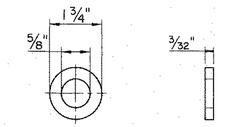
N.T.S.



TYPICAL THRIE BEAM SPLICE DETAIL - ELEVATION

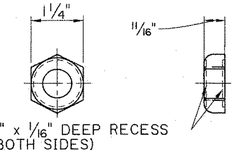
⅝"ø x 1¼" BUTTON HEAD OVAL SHOULDER BOLTS WITH ⅝"ø RECESSED HEX NUTS-TOTAL 12 PER SPLICE. LAP IN DIRECTION OF TRAFFIC.

N.T.S.



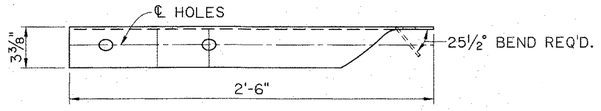
⅝"ø POST BOLT WASHERS

N.T.S.

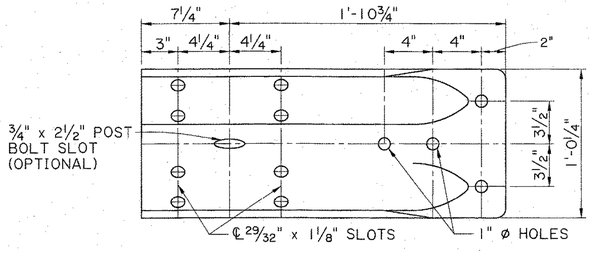


⅝"ø RECESS NUT

N.T.S.



PLAN



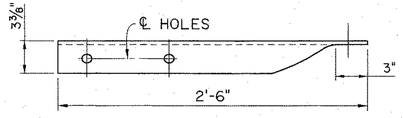
ELEVATION

TYPICAL W BEAM TERMINAL CONNECTOR, 10 GAUGE

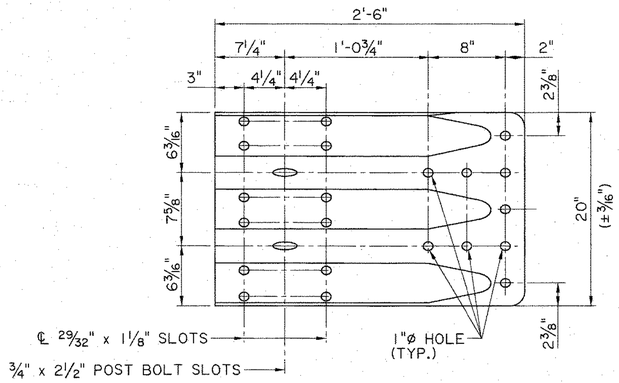
N.T.S.

NOTES:

1. ALL RAIL COMPONENTS EXCEPT THE W AND THRIE BEAM TERMINAL CONNECTORS AND THE W TO THRIE BEAM TRANSITION SHALL MEET AASHTO M 180, CLASS "A" (12 GAUGE) METAL THICKNESS WITH A TYPE II COATING. THE W BEAM AND THRIE BEAM TERMINAL CONNECTORS AND TRANSITION SECTIONS SHALL BE CLASS "B" (10 GAUGE) METAL THICKNESS WITH TYPE II COATING.



PLAN



ELEVATION

TYPICAL THRIE BEAM TERMINAL CONNECTOR, 10 GAUGE

N.T.S.

⅝"ø BUTTON HEAD NUT	
L	THREAD LENGTH
1¼"	1⅛"
2"	1¾"
10"	4"
1'-6"	4"
1'-8"	4"

NOTES:

⅝"ø BUTTON HEAD BOLTS:

(1¼" LENGTH): THIS BOLT IS USED TO SPLICE RAIL ELEMENTS USED IN THE STANDARD CORRUGATED SHEET STEEL BEAM GUARD RAIL.

(2" LENGTH): THIS BOLT IS FOR FASTENING RAILS TO STEEL POSTS WHEN USED IN THE STANDARD CORRUGATED SHEET STEEL BEAM GUARD RAIL.

(10" LENGTH): THIS BOLT IS USED FOR FASTENING RAILS TO WOOD BLOCK AND STEEL POST IN THE STANDARD CORRUGATED SHEET STEEL BEAM GUARD RAIL.

(1'-6" LENGTH): THIS BOLT IS FOR FASTENING WOOD BLOCKS & WOOD POSTS IN THE STANDARD CORRUGATED SHEET STEEL BEAM GUARD RAIL.

(1'-8" LENGTH): THIS BOLT IS FOR FASTENING NESTED THRIE BEAM TO WOOD BLOCKS AND POST AT THE FIRST TWO POST LOCATIONS IN THE GUARD RAIL TRANSITION AT THE ENDS OF RIGID (CONCRETE) STRUCTURES, UNLESS OTHERWISE SHOWN IN THE PLANS.

⅝" ø BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 307 GRADE "A" AND NUTS SHALL BE IN ACCORDANCE WITH ASTM A 563 GRADE "A" OR BETTER. BOLTS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

STEEL POST & PLATES:

ALL STEEL POSTS AND PLATES SHALL CONFORM TO ASTM A 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM 123, NO PUNCHING, DRILLING OR CUTTING WILL BE PERFORMED AFTER GALVANIZING.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

APPROVED BY CHIEF ENGINEER: DATE: 4/13/2023

SHEET NUMBER	320
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN P. FOSSIER / CHECK K. BRAUNER	SERIES # 9 OF 11
DETAIL J. DOUCET / CHECK K. BRAUNER	REVIEW C. GUIDRY

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

HIGHWAY GUARD RAIL (MASH)
RAIL STRUCTURAL DETAILS

BD.1.1.0.09

STANDARD PLAN

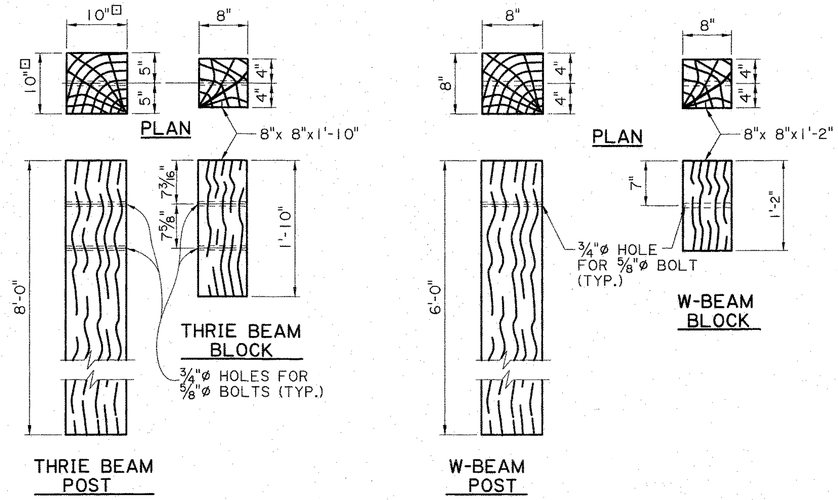
GR-MASH-ON

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d1098226\BD.1.1.0.09 - HIGHWAY GUARD RAIL (MASH) _raster.dgn

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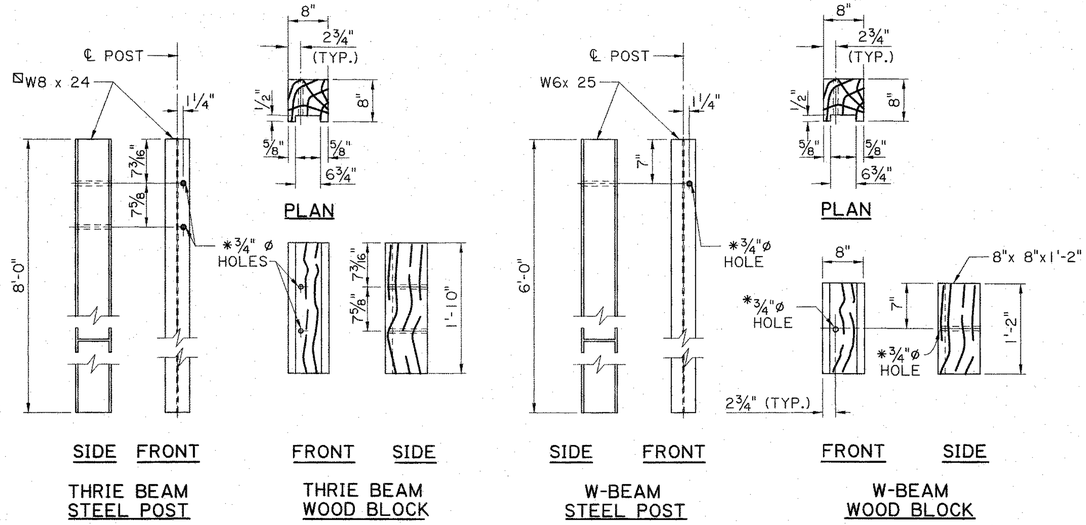


⊡ THRIE BEAM POST IS 8"x 8"x 8'-0" FOR TRANSITION POST No. 3.

WOOD POST AND WOOD BLOCK FOR THRIE BEAM TRANSITION TO BRIDGE RAIL

(POST SIZE, BLOCK SIZE AND HOLE LOCATIONS VARY WITH LOCATION IN TRANSITION, SEE SHT.3)

N.T.S.

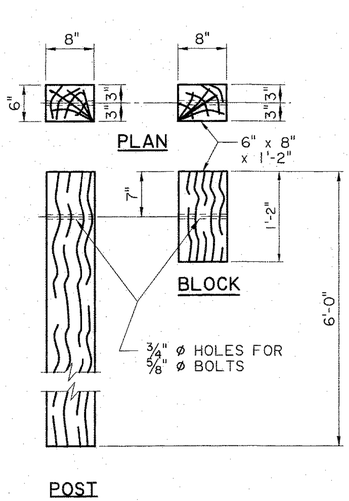


⊠ THRIE BEAM POST IS W6 x 25 (8'-0") FOR TRANSITION POST No. 3.

STEEL POST AND ROUTED WOOD BLOCK FOR THRIE BEAM TRANSITION TO BRIDGE RAIL

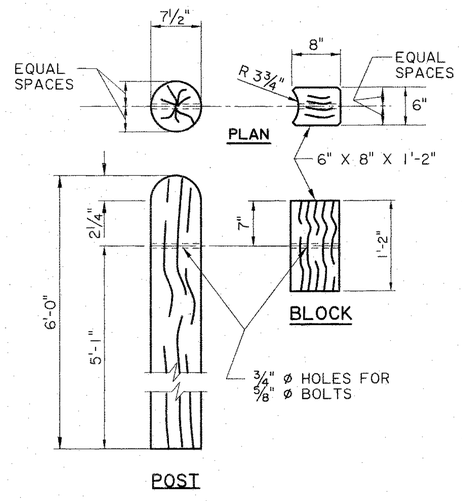
(POST SIZE, BLOCK SIZE AND HOLE LOCATIONS VARY WITH LOCATION IN TRANSITION, SEE SHT.3)

N.T.S.



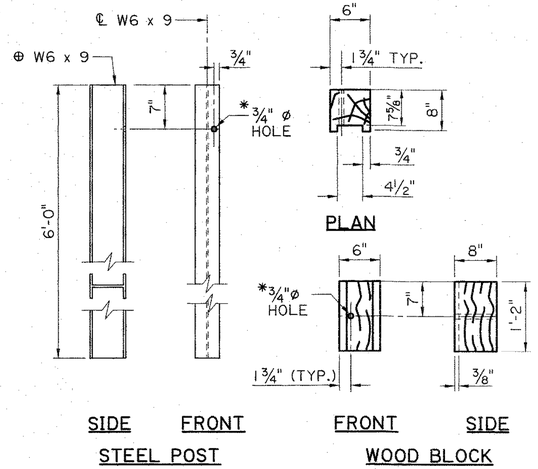
WOOD POST AND WOOD BLOCK FOR STANDARD W-BEAM GUARD RAIL

N.T.S.



ROUND WOOD POST AND WOOD BLOCK ⊕ FOR STANDARD W-BEAM GUARD RAIL

N.T.S.



STEEL POST AND ROUTED WOOD BLOCK FOR STANDARD W-BEAM GUARD RAIL

N.T.S.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2023

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

NOTES:

1. A RECYCLED BLOCK ALTERNATE IS ALLOWED AS A SUBSTITUTE FOR THE WOOD BLOCK ON A 1 FOR 1 BASIS IN A STANDARD BLOCKED-OUT SECTION AT NO ADDITIONAL PAYMENT. RECYCLED BLOCKS SHALL NOT BE USED IN TRANSITIONS, END TREATMENTS, OR IN TRAILING END SECTIONS. THE RECYCLED BLOCK SHALL HAVE FHWA HARDWARE ELIGIBILITY AND SHALL MEET AASHTO MASH REQUIREMENTS.
- ⊕ 2. A W6 x 8.5 STEEL POST MAY BE USED AS AN ALTERNATE FOR A W6 x 9 POST.
- * 3. POST AND BLOCK HOLES SHALL BE DRILLED ADJACENT TO THE DIRECTION OF THE ON-COMING TRAFFIC.
4. ALL WOOD BLOCKS SHALL BE TOE-NAILED TO WOOD POSTS AND BLOCKS (INCLUDING BLOCK COMBINATIONS) WITH A 16d GALVANIZED NAIL TO PREVENT BLOCK ROTATION. (ONE ON EACH SIDE)
- ⊕ 5. THE ROUND WOOD POST AND WOOD BLOCKOUT IS ALLOWED TO REPLACE THE 6" X 8" STANDARD LINE POST AND BLOCKOUT FOR W BEAM. THE ROUND WOOD POSTS SHALL NOT BE USED AS AN ALTERNATE FOR CRT POSTS, BCT POSTS, OR THE POSTS IN THE GUARD RAIL TO BRIDGE RAIL TRANSITION SECTION. ROUND POSTS SHALL NOT BE USED IN THE TRAILING END SECTION, BEHIND A CURB, OR IN A GUARD RAIL END TREATMENT UNLESS SPECIFICALLY ALLOWED BY THE MANUFACTURER.

SHEET NUMBER	321
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN	K. BRAUNER
CHECK	B. ALLEN
DETAIL	B. ALLEN
CHECK	K. BRAUNER
REVIEW	C. GUIDRY
SERIES #	10 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30067
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER: DATE: 4/13/2023

HIGHWAY GUARD RAIL (MASH)
POST AND BLOCK DETAILS

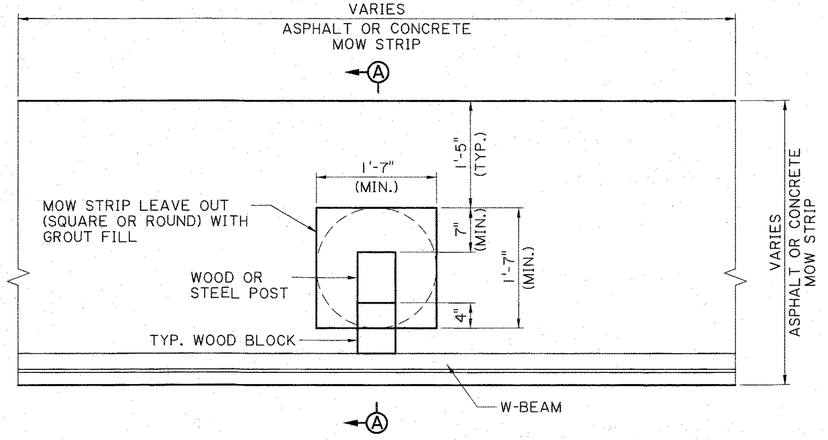
BD.1.1.0.10
GR-MASH-ON
STANDARD SHEET NO.

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

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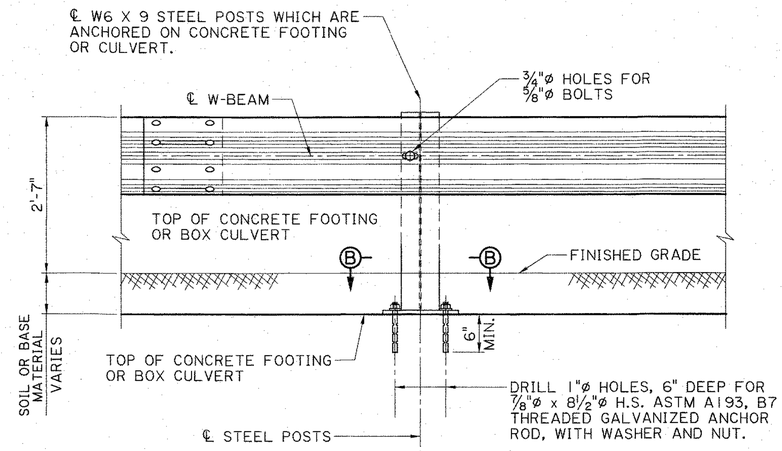
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PLAN

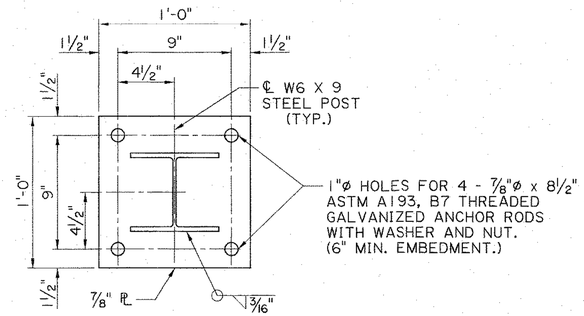
SECTION A-A

ASPHALT OR CONCRETE MOW STRIPS
N.T.S.



GALVANIZED STEEL BASE PLATE & STEEL POST

SPECIAL POST WITH BASE PLATE TO BE USED WHEN REQUIRED EMBEDMENT OF CONVENTIONAL POST IN SOIL CANNOT BE OBTAINED, FOR BOX CULVERTS OR OTHER CONCRETE FOOTINGS.



SECTION B-B

MOW STRIP NOTES:

ALL GUARD RAIL POSTS LOCATED WITHIN CONCRETE OR ASPHALT MOW STRIPS SHALL MEET INSTALLATION REQUIREMENTS SHOWN ON THIS SHEET.

THE LEAVE OUTS SHALL BE FILLED WITH A GROUT MIXTURE CONSISTING OF: 2719 POUNDS SAND, 188 POUNDS TYPE I OR II CEMENT, AND 550 POUNDS OF WATER PER CUBIC YARD WITH A 28 DAY COMPRESSIVE STRENGTH OF 230 PSI OR LESS. PROVIDE GROUT WITH A CONSISTENCY THAT WILL FLOW INTO AND COMPLETELY FILL ALL VOIDS.

ALL LABOR AND MATERIALS TO PLACE GROUT FILL SHALL BE INCLUDED IN PAYMENT FOR CONCRETE OR ASPHALT PAVING PAY ITEMS.

THE USE OF 6" X 8" RECTANGULAR TIMBER POSTS IN MOW STRIPS HAS ONLY BEEN APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, THEIR CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2023

ANCHOR ROD INSTALLATION

ALL HOLES DRILLED INTO AN EXISTING CONCRETE STRUCTURE SHALL BE CLEANED WITH COMPRESSED AIR AND MAKE THEM FREE OF ANY OIL OR RESIDUE. THREADED RODS TO BE ANCHORED USING THE HILTI RE500 EPOXY ANCHORING SYSTEM. PLACE ANCHOR BOLT IN HOLE IMMEDIATELY AND WAIT FOR THE MANUFACTURER'S CURE TIME. COST FOR LABOR, MATERIAL AND INSTALLMENT OF BASE PLATE & ANCHOR ROD TO BE PAID FOR AS PART OF GUARD RAIL PAY ITEM.

SHEET NUMBER 322

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	K. BRAUNER	DETAIL	K. BRAUNER	REVIEW C. GUIDRY
CHECK	B. ALLEN	CHECK	B. ALLEN	SERIES # 11 OF 11

KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/2/23

APPROVED BY CHIEF ENGINEER: DATE: 4/13/2023

HIGHWAY GUARD RAIL (MASH)
MOW STRIP AND
CONCRETE ANCHOR DETAILS

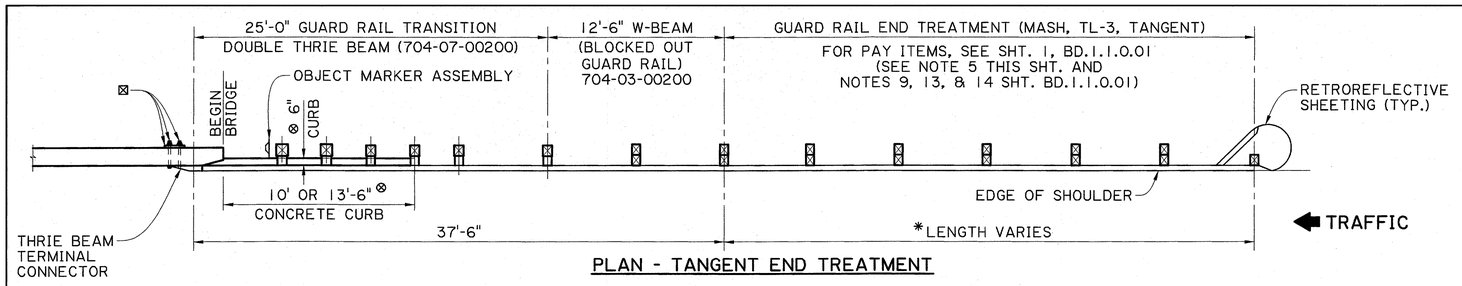
BD.1.1.0.11

STANDARD PLAN GR-MASH-ON

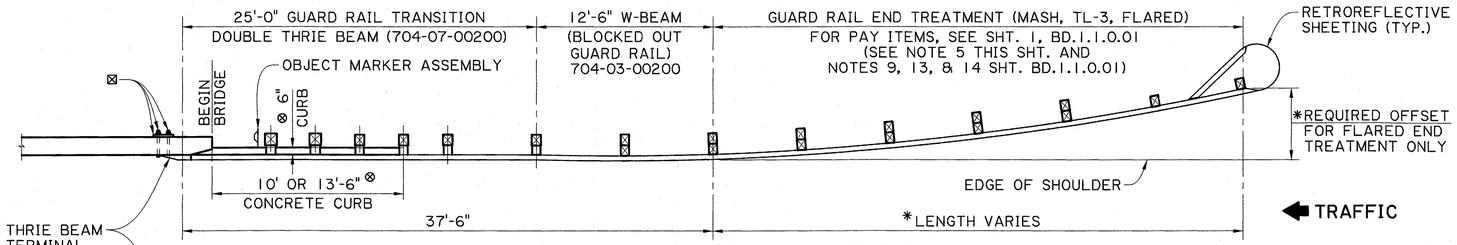
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

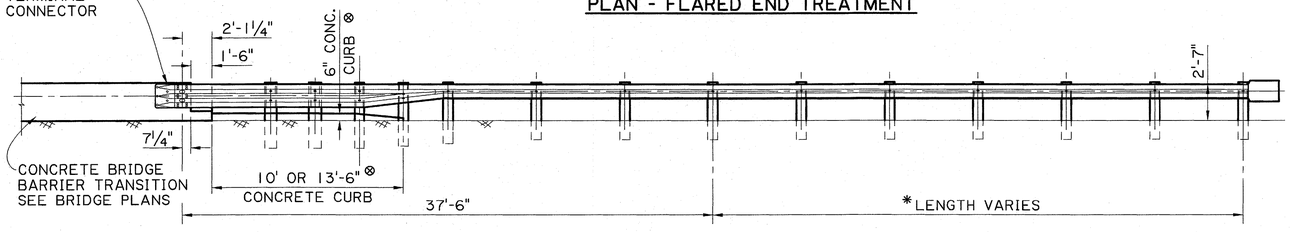
1/9/2019 08:48



PLAN - TANGENT END TREATMENT



PLAN - FLARED END TREATMENT



⊠ ⅞" ø H.S. HEX. BOLTS WITH ⅝" BEARING PLATE
(SEE STANDARD PLAN BD.1.1.0.09).

ELEVATION
(NOT TO SCALE)

NOTES

1) FOR ADDITIONAL GUARD RAIL DETAILS AND INFORMATION, SEE STANDARD PLAN BD.1.1.0.01 THRU BD.1.1.0.11.

2) FOR CONCRETE BRIDGE BARRIER TRANSITION DETAILS, SEE BRIDGE PLANS.

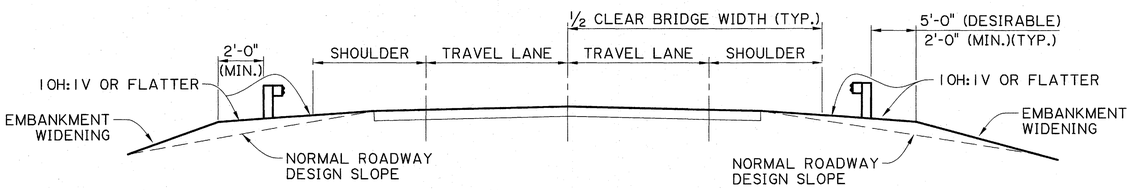
3) OBJECT MARKERS (TYPE 3) SHALL BE PAID UNDER ITEM 729-16-00300.

4) THE QUANTITY FOR THE EMBANKMENT WIDENING AT BRIDGE ENDS SHALL BE INCLUDED IN THE EMBANKMENT QUANTITY FOR THE ROADWAY.

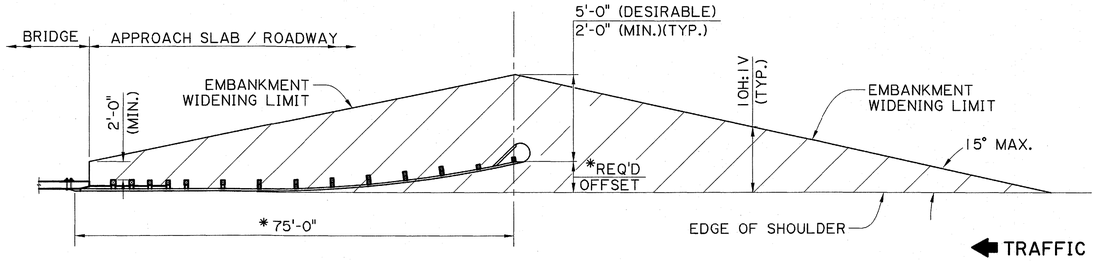
* 5) USE REQUIRED OFFSET AS PER GUARD RAIL FLARED END TREATMENT REQUIREMENTS. SEE DOTD APPROVED MATERIALS LIST (AML) FOR GUARD RAIL END TREATMENTS (MASH). LENGTH VARIES BASED ON END TREATMENT TYPE USED.

⊗ 6) USE 10'-0" LONG CONCRETE CURB AND 6" CURB HEIGHT FOR 10' APPROACH SLAB, SEE APPROACH SLAB DETAILS FOR FURTHER INFORMATION.

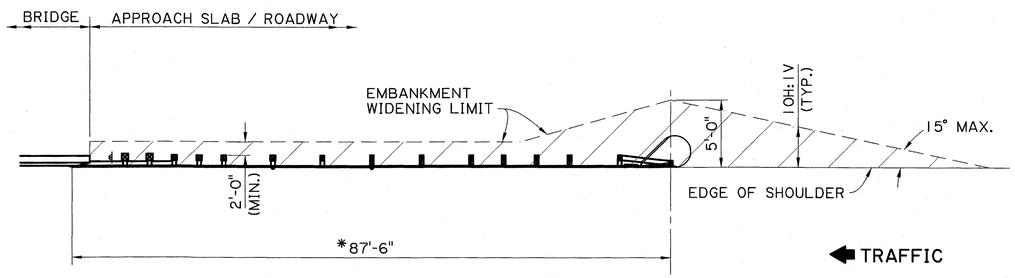
USE 13'-6" LONG CONCRETE CURB FOR ≥ 20' APPROACH SLAB, CURB HEIGHT VARIES FROM 6" TO 2", SEE APPROACH SLAB DETAILS FOR FURTHER INFORMATION.



TYPICAL CROSS SECTION EMBANKMENT WIDENING
(NOT TO SCALE)



TYPICAL PLAN FOR EMBANKMENT WIDENING - FLARED END TREATMENT
(TYPICAL FOR EACH END OF BRIDGE)
(NOT TO SCALE)



TYPICAL PLAN FOR EMBANKMENT WIDENING -TANGENT END TREATMENT
(TYPICAL FOR EACH END OF BRIDGE)
(NOT TO SCALE)

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/18/18

APPROVED BY CHIEF ENGINEER:
DATE: 1/3/19

SHEET NUMBER	323

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

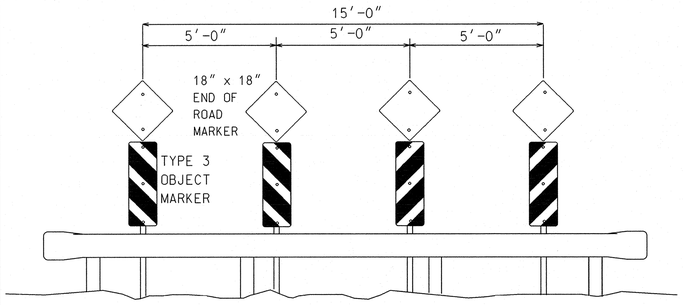
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
P. FOSSIER	K. BRAUNER	J. DOUCET	K. BRAUNER	C. GUIDRY	1 OF 1

HIGHWAY GUARD RAIL (MASH)
OFF-SYSTEM BRIDGE APPLICATION

STANDARD PLAN: BD.1.2.0.01
GR-MASH-OFF

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

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END-OF-ROADWAY INSTALLATION

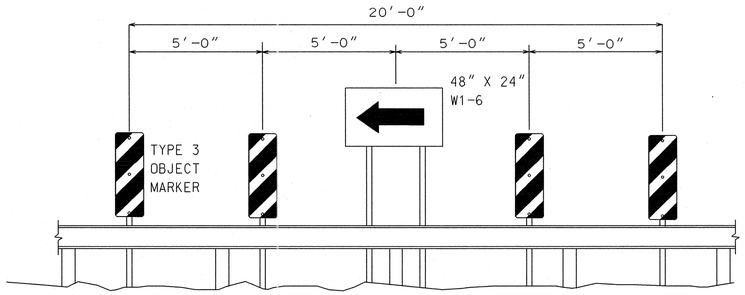
DEAD END ROAD INSTALLATION

(TYPE A - WITH GUARD RAIL, TYPE D - WITHOUT GUARDRAIL)

For End of Road installation Object Marker stripes shall slope downward toward the center.

Guardrail to be installed in accordance with guardrail Standard Plans.

Typical installation requires 25 ft. of rail with flared end sections.



TURN INSTALLATION

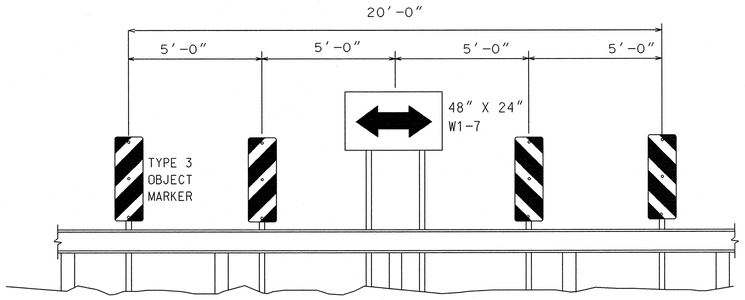
DEAD END ROAD INSTALLATION

(TYPE B - WITH GUARD RAIL, TYPE C - WITHOUT GUARDRAIL)

For Turn installations Object Marker stripes shall slope downward toward the direction of travel.

Guard rail to be installed in accordance with guardrail Standard Plans.

Typical installation requires 25 ft. of rail with flared end sections.



T-INTERSECTION INSTALLATION

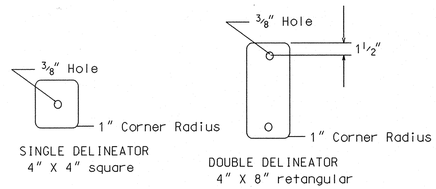
DEAD END ROAD INSTALLATION

(TYPE B - WITH GUARD RAIL, TYPE C - WITHOUT GUARDRAIL)

For T-intersection installations Object Marker stripes shall slope away from center.

Guardrail to be installed in accordance with guardrail Standard Plans.

Typical installation requires 25 ft. of rail with flared end sections.



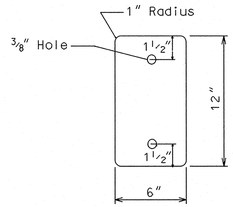
DETAIL OF DELINEATORS

Colors shall be red, white, or yellow.
The sheeting shall be in accordance with DOTD Standard Specification

For alternate Delineator/Flexible Post systems see the DOTD Approved Materials List. Alternates shall have an equivalent area of sheeting and shall not be less than 3 in. wide.

The mounting height shall be the same as for Milepost Markers.

Post penetration in ground shall be a minimum of 2 ft.

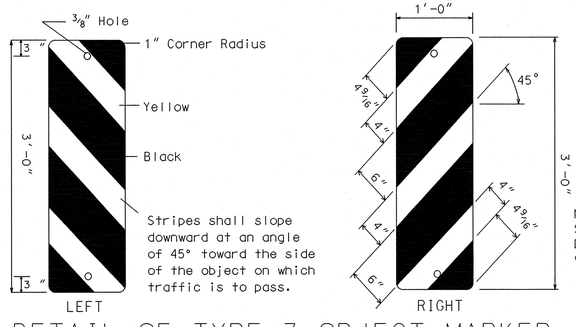


DETAIL OF TYPE 2 OBJECT MARKER

The face shall be yellow. The sheeting shall be in accordance with DOTD Standard Specification. The typical mounting height from the ground line to the bottom of the object marker shall be 36 in.

Post penetration in ground shall be a minimum of 2 ft.

Type 2 Object Markers are typically used in the right-of-way to mark objects for mowing operations.



DETAIL OF TYPE 3 OBJECT MARKER

The markings on the Object Markers shall be diagonal, black and yellow stripes. The sheeting shall be in accordance with DOTD Standard Specifications.

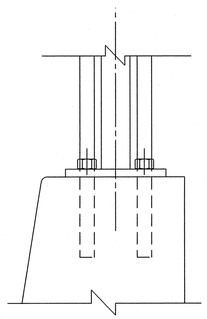
Post penetration in ground shall be a minimum of 3 ft.

Type 3 Object Markers are typically used to mark objects in the roadway (travel lanes and shoulder) and to mark guard rail installation (see guard rail Standard Plans) .

When used for marking objects in the roadway or objects that are 8 ft. or less from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft. above the surface of the nearest traffic lane.

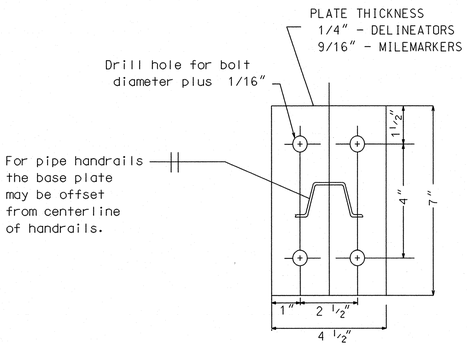
When used to mark objects more than 8 ft. from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft. above the ground.

Note: For mile markers on conventional roads. See the details shown on the Special Signing Details sheets-B. This is in accordance with MUTCD signs D10-4 & D10-5 in Figure 2H-4.



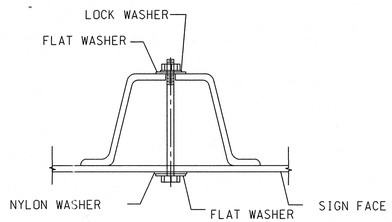
Anchor Bolts
1/4 in. plate - 5/16 in. x 4 in. bolt
9/16 in. plate - 1/2 in. x 5 in. bolt

For bolt anchors see DOTD Approved Materials List.



Steel base plate and channel posts shall be galvanized after fabrication.

DETAIL FOR MOUNTING SIGN POST TO CONCRETE BARRIER RAIL



Steel U-channel sign post shall have 3/8 in. dia. holes drilled in channel on 1 in. centers from top of post. Steel tube post (Min. 2.23 lb/ft) may be used in lieu of U-channel posts.

Post Weight: 2.0 lbs/ft - DELINEATORS and TYPE 2 OBJECT MARKERS
2.5 lbs/ft - MILEMARKERS and TYPE 3 OBJECT MARKERS
3.0 lbs/ft - WARNING SIGNS, W1-6, W1-7

Fasteners shall be either bolts or rivets.

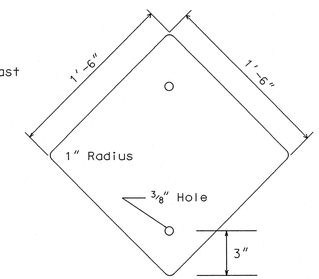
Bolts shall be 5/16 in. diameter electroplated steel hex head bolts with one nylon washer, two flat washers, one lock washer, and one vandal resistant hex nut.

Rivets shall be vandal resistant 1/4 in. diameter aluminum blind rivets with smooth, low profile heads on each end.

DETAIL FOR MOUNTING SIGN TO U-CHANNEL POST

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

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DETAIL OF END OF ROAD MARKER

Colors shall be red.

The sheeting shall be in accordance with DOTD Standard Specification.

The minimum mounting height from the ground line to the bottom of the marker shall be 5 ft.

Post penetration in ground shall be a minimum of 3 ft.

MOUNTING DETAILS

SHEET NUMBER 324

PARISH: ST. TAMMANY | FEDERAL PROJECT: | STATE PROJECT:

DESIGNED J. COLVIN | CHECKED P. ALLAIN | DETAILED M.D.ORDOGNE | CHECKED J. COLVIN | DATE 02/13/2013 | SHEET

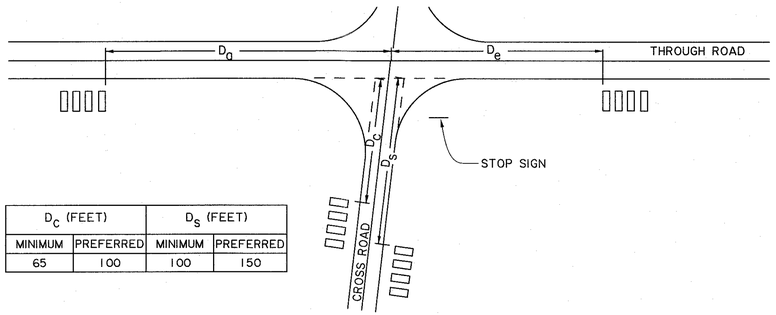
REVISION DESCRIPTION | BY | DATE: 9-7-2012

APPROVED BY CHIEF ENGINEER: Jamie P. Williams

OBJECT MARKERS AND DEAD END ROAD INSTALLATION

STANDARD PLAN: HS-03

TRAFFIC ENGINEERING



D_c (FEET)		D_s (FEET)	
MINIMUM	PREFERRED	MINIMUM	PREFERRED
65	100	100	150

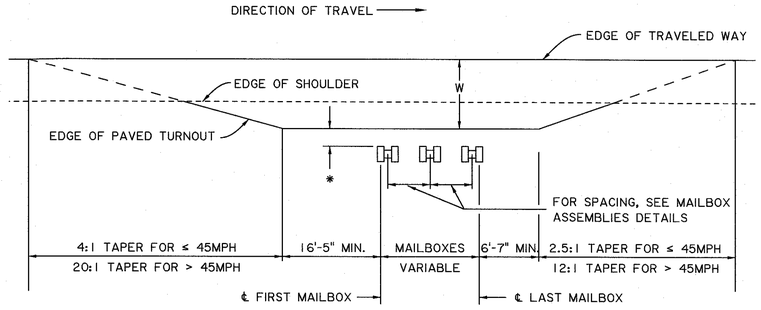
THROUGH ROAD SPEED (M.P.H.)	D_a (FEET)		D_e (FEET)		
	$n\ V_c\ V_m \leq 4000$	$n\ V_c\ V_m > 4000$	$\frac{V_c}{1.5n-.5} \leq 50$	$50 < \frac{V_c}{1.5n-.5} \leq 400$	$\frac{V_c}{1.5n-.5} > 400$
35	65	200	65	100	100
≥ 55	65	295	150	150	200

V_c = AVERAGE DAILY TRAFFIC ON CROSS ROAD (VEHICLES PER DAY)

V_m = AVERAGE DAILY TRAFFIC ON THROUGH ROAD (VEHICLES PER DAY)

n = NUMBER OF MAILBOXES AT MAIL STOP

MINIMUM CLEARANCES TO NEAREST MAILBOX IN MAIL STOPS AT INTERSECTIONS



W = FOR SUGGESTED WIDTHS, SEE TABLE BELOW.
MAILBOXES = A MINIMUM DESIGN FOR ROADS CARRYING LOW-SPEED TRAFFIC AND FOR LOCAL AND COLLECTOR ROADS.
* = FOR MAILBOX FACE OFFSET, SEE TABLE BELOW, 0" - 12".

DETAIL OF MAILBOX TURNOUT

* SUGGESTED GUIDELINES FOR LATERAL PLACEMENT OF MAILBOXES

HIGHWAY TYPE AND ADT (VPD)	WIDTH OF ALL-WEATHER SURFACE TURNOUT OR AVAILABLE SHOULDER AT MAILBOX[a] (FT)		DISTANCE ROADSIDE FACE OF MAILBOX IS TO BE OFFSET BEHIND EDGE OF TURNOUT OR USABLE SHOULDER (IN)	
	PREFERRED	MINIMUM	PREFERRED	MINIMUM
RURAL HIGHWAY OVER 10,000	12	8	6 to 8	0
RURAL HIGHWAY 1,500 TO 10,000	12	8		
RURAL HIGHWAY 400 TO 1,500	10	8		
RURAL ROAD UNDER 400	8	6[b]		6[c]
RESIDENTIAL STREET WITHOUT CURB OR ALL-WEATHER SHOULDER	6	0		
CURBED RESIDENTIAL STREET OR URBAN AND SUBURBAN AREAS	NOT APPLICABLE		8 to 12[d]	6[d]

NOTES: ADT = AVERAGE DAILY TRAFFIC
VPD = VEHICLES PER DAY

a) IF INCREASE ACCESS IS NEEDED, THE FOLLOWING MAY BE CONSIDERED IN CONJUCTION WITH THE LOCAL POSTMASTER:
- PROVIDE A LEVEL CLEAR SPACE 30 IN. BY 48 IN. CENTERED ON THE BOX FOR EITHER SIDE OR FORWARD APPROACH.
- PROVIDE AN ACCESSIBLE PASSAGE TO AND FROM THE MAILBOX AND PROJECT INTO A CIRCULATION ROUTE--NO MORE THAN 4 IN. IF BETWEEN 28 IN. AND 80 IN.-- SO THAT THE MAILBOX DOES NOT BECOME A PROTRUDING OBJECT FOR PEDESTRIANS WITH IMPAIRED VISION.

b) PROVIDE AN ACCESSIBLE PASSAGE TO AND FROM THE MAILBOX. THE MAILBOX PROJECTION INTO A CIRCULATION ROUTE SHALL NOT BE MORE THAN 4 IN., SO THAT THE MAILBOX DOES NOT BECOME A PROTRUDING OBJECT FOR PEDESTRIANS WITH IMPAIRED VISION.

c) IF A TURNOUT IS PROVIDED, THIS MAY BE REDUCED TO ZERO.

d) BEHIND TRAFFIC-FACE OF CURB.

NOTES:

NO MAILBOX WILL BE PERMITTED WHERE ACCESS IS OBTAINED FROM THE LANES OF A FREEWAY OR WHERE ACCESS IS OTHERWISE PROHIBITED BY LAW OR REGULATION.

MAILBOXES SHALL BE LOCATED ON THE RIGHT-HAND SIDE OF THE ROADWAY IN THE DIRECTION OF DELIVERY ROUTE EXCEPT ON ONE-WAY STREETS WHERE THEY MAY BE PLACED ON EITHER SIDE. THE BOTTOM OF THE BOX SHALL BE SET AT AN ELEVATION (H) ESTABLISHED BY THE U.S. POSTAL SERVICE, USUALLY BETWEEN 3'4" AND 4'0" ABOVE THE ROADWAY SURFACE. THE ROADSIDE FACE OF THE BOX SHALL BE OFFSET FROM THE EDGE OF THE TRAVELED WAY. SEE THE SUGGESTED GUIDELINES FOR LATERAL PLACEMENT OF MAILBOXES AT LEFT.

ALL MAILBOX INSTALLATIONS MUST CONFORM TO THE REQUIREMENTS OF THE U.S. POSTAL SERVICE.

WHERE FEASIBLE, NEW INSTALLATION SHOULD BE LOCATED ON THE FAR RIGHT SIDE OF AN INTERSECTION WITH A ROAD OR DRIVEWAY ENTRANCE. HOWEVER, CONSIDERATION SHOULD BE GIVEN TO

- MINIMIZING WALKING DISTANCE WITHIN THE ROADWAY FOR THE PATRON,
- AVAILABLE STOPPING SIGHT DISTANCE IN ADVANCE OF THE MAILBOX SITE, AND
- POSSIBLE RESTRICTIONS TO CORNER SIGHT DISTANCES AT INTERSECTIONS AND DRIVEWAY ENTRANCES.

FOR LOCATION OF MAILBOXES AT AN INTERSECTING ROADWAY, SEE DETAIL AT LEFT.

MAILBOXES SHALL BE OF LIGHT SHEET METAL OR PLASTIC CONSTRUCTION MANUFACTURED BY AN APPROVED MANUFACTURERS CONFORMING TO THE REQUIREMENTS OF THE U.S. POSTAL SERVICE. MAILBOXES MUST BE FULL-SCALE CRASH TESTED IN ACCORDANCE WITH THE LATEST EDITION OF MASH. NEWSPAPER DELIVERY BOXES SHALL BE OF LIGHT SHEET METAL OR PLASTIC CONSTRUCTION OF MINIMUM DIMENSIONS SUITABLE FOR HOLDING A NEWSPAPER.

MANUFACTURERS WHOSE MAILBOXES HAVE BEEN APPROVED BY THE POSTMASTER GENERAL WILL BE LISTED IN THE POSTAL OPERATION MANUAL (POM) AND PUBLISHED IN THE POSTAL BULLETIN. NO MORE THAN TWO MAILBOXES MAY BE MOUNTED ON A SUPPORT STRUCTURE UNLESS THE SUPPORT STRUCTURE AND MAILBOX ARRANGEMENT HAVE BEEN SHOWN TO BE SAFE BY CRASH TESTING IN ACCORDANCE WITH THE LATEST EDITION OF MASH. HOWEVER, LIGHTWEIGHT NEWSPAPER BOXES MAY BE MOUNTED BELOW THE MAILBOX ON THE SIDE OF THE MAILBOX SUPPORT.

MAILBOX SUPPORTS SHALL NOT BE SET IN CONCRETE UNLESS THE SUPPORT DESIGN HAS BEEN SHOWN TO BE SAFE BY CRASH TESTING IN ACCORDANCE WITH THE LATEST EDITION OF MASH WHEN SO INSTALLED.

POSTS SHALL BE STRONG ENOUGH TO SUPPORT THE BOX, BUT CAPABLE OF BENDING WHEN STRUCK BY AN AUTOMOBILE OR A LIGHT TRUCK. MAXIMUM STRENGTH POSTS ARE EITHER A METAL POST WITH A STRENGTH NO GREATER THAN A 2" DIAMETER STANDARD STRENGTH STEEL PIPE OR A 2#/FT FLANGED CHANNEL OR A 4"X4" WOODEN POST. POSTS ARE ACCEPTABLE MAILBOX SUPPORTS WHEN EMBEDDED NO MORE THAN 24" INTO THE GROUND. A METAL POST SHALL NOT BE FITTED WITH AN ANCHOR PLATE, BUT MAY HAVE AN ANTI-TWIST DEVICE THAT EXTENDS NO MORE THAN 10" BELOW THE GROUND SURFACE.

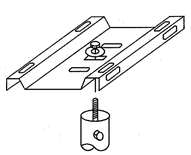
THE POST-TO-BOX ATTACHMENT SHALL BE OF SUFFICIENT STRENGTH TO PREVENT THE BOX FROM SEPARATING FROM THE POST TOP IF THE INSTALLATION IS STRUCK BY AN AUTOMOBILE OR LIGHT TRUCK.

THE MINIMUM SPACING BETWEEN THE CENTERS OF SUPPORT POSTS SHALL BE THREE-FOURTHS THE HEIGHT OF THE POSTS ABOVE THE GROUND LINE

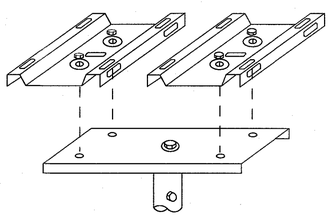
MAILBOX SUPPORT DESIGNS NOT DETAILED WILL BE ACCEPTABLE IF FULL-SCALE CRASH TESTED IN ACCORDANCE WITH THE LATEST EDITION OF MASH AND IF APPROVED BY THE ENGINEER.

FOR POST-TO-BOX ATTACHMENT DETAILS, SEE SHEET 2 OF 2.

MASH - MANUAL FOR ASSESSING SAFETY HARDWARE.

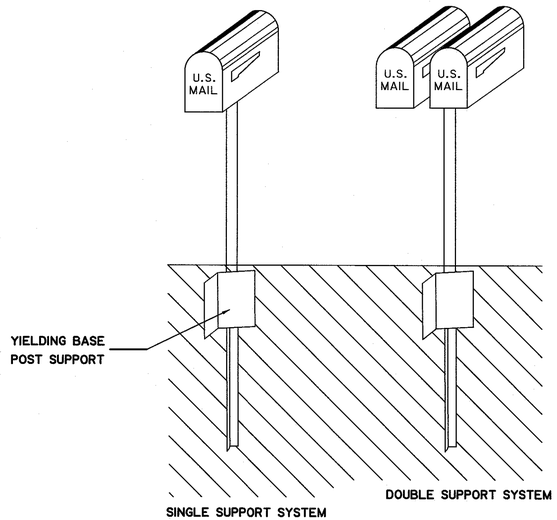


SINGLE MAILBOX MOUNT



DOUBLE MAILBOX MOUNT

SINGLE AND DOUBLE MAILBOX MOUNTS SERIES C



EXAMPLES OF SINGLE AND DOUBLE MAILBOX INSTALLATIONS ⊗ SERIES C

⊗ NOTE: SUPPORT FRAME AND FOUNDATION SHOWN ARE PROPRIETARY PRODUCTS.

HAI D. VU
REG. No. 34755
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
04/04/22

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/6/2025

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APPROVED BY CHIEF ENGINEER:
DATE: 4/4/2022

SHEET NUMBER	325

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

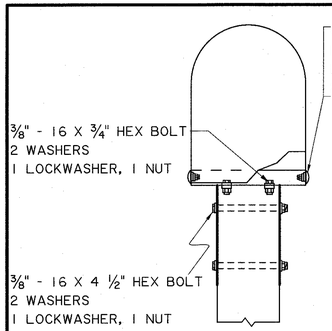
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES # | OF 2
H. VU	D. SMITH	H. VU	D. SMITH		

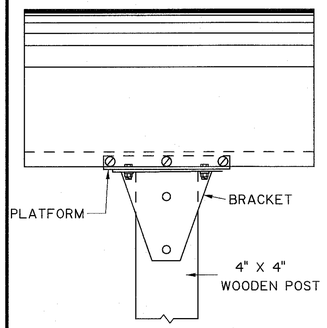
MAILBOX INSTALLATION DETAILS

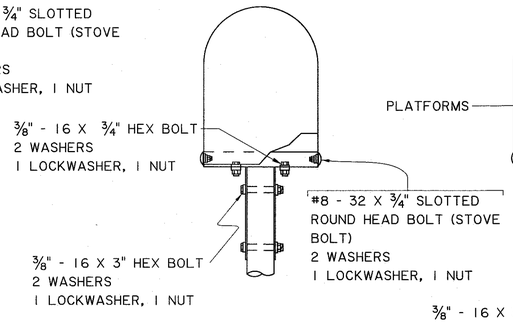
MB-01

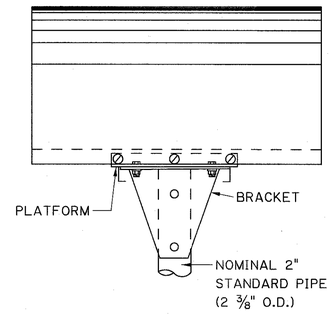
DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

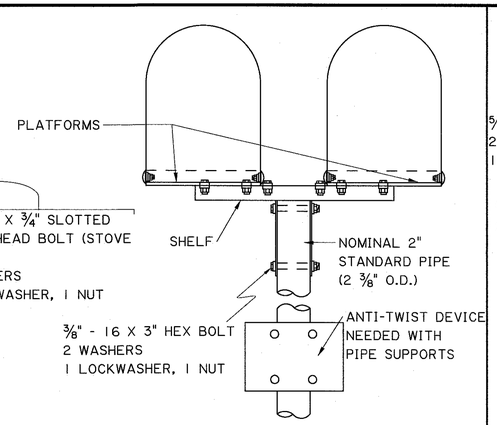
ROAD DESIGN

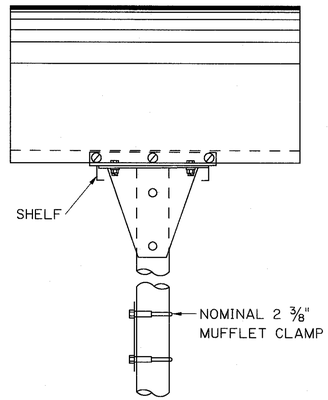






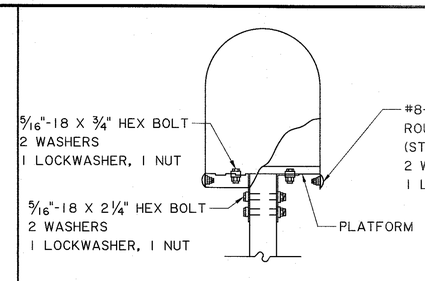


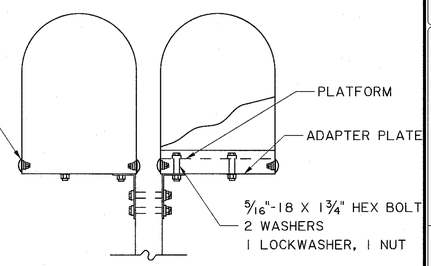


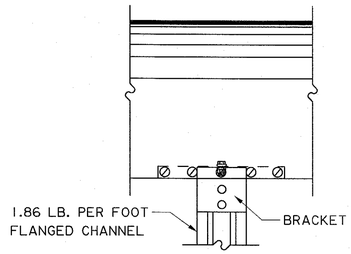


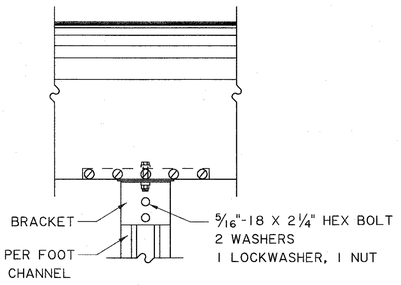
SINGLE AND DOUBLE MAILBOX ASSEMBLIES

SERIES A



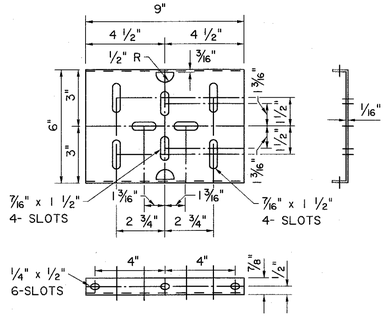




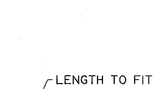


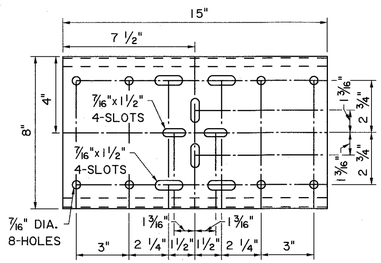
SINGLE AND DOUBLE MAILBOX ASSEMBLIES

SERIES B

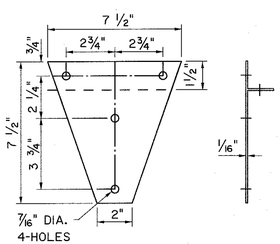


PLATFORM

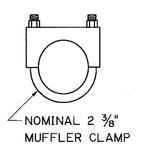




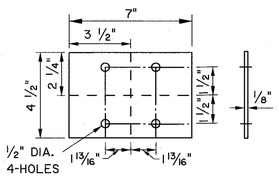
SHELF



BRACKET



CLAMP

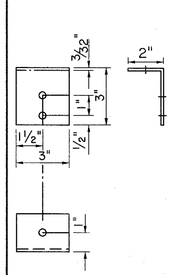


ANTI-TWIST DEVICE

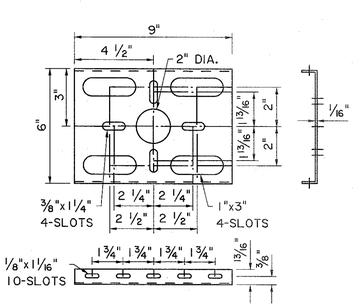
MAILBOX SUPPORT HARDWARE SERIES A

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

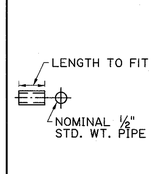
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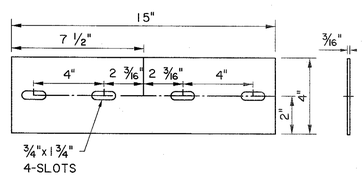
BRACKET



PLATFORM

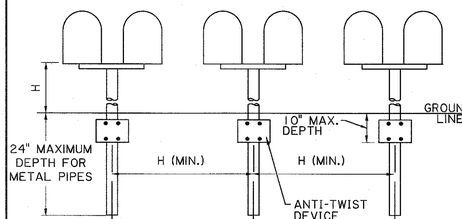


SPACER



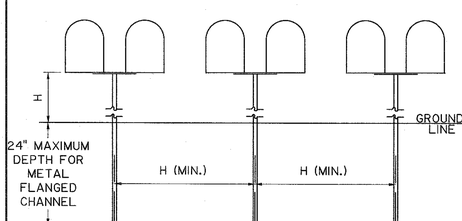
ADAPTER PLATE

MAILBOX SUPPORT HARDWARE SERIES B



SPACING FOR MULTIPLE POST INSTALLATION

SERIES A



SPACING FOR MULTIPLE POST INSTALLATION

SERIES B

SHEET NUMBER	326
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN	H. VU
CHECK	D. SMITH
DETAIL	H. VU
CHECK	D. SMITH
REVIEW	
SERIES #	2 OF 2

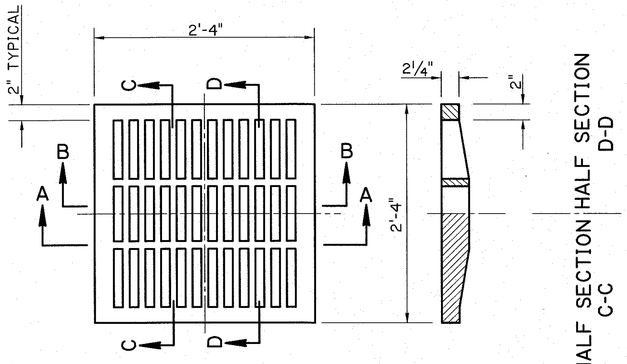
STATE OF LOUISIANA
HAI D. VU
REG. No. 34755
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
04/04/22

APPROVED BY CHIEF ENGINEER:
DATE: 4/4/2022

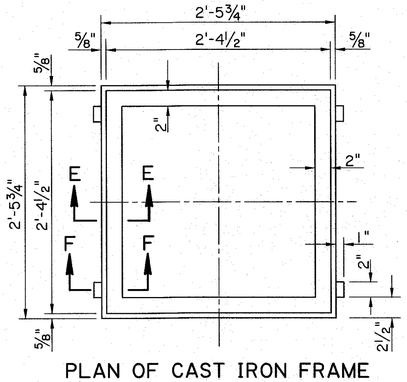
MAILBOX INSTALLATION DETAILS

MB-01

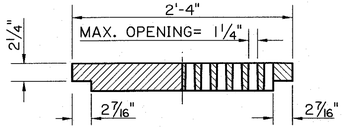
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
ROAD DESIGN



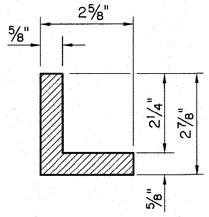
PLAN OF CAST IRON GRATE



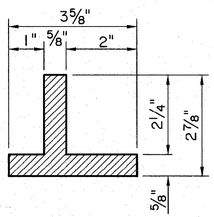
PLAN OF CAST IRON FRAME



HALF SECTION A-A | HALF SECTION B-B



SECTION E-E

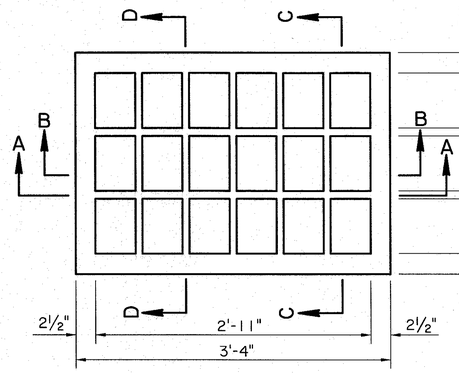


SECTION F-F

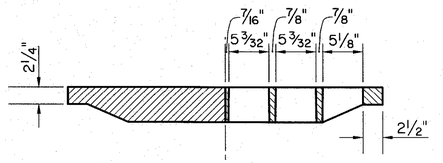
TYPE "A"

CAST IRON GRATE & FRAME

MIN. OPENING = 290 SQ. IN. AREA



PLAN OF CAST IRON GRATE



HALF SECTION A-A | HALF SECTION B-B

TYPE "B"

CAST IRON GRATE

NOTE: UNLESS OTHERWISE STATED, TYPE "E" FRAME WILL BE USED WITH THIS GRATE.

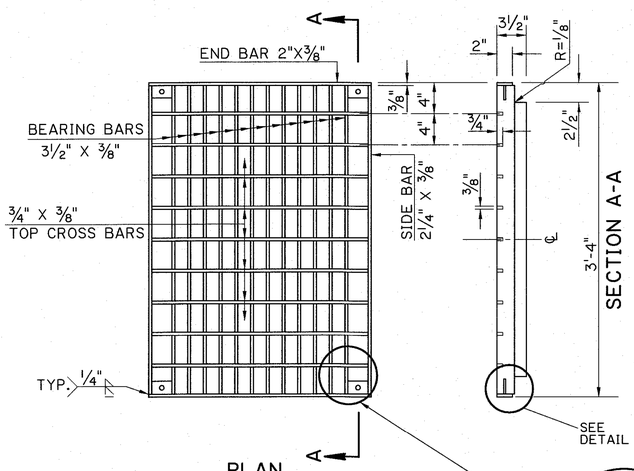
STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

TYPE "C"

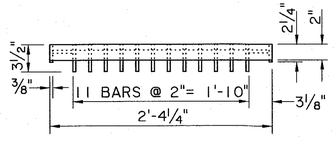
STEEL DRAIN GRATE

NOTES:
1. GRATES TO BE GALVANIZED AFTER FABRICATION.
2. UNLESS OTHERWISE STATED, TYPE "E1" FRAME IS TO BE USED WITH THESE GRATES. (SEE SHEET 2)
3. SUPPLIER OF GRATE ALSO IS TO FURNISH PRE-FITTED GRATE FRAME.

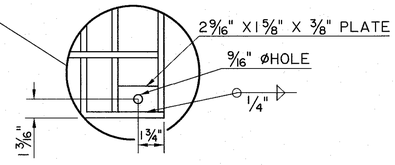


PLAN

SECTION A-A



ELEVATION



HOLD-DOWN PLATE

WELDED & SEALED DRAIN GRATE

ALL JOINTS FULL DEPTH ¼" FILLET WELDS WITH SEAL WELDS TOP AND BOTTOM UNLESS NOTED OTHERWISE.

ALL BEARING BARS TO BE SET FLUSH ON GRATE FRAME.

WEIGHT OF DRAIN GRATE = 233 LBS. ± 5%

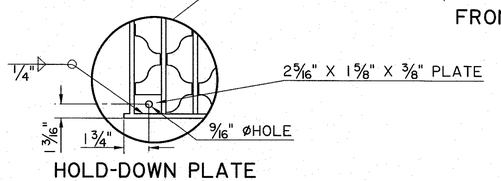
RIVETED RETICULINE DRAIN GRATE (ALTERNATE)

ALL JOINTS FULL DEPTH ¼" FILLET WELDS WITH SEAL WELDS TOP AND BOTTOM UNLESS NOTED OTHERWISE.

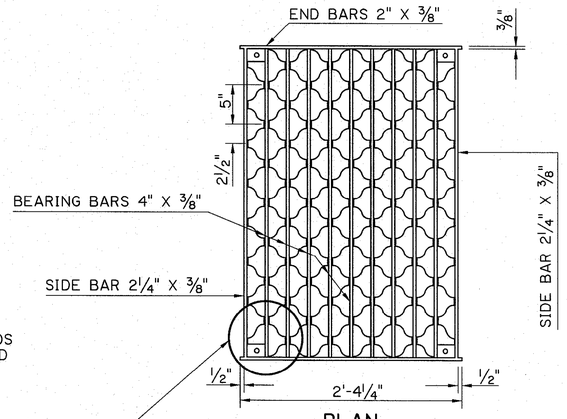
ALL BEARING BARS TO BE SET FLUSH ON GRATE FRAME.

CENTER TO CENTER OF BEARING BARS EQUAL 2⅝" PLUS BEARING BAR THICKNESS.

WEIGHT OF DRAIN GRATE = 266 LBS. ± 5%

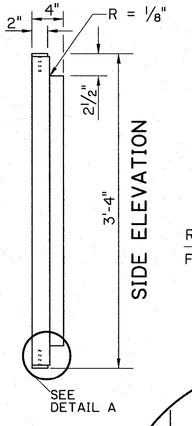


HOLD-DOWN PLATE

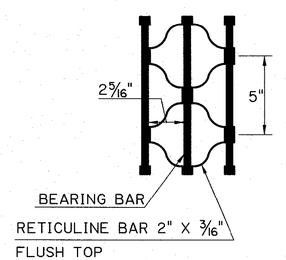


PLAN

FRONT ELEVATION

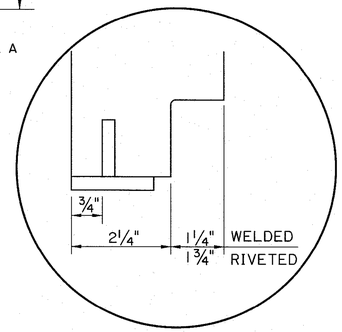


SIDE ELEVATION



DRAIN GRATE DETAIL (ALTERNATE)

STATE OF LOUISIANA
ALDEN M. ALLEN
REG. No. 20252
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
5-25-2018



DETAIL A

SHEET NUMBER	327
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGNED	AMA
CHECKED	AMA
DETAILED	TL
CHECKED	AMA
SERIES NUMBER	9/01/17
	1 OF 6

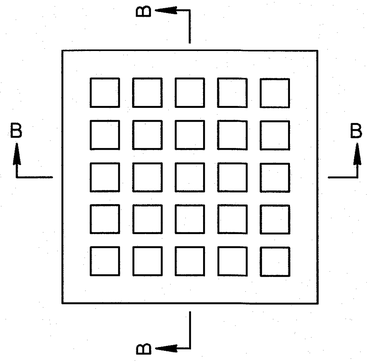
REVISION DESCRIPTION | BY | DATE: 5/25/18

APPROVED BY CHIEF ENGINEER:

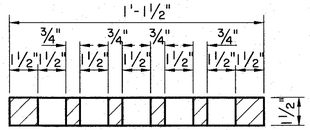
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD NO. MC-01

HYDRAULICS SECT.



PLAN

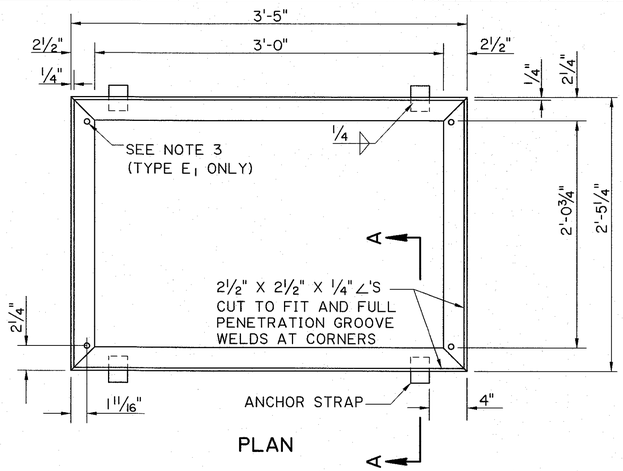


SECTION B-B

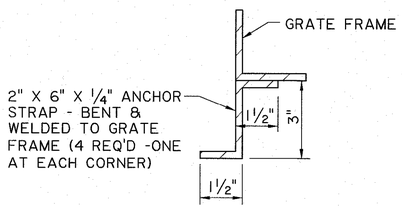
TYPE "D"

CAST IRON GRATE

WEIGHT OF CASTING = 49 LBS



PLAN

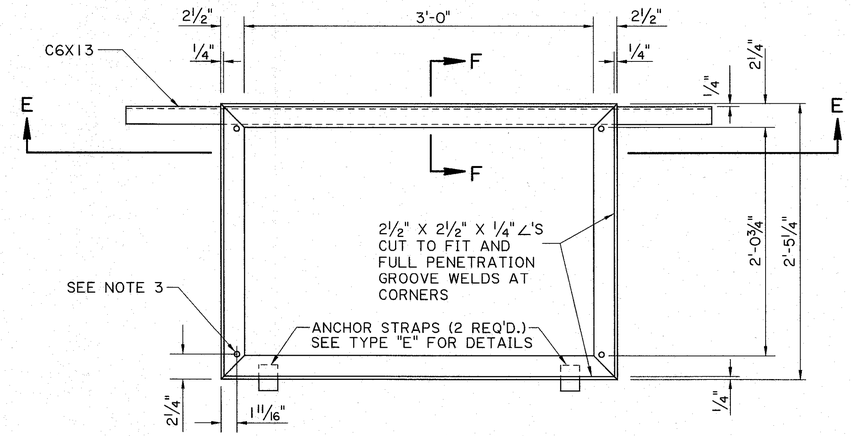


SECTION A-A

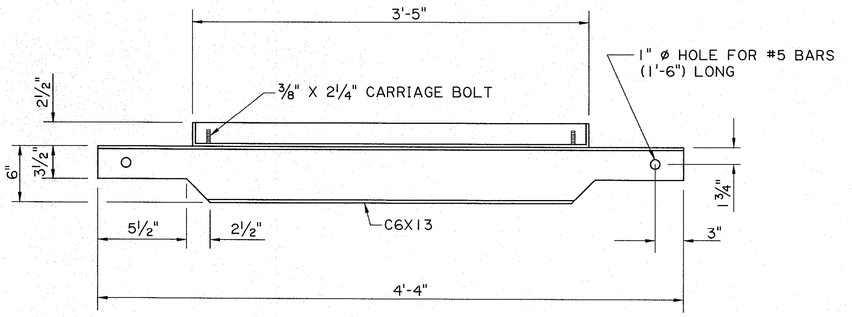
TYPE "E" AND "E1"

STEEL GRATE FRAME

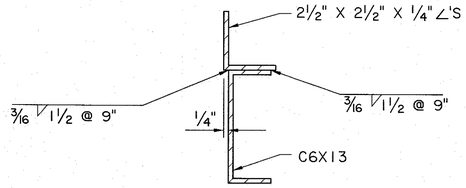
NOTES:
1. GRATE FRAME TO BE GALVANIZED AFTER FABRICATION
2. WEIGHT OF GRATE FRAME = 52 LBS
3. SQUARE PUNCH HOLE PRIOR TO GALVANIZING. ADD A ⅜ ø x 2¼" LONG -16 UNC ROUND HEAD SQUARE NECK CARRIAGE BOLT WITH JAM NUT, HEX HEAD NUT, AND FLAT WASHER (ALL STAINLESS STEEL) AFTER FRAME IS GALVANIZED.



PLAN



SECTION E-E



SECTION F-F

TYPE "F"

STEEL GRATE FRAME

NOTES:
1. GRATE FRAME TO BE GALVANIZED AFTER FABRICATION
2. WEIGHT OF GRATE FRAME = 52 LBS ± 5%
3. SQUARE PUNCH HOLE PRIOR TO GALVANIZING. ADD A ⅜ ø x 2¼" LONG -16 UNC ROUND HEAD SQUARE NECK CARRIAGE BOLT WITH JAM NUT, HEX HEAD NUT, AND FLAT WASHER (ALL STAINLESS STEEL) AFTER FRAME IS GALVANIZED.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

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STATE OF LOUISIANA
ALDEN M. ALLEN
REG. No. 20252
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
5-25-2018

SHEET NUMBER 328

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED	CHECKED	DETAILED	CHECKED	SERIES NUMBER
AMA	AMA	TL	AMA	9/01/17 2 OF 6

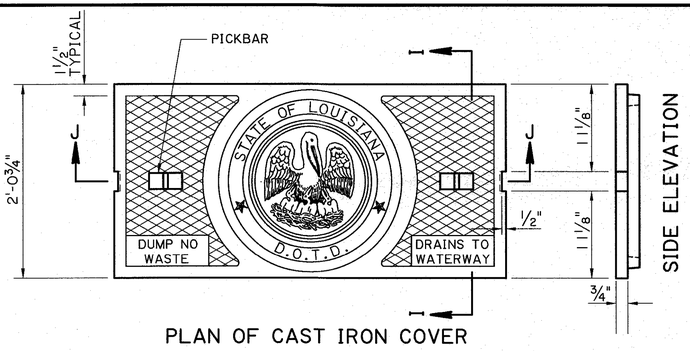
REVISION DESCRIPTION | BY | DATE: 5/25/18

APPROVED BY: _____ DATE _____
CHIEF ENGINEER

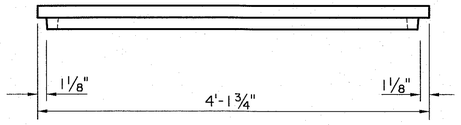
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD PLAN MC-01

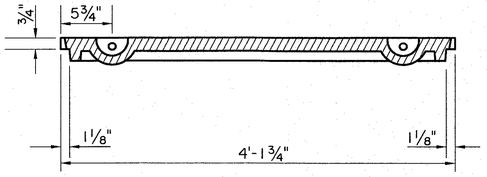
DOTD HYDRAULICS SECT.



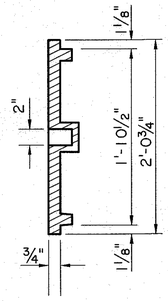
PLAN OF CAST IRON COVER



FRONT ELEVATION OF CAST IRON COVER

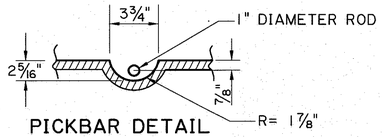


SECTION J-J



SIDE ELEVATION

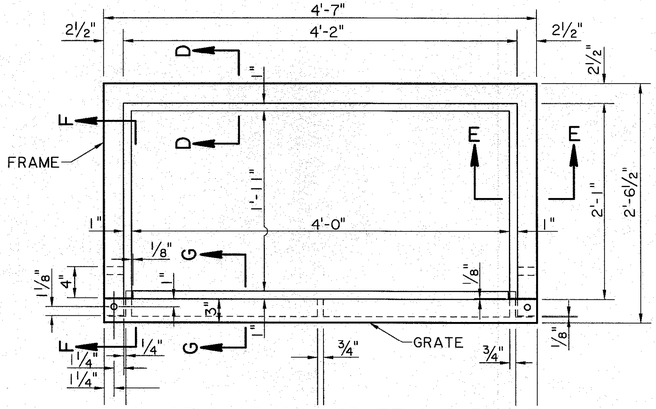
SECTION I-I



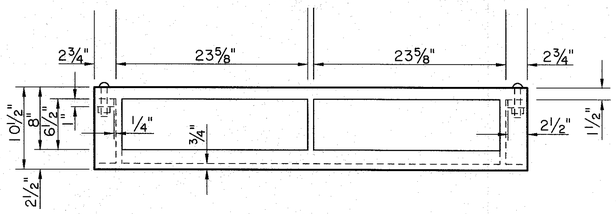
PICKBAR DETAIL

TYPE "H" AND "H₁"

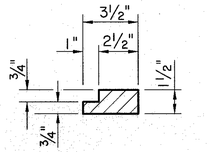
CAST IRON COVER, GRATE AND FRAME



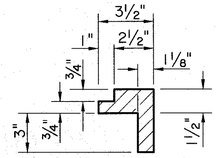
PLAN OF CAST IRON GRATE AND FRAME



FRONT ELEVATION OF CAST IRON GRATE

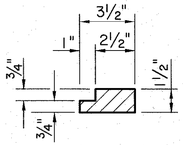


FOR CATCH BASIN "H"

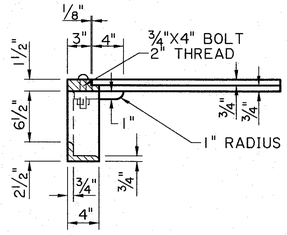


FOR PAVED GUTTER "H₁"

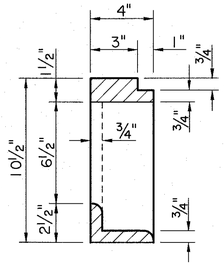
SECTION D-D



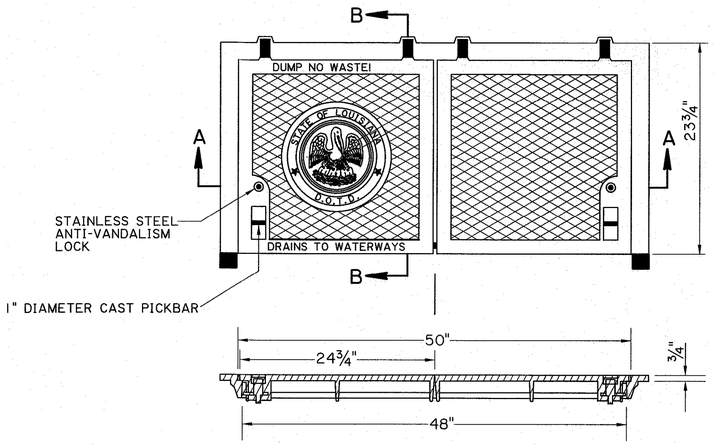
SECTION E-E



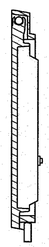
SECTION F-F



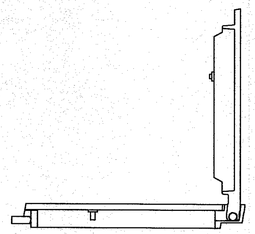
SECTION G-G



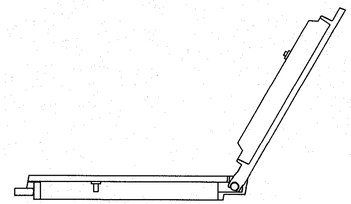
SECTION A-A



SECTION B-B



COVER AT 90 DEGREES
SAFETY STOP POSITION



COVER FULLY OPEN
TO 120 DEGREES

TYPE "H_S"

CAST IRON COVER AND FRAME SHOWN (SEE GRATE ABOVE)

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STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
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IN
CIVIL ENGINEERING
10/6/2025

STATE OF LOUISIANA
ALDEN M. ALLEN
REG. No. 20252
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
5-25-2018

SHEET NUMBER 329

PARISH ST. TAMMANY
CONTROL SECTION 000-52
STATE PROJECT

DESIGNED AMA
CHECKED AMA
DETAILED TL
CHECKED AMA
SERIES NUMBER 9/01/17
3 OF 6

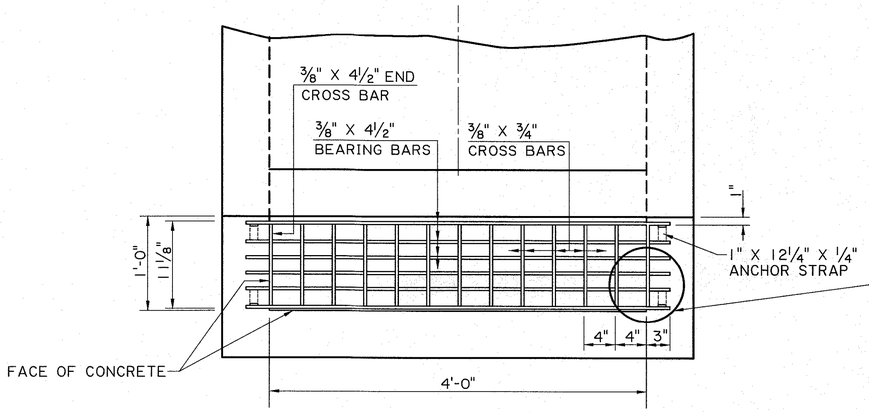
REVISION DESCRIPTION | BY | DATE: 5/25/18

APPROVED BY CHIEF ENGINEER:

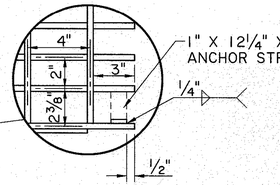
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

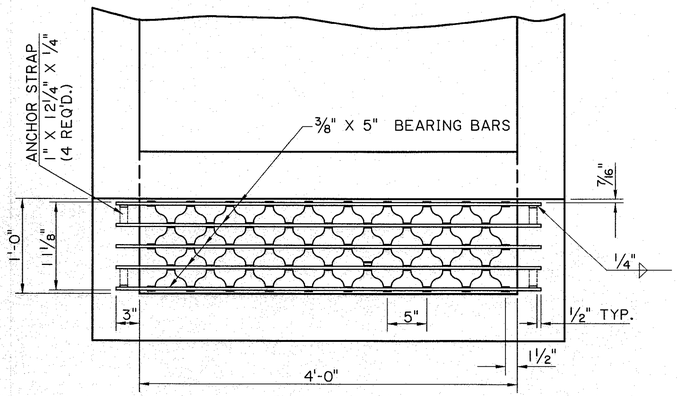
STANDARD PLAN | MC-01

DOTD | HYDRAULICS SECT.

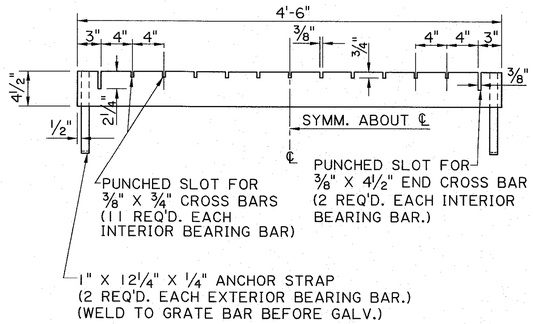


PLAN





PLAN

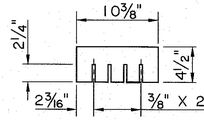


ELEVATION

WELDED & SEALED DRAIN GRATE

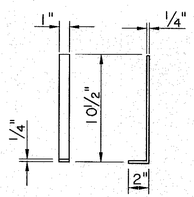
ALL JOINTS FULL DEPTH 1/4" FILLET WELDS WITH SEAL WELD TOP AND BOTTOM UNLESS NOTED OTHERWISE.

WEIGHT OF DRAIN GRATE = 185 LBS. ± 5%

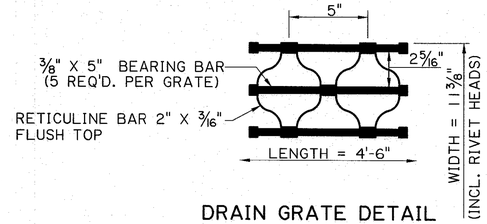


PUNCHED SLOTS @ 2" CTRS.

3/8"X4 1/2" END CROSS BAR
(2 REQ'D. PER GRATE)



STEEL ANCHOR STRAP
(4 REQ'D. PER GRATE)



DRAIN GRATE DETAIL
(ALTERNATE)

RIVETED RETICULINE DRAIN GRATE (ALTERNATE)

CENTER TO CENTER OF BEARING BARS EQUAL 2 11/16".

WEIGHT OF DRAIN GRATE = 176 LBS. ± 5%

TYPE " I "

STEEL DRAIN GRATE

GRATE TO BE GALVANIZED AFTER FABRICATION.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
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IN
CIVIL ENGINEERING
10/6/2025

STATE OF LOUISIANA
ALDEN M. ALLEN
REG. No. 20252
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
5-25-2018

SHEET NUMBER 330

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED	AMA
CHECKED	AMA
DETAILED	TL
CHECKED	AMA
SERIES NUMBER	9/01/17
	4 OF 6

REVISION DESCRIPTION | BY | DATE: 5/25/18

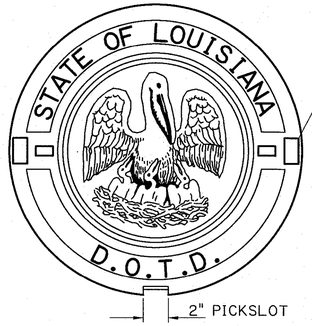
DATE | APPROVED BY CHIEF ENGINEER:

DOTD

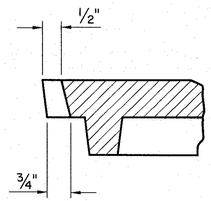
HYDRAULICS SECT.

STANDARD PLAN | MC-01

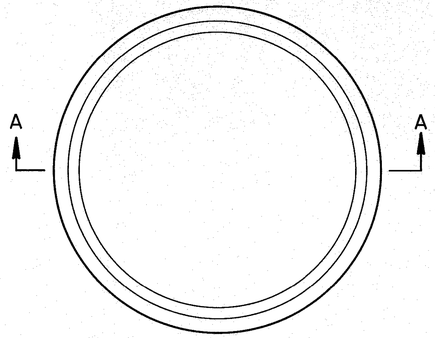
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES



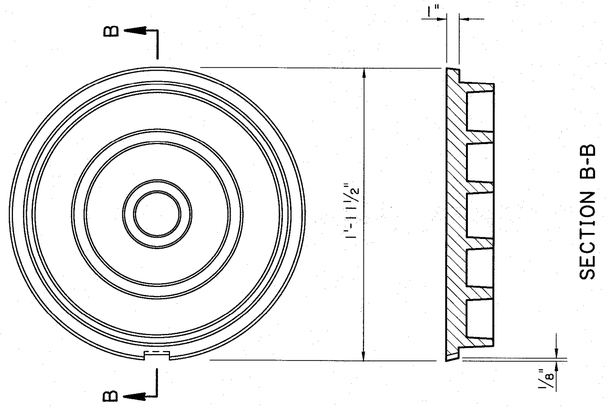
PLAN OF CAST IRON COVER



PICKSLOT DETAIL

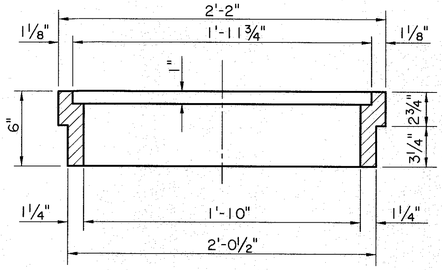


PLAN OF CAST IRON FRAME



SECTION B-B

BOTTOM OF CAST IRON COVER

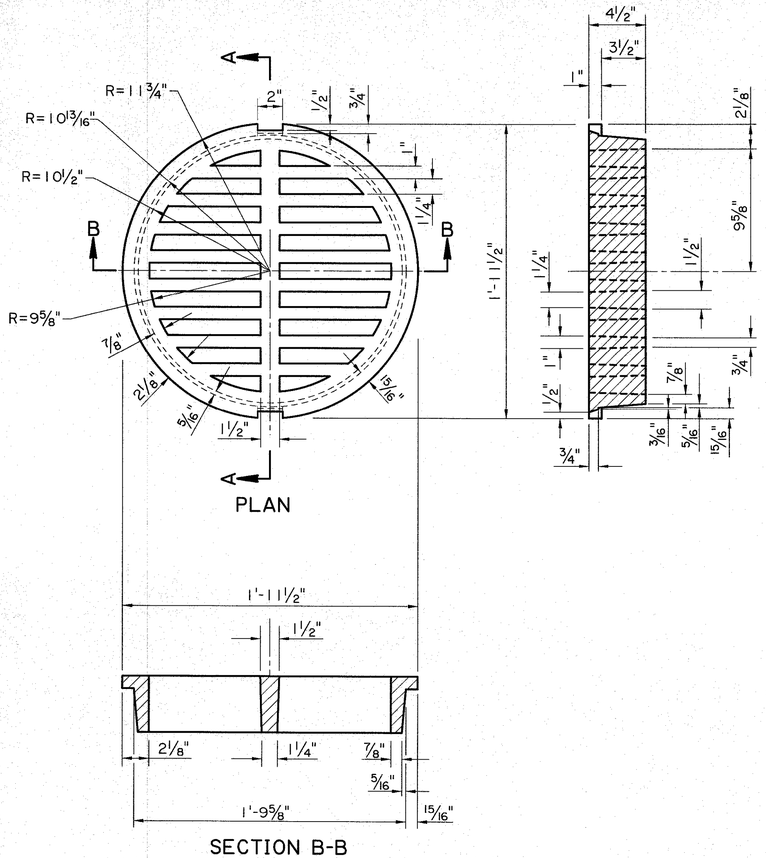


SECTION A-A

TYPE "K"

CAST IRON COVER & FRAME

PICKBAR DETAIL LEFT TO FABRICATOR



PLAN

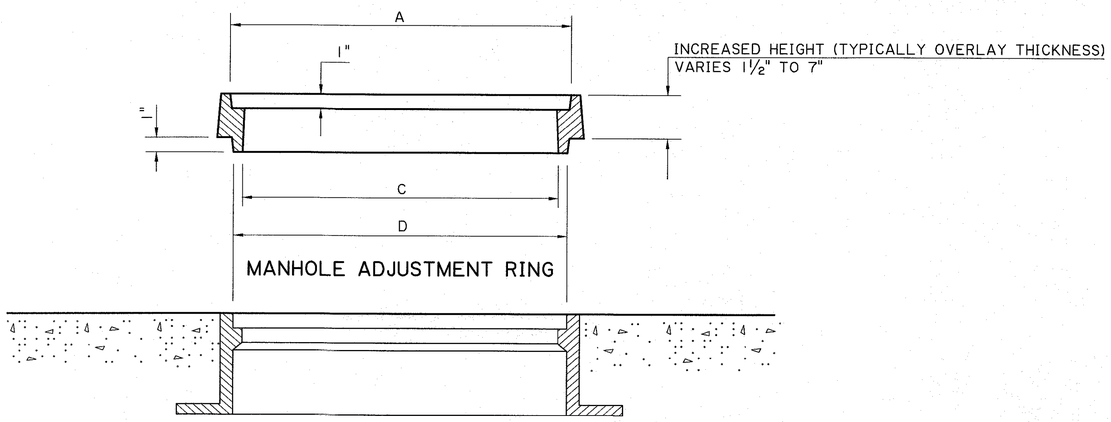
SECTION A-A

SECTION B-B

TYPE "K$_1$"

CAST IRON GRATE

NOTES: 1. APPROX. WEIGHT OF CAST IRON COVER = 250 LBS.
2. TO BE USED WITH TYPE "K" CAST IRON FRAME.



EXISTING GRATE SEAT

MANHOLE ADJUSTMENT RINGS		
A (IN.)	C (IN.)	D (IN.)
23 1/2	22 1/4	23 1/2
23 3/4	22 1/2	23 3/4

MANHOLE ADJUSTMENT RING

CAST IRON OR STEEL

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
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10/6/2025

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5-25-2018

SHEET NUMBER 331

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED	AMA	DETAILED	TL	SERIES NUMBER	9/01/17
CHECKED	AMA	CHECKED	AMA		5 OF 6

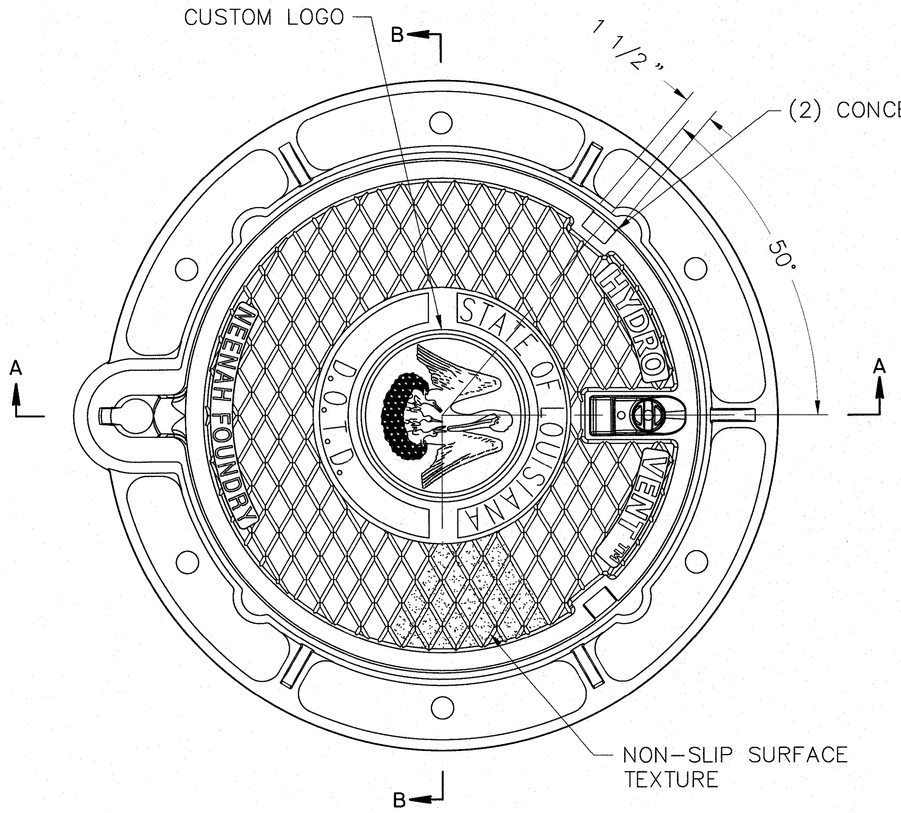
REVISION DESCRIPTION	BY	DATE

APPROVED BY CHIEF ENGINEER: DATE: 5/25/18

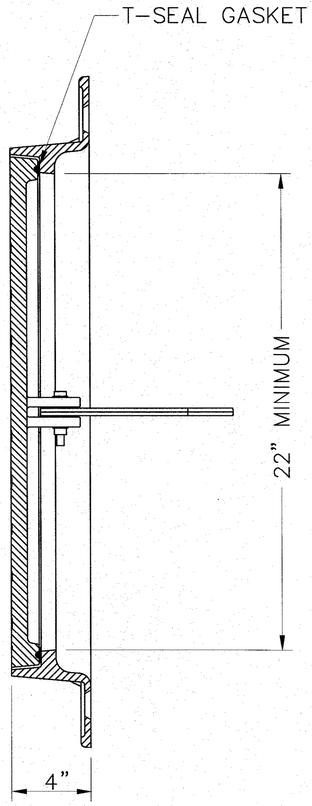
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD PLAN MC-01

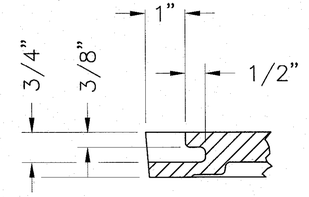
HYDRAULICS SECT.



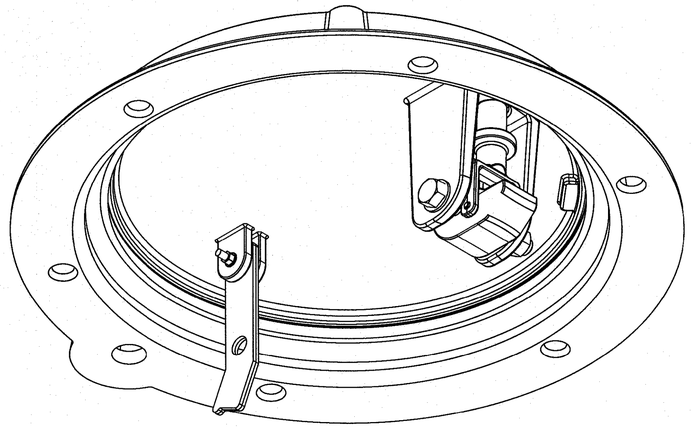
PLAN OF CAST IRON COVER



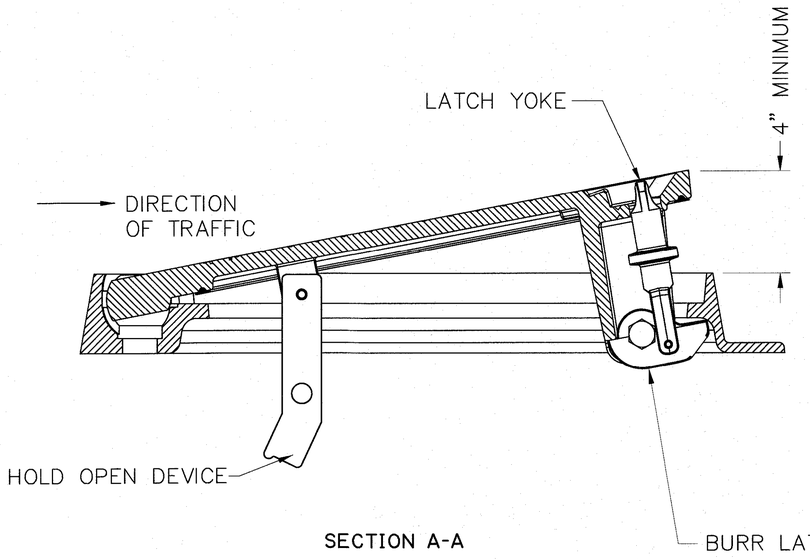
SECTION B-B



CONCEALED PICKHOLE DETAIL



ISOMETRIC BOTTOM VIEW



SECTION A-A

VENTING MANHOLE

CAST IRON COVER AND FRAME

NEENAH FOUNDRY 1650-HV SHOWN
EJ STORMSURGE 24 APPROVED BUT NOT SHOWN

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5-25-2018

SHEET NUMBER 332

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED	AMA
CHECKED	AMA
DETAILED	TL
CHECKED	AMA
SERIES NUMBER	12/01/17 6 OF 6

REVISION DESCRIPTION | BY | DATE: 5/25/18

APPROVED BY CHIEF ENGINEER:

DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD PLAN | MC-01

DOTD | HYDRAULICS SECT.

GENERAL NOTES:

1) THIS STRUCTURE MEETS ALL DOTD HYDRAULIC PERFORMANCE CRITERIA WHEN USED IN ACCORDANCE WITH THE DOTD HYDRAULICS MANUAL AND ALL DOTD HYDRAULIC DESIGN POLICIES.

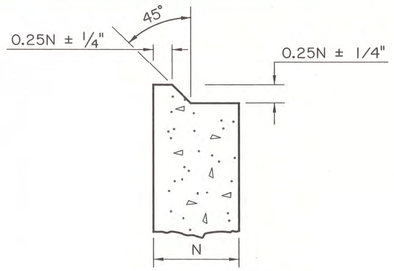
2) PROVIDE PRECAST UNITS AS THE LOWER PORTION OF A COMPOSITE STRUCTURE. PROVIDE CAST-IN-PLACE CONCRETE (SEE APPROPRIATE STANDARD PLAN FOR REQUIRED REINFORCING AND DIMENSIONS) FOR THE TOP 1'-6" OF THE STRUCTURE AS FOLLOWS:
   A) CB-01, CB-02, CB-04, CB-05, AND MANHOLES MAY BE FULLY PRECAST IF THE STRUCTURES ARE NOT EXPOSED TO TRAFFIC LOADS; ELEVATIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION.
   B) CB-06, CB-07, CB-08, AND CB-09 STRUCTURES MUST HAVE THE TOP 18" CAST-IN-PLACE; ELEVATIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION.

3) DESIGN IS TO BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION, 2017, AND THE LATEST LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

4) FINISH CAST-IN-PLACE CONCRETE IN ACCORDANCE WITH OTHER STANDARD PLANS AND 805.

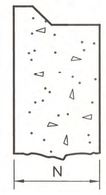
5) FORM PIPE OPENINGS ONLY AS REQUIRED FOR INTERSECTING PIPES. PROVIDE OPENING DIMENSIONS TO ACCOMMODATE PIPE DIAMETER AND SKEW ANGLE. PROVIDE OPENING DIMENSION THAT IS 4±1/2 INCH LARGER THAN OUTSIDE PIPE DIMENSION.

6) RESILIENT CONNECTORS OR CONCRETE COLLARS ARE REQUIRED FOR CONNECTIONS OF ALL PIPE SIZES (EXCEPT YARD DRAIN PIPE AND UNDERDRAINS) WITH COST TO BE INCLUDED IN THE COST OF THE PRECAST STRUCTURE.

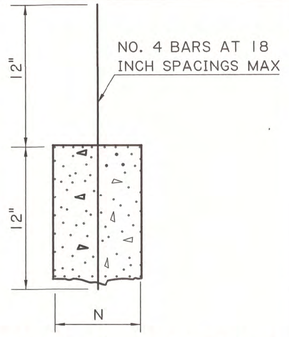


JOINT DETAIL A
PRECAST/PRECAST

1. SEAL AND WRAP JOINT IN ACCORDANCE WITH 702.04.01



USE DIMENSIONS FROM JOINT DETAIL "A"



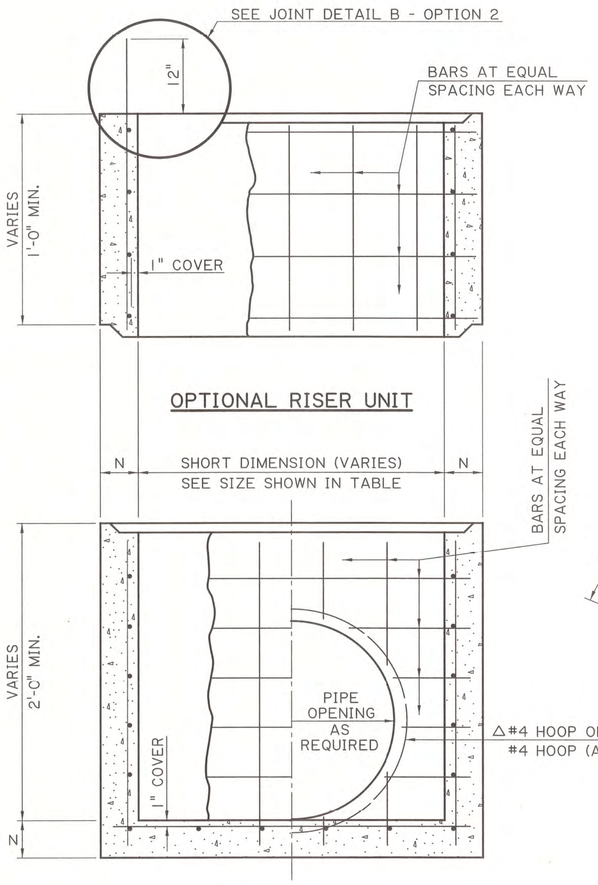


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JOINT DETAIL B - OPTION 1
CAST-IN-PLACE/PRECAST

JOINT DETAIL B - OPTION 2
CAST-IN-PLACE/PRECAST

IN OPTIONS 1 AND 2, COAT PRECAST CONCRETE JOINT SURFACE AND A MAXIMUM OF 2 INCHES OF REINFORCING STEEL WITH TYPE V, GRADE 2 OR GRADE 3 EPOXY RESIN CONFORMING TO 1017. APPLY EPOXY RESIN AND PLACE CONCRETE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

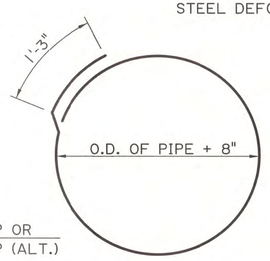


PRECAST UNITS FOR CATCH BASINS & MANHOLES

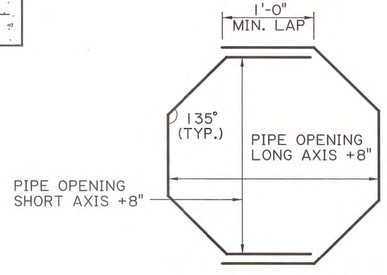
MAXIMUM HEIGHT	N	4' MAX. DIMENSION			6' MAX. DIMENSION			8' MAX. DIMENSION			10' MAX. DIMENSION		
		⊙TYPICAL SIZES 3'X3', 4'X4'			⊙TYPICAL SIZES 6'X4', 6'X6'			⊙TYPICAL SIZES 8'X4', 8'X6', 8'X8'			⊙TYPICAL SIZES 10'X4', 10'X6', 10'X8', 10'X10'		
FT.	IN.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.
8	4	4	6	0.40									
8	6	4	9	0.27	4	8	0.30	4	5.5	0.44	5	5.5	0.68
14	6	4	9	0.27	4	6	0.40	5	5	0.74	5	3.25	1.14
20	6	4	7	0.34	4	4.5	0.53						

⊙ OTHER SIZES ARE ACCEPTABLE AS LONG AS THE DIMENSIONS DO NOT EXCEED THE MAXIMUM DIMENSIONS.
* BAR SPACING APPLIES TO BOTH DIRECTIONS AND AT ALL LOCATIONS.
⊠ BAR SIZES AND SPACING MAY DIFFER FROM VALUES SHOWN, BUT THE AREA OF STEEL (A_s) SHALL BE EQUAL TO OR GREATER THAN VALUE SHOWN, AND BAR SPACING SHALL NOT EXCEED 1.5 TIMES THE WALL THICKNESS. THE AREA OF STEEL (A_s) MAY BE PROVIDED WITH STEEL DEFORMED WELDED WIRE FABRIC.

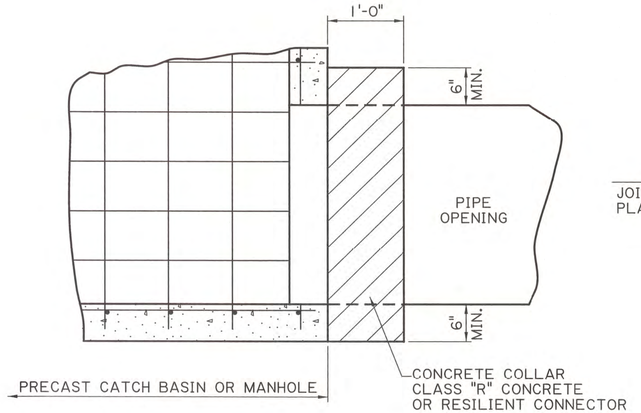
△ #4 HOOP MAY BE USED WHEN PIPE IS CIRCULAR AND CONNECTS TO THE CATCH BASIN AT +/- 90 (DEGREE) ANGLE. #4 HOOP (ALT.) SHALL BE USED FOR NON-CIRCULAR (ELLIPTICAL) PIPES AND ALL PIPES THAT ENTER THE CATCH BASIN AT A SKEWED ANGLE.



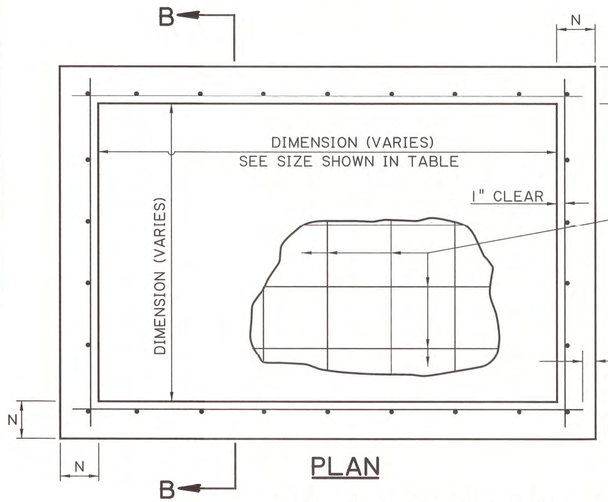
△#4 HOOP



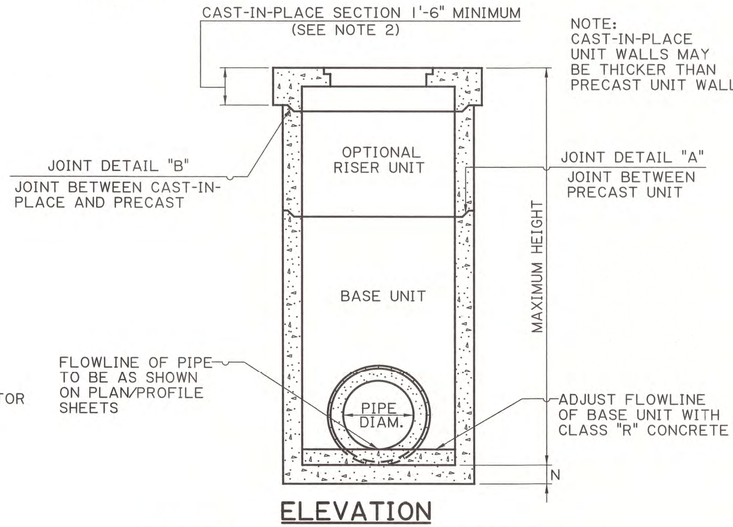
△#4 HOOP (ALT.)



PIPE CONNECTION DETAIL



PLAN



ELEVATION
TYPICAL COMPOSITE STRUCTURE

SHEET NUMBER 333

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN CHECK | DETAIL CHECK | REVIEW | SERIES # 1 OF 1

STATE OF LOUISIANA
J. BRYAN CROUCH
REG. No. 29379
REGISTERED PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING
9/28/23
HYDRAULICS

STATE OF LOUISIANA
XUYONG WANG
REG. No. 32508
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
9/28/23
STRUCTURAL

APPROVED BY CHIEF ENGINEER: DATE: 10-2-2023

PRECAST CATCH BASINS AND MANHOLES

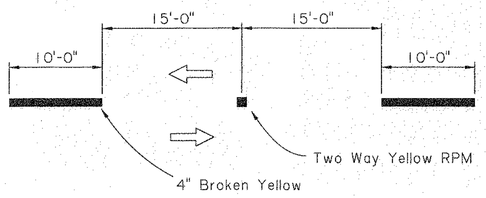
STANDARD PLAN PC-01

DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

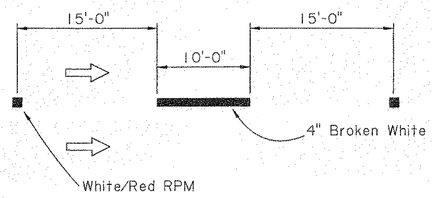
HYDRAULICS SECTION

$TIME$
$DATE$
$$----- SUBMITTAL STAGE -----$$
$$this is the pathname including directory path and design file name$$

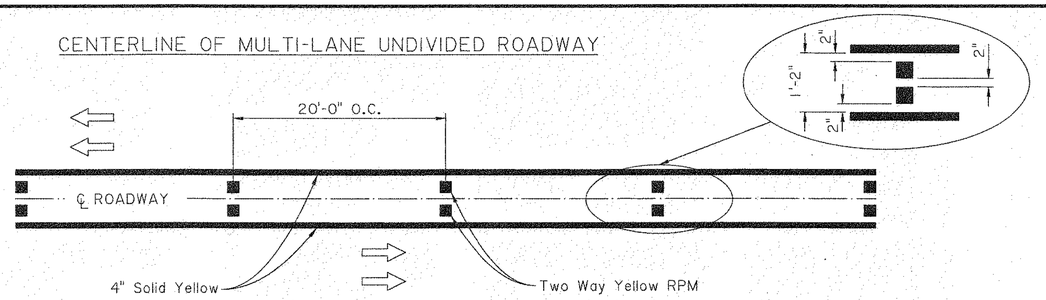
(A) CENTERLINE OF TWO-LANE ROADWAY WITH TWO-WAY TRAFFIC



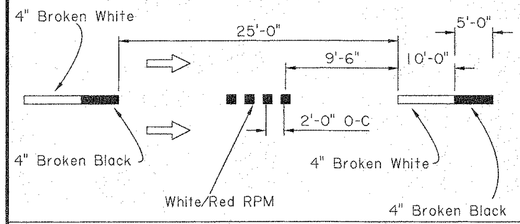
(B) LANE LINE BETWEEN LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION



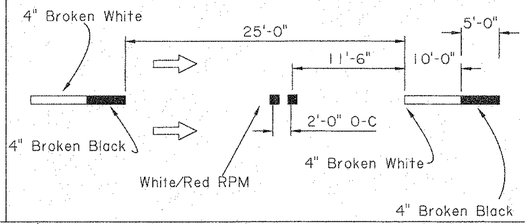
(C) CENTERLINE OF MULTI-LANE UNDIVIDED ROADWAY



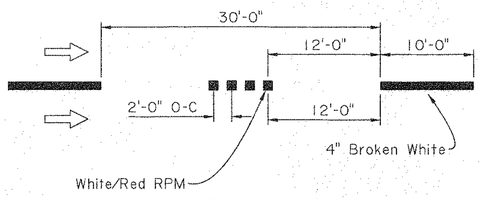
(D) CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CEMENT CONCRETE ADT ≥ 80,000



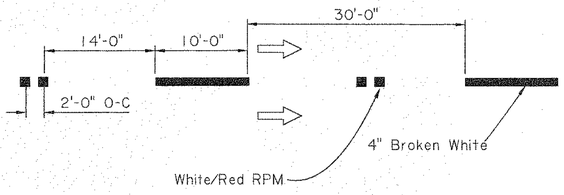
(E) CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CEMENT CONCRETE ADT < 80,000



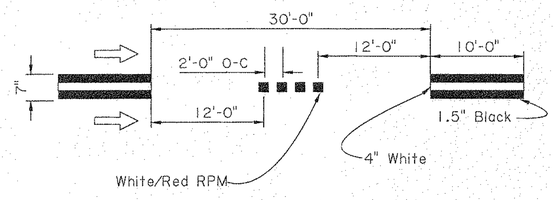
(F) LANE LINE BETWEEN LANES ON ASPHALT CONCRETE WITH ADT ≥ 80,000



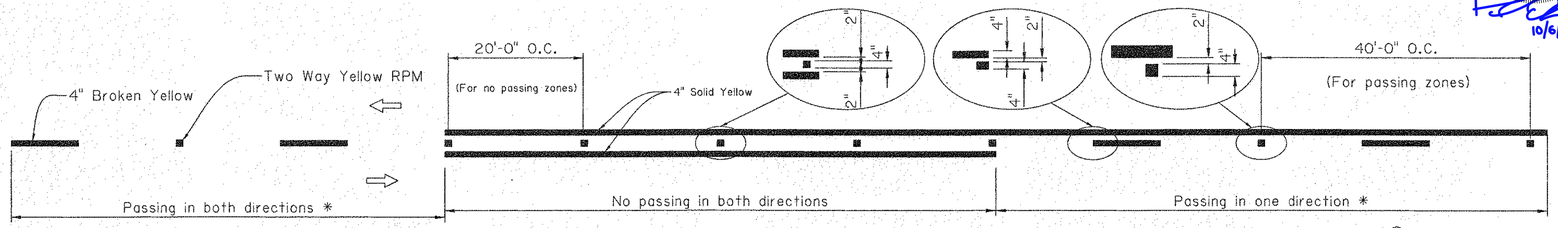
(G) LANE LINE BETWEEN LANES ON ASPHALT CONCRETE WITH ADT < 80,000



(H) CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CONCRETE ADT ≥ 80,000

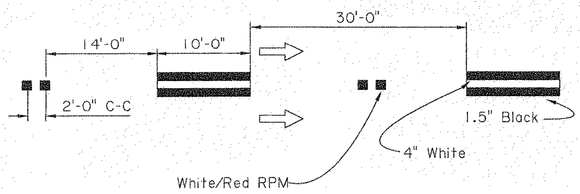


(I) CENTERLINE OF TWO-LANE ROADWAY WITH TWO-WAY TRAFFIC WITH PASSING RESTRICTIONS



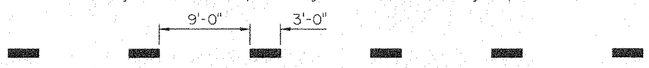
* See (A) for broken line dimensions.

(J) CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CONCRETE ADT < 80,000



(K) TYPE A DOTTED

Used for entrance, exit and auxiliary lanes, lane drop markings and shared use bicycle paths.



Note: Width and color shall match line extending unless otherwise noted.

(L) TYPE B DOTTED

Used for lane line extensions through intersections, turn lane taper markings, edge line extensions and bulb outs.



Note: Width and color shall match line extending unless otherwise noted.

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STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 28220
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2-27-19

GENERAL NOTES:

1. 4" Edge lines shall be placed on all roadways.
2. Place edge lines, centerlines and lane lines to avoid longitudinal joints as directed by the project engineer.
3. Edge lines in a curb and gutter section should be kept out of the gutter and clear from debris.
4. If rumble strips are used, striping details remain unchanged.
5. Centerlines shall be placed on roadways with a traveled way width of 16 feet or greater.
6. Where the clear width of a bridge is less than the clear width of the roadway, reflectorized pavement markers shall be placed adjacent to the edge line at 20' centers.
7. ⇨ indicates the direction of travel (not a pavement marker).
8. For non-interstate striping, use one Raised Reflectorized Pavement Marker.
9. White Reflectorized Pavement Marker faces same direction traffic and red faces opposing traffic.

SHEET NUMBER	334
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGNED	G. LEBLANC
CHECKED	J. COLVIN
DETAILED	K. WILLIAMS
CHECKED	G. LEBLANC
DATE	
SHEET	
DATE	2/28/19
APPROVED BY CHIEF ENGINEER	

PM-01
Centerline and Edgeline Markings

PAVEMENT MARKING DETAILS

DOTD
TRAFFIC ENGINEERING

GENERAL NOTES - ROADSIDE TRAFFIC SIGNS

CONSTRUCTION SPECIFICATIONS: CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES. LATEST EDITION EXCEPT AS SUPPLEMENTED OR AMENDED BY THE PLANS, SUPPLEMENTAL SPECIFICATIONS AND/OR SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 1994 AND INTERM SPECIFICATIONS.

STEEL: STEEL SHALL CONFORM TO A.S.T.M. A-709, GRADE 36. STEEL TUBING SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF A.S.T.M. DESIGNATION A-36 OR HOT-FORMED TUBING (A-501) OR PIPE (A-53) TYPE "E" OR "S", GRADE "B" OR COLD-FORMED TUBING (A-500) GRADE "B" OR "C", UNLESS OTHERWISE NOTED.

ALUMINUM: ALL ALUMINUM EXCEPT SIGN PANELS SHALL CONFORM TO ASTM B-221, B-308, OR B-429 ALLOY 6061-T6 UNLESS OTHERWISE NOTED. SIGN PANELS SHALL BE .080" THICK ALUMINUM CONFORMING TO ASTM B-209 ALLOY 5052-H38 OR 6061-T6.

CONCRETE AND REINFORCING STEEL: CONCRETE SHALL BE CLASS "M", UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL FABRICATION ARE OUT TO OUT OF BAR UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL SPACING ARE CENTER TO CENTER OF BAR OR FACE OF CONCRETE TO CENTERLINE OF BAR. REINFORCING STEEL SHALL HAVE A MINIMUM COVERING OF 2" EXCEPT WHEN CONCRETE IS CAST AGAINST THE EARTH THEN THE COVERING WILL BE 3". ALL REINFORCING STEEL SHALL BE GRADE 60. THE FIRST DIGIT OF REINFORCING BAR NUMBER INDICATES THE BAR SIZE. THE TOP EDGES OF THE FOOTING SHALL BE CHAMFERED ¾".

CONCRETE FINISH: ALL PORTIONS OF THE FOOTINGS FOR CANTILEVERS AND TRUSSES ABOVE GROUNDLINE SHALL HAVE A FINISH IN ACCORDANCE WITH LOUISIANA SPECIFICATION. 805.08.3.

WELDING: ALL WELDING SHALL CONFORM TO THE LA. STANDARD SPECIFICATIONS, SECTION 809 AND SUPPLEMENTAL SPECIFICATIONS.

GALVANIZING: ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-123. DAMAGE TO GALVANIZED SURFACES THAT ARE NOT TO BE ENCASED IN CONCRETE SHALL BE REPAIRED IN ACCORDANCE WITH LA. STANDARD SPECIFICATIONS, SECTION 811.08. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-153 . ALL FIELD HOLES IN GALVANIZED MATERIAL SHALL BE TREATED WITH A COLD GALVANIZING COMPOUND FROM THE A.M.L.

BOLTS: UNLESS NOTED, ALL THREADED CONNECTIONS SHALL INCORPORATE A LOCKING DEVICE AND HAVE A MINIMUM OF 3 THREADS BEYOND THE NUTS. ALL BOLTS SHALL BE HIGH STRENGTH BOLTS, A.S.T.M. A-325, UNLESS OTHERWISE NOTED. ANCHOR BOLTS SHALL CONFORM TO AASHTO M314, GRADE 55 (OR APPROVED EQUAL) AND BE HOT DIP GALVANIZED TO A.S.T.M. A-153. STAINLESS STEEL FOR BOLTS SHALL CONFORM TO A.S.T.M. DESIGNATION A-320 B8, CLASS 2 TYPE 304, OR A-193 B8, CLASS 2 TYPE 304, UNLESS OTHERWISE NOTED. STAINLESS STEEL NUTS SHALL CONFORM TO A.S.T.M. DESIGNATION A-194, GRADE 8, TYPE 304. ALUMINUM BOLTS SHALL CONFORM TO A.S.T.M. F-468 ALLOY 2024-T4 AND NUTS ARE A.S.T.M. F-467 ALLOY 6061-T6 OR 6262-T9. WHERE BOLTS ARE USED ON BEVELED SURFACES, BEVELED WASHERS SHALL BE PROVIDED TO GIVE FULL BEARING TO THE HEAD AND/OR THE NUT.

RIVETS: ALL RIVETS SHALL BE ¼" DIAMETER BLIND RIVETS WITH POSITIVE MANDREL RETENTION. THE RIVET BODY AND MANDREL SHALL BE ALUMINUM WITH A ½" MAXIMUM DIAMETER DOME HEAD. THE RIVETS SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH = 875 LBS., AND CONFORM TO ASTM B-316 5056-H32.

BREAK-AWAY BASE: BASES FOR SIGNS LOCATED ADJACENT TO MORE THAN ONE ROADWAY (RAMP TERMINALS, INTERSECTIONS, ETC.) SHALL BE ORIENTED IN THE DIRECTION OF THE HIGHEST SPEED TRAFFIC. ALL MULTI-POST SIGNS WITH A DISTANCE BETWEEN POSTS OF 7'-0" CENTERS OR LESS SHALL HAVE BEVELED BASE CONNECTION. BASE CONNECTIONS SHALL BE WRAPPED PRIOR TO POURING THE FOOTING, WITH MATERIAL SUFFICIENT TO PREVENT CONCRETE SPLATTER ON THE BREAK-AWAY BASE ASSEMBLY.

ANCHOR BOLTS: ANCHOR BOLT NUTS TO BE TIGHTENED A MINIMUM ROTATION OF 240° (⅔ TURNS) FROM THE SNUG TIGHT CONDITION.

SIGN SHEETING: UNLESS OTHERWISE NOTED, ALL SIGN MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 1015 IN THE STANDARD SPECIFICATIONS. IN ORDER TO OBTAIN AN ACCEPTABLE COLOR MATCH BETWEEN MULTIPLE PANELS ON A GUIDE SIGN, ALL OF THE BACKGROUND SHEETING FOR ANY GUIDE SIGN SHALL BE THE MINIMUM WIDTH OF THE LARGEST PANEL AND SHALL COME FROM THE SAME LOT OR RUN NUMBER FROM THE SHEETING MANUFACTURER UNLESS OTHERWISE APPROVED IN WRITING. RETRO-REFLECTIVE SHEETING SHALL BE APPLIED TO ALL PANELS IN SUCH A MANNER THAT THERE ARE NO HORIZONTAL SPLICES.

OVERLAY PANELS FULL SIGN OVERLAY PANELS SHALL BE IN ACCORDANCE WITH SECTION 729.05.3. PARTIAL SIGN OVERLAYS AND ALL SHIELDS SHALL HAVE SHIMS AT ALL RIVETS. SHIMS SHALL BE AT LEAST .080" THICK AND SIZED SO THEY WILL NOT EXTEND BEYOND EDGE OF OVERLAY. RIVETS SHALL BE AS SPECIFIED ON THIS STANDARD DETAIL SHEET.

SIGN LOCATIONS: FOR GROUND MOUNTED SIGN INSTALLATIONS, THE ENGINEER MAY ADJUST THE TYPE D AND E SIGN LOCATIONS INDICATED ON THE PLANS. THIS WILL BE ALLOWED TO AVOID PLACEMENT IN DEEP DITCHES, STEEP BACKSLOPES, TREE LINES, AND ANY OTHER UNACCOUNTED FOR FIELD CONDITIONS AND TO PROVIDE BETTER MESSAGE PRESENTATION. ANY ADJUSTMENTS MUST BE WITH THE CONCURRENCE OF THE GEOMETRIC DESIGN ENGINEER.

SIGN TYPES: TYPE A = SMALL SIGN WITH ONE POST; TYPE B = CLUSTER ASSEMBLY OF TYPE A SIGNS; TYPE D = LARGE RECTANGULAR SIGN ADJACENT TO TRAFFIC MOUNTED WITH MULTIPLE POSTS; TYPE E = SECONDARY SIGN (SUCH AS AN EXIT NUMBER PANEL) ATTACHED TO A LARGE RECTANGULAR PRIMARY SIGN; DELINEATOR, MILEPOST AND OBJECT MARKER SIGNS ARE NOT COVERED UNDER TRAFFIC SIGNS. SEE STANDARD PLAN HS-03.

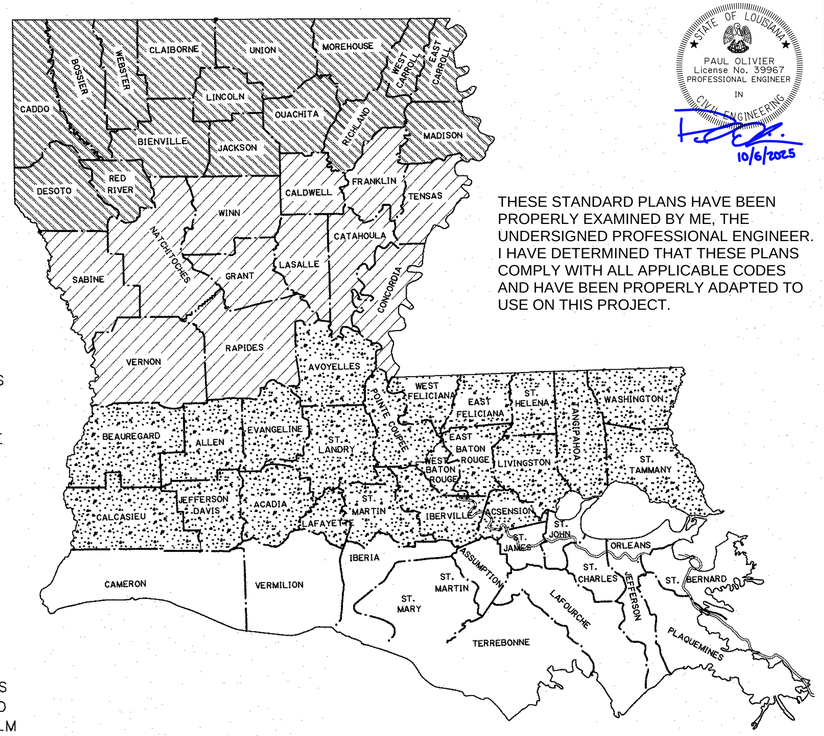
MISCELLANEOUS: THE CONTRACTOR SHALL MARK THE DATE OF FABRICATION, SHEETING MANUFACTURER CODE, AND SIZE OF SIGN ON THE BACK OF EACH SIGN. FOR EXTRUDED PANEL SIGNS THE LETTER HEIGHT SHALL BE 2". FOR ALL OTHER FLAT SHEETING SIGNS, THE LETTER HEIGHT SHALL BE ¾". THE SIGN ID NUMBERS SHALL FOLLOW THE ABOVE REQUIREMENTS BUT SHALL HAVE A BLUE BACKGROUND WITH WHITE NUMBERS. ALL MARKINGS SHALL HAVE A CLEAR UV PROTECTIVE FILM INSTALLED OVER THEM. SEE DETAIL "A" SHEET 5 OF 17.

POST HINGE SPLICE ON MULTI-POST SIGNS WITH ALL POSTS CONNECTED BY A SECONDARY SIGN SHALL BE LOCATED BELOW THE SECONDARY SIGN. STUB POST SHALL BE ASSEMBLED TO SIGN POST WITH REQUIRED BOLTS AND ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES PRIOR TO SHIPMENT. POST SPLICE SLIP PLATE SHALL BE ASSEMBLED TO MINIMUM BOLT TENSION IN SHOP PRIOR TO SHIPMENT. SIGN POST SHALL BE SHIPPED TO JOB SITE ASSEMBLED WITH ALL HARDWARE REQUIRED IN PLACE AND SECURED. EXPOSED ENDS OF ALL PIPE SHALL BE CAPPED. USE OF SECTIONS PROVIDING EQUAL OR GREATER STRENGTH FOR ANY MEMBER DESIGNATED ON THE PLANS SHALL BE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.

ALL DIMENSIONS REQUIRED FOR SATISFACTORY INSTALLATION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE FABRICATION. ADJUSTMENTS SHALL BE MADE AS DIRECTED BY THE ENGINEER.

ALL ALUMINUM SURFACES PLACED IN CONTACT WITH, OR FASTENED TO UNGALVANIZED STEEL MEMBERS SHALL BE THOROUGHLY COATED WITH AN APPROVED ALUMINUM IMPREGNATED CAULKING COMPOUND. PAINT ALUMINUM SECTIONS IN CONTACT WITH CONCRETE WITH A HEAVY COAT OF AN ALKALI RESISTANT BITUMINOUS PAINT OR A COAT OF ZINC CHROMATE PAINT AND ALLOW TO DRY BEFORE PLACING. ALUMINUM ALLOYS SHALL NOT BE PLACED IN CONTACT WITH COPPER, COPPER BASED ALLOYS, LEAD, OR NICKEL.

SHOP DRAWINGS: NOT REQUIRED FOR SIGN BACKING AND SMALL GROUND MOUNTED SIGN SUPPORTS, UNLESS FABRICATOR INTENDS TO DEVIATE FROM THE DETAILS HEREIN. SHOP DRAWING ARE REQUIRED FOR ALL STRUCTURE MOUNTED SIGNS.



WIND LOAD MAP

WIND LOAD MAP LEGEND			
SYMBOL	ROADSIDE MOUNTED		
	ZONE	WIND VELOCITY (MPH) ⊗	WIND LOAD (PSF) △
	1	70	20
	2	80	27

⊗ 25 YEAR MEAN RECURRENCE INTERVAL

△ INCLUDES C_d = 1.2

SHEET	BRIDGE STANDARD INDEX NO.	DESCRIPTION
1 OF 17	BD.2.7.2.0.1	WIND LOAD MAP & GENERAL NOTES
2 OF 17	BD.2.7.2.0.2	PANEL DETAILS (TYPE A & B SIGNS)
3 OF 17	BD.2.7.2.0.3	MOUNTING DETAILS (TYPE A & B SIGNS)
4 OF 17	BD.2.7.2.0.4	SPACING OF POSTS FOR GROUND MOUNTED SIGNS
5 OF 17	BD.2.7.2.0.5	EXTRUDED ALUMINUM SIGNS (TYPE D & E SIGNS)
6 OF 17	BD.2.7.2.0.6	EXTRUDED ALUMINUM PANELS (TYPE D & E SIGNS)
7 OF 17	BD.2.7.2.0.7	ROADSIDE MOUNTED SIGNS (TYPE A, B, & D SIGNS)
8 OF 17	BD.2.7.2.0.8	ROADSIDE MOUNTED SIGN DETAILS (TYPE A & B SIGNS)
9 OF 17	BD.2.7.2.0.9	ROADSIDE MOUNTED SIGN DETAILS (TYPE D SIGNS)
10 OF 17	BD.2.7.2.0.10	SQUARE TUBE SIGN DETAILS
11 OF 17	BD.2.7.2.0.11	Z - BRACKET SIGN SUPPORT (F - SHAPE BARRIER)
12 OF 17	BD.2.7.2.0.12	Z - BRACKET SIGN SUPPORT (F - SHAPE BARRIER)
13 OF 17	BD.2.7.2.0.13	Z - BRACKET SIGN SUPPORT (POST AND RAIL BARRIER)
14 OF 17	BD.2.7.2.0.14	Z - BRACKET SIGN SUPPORT (POST AND RAIL BARRIER)
15 OF 17	BD.2.7.2.0.15	CONTRAFLOW SIGNS (GROUND MOUNTED)
16 OF 17	BD.2.7.2.0.16	CONTRAFLOW SIGNS (F - SHAPE BARRIER)
17 OF 17	BD.2.7.2.0.17	CONTRAFLOW SIGNS (POST AND RAIL BARRIER)

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER:
DATE: 11/1/2022

SHEET NUMBER	335
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN K. BRAUNER / CHECK C. GUIDRY	DETAIL K. BRAUNER / CHECK C. GUIDRY / REVIEW C. BOURGEOIS / SERIES # 1 OF 17

WIND LOAD MAP & GENERAL NOTES

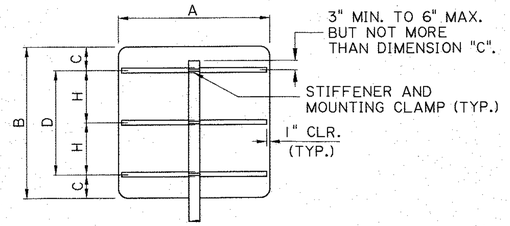
ROADSIDE SIGNING STANDARDS

STANDARD PLAN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

6/24/2022 09:09

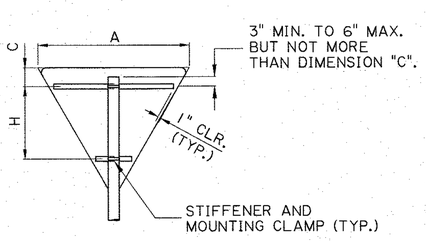
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SQUARE, RECTANGLE, CIRCLE, OCTAGON AND ROUTE MARKERS

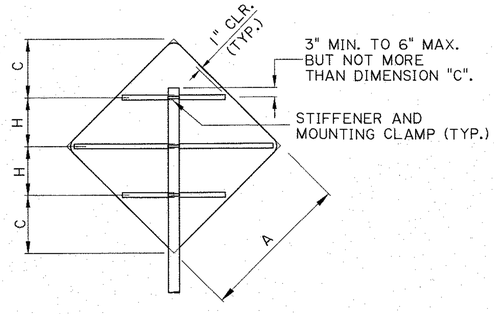
SQUARE, RECTANGLE, CIRCLE, OCTAGON AND ROUTE MARKERS					
A (IN.)	B (IN.)	C (IN.)	D (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
VARIABLE 12" TO 48"	6	3			1
	12	6			1
	15	7.5			1
	18	9			1
	24	6	12		2
	30	7.5	15		2
	36	7.5	21		2
	48	10	28		2
	60	9	42	21	3
	72	11	6 △	25	3
	84	10.5	6 △	21	4
48	96	12	6 △	24	4

△ LOCATION OF BORDER ANGLE FROM EDGE



EQUILATERAL TRIANGLE

EQUILATERAL TRIANGLE			
A (IN.)	C (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
24	B		1
30	6	10	2
36	6	12.5	2
48	6	23	2
60	6	33.5	2



DIAMOND

DIAMOND			
A (IN.)	C (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
24	10	6.97	1
30	12	9.21	2
36	14	11.46	2
48	18.5	15.44	3
60	22.5	19.93	3

NOTES:

NO BOLTS SHALL BE PLACED THROUGH FACE OF SIGN.

ALL TRACK HEAD BOLTS SHALL HAVE HEADS DESIGNED TO FIT AND TRANSMIT LOAD TO BOLT SLOTS IN THE STIFFENER.

STIFFENERS SHALL BE ALUMINUM EXTRUSIONS AS DETAILED ON THIS SHEET UNLESS OTHERWISE NOTED.

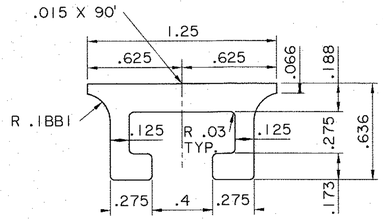
MOUNTING CLAMPS REQUIRED AT EACH HORIZONTAL STIFFENER.

SIGN PANELS AND POSTS SHALL BE THE SIZE REQUIRED ON THE PLANS AND SUMMARY SHEET.

SEE OTHER SHEETS FOR MOUNTING DETAILS.

ALL SIGNS THAT REQUIRE BACKING SHALL BE INSTALLED WITH RIVETS.

THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTES SHEET.

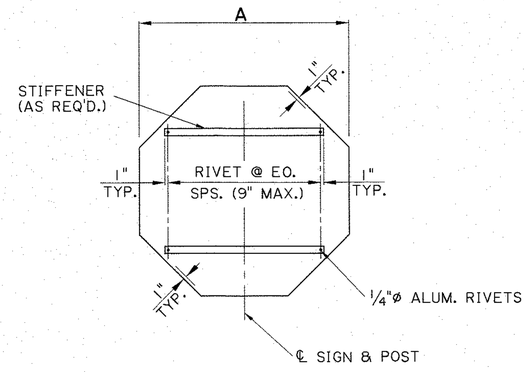


EXTRUDED CHANNEL DETAIL

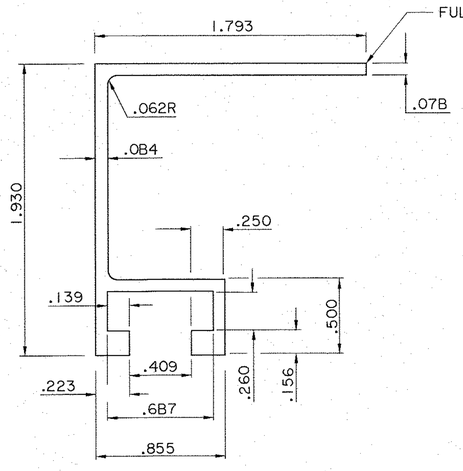
THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

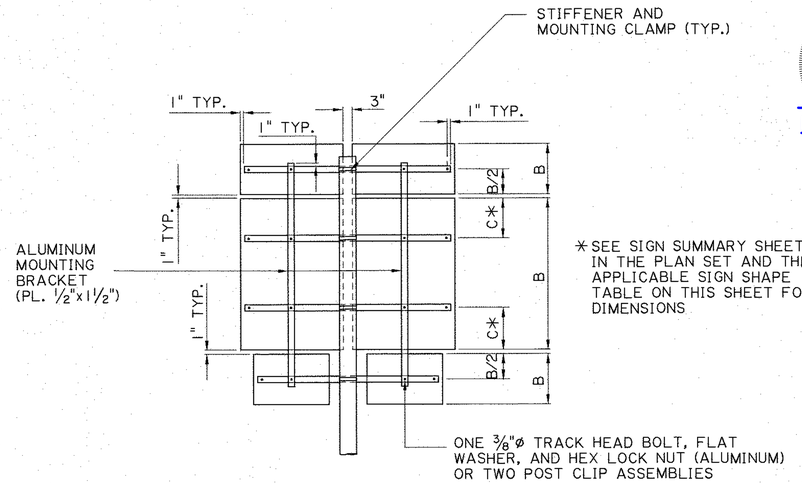
TYPE A SIGNS



TYPICAL SIGN BACKING DETAIL



EXTRUSION STIFFENER
THIS STIFFENER REQUIRES THE USE OF RIVETS



* SEE SIGN SUMMARY SHEET IN THE PLAN SET AND THE APPLICABLE SIGN SHAPE TABLE ON THIS SHEET FOR DIMENSIONS

TYPE B SIGN
CLUSTER ASSEMBLY

APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

SHEET NUMBER 336

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES
K. BRAUNER	C. GUIDRY	K. BRAUNER	C. GUIDRY	C. BOURGEOIS	2 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

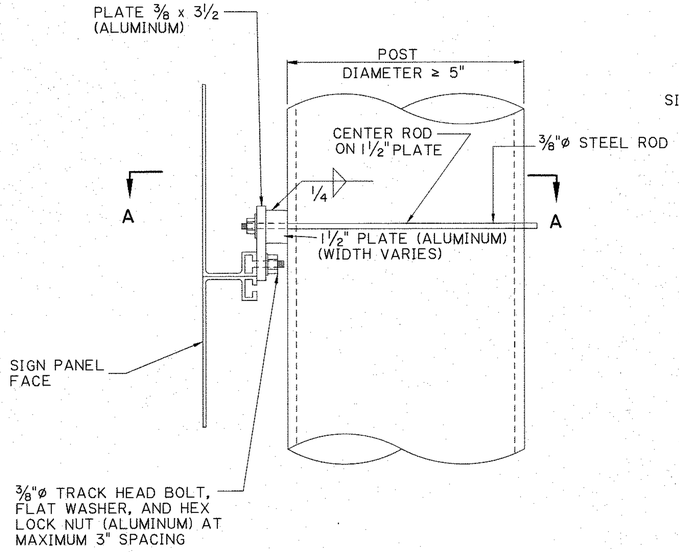
STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PANEL DETAILS
(TYPE A & B SIGNS)

ROADSIDE SIGNING STANDARDS
STANDARD PLAN

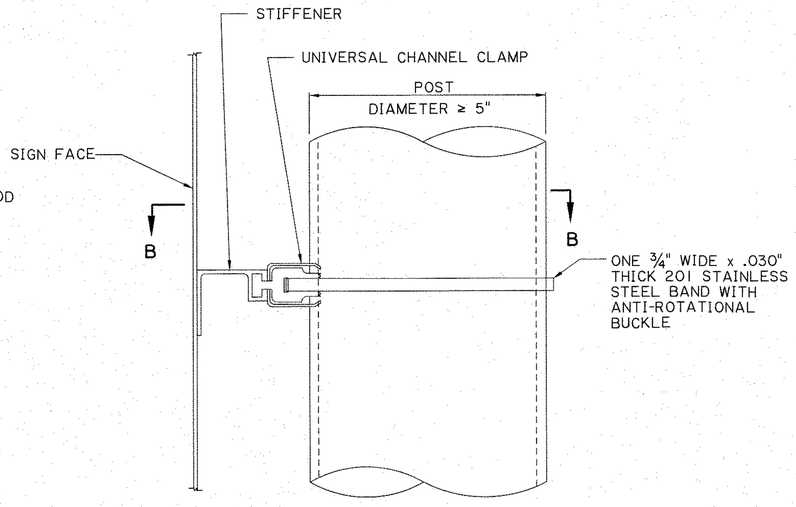
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

09:16
6/24/2022



ELEVATION

(TYPICAL AT EACH STIFFENER)



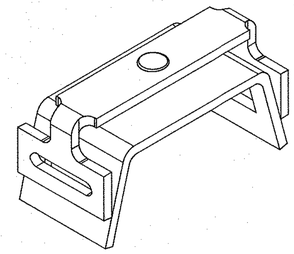
ELEVATION

TYPICAL AT EACH STIFFENER

NOTES:
NO BOLTS SHALL BE PLACED THROUGH FACE OF SIGN.

ALL TRACK HEAD BOLTS SHALL HAVE HEADS DESIGNED TO FIT AND TRANSMIT LOAD TO BOLT SLOTS IN THE STIFFENER.

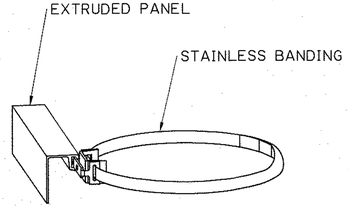
MOUNTING CLAMP REQUIRED AT EACH HORIZONTAL STIFFENER.



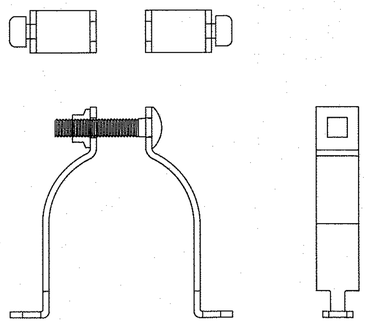
STAINLESS STEEL BANDING

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

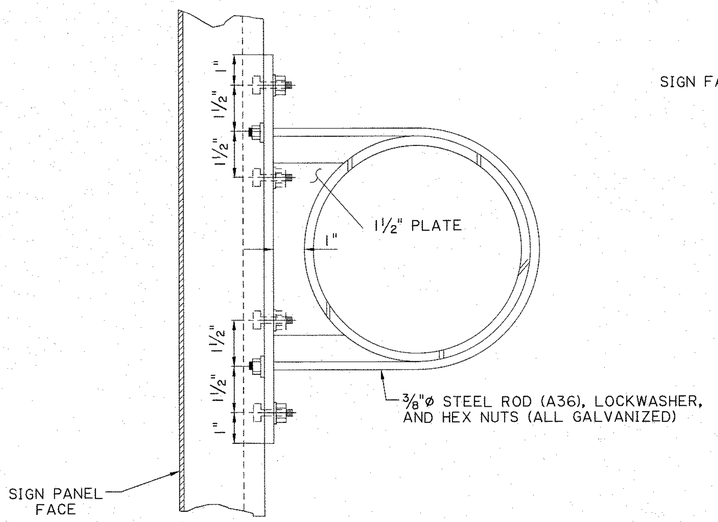
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025



EXTRUDED PANEL BANDING CLIP



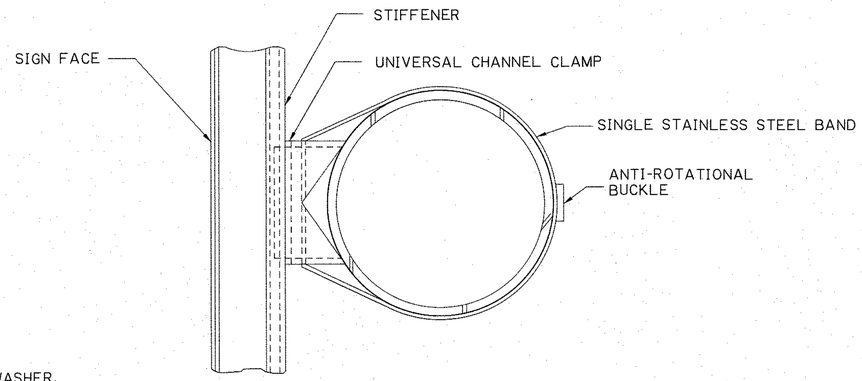
ROUND POST CLAMPS



SECTION A-A

MOUNTING DETAIL (TYPE I)

FOR NON-TAPERED ROUND METAL POST
SIZES ≥ 5" DIAMETER AND SIGNS > 20 SQ. FT.



SECTION B-B

MOUNTING DETAIL (BAND TYPE)

FOR ALL POSTS ≥ 5" AND WITH SIGN AREAS
≤ 20 SQ. FT. OR LESS THAN 4 FEET WIDE

SHEET NUMBER	337
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN	K. BRAUNER
CHECK	C. GUIDRY
DETAIL	K. BRAUNER
CHECK	C. GUIDRY
REVIEW	C. BOURGEOIS
SERIES #	3 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER:
DATE: 7/1/2022

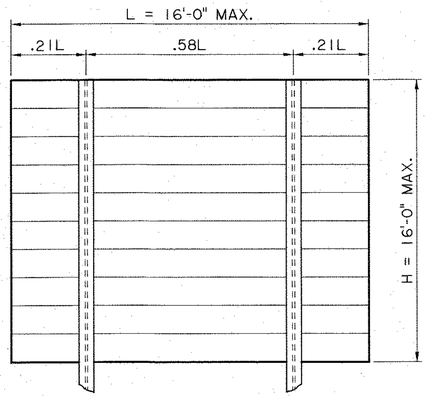
MOUNTING DETAILS (TYPE A & B SIGNS)

ROADSIDE SIGNING STANDARDS
STANDARD PLAN

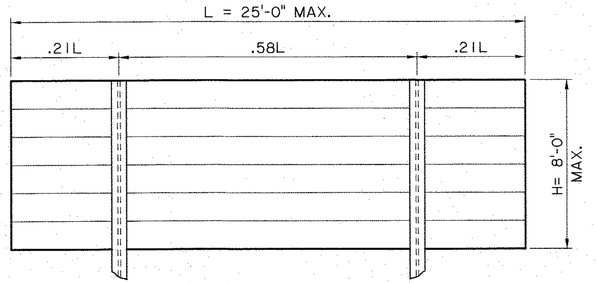
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d0964073\Roadside Traffic Signs 03.dgn

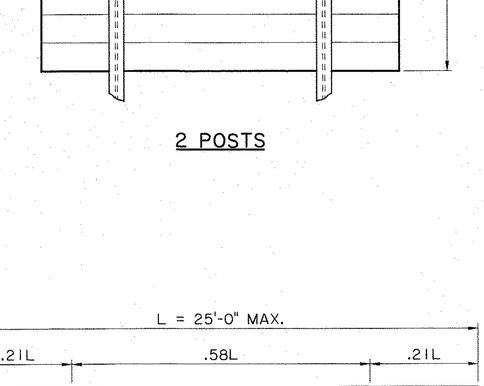
6/24/2022 09:18
IP_PWP:d0964073\Roadside Traffic Signs 04.dgn



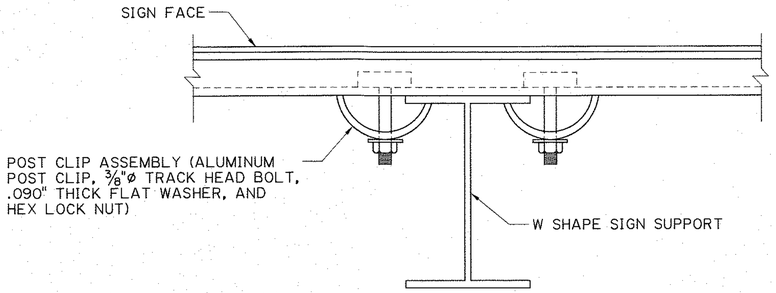
2 POSTS



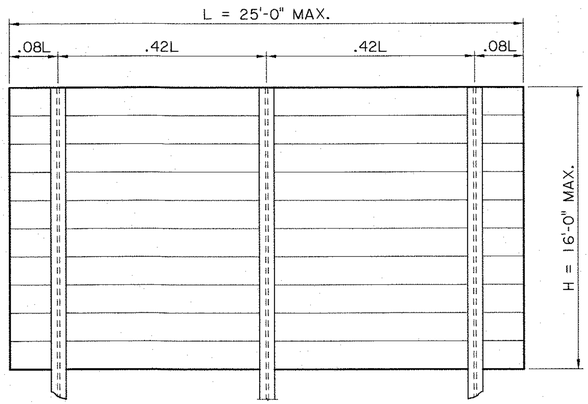
2 POSTS



2 POSTS



MOUNTING DETAIL (TYPE II)



3 POSTS

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

SHEET NUMBER 338

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES
K. BRAUNER	C. GUIDRY	K. BRAUNER	C. GUIDRY	C. BOURGEOIS	4 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

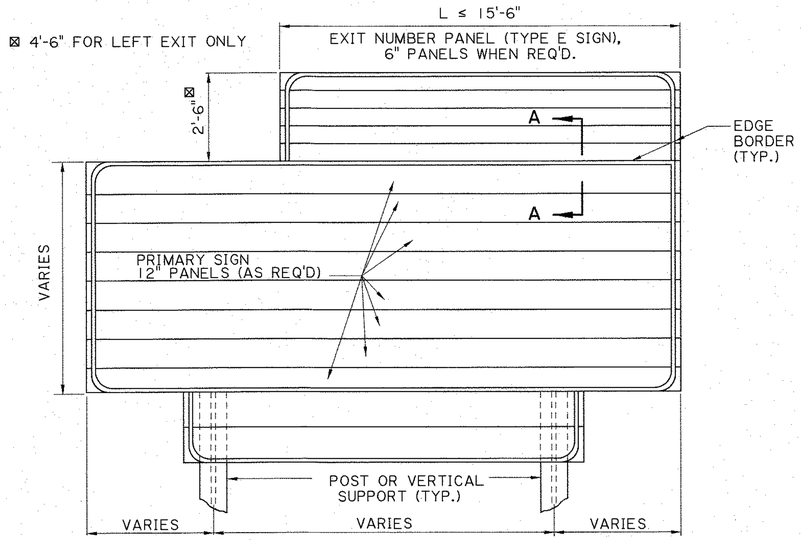
APPROVED BY CHIEF ENGINEER:
DATE: 7/1/2022

SPACING OF POSTS FOR GROUND MOUNTED SIGNS

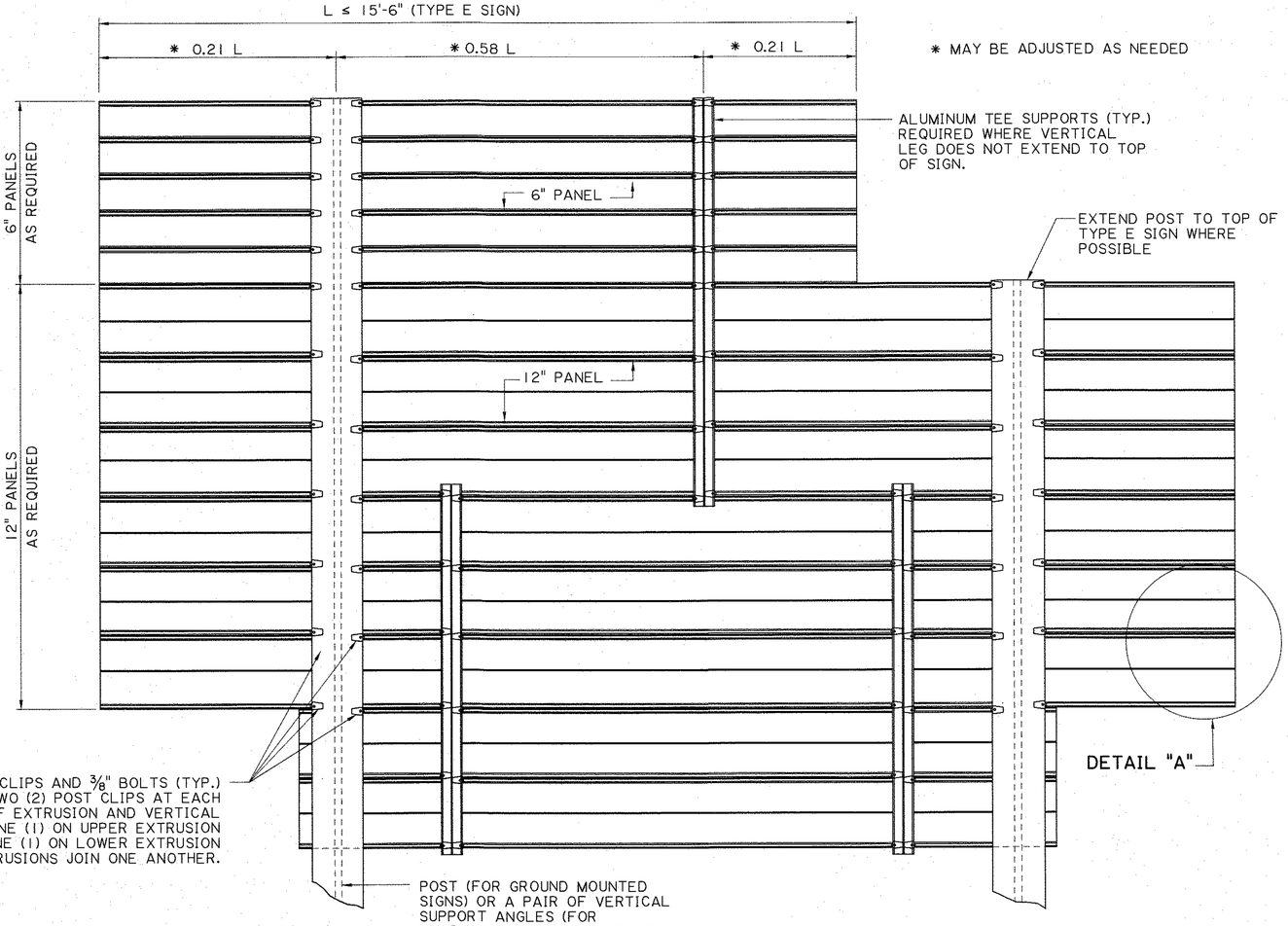
STANDARD S.L.A.N. ROADSIDE SIGNING STANDARDS

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN



FRONT ELEVATION



BACK ELEVATION

NOTES:

EXTRUDED ALUMINUM PANELS WILL BE ALLOWED AS AN ALTERNATE TO SIGN PANEL DETAILS FOR TYPE "D" AND "E" GROUND MOUNTED SIGNS ONLY. NUMBER AND SPACING OF POST SHALL MATCH THOSE SHOWN FOR PANEL DETAILS.

ALL 12" EXTRUDED ALUMINUM PANELS SHALL BE ALUMINUM ALLOY 6063-T6.
ALL POST CLIPS SHALL BE ALUMINUM ALLOY 356-T6.
ALL EXTRUDED PANEL BOLTS AND POST CLIP BOLTS SHALL BE ALUMINUM.
ALL HEX LOCK NUTS SHALL BE ALUMINUM ALLOY 2017-T4.
ALL POST CLIP BOLTS SHALL BE TORQUED TO A MINIMUM OF 175 IN-LBS.
ALL POST CLIP BOLTS SHALL HAVE HEADS DESIGNED TO FIT THE BOLT SLOTS IN THE PANELS.

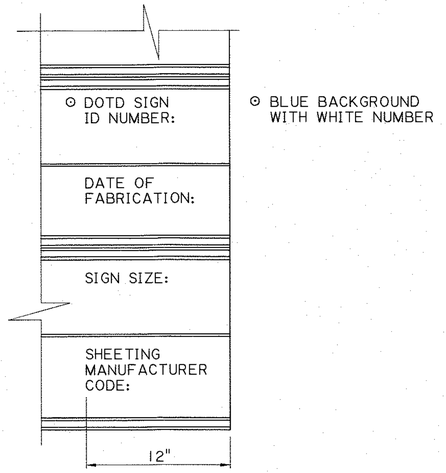
TYPE E SIGNS SHALL BE ATTACHED TO PRIMARY SIGNS WITH ALUMINUM TEE SUPPORTS, (5'-1" LENGTH), POST CLIPS, POST CLIP BOLTS, AND HEX LOCK NUTS.

FOR NEW OVERHEAD SIGNS (INCLUDING FASCIA MOUNTED) INCORPORATING EXISTING MOUNTS, THE CONTRACTOR WILL PLACE VERTICAL SUPPORT ANGLES WITHOUT SPLICES THAT EXTEND THE FULL HEIGHT OF THE EXTRUDED PRIMARY SIGN PANEL.

FOR NEW TYPE D SIGNS INCORPORATING EXISTING MOUNTS, THE EXISTING POST MAY BE REUSED IF THE NEW SIGN PANEL DOES NOT EXTEND OVER 2'-0" ABOVE THE EXISTING POST. SUCH NEW SIGNS WILL BE MOUNTED TO ALUMINUM TEE SUPPORTS BEGINNING AT THE TOP OF THE SIGN AND EXTENDING DOWNWARD FROM THE TOP OF THE POST THE DISTANCE THE NEW SIGN IS ABOVE THE EXISTING POST PLUS 1'-0". ONE TEE IS REQUIRED ADJACENT TO EACH EXISTING POST AND ATTACHED WITH POST CLIPS AS SHOWN FOR NEW TYPE E SIGNS. IF THE NEW SIGN EXTENDS OVER 2'-0" ABOVE THE EXISTING POST, THE CONTRACTOR IS TO REPLACE THE EXISTING POST AND MEET DETAILS FOR NEW CONSTRUCTION.

REFLECTIVE SHEETING FOR EXTRUDED PANELS: ONLY SPLICES THAT OCCUR AS PART OF THE MANUFACTURING PROCESS SHALL BE PERMITTED. A MAXIMUM OF TWO VERTICAL SPLICES ON ANY ONE SIGN FABRICATED USING EXTRUDED PANELS, WITH ONE SPLICE PER EXTRUDED PANELS SHALL BE ALLOWED. ALL "EXIT ONLY" PANELS THAT ARE DETAILED WITH THE TOP AND/OR BOTTOM EDGE NOT AT AN EXTRUDED PANEL EDGE SHALL BE FABRICATED FROM .080" ALUMINUM AND ATTACHED AS AN OVERLAY. ALL OTHER "EXIT ONLY" PANELS SHALL BE FABRICATED BY APPLYING THE YELLOW REFLECTIVE SHEETING ON THE EXTRUDED PANELS. THE REFLECTIVE SHEETING APPLIED TO EXTRUDED PANELS SHALL EXTEND APPROXIMATELY 1/4" OVER EACH SIDE AND SHALL BE ADHERED TO THE SIDE OF THE PANEL.

THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.



DETAIL "A"

2" LETTERING IN LAST 12" OF SIGN, SEE MISCELLANEOUS NOTE ON GENERAL NOTE SHEET OF TRAFFIC SIGN DETAILS.

STATE OF LOUISIANA
PAUL OLIVIER
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IN
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10/6/2025

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SHEET NUMBER 339

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES
K. BRAUNER	C. GUIDRY	K. BRAUNER	C. GUIDRY	C. BOURGEOIS	5 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

EXTRUDED ALUMINUM SIGNS (TYPE D & E SIGNS)

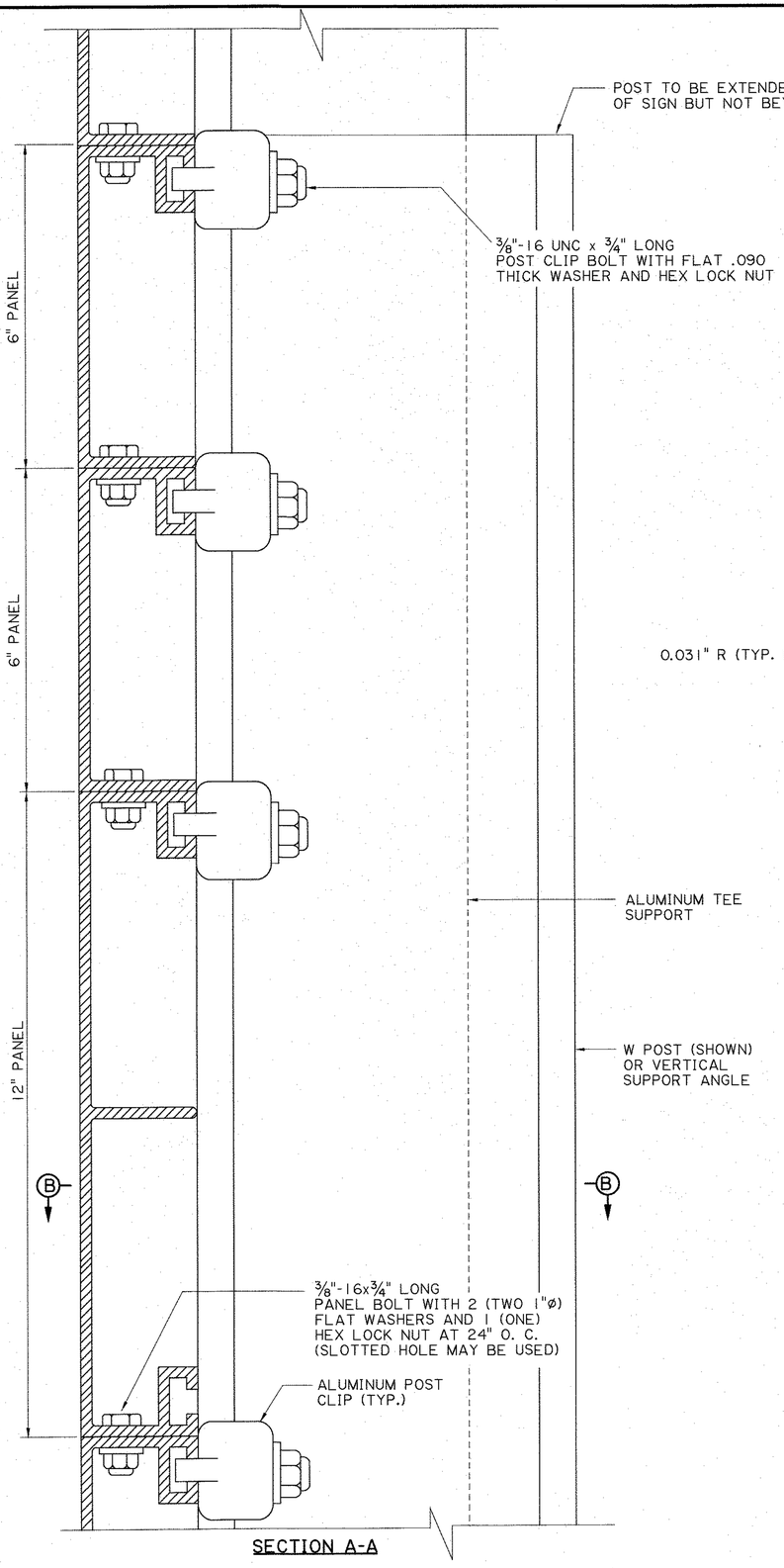
ROADSIDE SIGNING STANDARDS

STANDARD PLAN

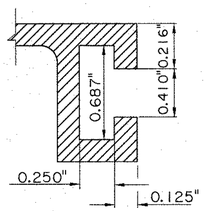
DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

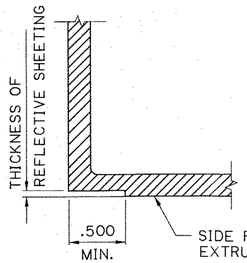
6/24/2022 09:20
IP_PWP:d0964073\Roadside Traffic Signs 06.dgn



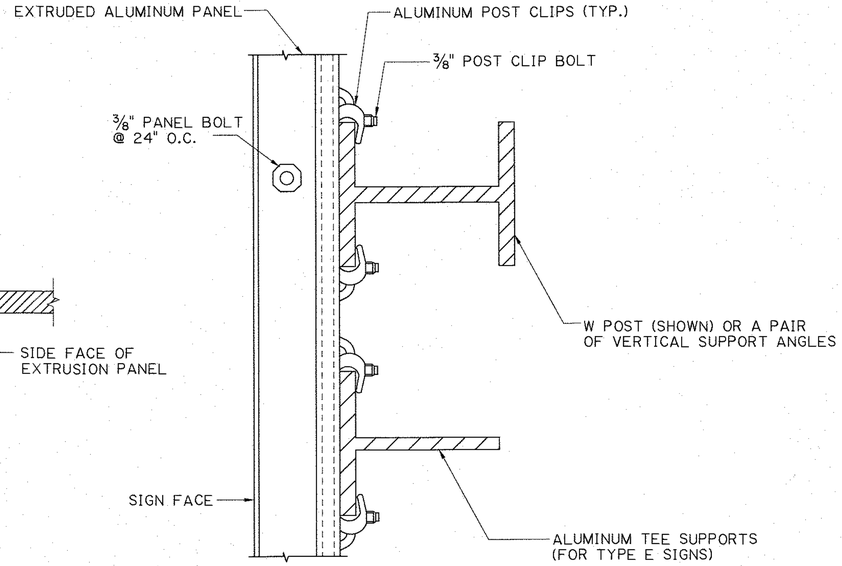
SECTION A-A



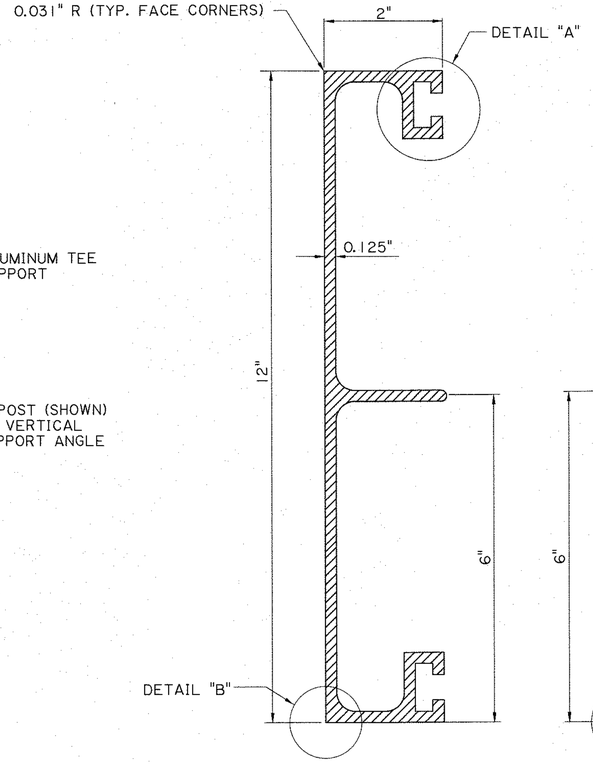
DETAIL "A"



DETAIL "B"

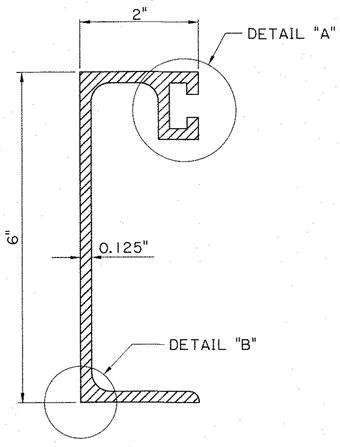


SECTION B-B



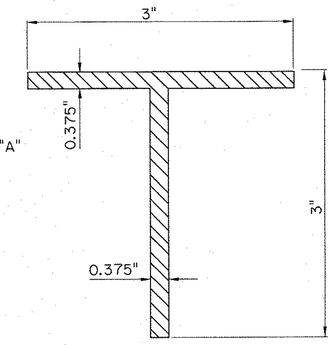
12" PANEL

MINIMUM WALL THICKNESS IS 0.080" UNLESS OTHERWISE SPECIFIED

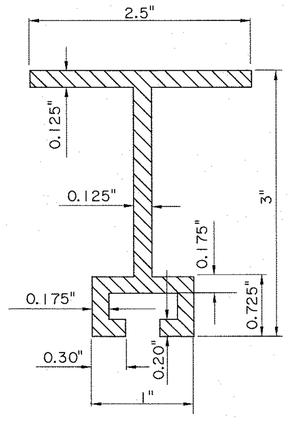


6" PANEL

MINIMUM WALL THICKNESS IS 0.080" UNLESS OTHERWISE SPECIFIED



3"x3"x3/8"



3"x2.5"

ALUMINUM TEE SUPPORTS

FOR TYPE E SIGNS

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STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

SHEET NUMBER	340	
PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	
DESIGN K. BRAUNER	DETAIL K. BRAUNER	REVIEW C. BOURGEOIS
CHECK C. GUIDRY	CHECK C. GUIDRY	SERIES # 6 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

EXTRUDED ALUMINUM PANELS (TYPE D & E SIGNS)

STANDARD PLANS: ROADSIDE SIGNING STANDARDS

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

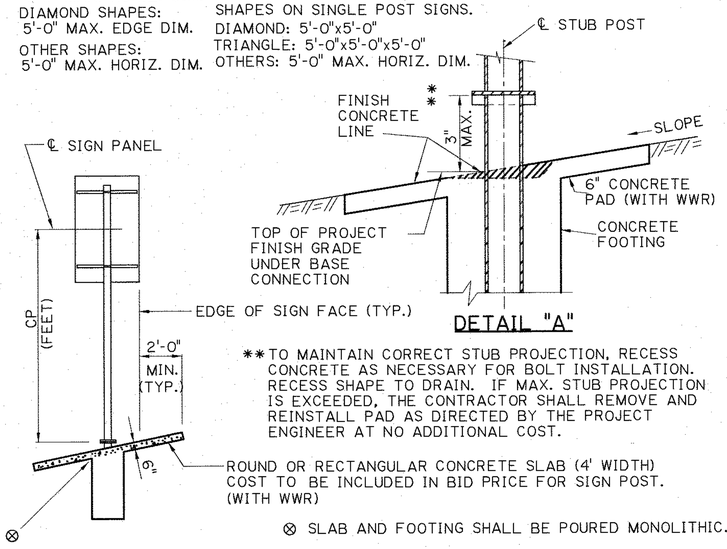
BRIDGE AND STRUCTURAL DESIGN

TYPE A SIGN

RECTANGULAR SHAPES:
4'-0" MAX. HORIZ. DIM.
DIAMOND SHAPES:
5'-0" MAX. EDGE DIM.
OTHER SHAPES:
5'-0" MAX. HORIZ. DIM.

TYPE B SIGN

CLUSTER ASSEMBLY
MAX. DIM. FOR DIFFERENT SIGN BLANK SHAPES ON SINGLE POST SIGNS.
DIAMOND: 5'-0"x5'-0"
TRIANGLE: 5'-0"x5'-0"x5'-0"
OTHERS: 5'-0" MAX. HORIZ. DIM.

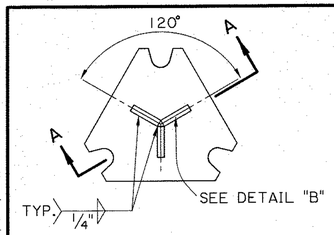


DETAIL "A"

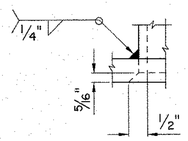
** TO MAINTAIN CORRECT STUB PROJECTION, RECESS CONCRETE AS NECESSARY FOR BOLT INSTALLATION. RECESS SHAPE TO DRAIN. IF MAX. STUB PROJECTION IS EXCEEDED, THE CONTRACTOR SHALL REMOVE AND REINSTALL PAD AS DIRECTED BY THE PROJECT ENGINEER AT NO ADDITIONAL COST.

⊗ SLAB AND FOOTING SHALL BE POURED MONOLITHIC.

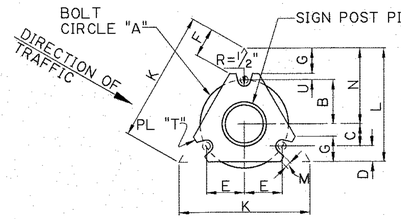
| SINGLE POST MOUNTS | | |



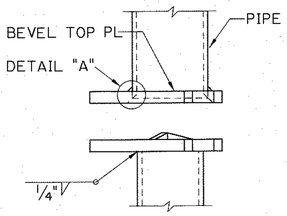
TOP VIEW STUB POST



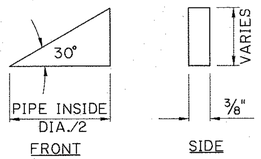
DETAIL "A"



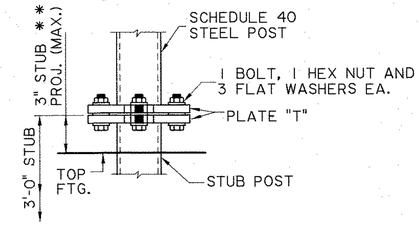
PLAN OF BASE



SECTION A-A



DETAIL "B"
3 REQ'D.



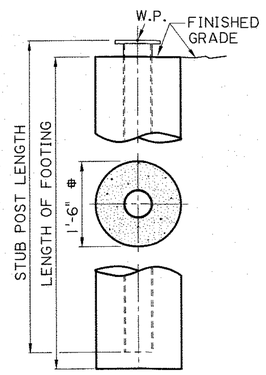
ELEVATION OF BASE CONNECTION
STEEL

** IF MAX. STUB PROJECTION IS EXCEEDED, CONTRACTOR SHALL REMOVE AND REINSTALL PAD AS DIRECTED BY THE PROJECT ENGINEER AT NO COST TO THE DEPARTMENT.

MULTI-DIRECTIONAL BASE
SINGLE STEEL POST ONLY

STEEL MULTI-DIRECTIONAL BASE CONNECTION DATA																
NOMINAL PIPE SIZE	BOLT SIZE ⊙ & TORQUE	WELD SIZE	T	Y	A	B	C	D	E	F	G	K	L	M	N	U
2½" OR 3½" DIA.	5/8" T=226	3/8"	5/8"	7"	7"	3½"	1¾"	1¼"	3"	2 5/16"	2"	10 3/8"	9"	½"	6"	½"

FOR STUB POST LENGTH & FOOTING DIMENSION SEE TABLE BELOW AND FOOTING DETAIL.
⊙ TORQUE IN INCH-LBS., BOLTS ARE HIGH STRENGTH



⌀ FOR 2½"ø (STEEL) POST SECTIONS, FOOTING DIAMETER SHALL BE 1'-0"

FOOTING DETAIL
PIPE SECTIONS

FOOTING DATA			
POST DIA.	STUB L	FOOTING L	CU.YD. CONC.
2½"	36"	36"	0.09
3½"	36"	36"	0.20
5"	48"	48"	0.26

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

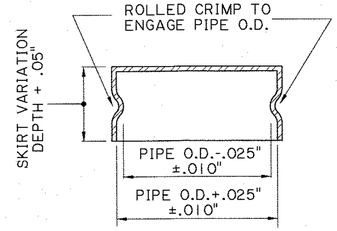
SPECIAL CARE SHALL BE TAKEN TO SET THE BASE PLUM TO AVOID EXCESSIVE SHIMMING AT THE BREAK-AWAY FEATURE AFTER FINAL INSTALLATION. EXCESSIVE SHIMMING COULD IMPAIR THE BREAK-AWAY FEATURE FOR WHICH THIS INSTALLATION WAS DESIGNED.

1. BASE SHALL BE ALIGNED AND SET PLUM BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
2. H.S. BOLTS IN BASE PLATE SHALL BE TIGHTENED TO THE PRESCRIBED TORQUE. CARE SHALL BE TAKEN TO AVOID OVERTIGHTING.

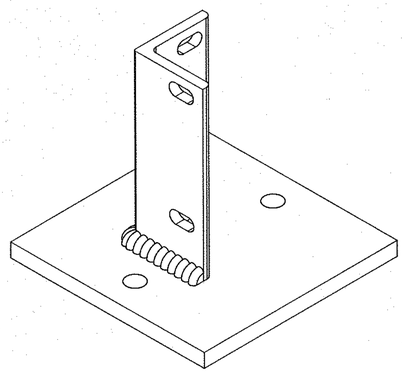
FRICTION CAPS:

CAPS MAY BE MANUFACTURED FROM EITHER HOT ROLLED OR COLD ROLLED STEEL SHEETS. FOR PIPE SIZES 3½" AND SMALLER THE MINIMUM SHEET METAL THICKNESS SHALL BE 24 GAUGE. THE RIM EDGES SHALL BE REASONABLY STRAIGHT AND SMOOTH. CAPS SHALL BE SIZED AND FORMED IN SUCH A MANNER AS TO PRODUCE A DRIVE-ON FRICTION FIT AND HAVE NO TENDENCY TO ROCK WHEN SEATED ON THE PIPE. THE DEPTH SHALL BE SUFFICIENT TO GIVE POSITIVE PROTECTION AGAINST ENTRANCE OF RAINWATER. THEY SHALL BE FREE OF SHARP CREASES OR INDENTATIONS AND SHOW NO EVIDENCE OF METAL FRACTURE. CAPS SHALL HAVE A ELECTRODEPOSITED COATING OF ZINC IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. SPECIFICATION B633 SC4, TYPE I.

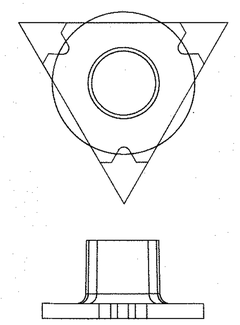
THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.



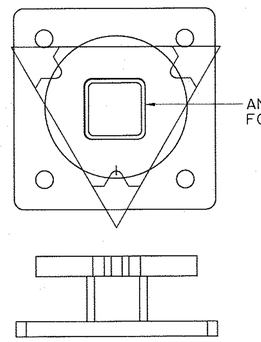
FRICTION CAP DETAIL
USED AT TOP OF ALL POSTS



SURFACE MOUNT FOR MILE MARKERS
(SQUARE TUBE ONLY)



TYPICAL TOP ASSEMBLY



TYPICAL BOTTOM ASSEMBLY

CONCRETE SURFACE MOUNT

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PAUL OLIVIER
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10/6/2025

SHEET NUMBER 342

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES
K. BRAUNER	C. GUIDRY	K. BRAUNER	C. GUIDRY	C. BOURGEOIS	8 OF 17

STATE OF LOUISIANA
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6/24/22

APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

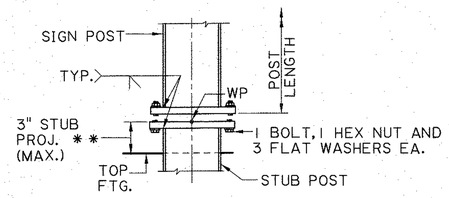
ROADSIDE MOUNTED SIGN DETAILS
(TYPE A & B SIGNS)

ROADSIDE SIGNING STANDARDS
STANDARD SIGN

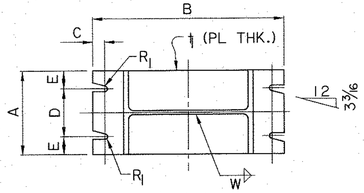
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

6/24/2022 09:24
IP_PWP:d0964073\Roadside Traffic Signs 08.dgn

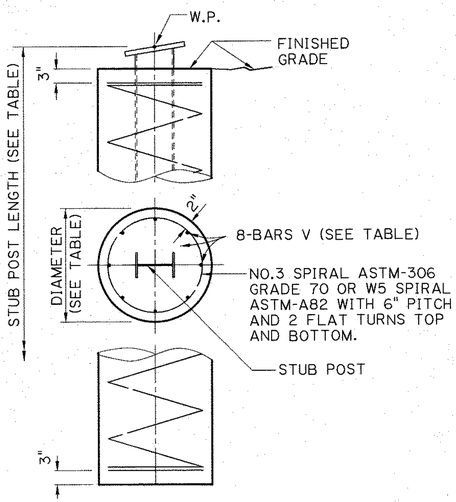


ELEVATION OF HORIZONTAL CONNECTION W SECTION



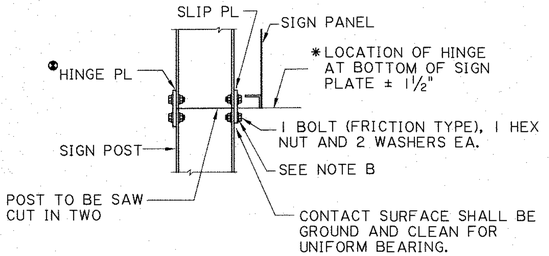
PLAN BASE PLATE AND POST

ADD 1/2" FOR BEVELED BASE PLATES



CONCRETE FOOTING DETAIL W SECTION

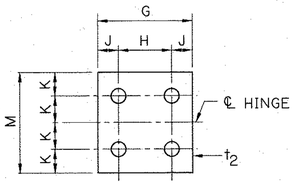
NOTE:
NO REINFORCING STEEL IS REQUIRED FOR 'S' SECTION.



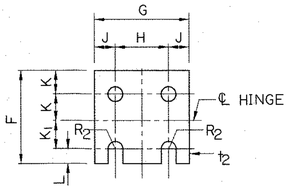
SLIP PLATE CONNECTION DETAIL

⚉ WHEN SIGN IS LOCATED ON SIDE OF ROADWAY WITH TWO WAY TRAFFIC, A SLIP PLATE WILL BE USED ON BOTH SIDES OF THE POST IN LIEU OF THE HINGE PLATE SHOWN

* FOR EXTRUSION SIGN PANEL ALTERNATE, LOCATION OF ℄ HINGE SHALL BE 3 1/2" FROM BOTTOM OF SIGN PANEL.



HINGE PLATE DETAIL



SLIP PLATE DETAIL

BOLT HOLE DIAMETERS TO BE EQUAL TO BOLT DIA. + 1/16" IN POST FLANGE AND SLIP PLATE.

SLIP PLATE CONNECTION NOTES:

1. POST SHALL BE SAW CUT OR TORCH CUT PRIOR TO GALVANIZING.
2. SLIP PLATE SHALL BE INSTALLED WITH H.S. BOLTS AT MINIMUM BOLT TENSION.
3. TIGHTING SHALL BE OBTAINED BY
   (a) TURN OF NUT METHOD; OR
   (b) DIRECT TENSION INDICATOR METHOD USING LOAD INDICATOR WASHER. SEE NOTE A.
4. TIGHTING SHALL BE TO SUCH A DEGREE AS TO OBTAIN MINIMUM BOLT TENSION AS SPECIFIED IN STANDARD SPECIFICATIONS SUBSECTION 807.05, CURRENT AT TIME OF FABRICATION.
5. TIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED MINIMUM BOLT TENSION.

NOTE A:

WHEN HIGH STRENGTH BOLT IS TIGHTENED BY USE OF A DIRECT TENSION INDICATOR,THE INSTALLATION AND INSPECTION SHALL BE IN ACCORDANCE WITH SPECIFICATION FOR STRUCTURAL JOINTS, SECTION 5 AND 6 FOR ASTM A-325 BOLTS APPROVED BY THE RESEARCH COUNCIL ON RIVETED AND BOLTED STRUCTURAL JOINTS. FOR DETAILED INSTALLATION AND INSPECTION PROCEDURES FOLLOWED MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT BROCHURES TO THE BRIDGE DESIGN ENGINEER FOR APPROVAL.

NOTE B:

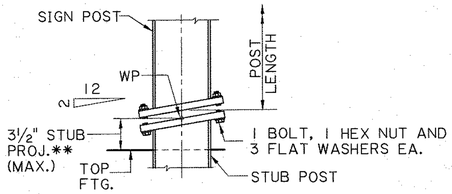
WHEN HIGH STRENGTH BOLT IS TIGHTENED BY USE OF A DIRECT TENSION INDICATOR METHOD, THE WASHER UNDER THE BOLT HEAD SHALL BE A LOAD INDICATOR WASHER.

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

SPECIAL CARE SHALL BE TAKEN TO SET THE BASE PLUMB TO AVOID EXCESSIVE SHIMMING AT THE BREAK-AWAY FEATURE AFTER FINAL INSTALLATION. EXCESSIVE SHIMMING COULD IMPAIR THE BREAK-AWAY FEATURE FOR WHICH THIS INSTALLATION WAS DESIGNED. SHIM PACKS SHOWN ON THIS DRAWING SHOULD BE SUFFICIENT TO ALLOW FOR NORMAL MISALIGNMENT.

1. BASE SHALL BE ALIGNED AND SET PLUMB BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
2. H.S. BOLTS IN BASE PLATE SHALL BE TIGHTENED TO THE PRESCRIBED TORQUE. CARE SHALL BE TAKEN TO AVOID OVERTIGHTING.

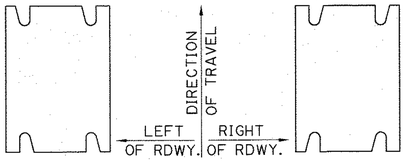
DIRECTION OF HIGHEST SPEED TRAFFIC



ELEVATION OF BEVELED CONNECTION W SECTION

TO BE USED ON ALL MULTI-POST SIGNS WITH DISTANCE BETWEEN POSTS 7'-0" ℄ TO ℄ OR LESS.

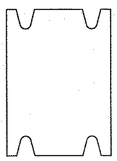
** IF MAX. STUB PROJECTION IS EXCEEDED, CONTRACTOR SHALL REMOVE AND REINSTALL PAD AS DIRECTED BY THE PROJECT ENGINEER AT NO COST TO THE DEPARTMENT.



LEFT HAND SLOTS

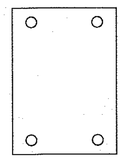
RIGHT HAND SLOTS

FOR ONE-WAY TRAFFIC LANES. FOR TWO-WAY TRAFFIC LANES, USE RIGHT HAND SLOTS ONLY.



TWO-WAY SLOTS

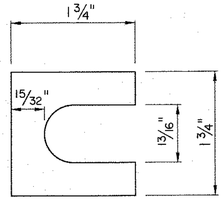
FOR GORE INSTALLATIONS



HOLES

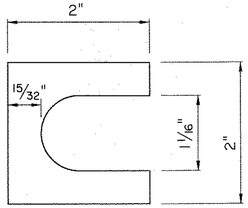
FOR BRIDGE MOUNTED SIGNS & SIGNS BEHIND GUARDRAIL

ORIENTATION AND USE OF SLOTS AND HOLES



* SHIM DETAIL

BOLTS UP TO 3/4" ø BOLTS



* SHIM DETAIL

BOLTS UP TO 1" ø BOLTS

* FURNISH 2 SHIMS 0.012"± THICK AND 2 SHIMS 0.032"± THICK PER POST. SHIMS SHALL BE BRASS CONFORMING TO A.S.T.M. SPEC. B-36 AND BE USED AS DIRECTED BY THE PROJECT ENGINEER.

DIMENSION (INCH) / SECTION	BASE CONNECTION DATA										SLIP PLATE & HINGE PLATE DATA											FOOTING DATA				
	BOLT SIZE & * TORQUE LIMITS	A	B	C	D	E	t_1	R	W	W (ALT.) SEE NOTE	F	G	H	J	K	K_1	L	M	t_2	R_2	H.S. BOLT DIA.	STUB LTH.	FTG. DIA.	LTH. OF FTG.	BARS V SIZE	CU. YD. CONC.
W6x12	5/8"ø T= 226-345	4	10	3/4	2	1	1 1/2	11/32	5/16	5/16	3 5/8	4	2 1/4	7/8	1	1 1/4	5/8	4 1/4	3/8	9/32	1/2	24	24	48	#5	0.46
W8x18		5 1/4	12	3/4	3	1 1/8	1 1/2	11/32	5/16	5/16	4 1/8	5 1/4	2 3/4	1 1/4	1 1/8	1 3/8	3/4	4 3/4	1/2	11/32	5/8	24	24	60	#6	0.58
W8x24	3/4"ø T= 369-554	6 1/2	12 1/2	7/8	3 1/4	1 5/8	1 3/4	13/32	3/8	7/16	4 1/8	6 1/2	3 1/2	1 1/2	1 1/8	1 3/8	3/4	4 3/4	1/2	11/32	5/8	30	24	72	#7	0.70
W10x33	1"ø T= 460-735	8	15 1/2	1 1/4	4 1/2	1 3/4	2	17/32	3/8	7/16	4 5/8	8	5 1/2	1 1/4	1 1/4	1 1/2	7/8	5 1/4	5/8	13/32	3/4	30	24	96	#9	0.93
W12x40		8	17 1/2	1 1/4	4 1/2	1 3/4	2	17/32	3/8	7/16	4 5/8	8	5 1/2	1 1/4	1 1/4	1 1/2	7/8	5 1/4	5/8	13/32	3/4	36	24	120	#10	1.16
W12x45		10	17 1/2	1 1/4	6	2	2	17/32	3/8	7/16	5 1/2	10	5 1/2	2 1/4	1 1/2	1 3/4	1	6 1/4	3/4	15/32	7/8	36	36	96	#9	2.09

* BASE PLATE TO POST WELD ALTERNATE (AS AN ALTERNATE TO WELDS SHOWN IN DETAILS, THE POST MEMBERS TABULATED MAY BE WELDED ALL AROUND WITH A FILLET WELD W(ALT.).) ALL BOLTS SHALL HAVE A MINIMUM OF 3 THREADS BEYOND THE NUT. BOLT TORQUE LIMITS ARE IN INCH POUNDS. (THE HIGH STRENGTH BOLTS AT THE BASE CONNECTION SHOULD BE TORQUED WITHIN THE LIMITS SPECIFIED, HOWEVER, THE LOWER LIMIT IS DESIRABLE). FOR NON-BREAKAWAY USE TORQUE LIMITS GIVEN IN THE STANDARD SPECIFICATIONS

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

SHEET NUMBER 343

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	DETAIL	REVIEW
K. BRAUNER	K. BRAUNER	C. BOURGEOIS
CHECK C. GUIDRY	CHECK C. GUIDRY	SERIES * 9 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER: DATE: 11/2022

ROADSIDE MOUNTED SIGN DETAILS (TYPE D SIGNS)

ROADSIDE SIGNING STANDARDS

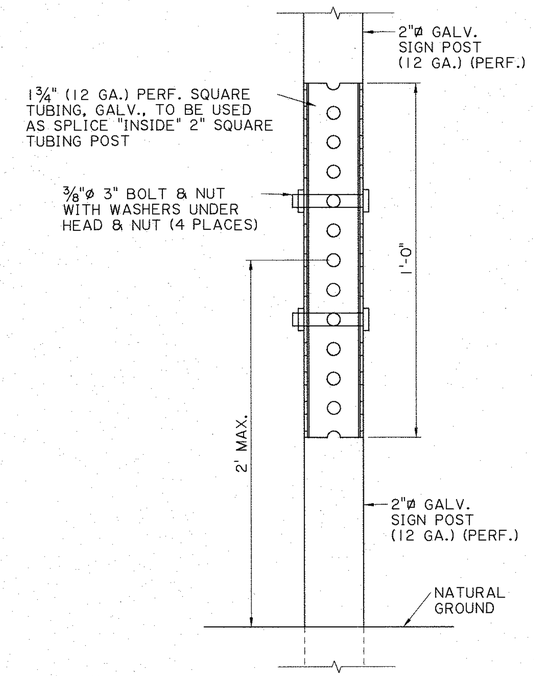
STANDARD PLAN

DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

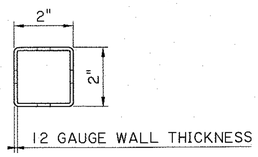
BRIDGE AND STRUCTURAL DESIGN

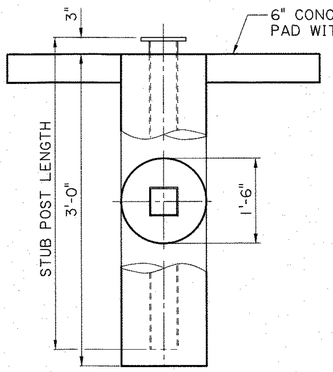
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IP_PWP:d0964073\Roadside Traffic Signs 09.dgn

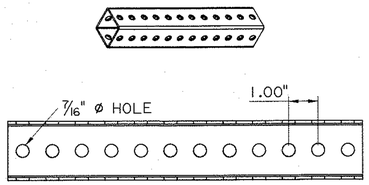


SPLICE JOINT
FOR SIGN 2" POST





FOOTING DETAIL
SQ. TUBE SECTIONS



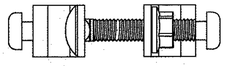
OD	GAUGE	WALL	WEIGHT PER FOOT
2.00"	12GA	0.105"	2.459#

2" SQUARE TUBING

SIGN CENTROID (CP)	ALLOWABLE SIGN AREA (FT^2)			
	70 MPH + 30% GUST		80 MPH + 30% GUST	
	SINGLE POST (2" x 12GA PERF.)	DOUBLE POST (2" x 12GA PERF.)	SINGLE POST (2" x 12GA PERF.)	DOUBLE POST (2" x 12GA PERF.)
14'	3.99	7.98	2.99	5.97
13.5'	4.14	8.28	3.10	6.19
13'	4.30	8.59	3.21	6.43
12.5'	4.47	8.93	3.34	6.68
12'	4.65	9.30	3.48	6.96
11.5'	4.85	9.70	3.63	7.26
11'	5.07	10.14	3.79	7.59
10.5'	5.31	10.62	3.97	7.95
10'	5.57	11.15	4.17	8.34
9.5'	5.86	11.73	4.39	8.77
9'	6.19	12.37	4.63	9.26
8.5'	6.55	13.09	4.90	9.79
8'	6.95	13.90	5.20	10.40
7.5'	7.41	14.81	5.54	11.08
7'	7.93	15.86	5.93	11.86

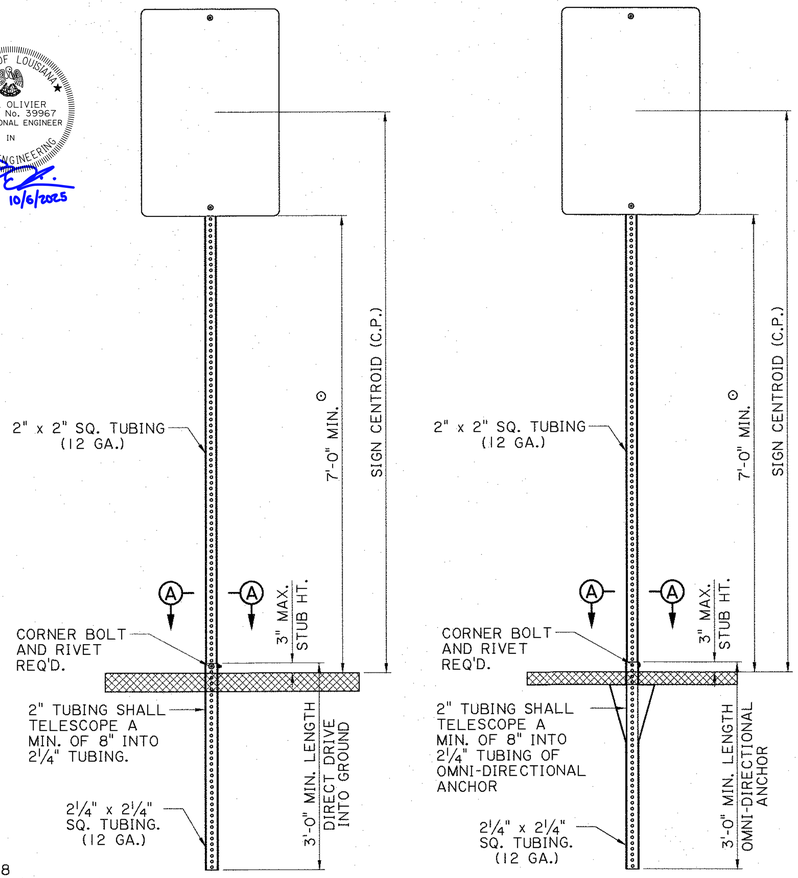
THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025



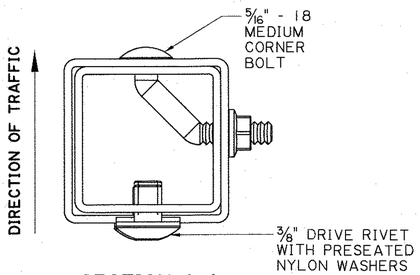
SIGN CLAMP FOR SQUARE POSTS

⅞" WIDE X 11GA. TYPE 304, #2B FINISHED STAINLESS STEEL INCLUDES ⅜" - 16 X 2" CARRIAGE BOLT AND CASE HARDENED FLANGE NUT.

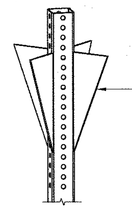


HARD SOIL LOCATIONS

SOFT SOIL LOCATIONS



SECTION A-A



OMNI-DIRECTIONAL ANCHOR

NOTES:

SEE SECTION 1015.02 IN THE STANDARD SPECIFICATIONS FOR INFORMATION RELATED TO THE ALLOWABLE MATERIALS.

SIGNS MOUNTED TO SINGLE SQUARE TUBE POSTS DO NOT REQUIRE STIFFENERS UNLESS THE SIGN HAS AT LEAST ONE SIDE GREATER THAN 36" LONG.

FOR DUAL POSTS, LOCATE POSTS AT 58% SPACING FROM CENTER OF SIGN, OR 21% FROM EACH EDGE OF SIGN. USE STIFFENERS ON BACK OF SIGNS MOUNTED ON DUAL POSTS.

SIGNS MAY BE MOUNTED BACK TO BACK ON THE POST.

⊙ MOUNTING HEIGHT SHALL BE 7'-0" MIN. UNLESS OTHERWISE NOTED ON THE SIGN SUMMARY SHEET. CHEVRON SIGNS (W1-8) MAY BE INSTALLED AT 4'-0" OR HIGHER.

SHEET NUMBER 344

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	DETAIL	REVIEW	SERIES #
K. BRAUNER	K. BRAUNER	C. BOURGEOIS	10 OF 17
CHECK C. GUIDRY	CHECK C. GUIDRY		

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER:
DATE: 2/1/2022

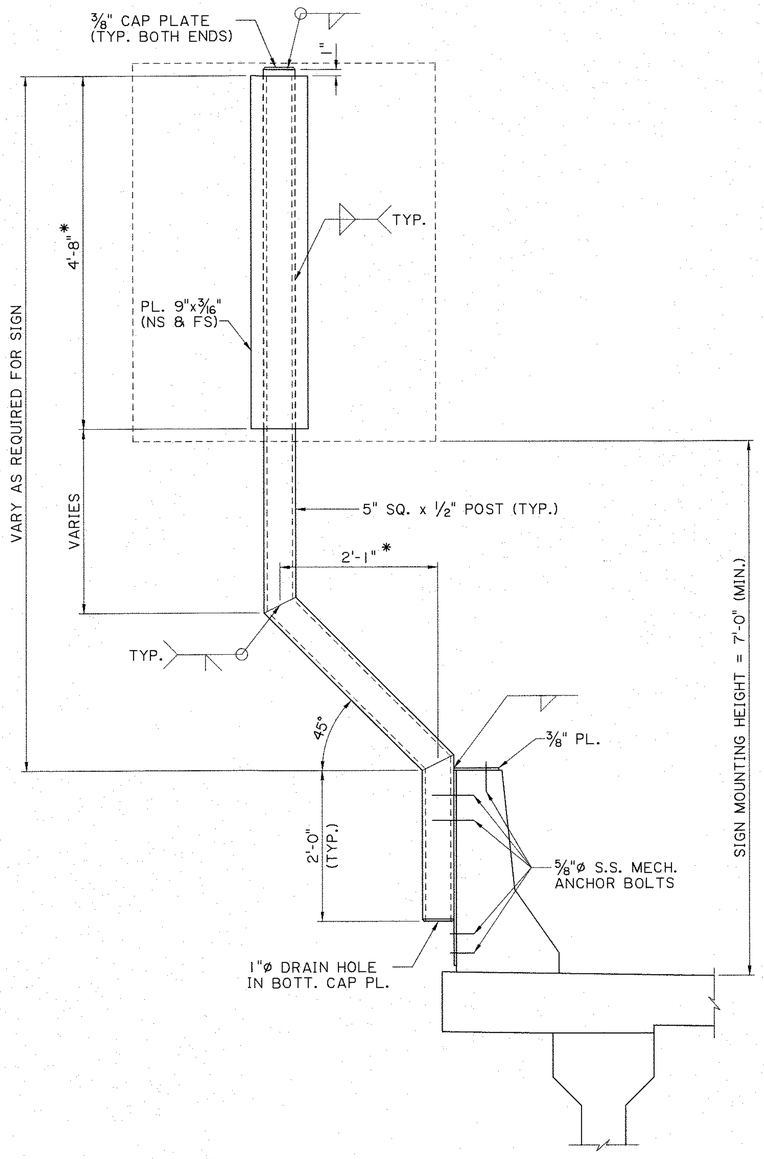
STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SQUARE TUBE SIGN DETAILS

ROADSIDE SIGNING STANDARDS
STANDARD PLAN

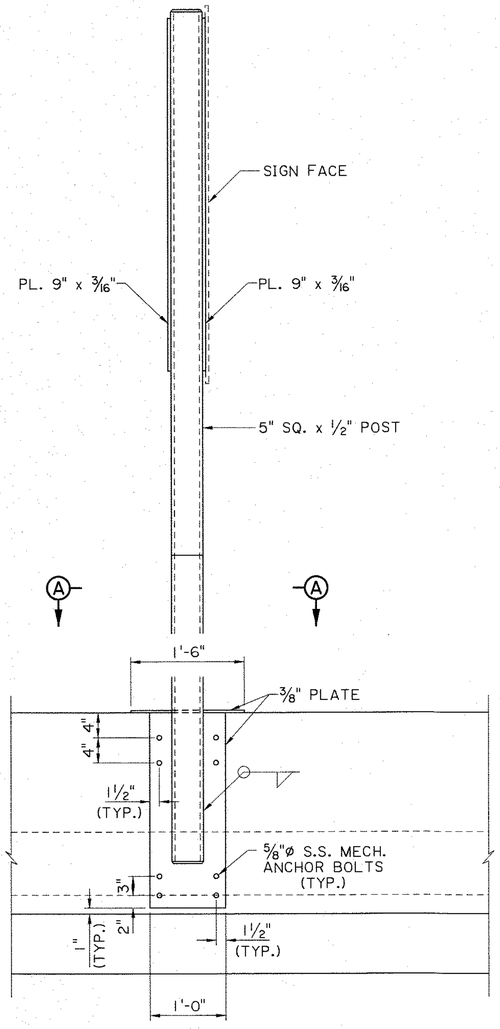
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

6/24/2022 09:33
IP_PWP:d0964073\Roadside Traffic Signs 11.dgn



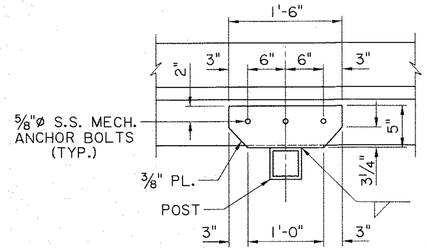
OFFSET SIGN SUPPORT

* DIMENSIONS ARE BASED ON A 5 FT. x 4 FT. SIGN. ADJUST AS NEEDED FOR DIFFERENT SIGN SIZES.



OUTSIDE ELEVATION SHOWING BARRIER

(TYPICAL INSTALLATION)



SECTION A-A

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123.

MECHANICAL ANCHOR BOLTS SHALL BE 5/8"ø STAINLESS STEEL (MIN. FY = 55 ksi) AND SHALL BE SELECTED FROM THE A.M.L. AND INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. EACH ANCHOR SHALL HAVE AN ALLOWABLE CAPACITY OF 3 KIPS PULLOUT AND 3 KIPS SHEAR AFTER APPLICATION OF ANY REDUCTION FACTORS FOR ANCHOR SPACING AND EDGE DISTANCE.

WELDING SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE OF THE AMERICAN WELDING SOCIETY (AWS D1.5-10), AND SECTION 809 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2016 EDITION.

NO PART OF ANY SIGN SHALL PROTRUDE INTO THE SHOULDER AREA. DIMENSIONS OF SUPPORT POST AND BRACKET SHALL BE ADJUSTED AS NEEDED PRIOR TO FABRICATION.

ANY PORTIONS OF THE EXISTING BARRIER THAT ARE DAMAGED SHALL BE REPAIRED TO THE SATISFACTION OF THE PROJECT ENGINEER.

DIMENSIONS RELATED TO THE BARRIER CONNECTION ARE BASED ON AS-BUILT DRAWINGS AND PREVIOUS STANDARDS. DIMENSIONS SHALL BE ADJUSTED AS NEEDED BASED ON FIELD MEASUREMENTS.

A 1/8" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

MAX SIGN AREA = 20 SQFT.

SHEET NUMBER	345
PARISH: ST. TAMMANY	CONTROL SECTION: 000-52
DESIGN: K. BRAUNER / CHECK: V. TOURRES	DETAIL: K. BRAUNER / CHECK: V. TOURRES
REVIEW: C. GUIDRY	SERIES # 11 OF 17

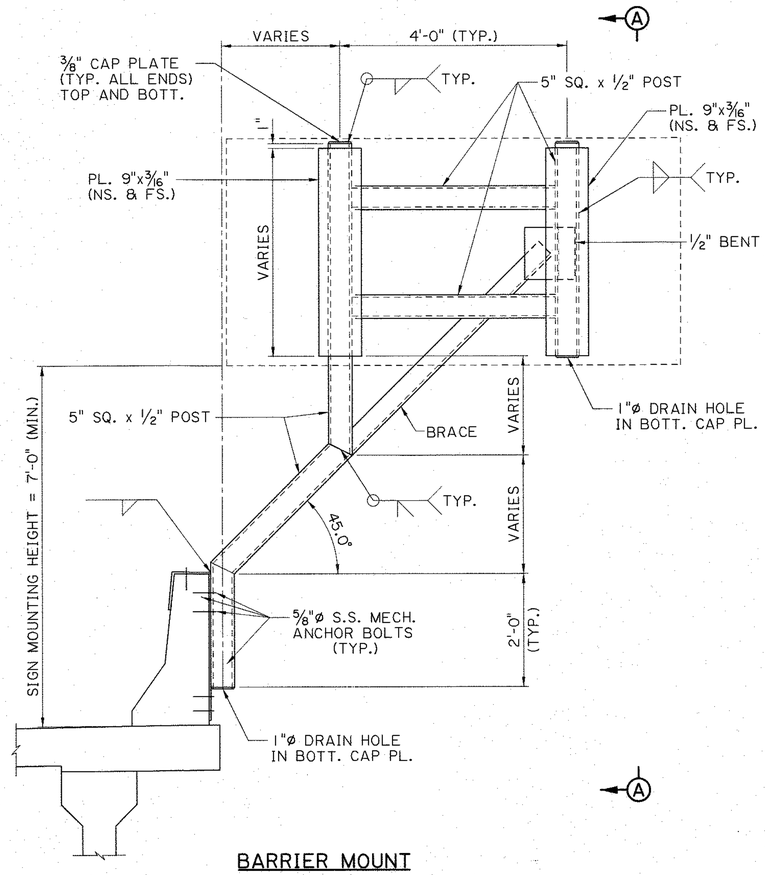
APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

Z - BRACKET SIGN SUPPORT (F - SHAPE BARRIER)

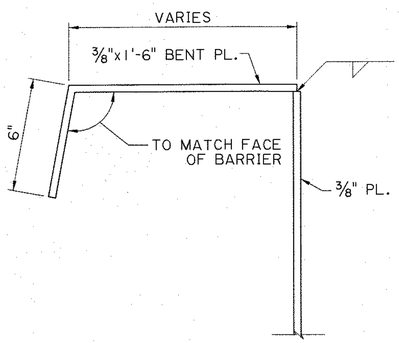
ROADSIDE SIGNING STANDARDS

STANDARD PLAN

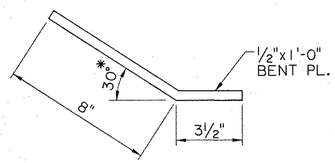
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN



BARRIER MOUNT

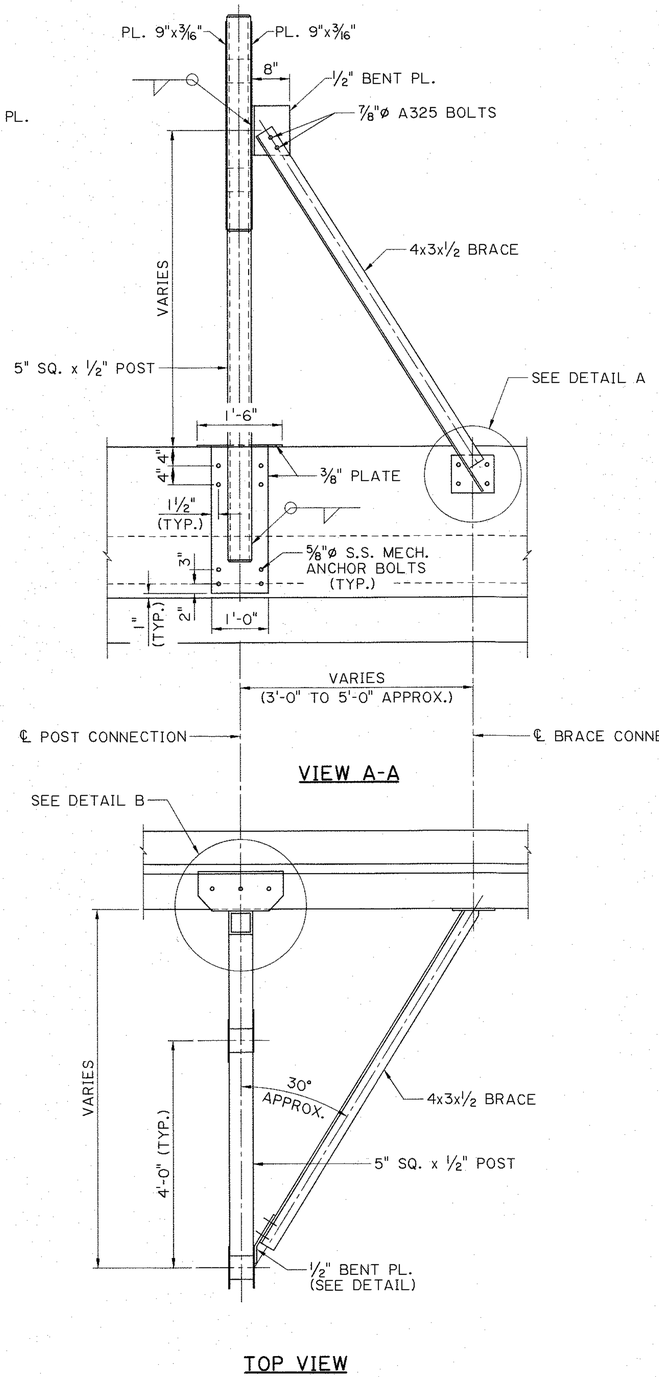


BARRIER CONNECTION DETAIL



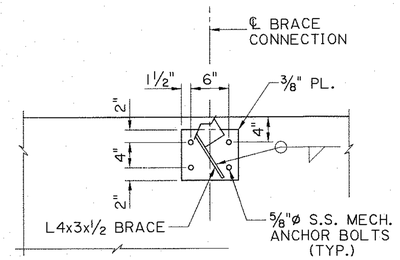
1/2" BENT PLATE DETAIL

* ANGLE IS APPROXIMATE. VARY AS NEEDED.

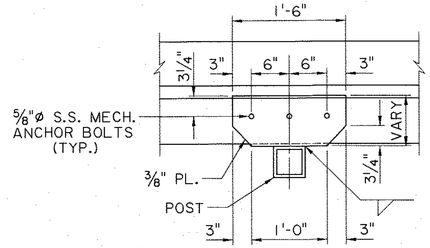


VIEW A-A

TOP VIEW



DETAIL A



DETAIL B

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. A325 BOLTS TO BE GALVANIZED PER ASTM A-153.

MECHANICAL ANCHOR BOLTS SHALL BE 5/8"ø STAINLESS STEEL (MIN. FY = 55 ksi) AND SHALL BE SELECTED FROM THE A.M.L. AND INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. EACH ANCHOR SHALL HAVE AN ALLOWABLE CAPACITY OF 3 KIPS PULLOUT AND 3 KIPS SHEAR AFTER APPLICATION OF ANY REDUCTION FACTORS FOR ANCHOR SPACING AND EDGE DISTANCE.

WELDING SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE OF THE AMERICAN WELDING SOCIETY (AWS D1.5-10), AND SECTION 809 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2016 EDITION.

NO PART OF ANY SIGN SHALL PROTRUDE INTO THE SHOULDER AREA. DIMENSIONS OF SUPPORT POST AND BRACKET SHALL BE ADJUSTED AS NEEDED PRIOR TO FABRICATION.

ANY PORTIONS OF THE EXISTING BARRIER THAT ARE DAMAGED SHALL BE REPAIRED TO THE SATISFACTION OF THE PROJECT ENGINEER.

DIMENSIONS RELATED TO THE BARRIER CONNECTION ARE BASED ON AS-BUILT DRAWINGS AND PREVIOUS STANDARDS. DIMENSIONS SHALL BE ADJUSTED AS NEEDED BASED ON FIELD MEASUREMENTS.

A 1/8" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

MAX SIGN AREA = 40 SQFT.

SHEET NUMBER 346

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES # 12 OF 17
K. BRAUNER	V. TOURRES	K. BRAUNER	V. TOURRES	C. GUIDRY	

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER: DATE: 2/1/2022

STATE OF LOUISIANA
JOHN BEL EDWARDS
GOVERNOR

Z - BRACKET SIGN SUPPORTS
(F - SHAPE BARRIER)

ROADSIDE SIGNING STANDARDS

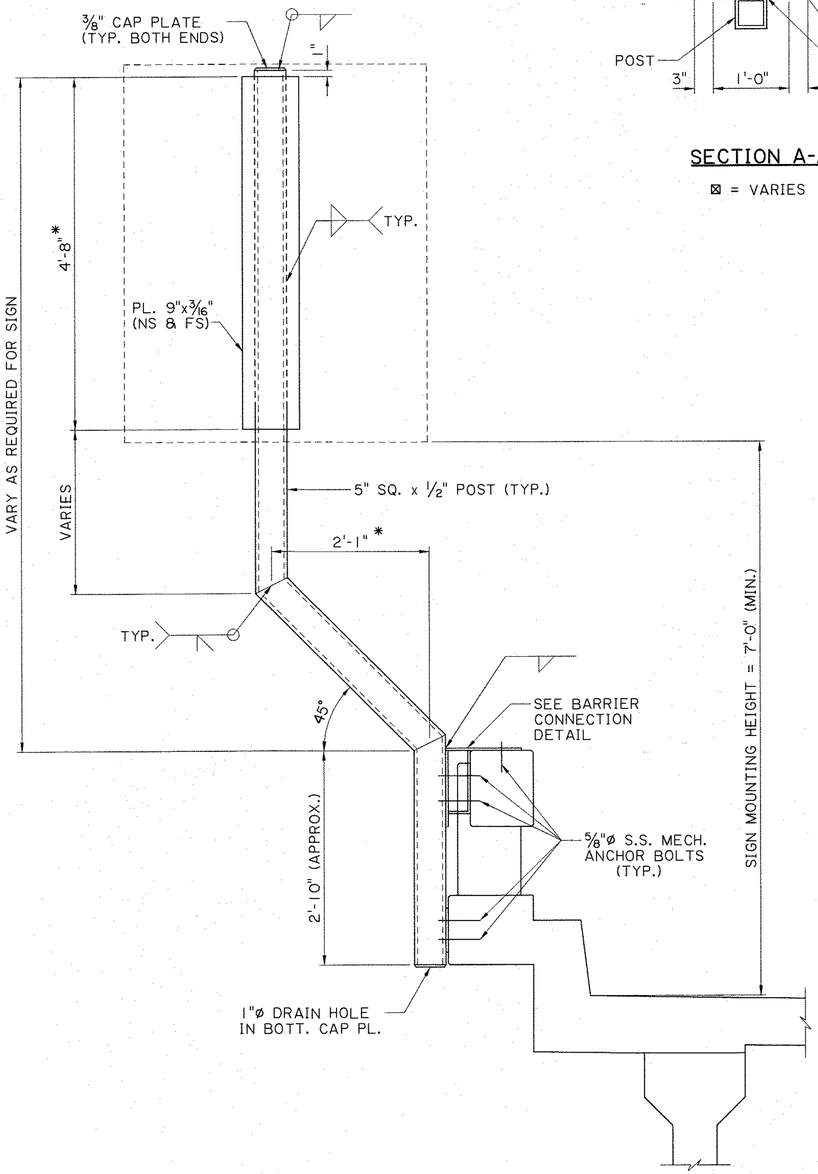
STANDARD PLAN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

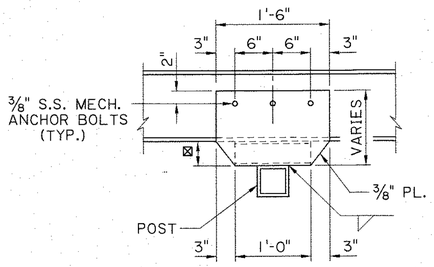
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IP_PWP:d0964073\Roadside Traffic Signs 12.dgn



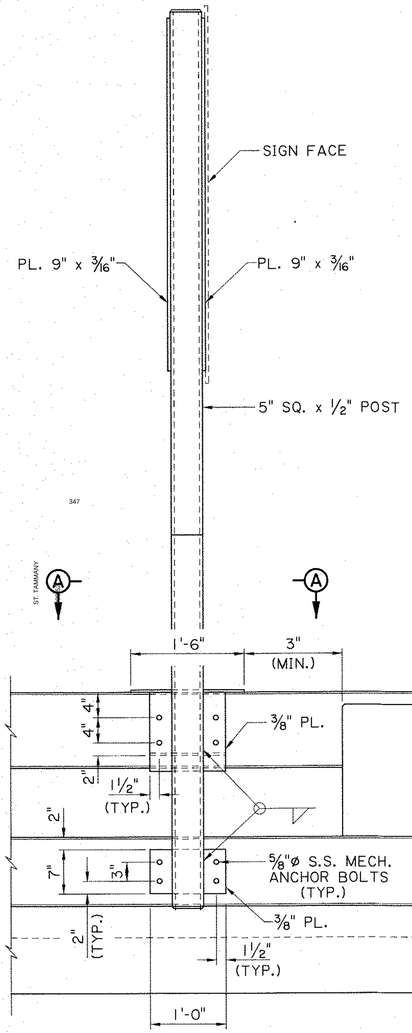
OFFSET SIGN SUPPORT

* DIMENSIONS ARE BASED ON A 5 FT. x 4 FT. SIGN. ADJUST AS NEEDED FOR DIFFERENT SIGN SIZES.



SECTION A-A

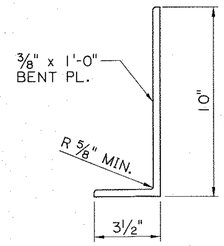
⊠ = VARIES



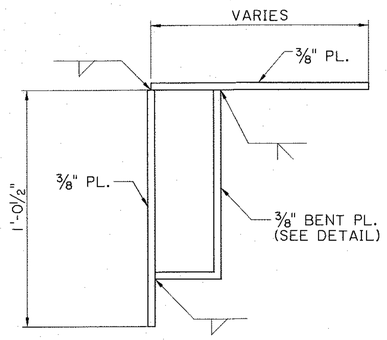
OUTSIDE ELEVATION SHOWING BARRIER

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025



3/8" BENT PL. DETAIL



BARRIER CONNECTION DETAIL

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123.

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WELDING SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE OF THE AMERICAN WELDING SOCIETY (AWS D1.5-10), AND SECTION 809 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2016 EDITION.

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A 1/8" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

MAX SIGN AREA = 20 SQFT.

SHEET NUMBER: 347

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	K. BRAUNER	DETAIL	K. BRAUNER	REVIEW	C. GUIDRY
CHECK	V. TOURRES	CHECK	V. TOURRES	SERIES #	13 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER: Christopher P. Knotts
DATE: 7/1/2022

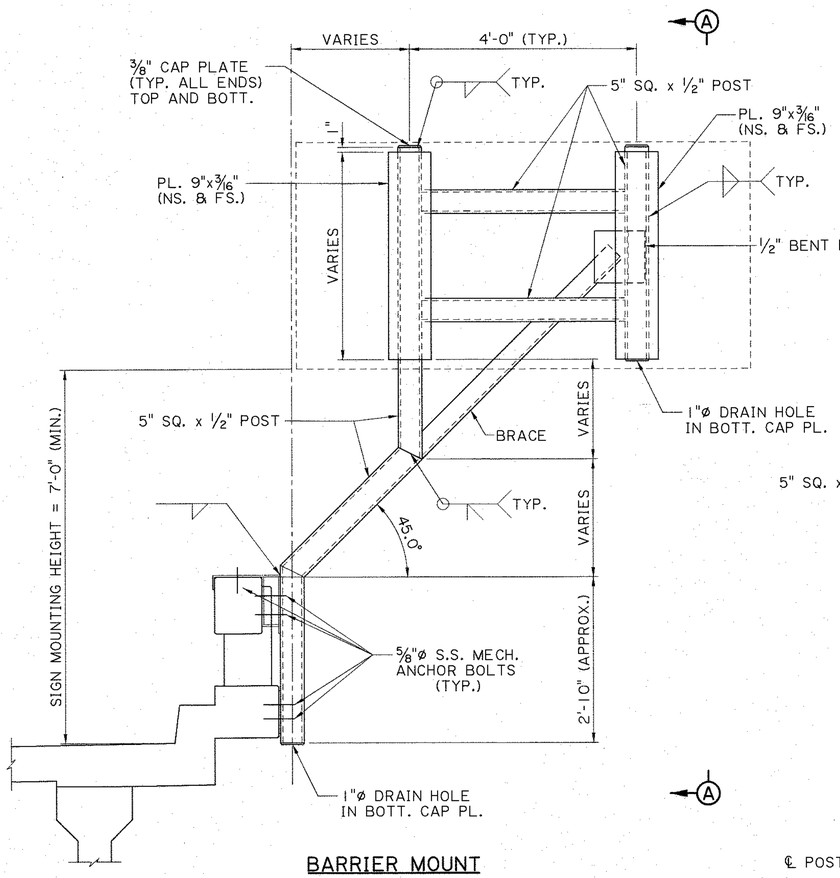
Z - BRACKET SIGN SUPPORT
(POST AND RAIL BARRIER)

ROADSIDE SIGNING STANDARDS
(STANDARD PLAN)

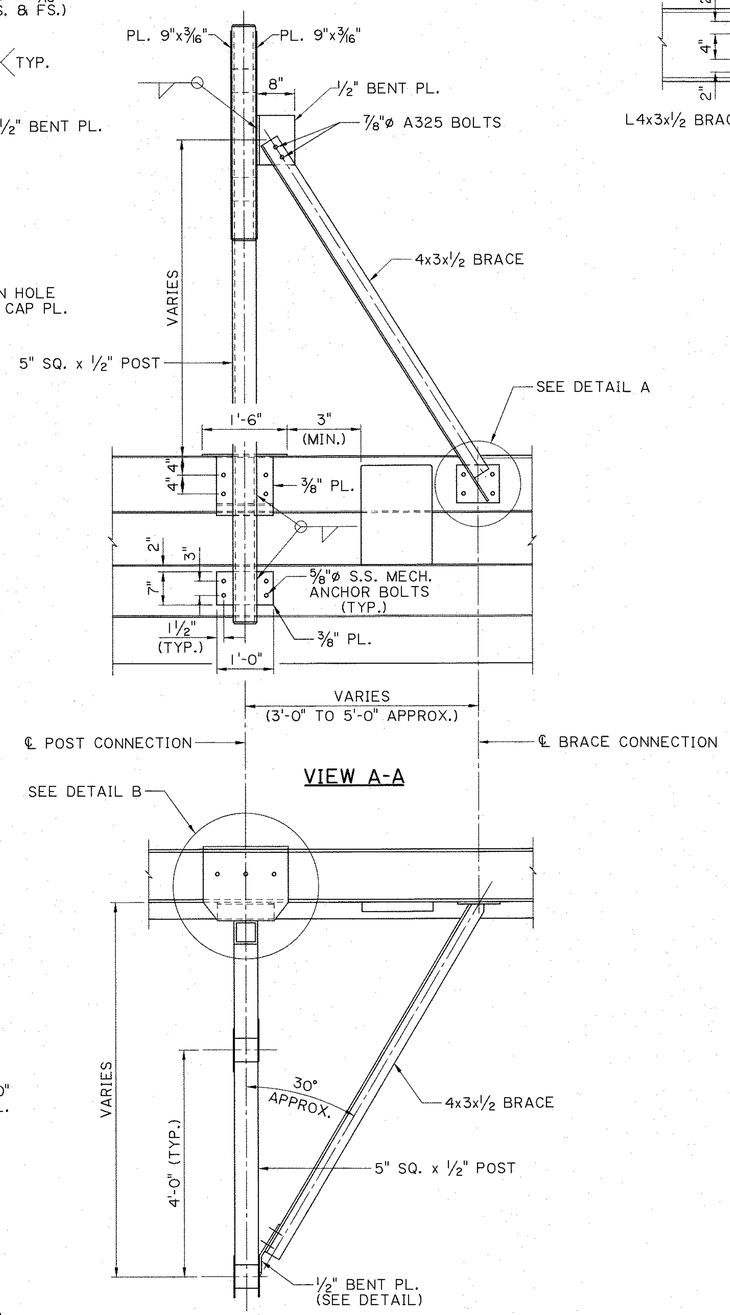
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

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IP_PWP:d0964073\Roadside Traffic Signs 13.dgn

09:37
6/24/2022

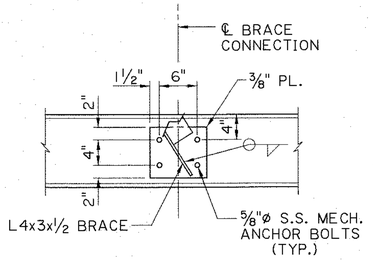


BARRIER MOUNT

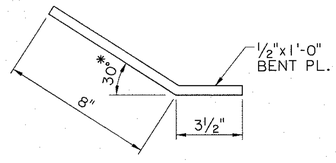


VIEW A-A

TOP VIEW

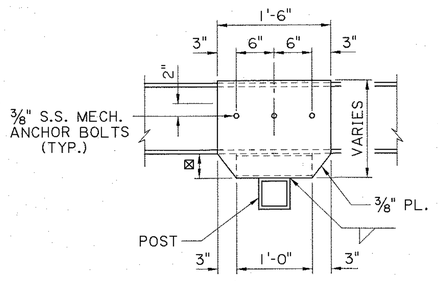


DETAIL A



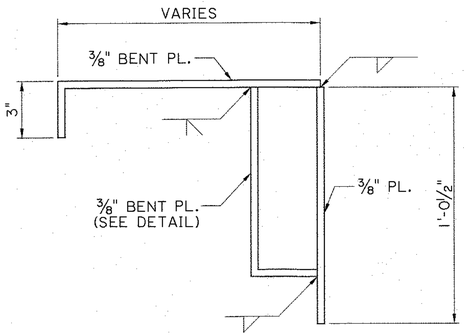
1/2" BENT PLATE DETAIL

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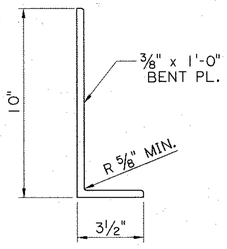


DETAIL B

⊠ = VARIES



BARRIER CONNECTION DETAIL



3/8" BENT PL. DETAIL

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STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NOTES:

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MAX SIGN AREA = 40 SQFT.

SHEET NUMBER	348
PARISH: ST. TAMMANY	CONTROL SECTION: 000-52
DESIGN: K. BRAUNER / CHECK: V. TOURRES	DETAIL: K. BRAUNER / CHECK: V. TOURRES
REVIEW: C. GUIDRY	SERIES # 14 OF 17

APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

Z - BRACKET SIGN SUPPORT (POST AND RAIL BARRIER)

ROADSIDE SIGNING STANDARDS

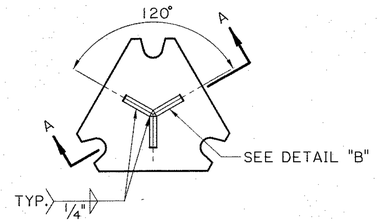
STANDARD PLAN

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

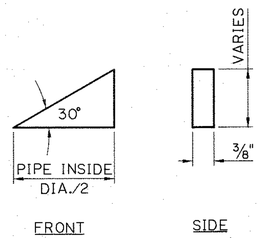
BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d0964073\Roadside Traffic Signs 14.dgn

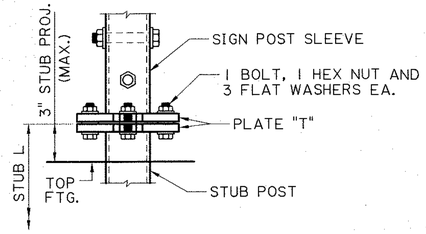
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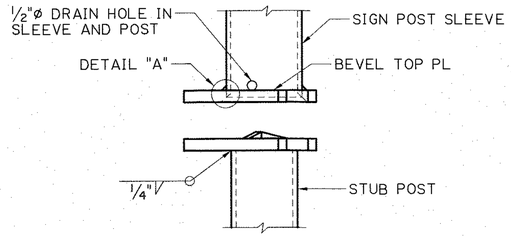
TOP VIEW STUB POST



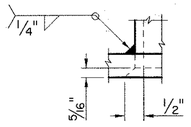
DETAIL "B"
3 REQ'D.



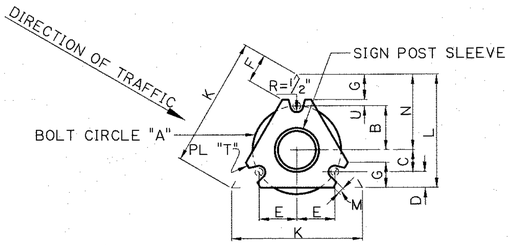
ELEVATION OF BASE CONNECTION
STEEL



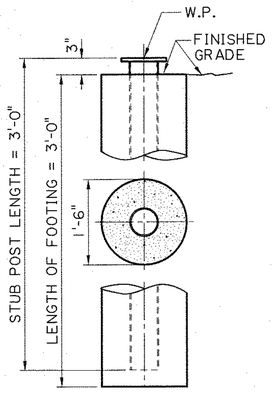
SECTION A-A



DETAIL "A"



PLAN OF BASE

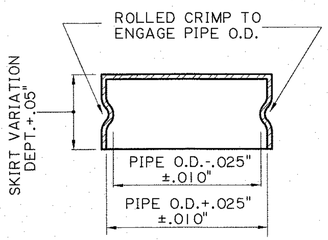


FOOTING DETAIL
PIPE SECTIONS

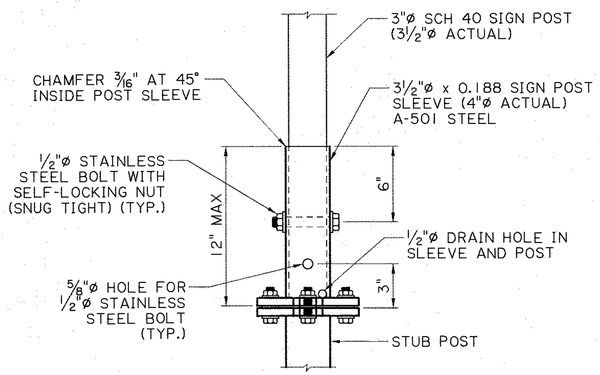
STEEL MULTI-DIRECTIONAL BASE CONNECTION DATA															
NOMINAL PIPE SIZE FOR POST SLEEVE	BOLT SIZE ⊙ & TORQUE	WELD SIZE	T	A	B	C	D	E	F	G	K	L	M	N	U
3½"ø SCH 40	5/8"ø T=226	3/8"	5/8"	7"	3½"	1¾"	1¼"	3"	2 5/16"	2"	10 3/8"	9"	½"	6"	½"

FOR STUB POST LENGTH & FOOTING DIMENSION SEE FOOTING DETAIL.

⊙ TORQUE IN INCH-LBS., BOLTS ARE HIGH STRENGTH



FRICTION CAP DETAIL
(USED AT TOP OF ALL POSTS)



POST SLEEVE DETAIL

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PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

SPECIAL CARE SHALL BE TAKEN TO SET THE BASE PLUMB TO AVOID EXCESSIVE SHIMMING AT THE BREAK-AWAY FEATURE AFTER FINAL INSTALLATION. EXCESSIVE SHIMMING COULD IMPAIR THE BREAK-AWAY FEATURE FOR WHICH THIS INSTALLATION WAS DESIGNED. SHIM PACKS SHOWN ON THIS DRAWING SHOULD BE SUFFICIENT TO ALLOW FOR NORMAL MISALIGNMENT.

1. BASE SHALL BE ALIGNED AND SET PLUMB BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
2. H.S. BOLTS IN BASE PLATE SHALL BE TIGHTENED TO THE PRESCRIBED TORQUE. CARE SHALL BE TAKEN TO AVOID OVERTIGHTING.

FRICTION CAPS:

CAPS MAY BE MANUFACTURED FROM EITHER HOT ROLLED OR COLD ROLLED STEEL SHEETS. THE MINIMUM SHEET METAL THICKNESS SHALL BE 24 GAUGE. THE RIM EDGES SHALL BE REASONABLY STRAIGHT AND SMOOTH. CAPS SHALL BE SIZED AND FORMED IN SUCH A MANNER AS TO PRODUCE A DRIVE-ON FRICTION FIT AND HAVE NO TENDENCY TO ROCK WHEN SEATED ON THE PIPE. THE DEPTH SHALL BE SUFFICIENT TO GIVE POSITIVE PROTECTION AGAINST ENTRANCE OF RAINWATER. THEY SHALL BE FREE OF SHARP CREASES OR INDENTATIONS AND SHOW NO EVIDENCE OF METAL FRACTURE. CAPS SHALL HAVE A ELECTRODEPOSITED COATING OF ZINC IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. SPECIFICATION B633 SC4, TYPE I.

GALVANIZING:

ALL STEEL POST, PLATE, AND SLEEVE MEMBERS SHALL BE GALVANIZED PER ASTM A-123.

ALL MISC. HARDWARE (EXCEPT FOR STAINLESS STEEL BOLTS) SHALL BE GALVANIZED PER ASTM A-153.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

SHEET NUMBER 349

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	K. BRAUNER	DETAIL	K. BRAUNER	REVIEW	C. BOURGEOIS
CHECK	C. GUIDRY	CHECK	C. GUIDRY	SERIES #	15 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

CONTRAFLOW SIGNS (GROUND MOUNTED)

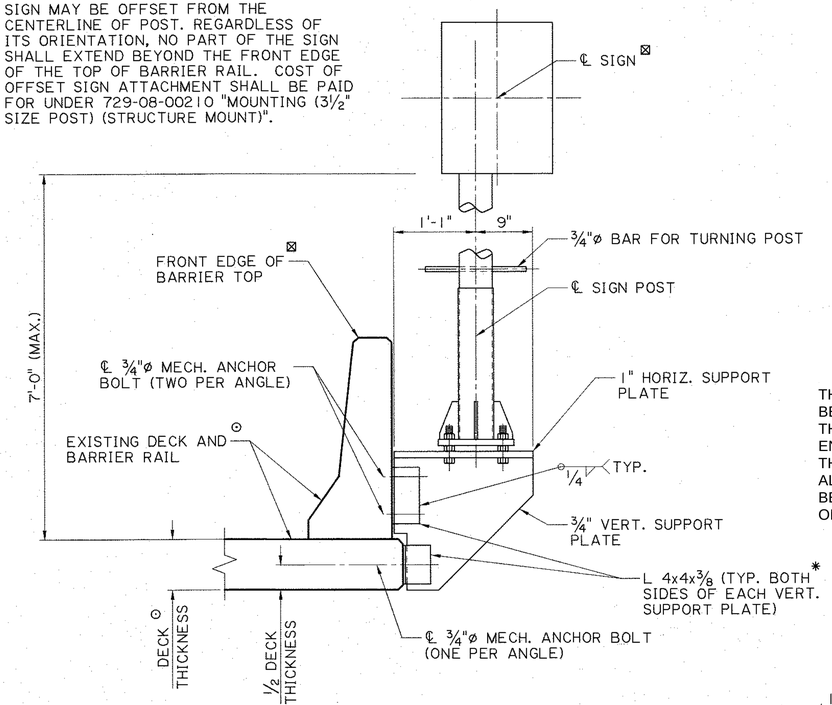
ROADSIDE SIGNING STANDARDS

STANDARD PLAN

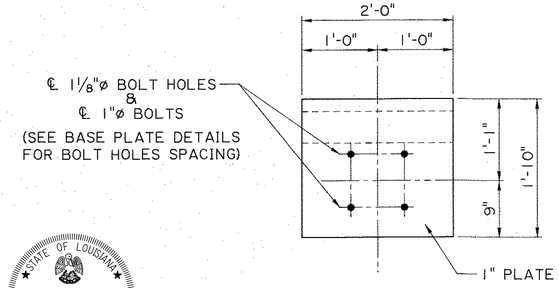
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d0964073\Roadside Traffic Signs 15.dgn

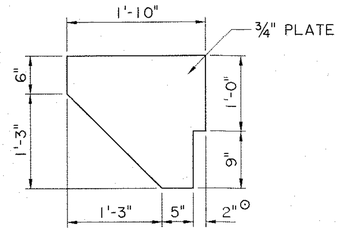
⊠ SIGN MAY BE OFFSET FROM THE CENTERLINE OF POST. REGARDLESS OF ITS ORIENTATION, NO PART OF THE SIGN SHALL EXTEND BEYOND THE FRONT EDGE OF THE TOP OF BARRIER RAIL. COST OF OFFSET SIGN ATTACHMENT SHALL BE PAID FOR UNDER 729-08-00210 "MOUNTING (3½" SIZE POST) (STRUCTURE MOUNT)".



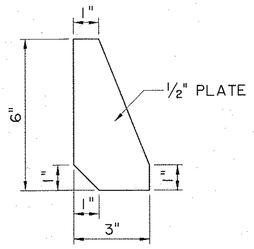
ELEVATION



1" HORIZ. SUPPORT PLATE

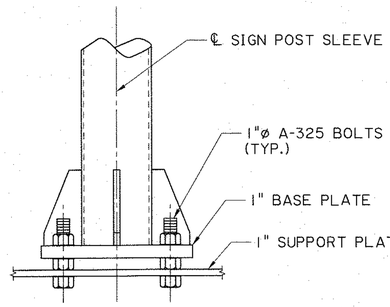


¾" VERT. SUPPORT PLATE



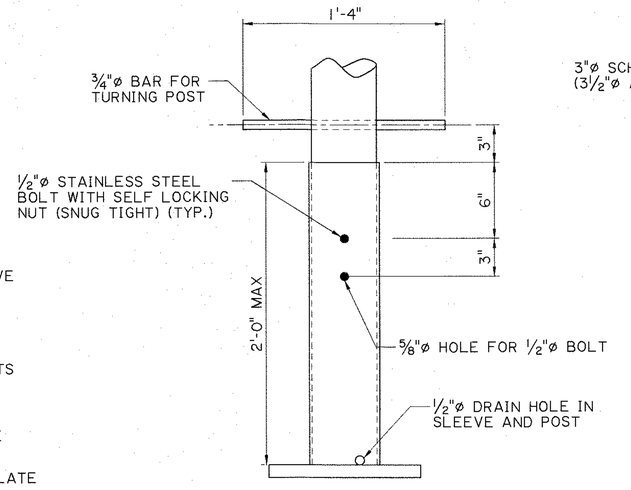
½" STIFFENER

PLAN

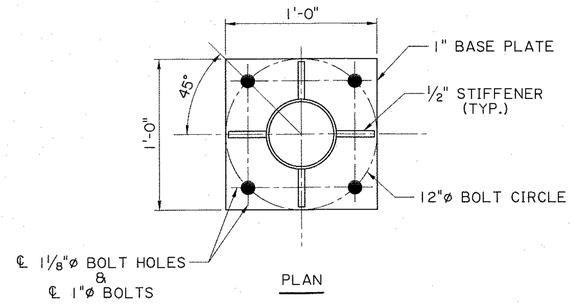


1"ø BOLT DETAIL

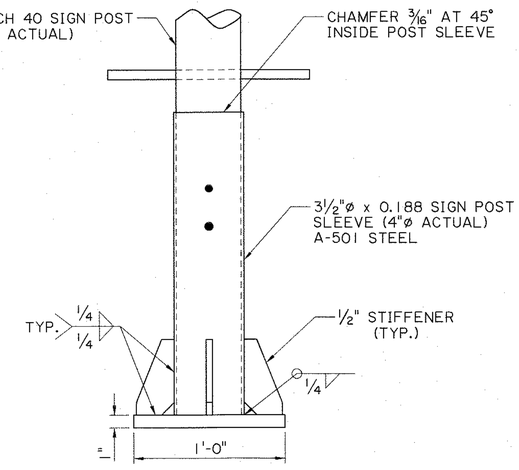
SIGN SUPPORT BRACKET DETAILS



⅝"ø BOLT DETAIL
(STIFFENERS NOT SHOWN FOR CLARITY)



PLAN



ELEVATION

1" BASE PLATE & SIGN POST SLEEVE DETAILS

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL MISC. HARDWARE (EXCEPT STAINLESS STEEL BOLTS) SHALL BE GALVANIZED AS PER ASTM A-153.

⊙ ALL EXISTING DIMENSIONS ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION. ANY ADJUSTMENTS TO SUPPORT BRACKET DIMENSIONS SHALL BE APPROVED BY THE ENGINEER.

* EQUIVALENT BENT PLATES MAY BE USED. ADJUST ANGLE OF BEND AS NEEDED TO ATTACH TO BARRIER RAIL.

PAYMENT FOR THE TYPE "A" SIGN POST AND SUPPORT BRACKET SHALL BE UNDER ITEM NO. 729-08-00210, "MOUNTING (3½" SIZE POST) (STRUCTURE MOUNT)".

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A ⅛" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

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REGARDLESS OF ITS ORIENTATION, NO PART OF ANY SIGN SHALL EXTEND BEYOND THE FRONT EDGE OF THE TOP OF BARRIER RAIL. DIMENSIONS OF SUPPORT POST AND BRACKET SHALL BE ADJUSTED AS NEEDED PRIOR TO FABRICATION.

MAXIMUM ALLOWABLE SIGN AREA = 20 SQ. FT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

SHEET NUMBER	350
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN K. BRAUNER / CHECK C. GUIDRY	DETAIL K. BRAUNER / CHECK C. GUIDRY / REVIEW C. BOURGEOIS / SERIES # 16 OF 17

APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022

CONTRAFLOW SIGNS
(F - SHAPE BARRIER)

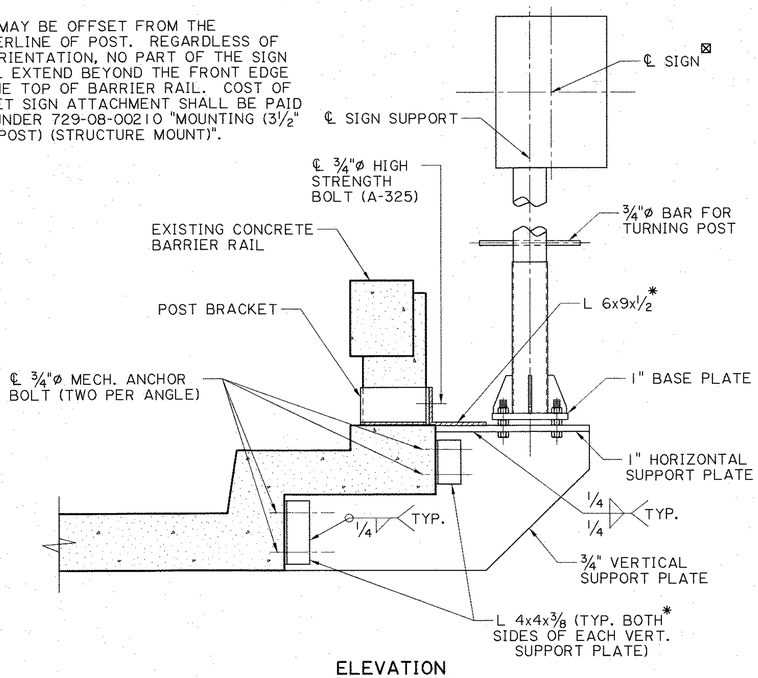
ROADSIDE SIGNING STANDARDS
STANDARD PLAN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

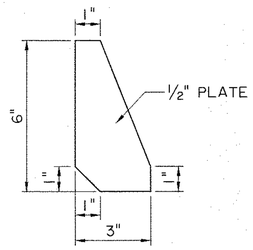
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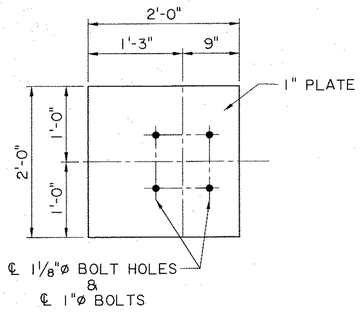
⊠ SIGN MAY BE OFFSET FROM THE CENTERLINE OF POST. REGARDLESS OF ITS ORIENTATION, NO PART OF THE SIGN SHALL EXTEND BEYOND THE FRONT EDGE OF THE TOP OF BARRIER RAIL. COST OF OFFSET SIGN ATTACHMENT SHALL BE PAID FOR UNDER 729-08-00210 "MOUNTING (3½" SIZE POST) (STRUCTURE MOUNT)".



ELEVATION

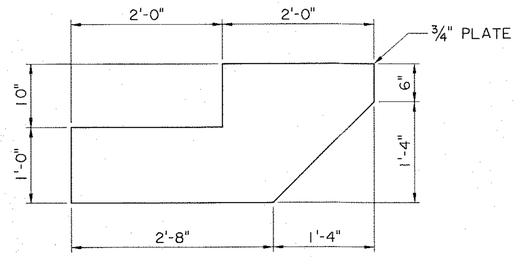


½" STIFFENER



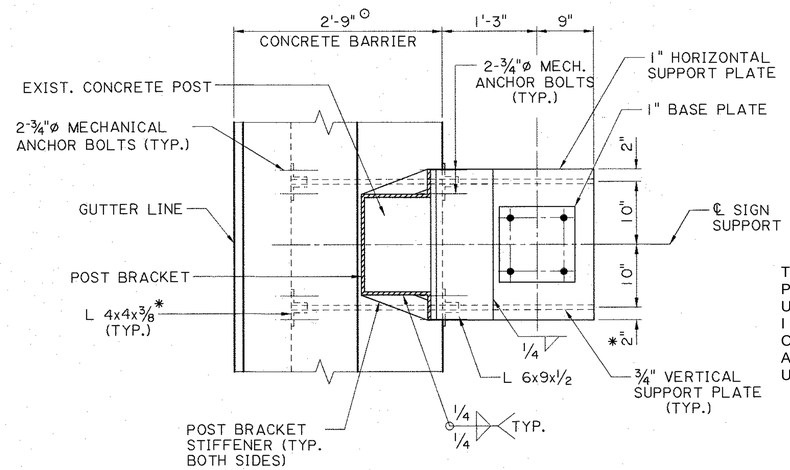
1" HORIZONAL SUPPORT PLATE

(SEE BASE PLATE DETAILS FOR BOLT HOLES SPACING)

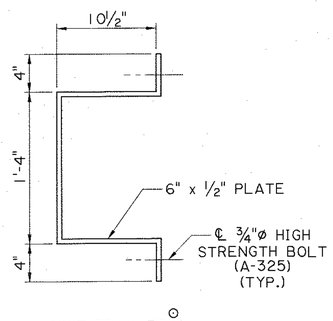


¾" VERT. SUPPORT PLATE ⊙

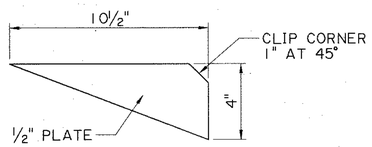
SIGN SUPPORT BRACKET DETAILS



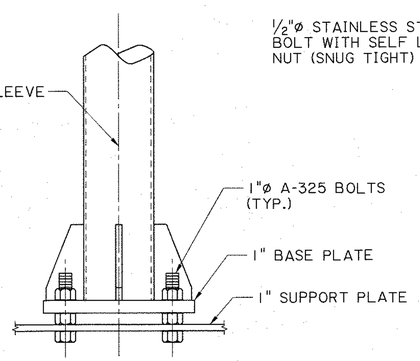
PLAN



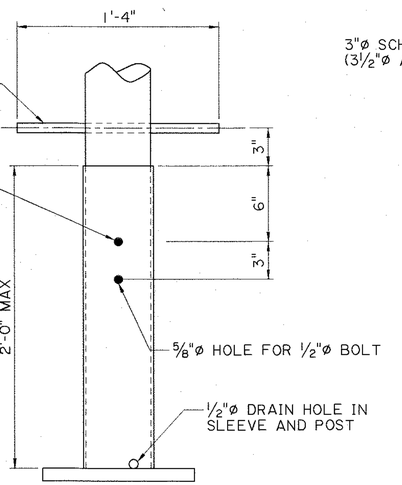
POST BRACKET ⊙



POST BRACKET STIFFENER ⊙

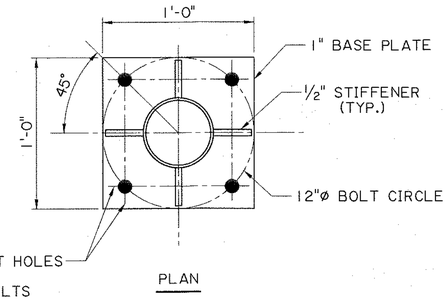


1"ø BOLT DETAIL

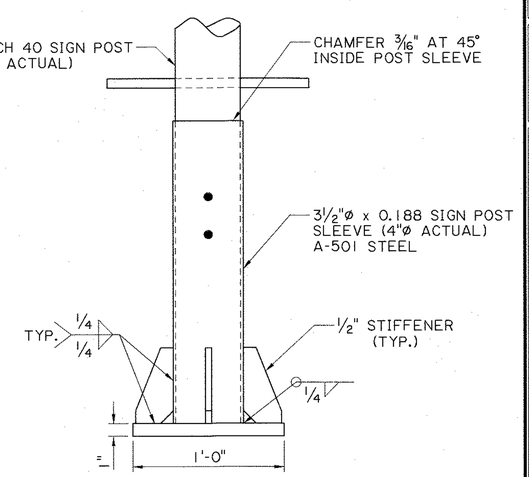


⅝"ø BOLT DETAIL

(STIFFENERS NOT SHOWN FOR CLARITY)



PLAN



ELEVATION

1" BASE PLATE & SIGN POST SLEEVE DETAILS

NOTES:

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MAXIMUM ALLOWABLE SIGN AREA = 20 SQ. FT.

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
STATE OF LOUISIANA
10/6/2025

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SHEET NUMBER	351
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	
DESIGN K. BRAUNER / CHECK C. GUIDRY	DETAIL K. BRAUNER / CHECK C. GUIDRY	REVIEW C. BOURGEOIS	SERIES # 17 OF 17

KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
STATE OF LOUISIANA
6/24/22

APPROVED BY CHIEF ENGINEER:
DATE: 7/1/2022

STATE OF LOUISIANA
JOHN BEL EDWARDS
GOVERNOR

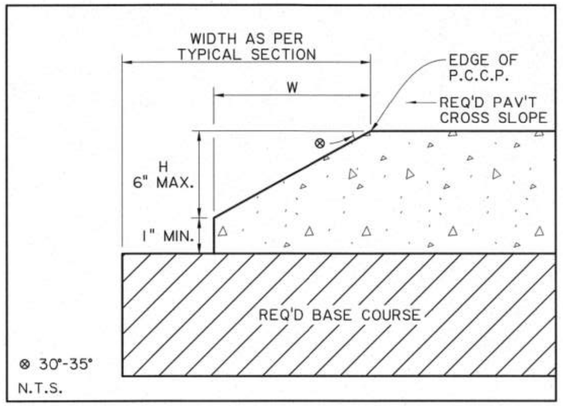
CONTRAFLOW SIGNS
(POST AND RAIL BARRIER)

ROADSIDE SIGNING STANDARDS
STANDARD PLAN

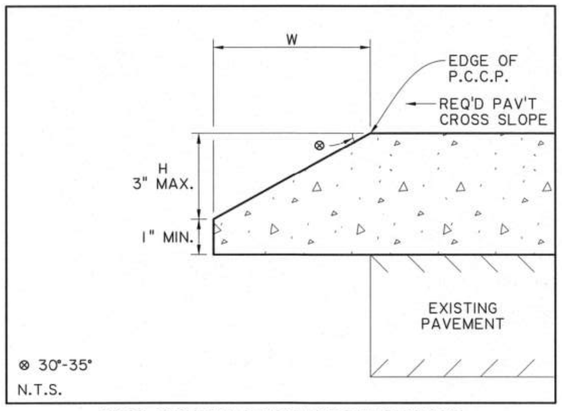
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

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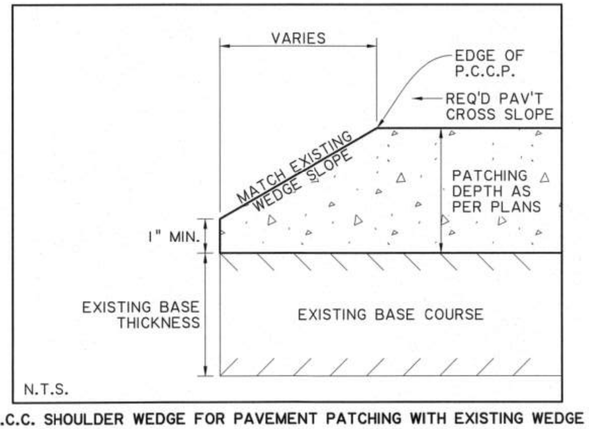
P.C.C.P. SHOULDER WEDGE



P.C.C. SHOULDER WEDGE FOR NEW CONSTRUCTION



P.C.C. SHOULDER WEDGE FOR WHITETOPPING



P.C.C. SHOULDER WEDGE FOR PAVEMENT PATCHING WITH EXISTING WEDGE

NOTES:

1. SHOULDER WEDGES SHALL BE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER), UNLESS THE TOTAL REQUIRED ASPHALT CONCRETE THICKNESS IS LESS THAN 2" AND FOR PAVEMENT PATCHING PROJECTS WHERE THE EXISTING PAVEMENT DOES NOT HAVE SHOULDER WEDGES.
2. FOR ASPHALT CONCRETE PAVEMENTS, SHOULDER WEDGES SHALL BE UTILIZED ON SINGLE LIFTS IF THE LAYER THICKNESS IS GREATER THAN OR EQUAL TO 2" AND, AT A MINIMUM, ON EACH OF THE TOP 2 LIFTS OF A MULTI-LIFT PAVEMENT.
3. EQUIP THE PAVER WITH A MECHANICAL DEVICE THAT WILL PRODUCE A WEDGE WITH A UNIFORM TEXTURE, SHAPE, AND DENSITY, WHILE AUTOMATICALLY ADJUSTING TO VARYING HEIGHTS ENCOUNTERED ALONG THE PAVEMENT EDGE.
4. THE CONTRACTOR SHALL BLADE AND SHAPE EXISTING GROUND OR SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE ASPHALT SHOULDER WEDGE PRIOR TO PLACEMENT OF PAVEMENT.
5. FOR ASPHALT CONCRETE PAVEMENTS, THE MAXIMUM SHOULDER WEDGE HEIGHT ("H") SHALL EQUAL 6". IF THE TOTAL ASPHALT THICKNESS IS GREATER THAN 6", THE CONTRACTOR SHALL STAGE CONSTRUCTION BY PULLING UP THE SHOULDERS OR FORE SLOPE MATERIAL IN THE LOWER LIFTS, THEN UTILIZING THE WEDGE IN EACH OF THE FINAL 2 LIFTS.
6. REQUIRED BASE WIDTHS ARE AS SHOWN ON TYPICAL SECTIONS. IT IS NOT REQUIRED FOR THE BASE COURSE WIDTH TO INCLUDE THE WIDTH OF THE ASPHALT WEDGE. THE ASPHALT WEDGE MAY BE SUPPORTED BY THE EXISTING GROUND, EMBANKMENT, OR SHOULDER MATERIAL. HOWEVER, THE DESIGNER SHOULD MAKE EVERY EFFORT TO SUPPORT THE SHOULDER WEDGE WITH NEW BASE COURSE MATERIAL UNLESS PREVENTED BY PROJECT SCOPE, PHYSICAL RESTRAINTS, OR DEEMED IMPRACTICAL. FOR CONCRETE SHOULDER WEDGES, THE REQUIRED BASE WIDTH SHOULD INCLUDE THE WIDTH OF THE SHOULDER WEDGE AND THE DESIRED ADDITIONAL WIDTH BEYOND THE SURFACING, EXCEPT FOR WHITETOPPING.
7. SEE TYPICAL SECTION SHEETS FOR PAVEMENT DETAILS.
8. THE ANGLE SHOWN FOR AN ASPHALT CONCRETE SHOULDER WEDGE IS MEASURED AFTER COMPACTION.
9. THE SHOULDER WEDGE SHALL NOT BE CONSIDERED PART OF THE REQUIRED PAVEMENT WIDTH.
10. ANGLE OF SHOULDER WEDGE IS MEASURED FROM THE FACE OF THE WEDGE TO A LINE REPRESENTING THE THEORETICAL PROJECTION OF THE PAVEMENT CROSS SLOPE.
11. SHOULDER WEDGES SHALL NOT BE CONSTRUCTED AT INTERSECTIONS, PAVED DRIVEWAYS, OR BEHIND GUARDRAILS UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE PROJECT ENGINEER. IF SHOULDER WEDGES ARE CONSTRUCTED AT THESE LOCATIONS DURING PAVING OPERATIONS, THEY SHALL BE REMOVED BY SAWCUTTING AT NO DIRECT PAY. NO QUANTITY DEDUCTIONS WILL BE MADE IN THE PLANS FOR SUCH GAPS.
12. SHOULDER WEDGES SHALL BE REQUIRED AT THE OUTSIDE EDGES OF WHITETOPPING UNLESS THE REQUIRED THICKNESS IS 2" OR AN ASPHALT SHOULDER IS PROPOSED IN ADDITION TO WHITETOPPING. THE PROPOSED ASPHALT SHOULDER IS REQUIRED TO HAVE WEDGES UNLESS THE TOTAL REQUIRED ASPHALT CONCRETE THICKNESS IS LESS THAN 2".

P.C.C.P. SHOULDER WEDGE QUANTITIES

HEIGHT "H" INCHES	30° WEDGES		35° WEDGES	
	WIDTH "W" INCHES	SQYD PER MILE	WIDTH "W" INCHES	SQYD PER MILE
4.0	6.9	674.7	5.7	557.3
5.0	8.7	850.7	7.1	694.2
6.0	10.4	1016.9	8.6	840.9

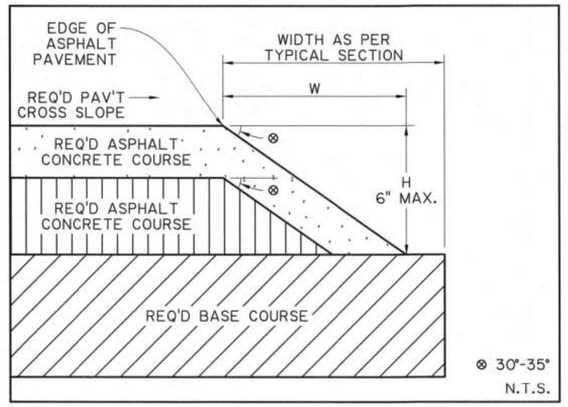
QUANTITIES SHOWN IN PLANS ARE BASED ON A 35° WEDGE
QUANTITIES SHOWN ARE FOR 2 WEDGES (ONE AT EACH SIDE OF ROADWAY)

WHITETOPPING WEDGE QUANTITIES

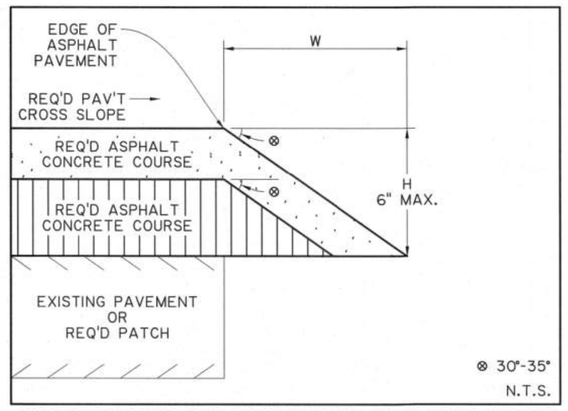
HEIGHT "H" INCHES	30° WEDGES		35° WEDGES	
	WIDTH "W" INCHES	SQYD PER MILE	WIDTH "W" INCHES	SQYD PER MILE
2.0	3.5	342.2	2.9	283.6
3.0	5.2	508.4	4.3	420.4

QUANTITIES SHOWN IN PLANS ARE BASED ON A 35° WEDGE
QUANTITIES SHOWN ARE FOR 2 WEDGES (ONE AT EACH SIDE OF ROADWAY)

ASPHALT CONCRETE SHOULDER WEDGE



ASPHALT CONCRETE SHOULDER WEDGE FOR NEW CONSTRUCTION OR BASE REHABILITATION



ASPHALT CONCRETE SHOULDER WEDGE FOR OVERLAY OR PATCHING

PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
STATE OF LOUISIANA
10/6/2025

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ASPHALT CONCRETE SHOULDER WEDGE QUANTITIES

HEIGHT "H" INCHES	30° WEDGES		35° WEDGES	
	WIDTH "W" INCHES	TONS PER MILE	WIDTH "W" INCHES	TONS PER MILE
2.0	3.5	18.8	2.9	15.6
2.5	4.3	28.9	3.6	24.2
3.0	5.2	41.9	4.3	34.7
3.5	6.1	57.4	5.0	47.1
4.0	6.9	74.2	5.7	61.3
4.5	7.8	94.4	6.4	77.4
5.0	8.7	117.0	7.1	95.5
5.5	9.5	140.5	7.9	116.8
6.0	10.4	167.8	8.6	138.7

QUANTITIES SHOWN IN PLANS ARE BASED ON A 35° WEDGE
QUANTITIES SHOWN IN TABLE ARE BASED ON 110 $\frac{LB}{IN\ SQYD}$
QUANTITIES SHOWN ARE FOR 2 WEDGES (ONE AT EACH SIDE OF ROADWAY)

SHEET NUMBER 352

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN	RAN	DETAIL	RAN	REVIEW	SERIES # 1 OF 1
CHECK	JML	CHECK	JML		

10/24/2022
STATE OF LOUISIANA
RYAN A. NOLAN
License No. 40078
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

APPROVED BY CHIEF ENGINEER: DATE: 10/25/2022

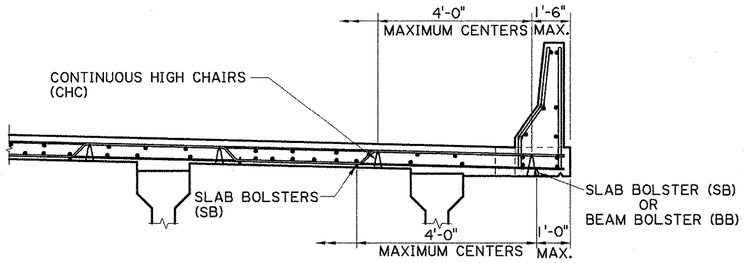
SHOULDER WEDGE

STANDARD PLAN SW-01

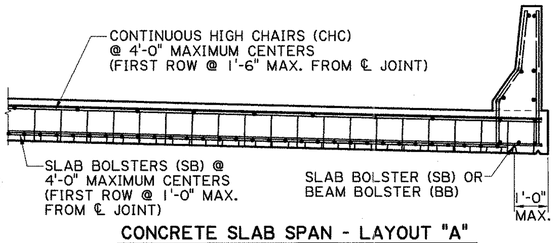
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

ROAD DESIGN

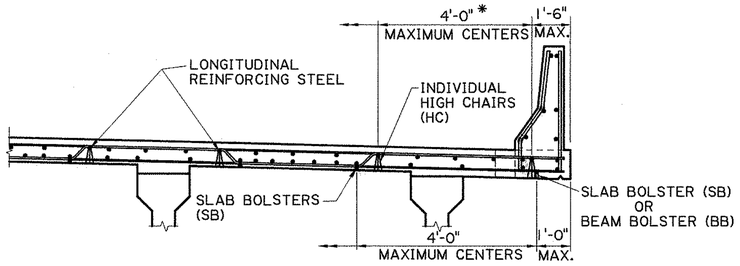
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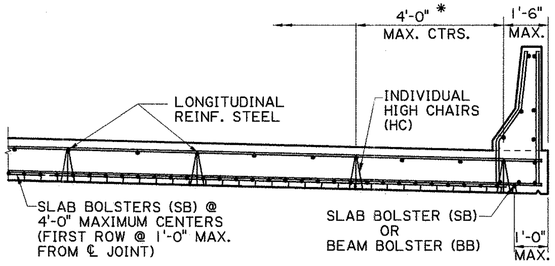
STEEL OR CONCRETE GIRDER SPAN - LAYOUT "A"



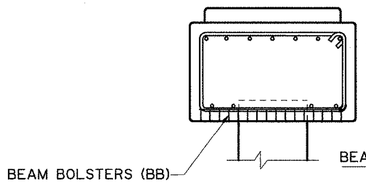
CONCRETE SLAB SPAN - LAYOUT "A"



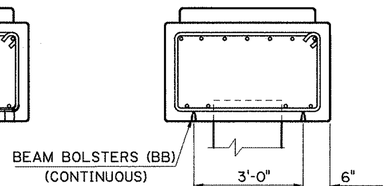
STEEL OR CONCRETE GIRDER SPAN - LAYOUT "B"
(ALTERNATE)



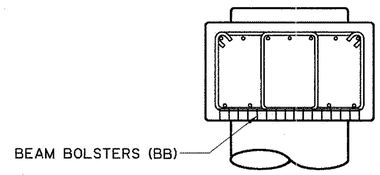
CONCRETE SLAB SPAN - LAYOUT "B"
(ALTERNATE)



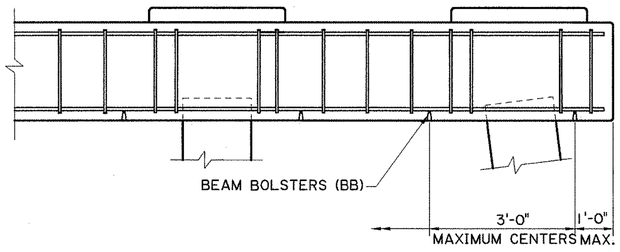
PILE BENT - LAYOUT "A"



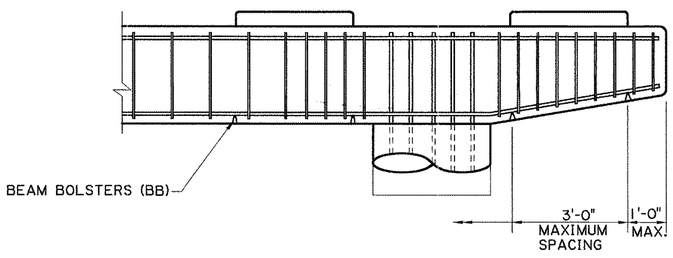
PILE BENT - LAYOUT "B"
(ALTERNATE)



COLUMN BENT



PILE BENT - LAYOUT "A"



COLUMN BENT

GENERAL NOTES:

STEEL WIRE BAR SUPPORTS AND REINFORCING STEEL BARS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS AMENDED BY THE SPECIAL PROVISIONS AND/OR SUPPLEMENTAL SPECIFICATIONS.

HEIGHT OF BAR SUPPORTS ARE TO BE THAT REQUIRED TO SUPPORT THE REINFORCING BARS AT POSITIONS SHOWN IN THE PLANS.
BAR SUPPORTS ARE NOT INTENDED, AND SHALL NOT BE USED, TO SUPPORT RUNWAYS FOR CONCRETE BUGGIES OR SIMILAR LOADS.

WHEN BAR SUPPORTS ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK THE LAST LEGS ON ADJOINING PIECES, BUT NO BAR SHALL BE PLACED MORE THAN 2" BEYOND THE LAST LEG AT THE END OF A RUN OF ANY CONTINUOUS SUPPORTS.

WHERE BAR SUPPORTS ARE USED ON EARTH OR AGGREGATE SUB GRADES, SUITABLE PLATES SHALL BE PROVIDED TO PREVENT DISPLACEMENT OF THE SUPPORT FOOT. ALL BAR SUPPORTS BEARING ON THE FORMS SHALL HAVE RADIUS BEARING LEGS IN THE FORM OF A HOOK (UPTURNED LEGS) OR SPHERICAL FOOT AT THE LOWER END OF THE LEGS.

THE BOTTOM OF BAR SUPPORTS SHALL BE COATED WITH AN ACCEPTABLE EPOXY OR PLASTIC MATERIAL FOR A MINIMUM DISTANCE OF 2 INCHES FROM THE POINT OF CONTACT WITH THE FORMS.

METAL TIE WIRES AND BAR SUPPORTS SHALL BE COATED FULLY WITH AN ACCEPTABLE EPOXY, PLASTIC OR NYLON MATERIAL IF USING EPOXY COATED REINFORCING STEEL.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

TYPE OF SUPPORT	BAR SUPPORT ILLUSTRATION	MINIMUM WIRE DIAMETER △			REMARKS
		HEIGHT	TOP	LEGS	
SLAB BOLSTER (SB)	5"	ALL	NO. 4 CORRU-GATED	NO. 6	VERTICAL CORRUGATIONS SPACED 1" ON CENTERS
BEAM BOLSTER (BB)	2½ 2½ 2½	UP TO 2" OVER 2"	NO. 7 NO. 4	NO. 7 NO. 4	
⊡ CONTINUOUS HIGH CHAIR (CHC)		2" TO 5" 5" TO 9" OVER 9"	NO. 2 NO. 2 NO. 2	NO. 4 NO. 2 NO. 0	LAYOUT "A" FOR SPANS
❶ INDIVIDUAL HIGH CHAIR (HC)		2" TO 5" 5" TO 9" OVER 9"	N/A N/A N/A	NO. 4 NO. 2 NO. 0	LAYOUT "B" FOR SPANS (ALTERNATE)

△ AMERICAN STEEL AND WIRE GAUGES.

❶ LEGS SHALL BE 20 DEGREES OR LESS WITH VERTICAL WHEN HEIGHT EXCEEDS 1'-0". REINFORCE LEGS WITH WELDED CROSS WIRES OR ENCIRCLING WIRES.

⊡ LEGS SHALL BE 20 DEGREES OR LESS WITH VERTICAL, ON 8¼" CENTER MAXIMUM, WITHIN 4" OF END CHAIR, AND SPREAD BETWEEN LEGS NOT LESS THAN 50% OF NORMAL HEIGHT.

* IF LONGITUDINAL REINFORCING BARS ARE NO. 4, SPACE THE INDIVIDUAL HIGH CHAIRS (HC) @ 3'-0" MAXIMUM CENTERS LONGITUDINALLY; FOR NO. 5 BARS OR LARGER, SPACE @ 4'-0" MAXIMUM CENTERS.

STATE OF LOUISIANA
PAUL B. FOSSIER, JR
License No. 21028
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
11-15-12

SHEET NUMBER 353

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGNED / CHECKED	DETAILED / CHECKED	SERIES NUMBER
	G. GRASS / F. FOSSIER	OCT. 2008

REVISION DESCRIPTION	DATE	APPROVED BY CHIEF ENGINEER:	BY	DATE: 3-6-13
Add Note On Support & Tie Coatings	11/15/12		P.F.	

STEEL WIRE BAR SUPPORT
FOR REINFORCING STEEL
SWBS-100

IP_PWP:dms31585\swbs100-after 2013-8-1.dgn

GENERAL PROVISIONS

- All temporary traffic control (TTC) devices used shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges, the MUTCD, and shall meet the NCHRP Report 350 or MASH requirements for Test Level 3 devices where applicable.
- Materials used for TTC shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges and, when applicable, the LADOTD AML.
- Placement of TTC devices shall not commence without the approval of the Engineer and until work is about to begin, unless they are covered.
- No lane closures, lane shifts, diversions or detours shall occur without the approval of the Engineer.
- Responsibility is hereby placed upon the contractor for the installation, maintenance and operation of all TTC devices called for in these plans or required by the Engineer for the protection of the traveling public as well as all LADOTD and construction personnel.
- The contractor shall also be responsible for the maintenance of all permanent signs, pavement markings, and traffic signals left in place as essential to the safe movement and guidance of traffic within the project limits unless noted in the plans.
- The DTOE shall serve as a technical advisor to the Engineer for all traffic control matters.
- The Chief Construction Engineer or his appointed designee shall approve all signs and situations not addressed in the plans based on the recommendations of the Project Engineer and the DTOE. All changes shall be noted in all project traffic control diaries.
- The Chief Construction Engineer or his appointed designee shall approve all design speeds of diversions or shifts, if it differs from design plans, based on the recommendations of the Project Engineer and the DTOE.
- All temporary traffic control plans shall comply with the Transportation Management Plan.
- Any additional signs shown in the MUTCD and required by the Engineer shall be installed under Item 713-01-00100.
- Neither work activity nor storage of equipment, vehicles, TMAs, or materials shall occur within the buffer space.
- When a work area has been established on one side of the roadway only, there shall be no conflicting operations or parking on the opposite shoulder within 500 feet of the work area.
- A lighting plan shall be submitted to the Engineer 30 days prior to night work for approval. (See section 713.10 of the Louisiana Standard Specifications for Roads and Bridges.)
- Parking of vehicles or unattended equipment or storage of materials, within the work zone clear zone shall not be permitted unless protected by guardrail or barriers. If the work zone clear zone is not defined on the plan sheets, the Engineer shall verify.
- Immediately upon removal of existing guardrail, the contractor shall install and maintain an NCHRP Report 350 or MASH approved device to protect the blunt end of the bridge or column until new guardrail is installed. After removal of the existing guardrail, new guardrail should be installed within seven (7) days. On non-NHS routes with shoulders less than 8 feet wide: If an NCHRP 350 Report Test Level 3 or MASH device is required but the field conditions of the roadway cannot support a Test Level 3 device, then a Test Level 2 device can be substituted in its place upon approval by the Engineer. If utilized, a TMA is allowed for a maximum of 72 hours.
- All costs associated with temporary crash devices are to be included under the appropriate NS-700 pay item.
- Sight distance should be considered when placing traffic control devices.
- On all mainline Interstates, a minimum of 1.5 feet of paved shoulder on the left and right side shall be maintained at all times.
- On Interstates, a minimum of 11 foot lanes shall be maintained. On all other roadways, a 10 foot minimum travel lane should be maintained where practical.
- TTC Standards are not drawn to scale.
- The contractor shall develop an internal traffic control plan approved by the Engineer prior to each phase.
- Truck restrictions such as (but not limited to) restricting lanes, oversize loads or times of travel, may be required for narrow lanes or other field conditions.
- Temporary concrete barrier shall be placed on a paved surface. This paved surface should follow current design criteria used for paved embankment widening for guardrails.
- Flare rates for temporary concrete barriers should follow the most current guidance in the AASHTO Roadside Design Guide.

PAVEMENT MARKINGS (see AML)

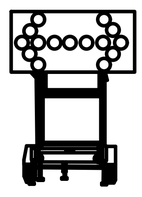
- All pavement markings within the limits of the project or adjacent to the project limits that are in conflict with the project signing or the required traffic movements shall be removed from the pavement by blast cleaning or grinding. (Existing striping shall not be painted over with black paint or covered with tape.)
- If special pavement markings are needed, they shall be reflectorized, removable and accompanied by the proper signage.
- Temporary Raised Pavement Markers may be added to supplement temporary striping in areas of transition, in tapers, in diversions and in other areas of need as shown in the plans or as directed by the Engineer.
- Temporary markings installed in the permanent configuration shall comply with LADOTD pavement marking standard plans, MUTCD and/or the permanent striping plans.

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

- PCMS shall be used on all Interstate Highways. PCMS shall be used on all other roadways (where space is available) with an ADT greater than 20,000.
- When used in advance of a lane closure or a lane shift, the PCMS should be placed on the right hand side of the road a minimum distance of 2 miles in advance of the taper for interstates and to be determined by the Engineer on other highways.
- For interstates and multi-lane highways, if vehicles are queuing beyond the 2 mile PCMS, an additional PCMS should be placed on the right hand side of the road approximately 5 miles in advance of the taper or at the end of the queue, whichever is greater.
- PCMS messages shall be approved by the Engineer. Messages shall be no more than 3 lines and 2 screens.
- Messages shall display only traffic operational, regulatory, warning, and guidance information. PCMS messages shall not display advertising or safety messages. Messages should only convey information concerning the problem/situation, location, and recommended driver action.
- PCMS should be placed as far from the traveled lane as possible. They shall be shielded by guardrail or barriers. If this is not possible they shall be delineated with a min. 3 drum taper spaced at 20ft with a 4th drum alongside the PCMS.
- If the PCMS encroaches on the improved shoulder then the contractor shall install a shoulder closure.
- When the PCMS is not displaying a work zone appropriate message pertaining to the ongoing construction project it shall be shielded by guard rail or barriers, or removed from the work zone clear zone.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025





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ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SPEED LIMITS

- The Engineer may approve a 10 mph drop in the speed limit for posted speeds of 45 mph or greater and for any construction, maintenance or utility operation that requires one or more of the following:
  - (A) The condition of the traveled way is degraded due to milled surfaces or uneven travel lane lines greater than 1.5 inches.
  - (B) Work is in progress in the immediate vicinity of the travel way requiring lane closures or lane width reductions less than 11 feet.
  - (C) Workers present on the shoulder within 2 feet of the edge of the traveled way without barrier protection.
- The reduced speed zone shall only apply to those portions of the project limits affected. The Engineer may allow SPEED LIMIT WHEN FLASHING signs to supplement reduced speed zones.
- If the speed limit is reduced, speed limit signs shall be placed:
  - (A) beyond major intersections;
  - (B) at one mile intervals in rural areas;
  - (C) at half mile intervals in urban areas.
- At the end of the reduced speed zone, a speed limit sign displaying the original speed limit prior to construction shall be installed.
- For all other speed limit reductions not listed above, the Project Engineer and the DTOE shall recommend the speed reduction to the Chief Construction Engineer or his appointed designee for approval.
- If the speed limit is reduced more than 10 mph, placement of the signs shall be re-evaluated according to the MUTCD.

FLASHING ARROW BOARDS

- All Flashing Arrow Boards shall be 4 feet by 8 feet and Type C.
- Flashing Arrow Boards should be placed on the shoulder. When there is no shoulder or median area, the arrow board shall be placed within the closed lane behind the channelizing devices and as close to the beginning of the taper as practical.
- Flashing arrow boards shall be delineated with retroreflective TTC devices.
- At no time shall the arrow board encroach in the traveled way. When Flashing Arrow Board signs are not being used, they shall be shielded by guard rail or barriers, or removed.
- Arrow boards shall only be used for lane reduction tapers and shall not be used for lane shifts.

ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
AGC	Associated General Contractors of America
AML	Approved Materials List
ANSI	American National Standards Institute
ATSSA	American Traffic Safety Services Association
B.O.P.	Beginning of Project
DTOE	District Traffic Operations Engineer
E.O.P.	End of Project
LADOTD	Louisiana Department of Transportation and Development
MASH	AASHTO Manual for Assessing Safety Hardware
MUTCD	Manual on Uniform Traffic Control Devices
NCHRP	National Cooperative Highway Research Program
NHS	National Highway System
PCMS	Portable Changeable Message Sign
TMA	Truck Mounted Attenuator
TMC	Traffic Management Center
TTC	Temporary Traffic Control
TTC Standards	Temporary Traffic Control Standard Plans

SHEET NUMBER 354

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN B. BOUCHER | DETAIL | REVIEW | SERIES *
CHECK M. RILOVICH | CHECK

APPROVED BY CHIEF ENGINEER: DATE: Feb. 7, 2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY
0	4-3-24	BARRIER INFORMATION AND MINOR CORRECTIONS	BRB

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

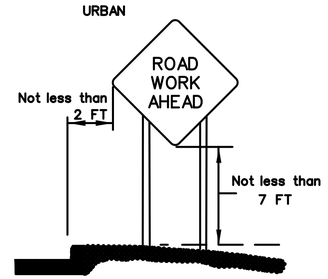
TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET

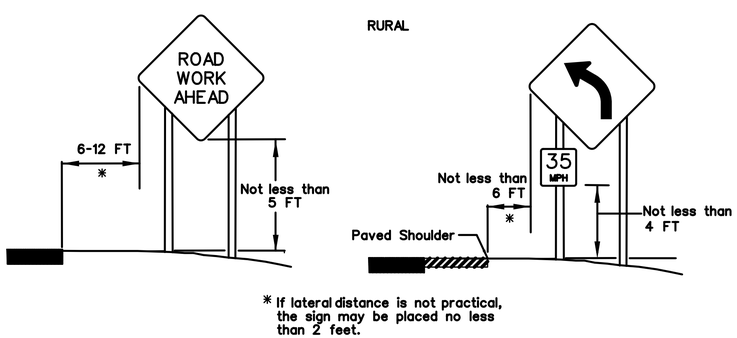
TTC-00 (A)

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
TRAFFIC ENGINEERING

SIGNS

- All signs used for temporary traffic control shall follow the plans, the LADOTD TTC Standards and the MUTCD.
- Signs shown in the TTC illustrations are typical and may vary with each specific condition.
- One Type B High Intensity light shall be used to supplement the first sign (or pair of signs) that gives warning about a lane closure during nighttime operations (See AML).
- Mesh rollup signs shall not be allowed on any project.
- Contractor shall use caution not to damage existing signs which remain in place. Any LADOTD signs damaged by work operations shall be replaced by the contractor under item 713-01-00100.
- All signs (permanent and temporary) shall be removed or completely covered with a strong, lightweight, opaque material when no longer applicable. (Burlap is not an acceptable material to cover signs).
- At no time shall signs warning against a particular operation be left in place once the operation has been completed or where the condition has been removed.
- Warning signs used for temporary traffic controls shall meet the following guidelines unless otherwise noted in the plans:
  - (A) size shall be 48 inches by 48 inches.
  - (B) see the Louisiana Standard Specifications for Roads and Bridges and the AML for sheeting information.
  - (C) lateral distance of signs shall be a minimum of 6 feet from the edge of shoulder or edge of pavement if no shoulder exists and 2 feet from the back of curb in urban areas (see diagram).
- When portable sign frames are not in use, they shall be moved to an area inaccessible to traffic and not visible to the driver.
- Left side mounted signs will not be required for roadways with a center left turn lane and for undivided roadways.
- Vinyl roll up signs and 1 foot portable sign stands may be used if work zone is in place for 3 days or less. Signs or stands may not be used if there are more than 2 lanes in each direction and if signs do not meet all size, color, retroreflectivity and NCHRP 350 Report or MASH requirements.
- All signs shall be visible to the drivers (i.e. no obstructions such as on street parking or other traffic control devices shall block the sign).
- On divided highways, signs shall be placed on the right and the left as shown on the TTC standards.
- Sign posts:
  - -Signs measuring 10 square feet or less shall be mounted on 1 rigid post
  - -Signs over 10 square feet shall be mounted on 2 rigid posts
  - -Signs over 20 square feet shall be mounted on at least 3 rigid posts
- Rigid sign supports shall be driven to a minimum depth of 3 feet. (If splicing is required, see Allowable Lap Splice U-channel Post.)
- For sign height, see the Rural and Urban diagrams:





* If lateral distance is not practical, the sign may be placed no less than 2 feet.

STATE OF LOUISIANA
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IN
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10/6/2025

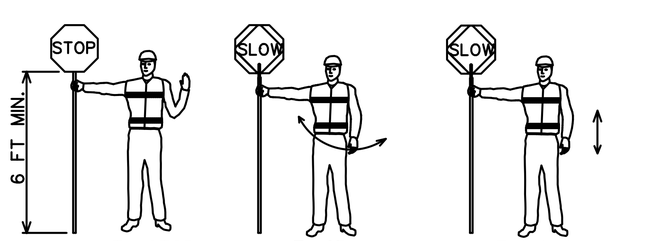
THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

LANE CLOSURES

- All proposed lane, road or shoulder closures shall be reviewed by the DTOE and approved by the Engineer.
- Two lane, two-way highways shall have a maximum work area of two miles; all other roadways shall have a four mile maximum work area.
- A queue analysis shall be performed prior to approval of lane closures on all Interstates according to Section 6A.1 of the Traffic Engineering Manual.
- Closure plans and times shall be turned in to the Engineer for review according to the following:
  - (A) 5 working days minimum if traffic control plan has been approved or is contained in the plans.
  - (B) 10 working days minimum and a traffic control plan must be submitted for lane closures not addressed in the plans.
- Weekly updates to the DTOE, Project Engineer, the LADOTD TMC operator and the regional TMC operator (if applicable) will be required for all ongoing lane closures to update the closure status.
- Daily updates to the DTOE, Project Engineer and TMC operator (if applicable) will be required for all projects where active closures are in place.

FLAGGERS

- All flaggers shall be qualified.
- The contractor shall be responsible for training or assuring that all flaggers are qualified to perform flagging duties.
- A Qualified Flagger is one that has completed courses such as those offered by ATSSA or other courses approved by the LADOTD Work Zone Task Force. The contractor shall be responsible for getting the flagger course approved.
- When utilized, a flagger shall use a minimum 18 inch octagonal shape sign on a minimum 6 foot stop/slow paddle and wear ANSI Class 2 Lime Green vest during day time operations and ANSI Class 3 Lime Green ensemble during night operations.
- In all flagging operations, the flagger must be visible from the flagger advance warning sign.
- Flaggers shall not be used on the Interstate.



To STOP Traffic

Traffic Proceed

To Alert & SLOW Traffic

Use of Hand Sign

Use of Hand Sign

PEDESTRIAN CONSIDERATIONS

- If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided either through the TTC zone or a designated alternate route.
- Pedestrians should be provided with a convenient and accessible path that replicates as nearly as practical the most desirable characteristics of the existing sidewalk(s) or footpath(s).
- Advance notification of sidewalk closures shall be provided by the maintaining agency.
- No storage of construction materials, equipment, and/or vehicles will be permitted on permanent or temporary bicycle, pedestrian, or transit facilities for any duration of time.

REFERENCES

- The contractor shall be responsible for understanding all rules and requirements in the current edition of the following documents:

1) Louisiana Standard Specifications for Roads and Bridges. http://www.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Standard_Specifications
2) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). http://mutcd.fhwa.dot.gov/
3) LADOTD Approved Materials List (AML) Manual. http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_QPL.aspx
4) LADOTD Traffic Engineering Manual http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Misc%20Documents/Traffic%20Engineering%20Manual.pdf
5) National Cooperative Highway Research Program (NCHRP) Report 350: "Guidelines for Work Zones Traffic Control Devices". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_350-a.pdf
6) NCHRP Report 475: "A Procedure for Assessing and Planning Nighttime Highway Construction and Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_475.pdf
7) NCHRP Report 476: "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_476.pdf
8) NCHRP Report 498: "Illumination Guidelines for Nighttime Highway Work". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_498.pdf
9) American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide.
10) American Traffic Safety Services Association (ATSSA) Quality Guidelines for Work Zone Traffic Control Devices and Features.
11) U.S. Department of Transportation Federal Highway Administration Traffic Control Handbook for Mobile Operations at Night. http://www.dot.state.il.us/blr/1023.pdf

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CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SHEET NUMBER 355
PARISH: ST. TAMMANY | CONTROL SECTION: 000-52 | STATE PROJECT:
DESIGN: B. BOUCHER | CHECK: M. RILOVICH | DETAIL: | CHECK: | REVIEW: | SERIES #:
APPROVED BY CHIEF ENGINEER: Feb. 7, 2025 DATE:

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY
1	4-3-24	STORAGE NEAR SIDEWALKS AND MINOR CORRECTIONS	BRB

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
TTC-00 (B)

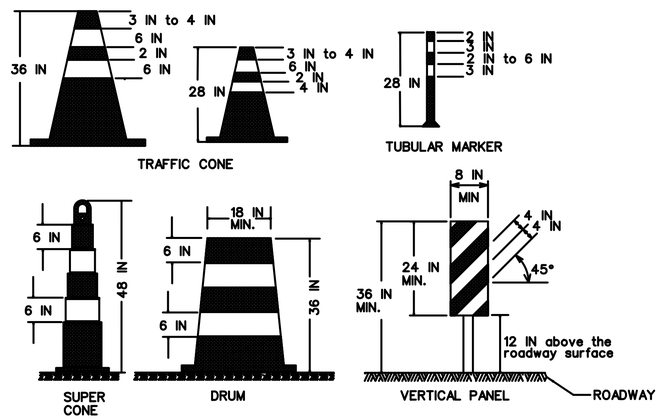
DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
TRAFFIC ENGINEERING

CHANNELIZING DEVICES

- The following devices may be used as channelizing devices: Tubular Markers, Vertical Panels, Cones, Drums and Super Cones.
- 28 inch traffic cones are not allowed on:
  1) Interstates
  2) Highways with speeds greater than 40 mph.
- During nighttime operations, 28 inch and 36 inch cones are not allowed.
- Retroreflective material pattern used on super cones shall match that used on drums.

- Tangent Areas:
  - A) Standard Spacing: See Standard Device Spacing and Buffer Space table.
  - B) Daylight Operations: Drums and super cones are spaced at standard spacing. All other devices are at ½ standard spacing.
  - C) Nighttime Operations: Drums and supercones at standard spacing are the only devices allowed.

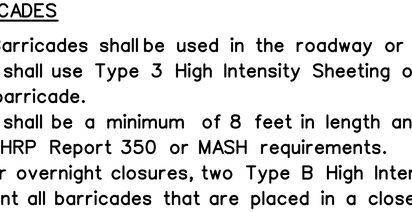
- Taper Areas:
  - A) Standard Spacing: See Standard Device Spacing and Buffer Space table.
  - B) Daylight Operations: Drums are spaced at standard spacing. All other devices are ½ standard spacing.
  - C) Nighttime Operations: Drums (at standard spacing) are the only devices allowed.
  - Q D) Downstream Locations & Flaggers: Drums or supercones at 20' max spacing. The length of taper shall be between 50' - 100' with a minimum of 6 devices.
- Type C steady burn lights shall be used on all channelizing devices in the taper as well as the first two devices in the tangent at night, (see the AML).
- Typical channelizing device lateral placement (do not include when it is used as a divider for opposing directions of traffic) shall be 2 feet off the lane line in the closed lane or shoulder.
- Devices may be adjusted laterally to accomodate ongoing work in the immediate vicinity but must be returned to the closed lane after the work activity has moved.
- Channelizing devices on the lane line shall be of the same type.
- Channelizing devices in each taper shall be of the same type.



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CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

TYPE III BARRICADES

- Q Only Type III Barricades shall be used in the roadway or shoulder. All barricades shall use Type 3 High Intensity Sheeting on both sides of the barricade.
- All barricades shall be a minimum of 8 feet in length and must meet NCHRP Report 350 or MASH requirements.
- When used for overnight closures, two Type B High Intensity Lights shall supplement all barricades that are placed in a closed lane or that extend across a highway. Two Type A Low Intensity Lights may be used in urban areas if approved by the Engineer (See AML).
- When signs and lights are to be mounted to a barricade, they must meet NCHRP Report 350 or MASH requirements.
- A truck with a TMA may be substituted for a barricade when workers are present.
- Barricades shall be placed:
  - (A) at the beginning of a closed lane or shoulder and at 1,000 foot intervals where no active work is ongoing and the lane must remain closed. A minimum of 2 barricades shall be placed if the lane or shoulder closure is less than 2,000 feet. (One barricade shall be placed at the beginning of the lane closure after the buffer space and one shall be placed in the middle of the lane closure.)
  - (B) before each or group of unfilled holes or holes filled with temporary material.
  - (C) before uncured concrete.
  - (D) in the closed lane on each side of every intersection and crossover. (Do not block sight distance.)
  - (E) in front of piles of material (dirt, aggregate, broken concrete), culverts and equipment which is near the work zone.



TTC for DROP-OFFS

NON-INTERSTATE

Average Drop-off	Current Posted Speed (Prior to Construction)	
	> 45 MPH	≤ 45 MPH
≤ 3 IN	Low Shoulder Sign (Optional)	Low Shoulder Sign (Optional)
> 3 IN ≤ 6 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device	Shoulder Drop Off Sign
> 6 IN ≤ 10 IN	No Shoulder Sign, Edge Lines & Vertical Panel	No Shoulder Sign & Channelizing Device
> 10 IN	Concrete Barrier (if drop off is < 12 FT from edge of travel lane) & Edge Lines	No Shoulder Sign & Vertical Panel

INTERSTATE

Average Drop-off	
≤ 2 IN	Low Shoulder Sign (Optional)
> 2 IN ≤ 6 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device
> 6 IN	Concrete Barrier (if drop off is < 12 FT from edge of travel lane), Shoulder Drop Off Sign, & Edge Lines

- If a portable concrete barrier will be required then the deflection shall be considered in the design.
- For Interstate ramps, refer to non-Interstate drop offs.

STANDARD DEVICE SPACING AND BUFFER SPACE

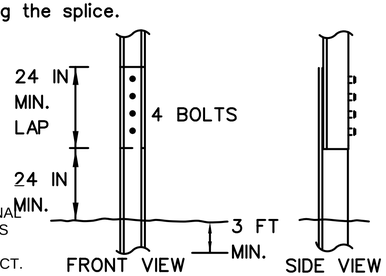
SPEED LIMIT (prior to construction)	MERGING TAPER LENGTH (L) Lane Width (FT)				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
MPH	9	10	11	12	Along Taper	Along Tangent	FT
25	94	105	115	125	20	40	155
30	135	150	165	180	30	60	200
35	184	205	225	245	35	70	250
40	240	267	294	320	40	80	305
45	405	450	495	540	40	80	360
50	450	500	550	600	40	80	425
55	495	550	605	660	40	80	495
60	540	600	660	720	40	80	570
65	585	650	715	780	40	80	645
70	630	700	770	840	40	80	730
75	675	750	825	900	40	80	820

SPEED LIMIT (prior to construction)	SHIFTING TAPER LENGTH (1/2)(L) Lane Shift (FT)						STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
MPH	2	4	6	8	10	12	Along Taper	Along Tangent	FT
25	11	21	32	42	52	63	20	40	155
30	15	30	45	60	75	90	30	60	200
35	21	41	62	82	102	123	35	70	250
40	27	54	80	107	134	160	40	80	305
45	45	90	135	180	225	270	40	80	360
50	50	100	150	200	250	300	40	80	425
55	55	110	165	220	275	330	40	80	495
60	60	120	180	240	300	360	40	80	570
65	65	130	195	260	325	390	40	80	645
70	70	140	210	280	350	420	40	80	730
75	75	150	225	300	375	450	40	80	820

SPEED LIMIT (prior to construction)	SHOULDER TAPER LENGTH (1/3)(L) Shoulder Width (FT)						STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
MPH	2	4	6	8	10	12	Along Taper	Along Tangent	FT
25	7	14	21	28	35	42	20	40	155
30	10	20	30	40	50	60	30	60	200
35	14	28	41	55	68	82	35	70	250
40	18	36	54	72	89	107	40	80	305
45	30	60	90	120	150	180	40	80	360
50	34	67	100	134	167	200	40	80	425
55	37	74	110	147	184	220	40	80	495
60	40	80	120	160	200	240	40	80	570
65	44	87	130	174	217	260	40	80	645
70	47	94	140	187	234	280	40	80	730
75	50	100	150	200	250	300	40	80	820

- See MUTCD for taper formulas.
- ALLOWABLE LAP SPLICE FOR U-CHANNEL POST

U-Channel posts may be spliced where long lengths are required. The upper section shall overlap the lower section by at least 24 inches. The bottom edge of the upper section of the splice shall be a minimum of 24 inches above the ground. The spliced sections shall be secured with at least four 5/16 inch diameter hex bolts spaced equally along the splice.



STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

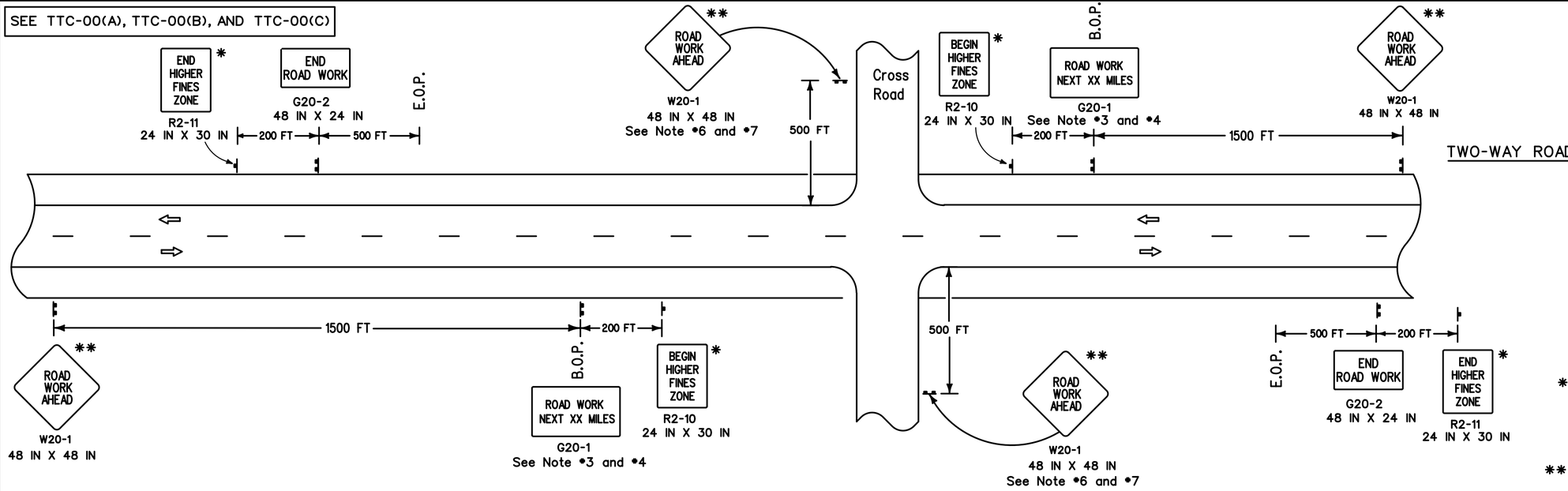
SHEET NUMBER 356
PARISH: ST. TAMMANY
CONTROL SECTION: 000-52
STATE PROJECT:
DESIGN: B. BOUCHER
CHECK: M. RILOVICH
DETAIL:
CHECK:
REVIEW:
SERIES #:
APPROVED BY CHIEF ENGINEER:
DATE: Feb. 7, 2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY
Q	4-3-24	DOWNSTREAM TAPERS AND MINOR CORRECTIONS	BRB

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
TTC-00 (C)

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B), AND TTC-00(C)



* For divided roadways with speeds ≥ 50 mph use larger sign, 36 IN X 48 IN.

** Any sign of the W20-1 series may be used.

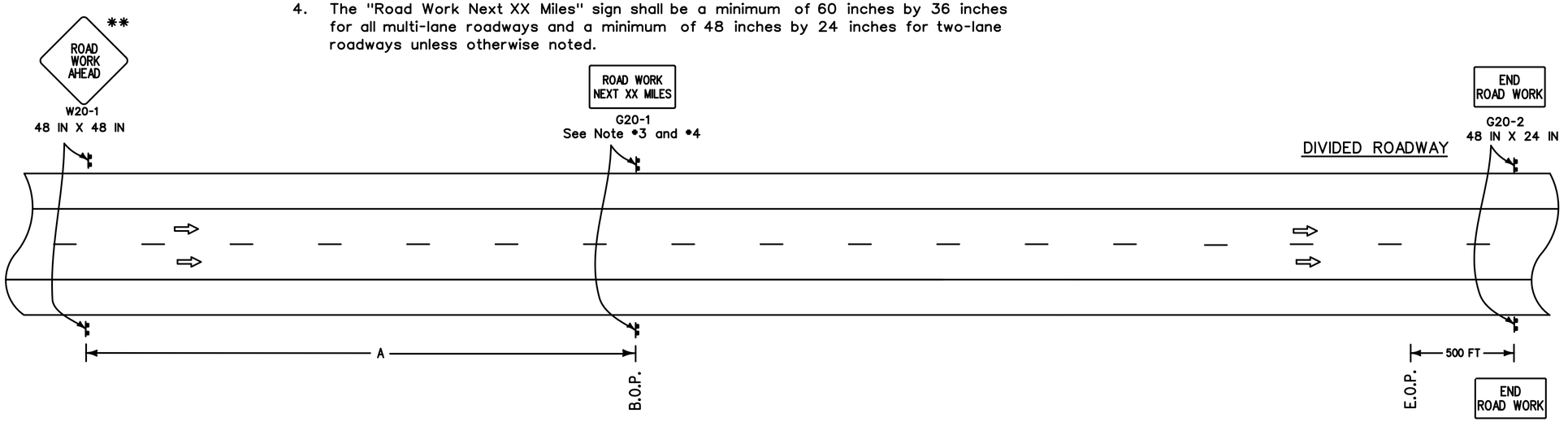
NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and other Temporary Traffic Control Sheets as appropriate.

1. This layout represents the minimum traffic controls required for placement of "Road Work Next XX Miles" and "End Road Work" signs.
2. This layout does not replace other TTC Standard Sheets, but is intended as a supplement to the required signing.
3. The distance on the "Road Work Next XX Miles" sign shall be rounded up to the nearest whole mile. This sign shall be placed at the Beginning of Project (B.O.P.) limits. This sign may be omitted if work zone is less than 0.5 miles.
4. The "Road Work Next XX Miles" sign shall be a minimum of 60 inches by 36 inches for all multi-lane roadways and a minimum of 48 inches by 24 inches for two-lane roadways unless otherwise noted.
5. The "End Road Work" sign shall be placed 500 feet past the End of Project (E.O.P.) limits.
6. If "Road Work Ahead" sign is used on a cross road to warn of road work on another route, then "End Road Work" sign is not required.
7. When projects are separated by less than 1 mile, they shall be signed as one project; this may require coordination.

LEGEND

- Traffic Sign
- ⇨ Direction of Travel



ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

SPEED LIMIT (prior to construction)	SPACING 'A'
≤ 40 mph	1500 FT
45 mph	2640 FT
> 45 mph	5280 FT

- Sign spacing to be adjusted for Horizontal and Vertical curves.
- For work outside of the traveled way, see TTC-01 and TTC-02.

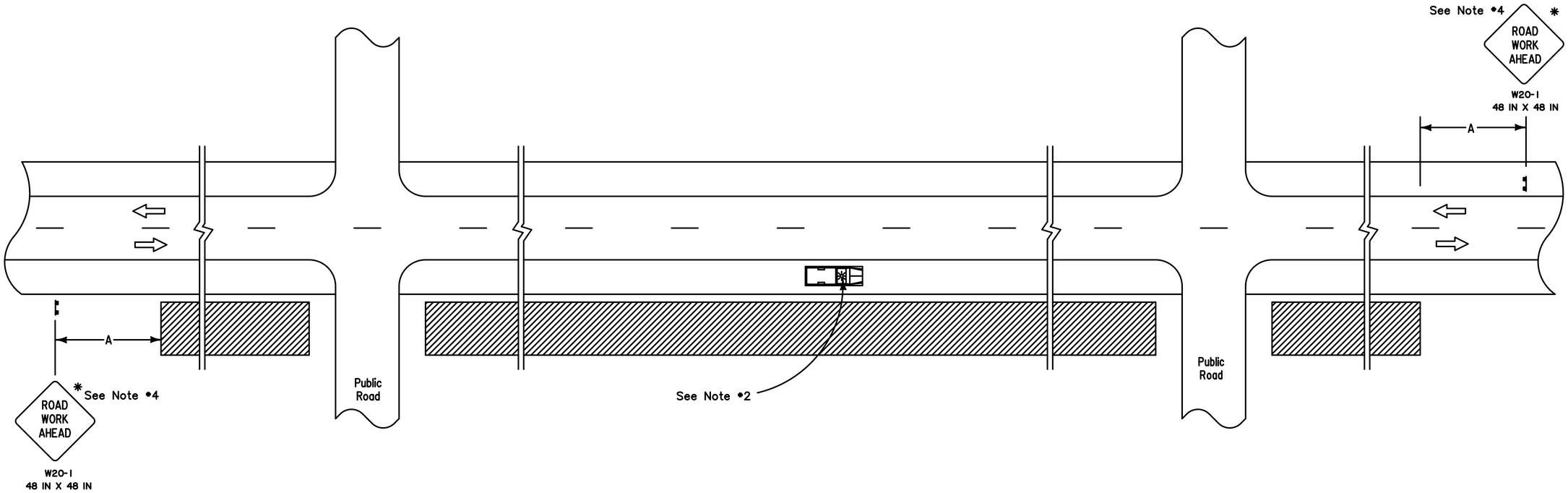
SHEET NUMBER 357
PARISH: ST. TAMMANY
CONTROL SECTION: 000-52
STATE PROJECT:
DESIGN: B. BOUCHER
CHECK: M. RILOVICH
DETAIL:
CHECK:
REVIEW:
SERIES *
APPROVED BY CHIEF ENGINEER:
DATE: Feb. 7, 2025
BY: BRB
NO. 1
DATE: 4-3-24
REVISION OR CHANGE ORDER DESCRIPTION: MINOR CORRECTIONS
ST. TAMMANY 000-52

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR PLACEMENT OF ROAD WORK NEXT XX MILES AND END ROAD WORK SIGNS

TTC-00 (D)

DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B) AND TTC-00(C)



LEGEND

- Traffic Sign
- Work Area
- Direction of Travel
- Truck with Green/Amber Light

SPEED LIMIT (prior to construction)	SPACING
	'A'
≤ 40 mph	500 FT
45-50 mph	1000 FT
≥ 55 mph	1500 FT

NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B) and TTC-00(C).

1. This layout represents the minimum traffic controls required for workers and equipment operating more than 15 feet from the travel way.

2. If the operation results in equipment or other vehicles being parked closer than 15 feet to the travel way, but not within the roadway, each vehicle shall have an green/amber light.

3. When a work area has been established on one side of the roadway only, there shall be no parking on the opposite shoulder within 500 feet of the work area.

4. Other signs may be used in place of the "Road Work Ahead" sign, such as W21-8 (Mowing), W21-7 (Utility), or W21-6 (Survey) when applicable.

* Any sign of the W20-1 series may be used.

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

SHEET NUMBER 358

PARISH: ST. TAMMANY | CONTROL SECTION: 000-52 | STATE PROJECT:

DESIGN: B. BOUCHER | CHECK: M. RILOVICH | DETAIL: | CHECK: | REVIEW: | SERIES #:

APPROVED BY CHIEF ENGINEER: DATE: Feb. 7, 2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY
1	4-3-24	MINOR CORRECTIONS	BRB

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

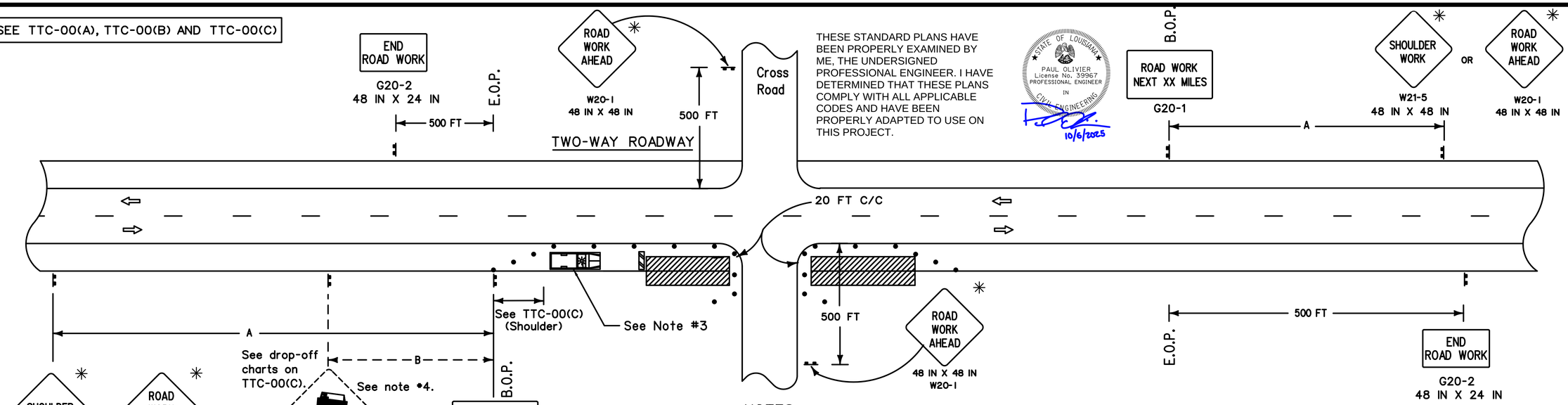
TEMPORARY TRAFFIC CONTROL FOR WORK GREATER THAN 15 FEET FROM THE TRAVELED WAY

TTC-01

DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

TRAFFIC ENGINEERING

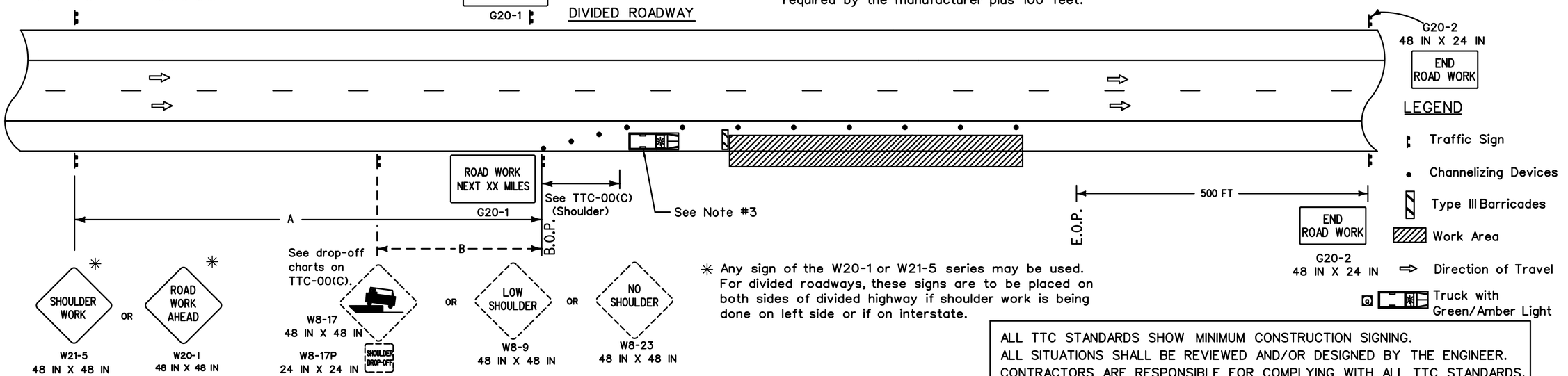
SEE TTC-00(A), TTC-00(B) AND TTC-00(C)



SPEED LIMIT (prior to construction)	SPACING	
	'A'	'B'
≤ 40 mph	500 FT	250 FT
45-50 mph	1000 FT	350 FT
≥ 55 mph	1500 FT	500 FT
Expressway/Interstate	2500 FT	1000 FT

- See TTC-00(C) for minimum taper length and maximum device spacing for shoulder closure tapers.
- If horizontal curve radius is less than 300 feet, device spacing shall be 25 feet.

DIVIDED ROADWAY



THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C)

1. This layout represents the minimum traffic controls required for workers and equipment operating less than 15 feet from the traveled way for more than one hour. Less than one hour, see figure TA-4 of the MUTCD.
2. No signs or barricades are required for equipment operating or work in progress greater than 15 feet from the traveled way. (See TTC-01).
3. Work or equipment confined to a spot location (less than 200 feet) shall be marked by channelizing devices spaced at 25 feet or by a vehicle with a green/amber light visible to traffic. Work extending more than 200 feet of roadway length shall be marked with appropriate devices spaced as noted on TTC-00(C).
4. Applicable drop-off sign options are defined on TTC-00(C).
5. The distance on the "Road Work Next XX Miles" sign shall be rounded up to the nearest whole mile. This sign shall be placed at the Beginning of Project (B.O.P.) limits. This sign may be omitted if work zone is less than 0.5 miles.
6. A vehicle with a flashing green/amber light and a truck mounted attenuator shall be used on all shoulders of all interstates, as well as all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.

✳ Any sign of the W20-1 or W21-5 series may be used. For divided roadways, these signs are to be placed on both sides of divided highway if shoulder work is being done on left side or if on interstate.

LEGEND

- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Work Area
- Direction of Travel
- Truck with Green/Amber Light

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

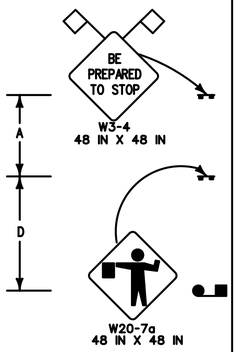
SHEET NUMBER 359
PARISH ST. TAMMANY | CONTROL SECTION 000-52 | STATE PROJECT
DESIGN B. BOUCHER | CHECK M. RILOVICH | DETAIL | CHECK | REVIEW | SERIES #
APPROVED BY CHIEF ENGINEER: Feb. 7, 2025 DATE:
BY BRB
REVISION OR CHANGE ORDER DESCRIPTION
NO. DATE
MINOR CORRECTIONS 4-3-24

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR WORK LESS THAN 15 FEET FROM THE TRAVELED WAY

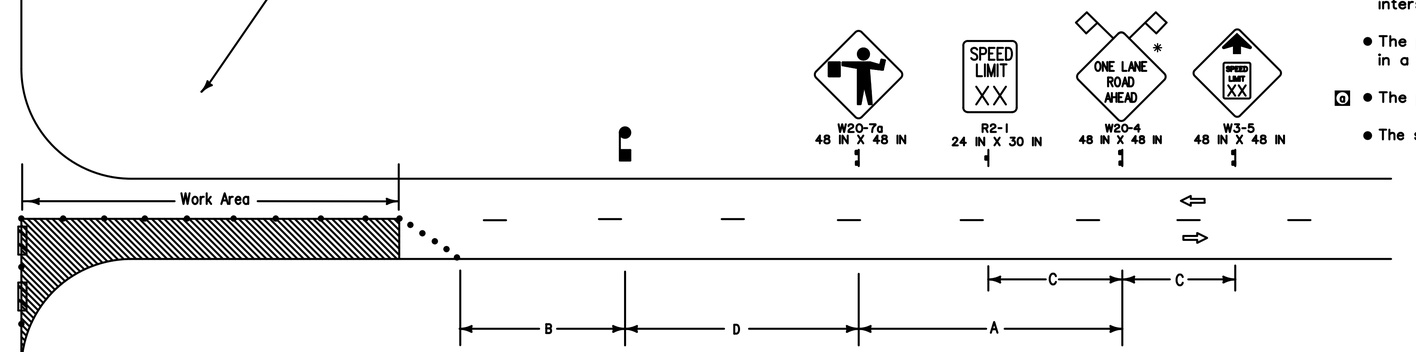
TTC-02

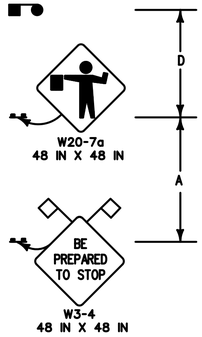
DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)



For use when work area is less than or equal to 500 feet from nearest crossroad travel lane, but work area does not encroach crossroad travel lanes.



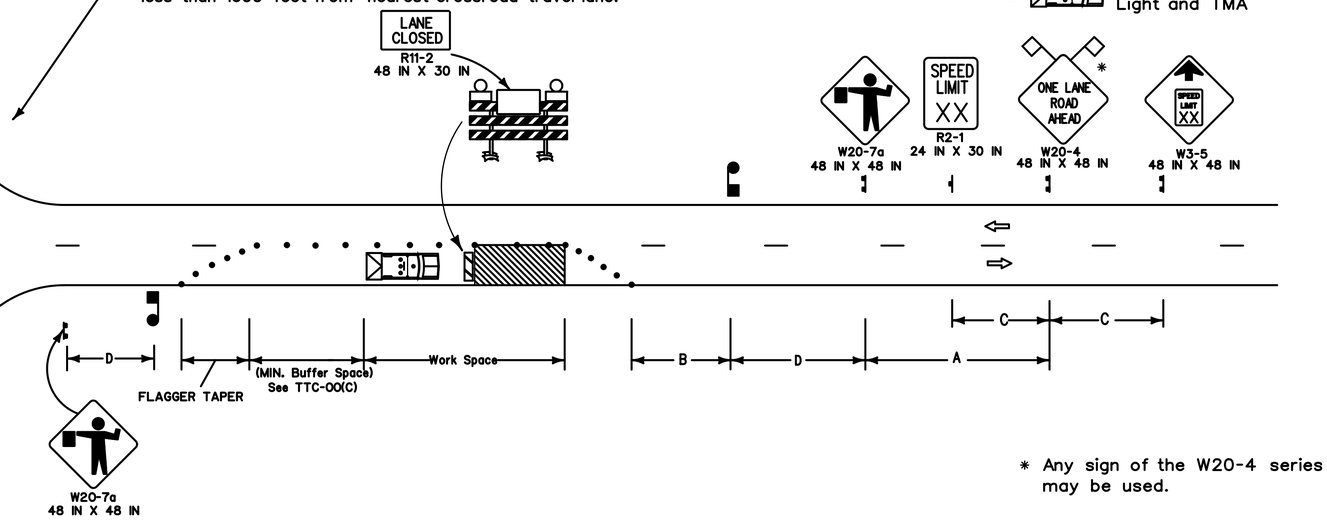


STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
> 50 mph	1500 FT	500 FT	800 FT	500 FT

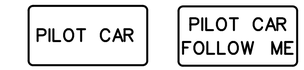
For use when work area is more than 500 feet and less than 1600 feet from nearest crossroad travel lane.



* Any sign of the W20-4 series may be used.

PILOT CAR

- If used, a pilot car shall guide a queue of vehicles through the work zone or diversion.
- It shall be used in restricted visibility operations such as lime or cement stabilization, chip seals, or operations in hilly or curvy terrains, where flaggers cannot see each other (no clear line-of-sight).
- The operation of the pilot vehicle shall be coordinated with flagging operations or other controls at each end of the one-lane section and all major driveways and street intersections.
- The pilot car sign should be mounted 7 feet above roadway in a position visible to oncoming and following traffic.
- [o] The pilot car shall have a green/amber beacon light.
- The sign mounted on the vehicle shall be two-sided.



LEGEND

- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Work Area
- Flagger
- Type B Light
- Direction of Travel
- [o] Truck with Green/Amber Light and TMA

NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures on two-lane roads with two-way traffic less than 1600 feet from an intersection. For advance signing see TTC-00(D).
2. Visual or radio contact shall be required between flaggers at all times. The flagger shall be visible from flagger sign.
3. Only law officers shall direct traffic against a traffic signal indication.
4. If work area is greater than 1600 feet see TTC-04.
5. If a pilot car is required then the contractor is not required to have channelizing devices in the tangent section.
6. [o] A vehicle with a flashing green/amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

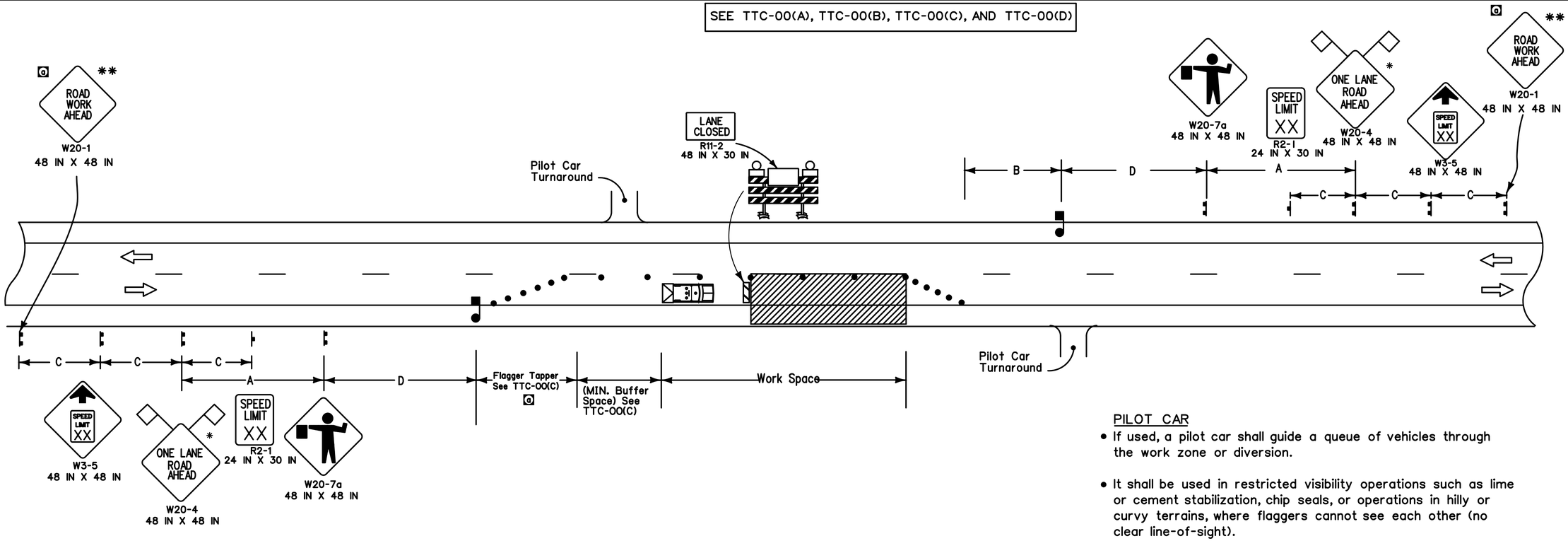
SHEET NUMBER 360
PARISH: ST. TAMMANY
CONTROL SECTION: 000-52
STATE PROJECT:
DESIGN: B. BOUCHER
CHECK: M. RILOVICH
DETAIL:
CHECK:
REVIEW:
SERIES #
APPROVED BY CHIEF ENGINEER:
DATE: Feb. 7, 2025
BY: BRB
NO. DATE REVISION OR CHANGE ORDER DESCRIPTION
1 4-3-24 MINOR CORRECTIONS

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS WITH TWO-WAY TRAFFIC NEAR INTERSECTIONS (FLAGGING OPERATIONS)

TTC-03

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)



PILOT CAR

- If used, a pilot car shall guide a queue of vehicles through the work zone or diversion.
- It shall be used in restricted visibility operations such as lime or cement stabilization, chip seals, or operations in hilly or curvy terrains, where flaggers cannot see each other (no clear line-of-sight).
- The operation of the pilot vehicle shall be coordinated with flagging operations or other controls at each end of the one-lane section and all major driveways and street intersections.
- The pilot car sign should be mounted 7 feet above roadway in a position visible to oncoming and following traffic.
- The pilot car shall have an green/amber beacon light.
- The sign mounted on the vehicle shall be two-sided.

PILOT CAR — G20-4, 36 IN X 18 IN (FRONT OF SIGN)

PILOT CAR FOLLOW ME — G20-4, 36 IN X 18 IN (BACK OF SIGN)

NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C) and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures on two-lane roads with two-way traffic greater than 1600 feet from an intersection. For this type of closure either a flagger or a pilot car will be required. For advance signing see TTC-00(D).
2. To prevent vehicles from entering the work area against the flow of traffic, an additional flagger shall be stationed at each intersection, major driveway, railroad crossing, or crossing within the work area.
3. For projects in rural areas the distance between flaggers shall not exceed:
   (A) 2.5 miles for ADT<2,500
   (B) 2.0 miles for 2,500<ADT<5,000
   (C) 1.5 miles for ADT>5,000
4. The flagger station shall be near the beginning of the taper and shall have adequate sight distance to be visible to oncoming traffic. If sight distance cannot be achieved, the distance between flaggers may be extended for a short duration.
5. Visual or radio contact shall be required between flaggers at all times. The flagger shall be visible from the flagger sign.
6. A vehicle with a flashing green/amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.
7. If a pilot car is required then the contractor is not required to have channelizing devices in the tangent section.
8. If work zone is less than 1600 feet from an intersection see TTC-03.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA — PAUL OLIVIER, License No. 39967, PROFESSIONAL ENGINEER IN CIVIL ENGINEERING — 10/6/2025

SPEED LIMIT (prior to construction)	SPACING 'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
≥ 55 mph	1500 FT	500 FT	800 FT	500 FT

* Any sign of the W20-4 series may be used.

** For extended length projects, if the distance between the current working area and beginning of the project exceeds 2500', an additional W20-1 should be added before the W3-5 sign to remind traffic of the work area.

LEGEND

- Traffic Sign
- Flagger
- Channelizing Devices
- Type III Barricades
- Work Area
- Type B Light
- Direction of Travel
- Truck with Green/Amber Light and TMA

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SHEET NUMBER 361

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	

DESIGN B. BOUCHER — DETAIL — REVIEW — SERIES *
CHECK M. RILOVICH — CHECK — APPROVED BY CHIEF ENGINEER: — DATE: Feb. 7, 2025

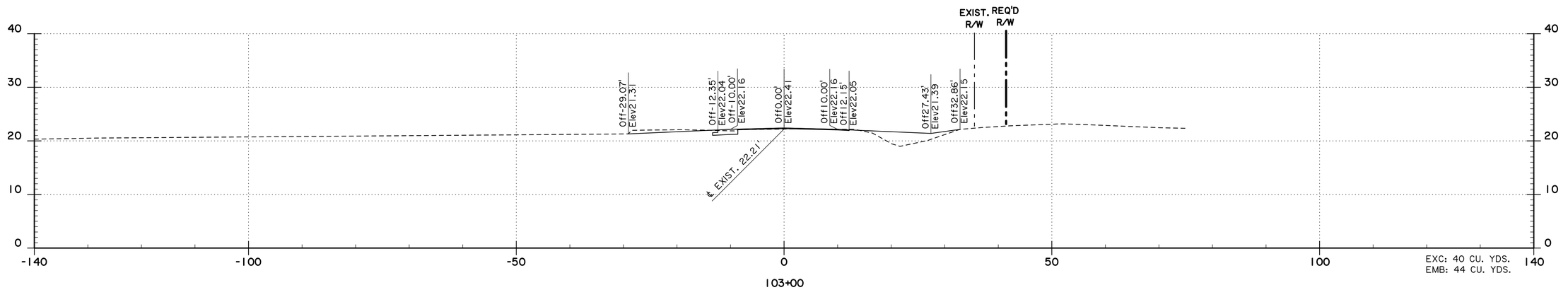
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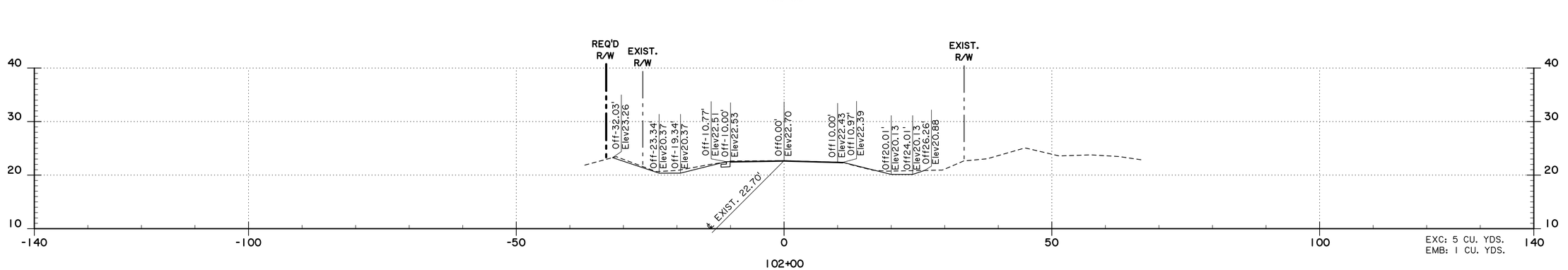
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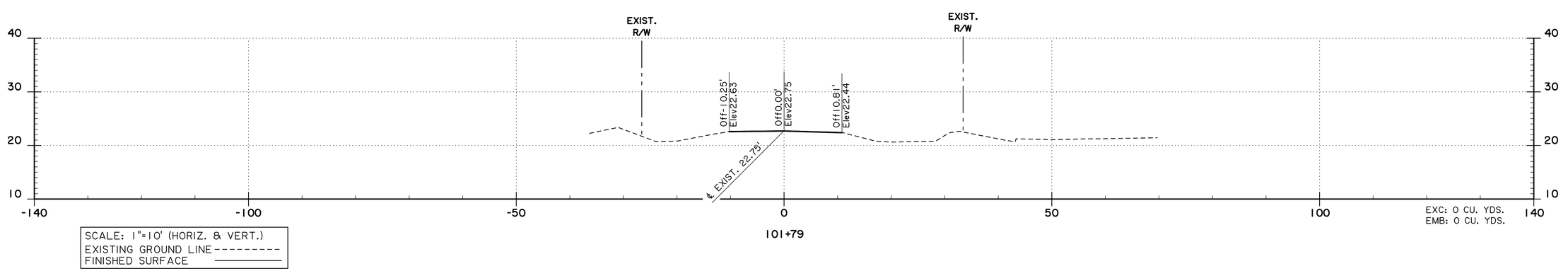
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FINAL PLANS







SCALE: 1"=10' (HORIZ. & VERT.)
EXISTING GROUND LINE ----------
FINISHED SURFACE ——————

SHEET NUMBER 401

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001 81

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	1 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

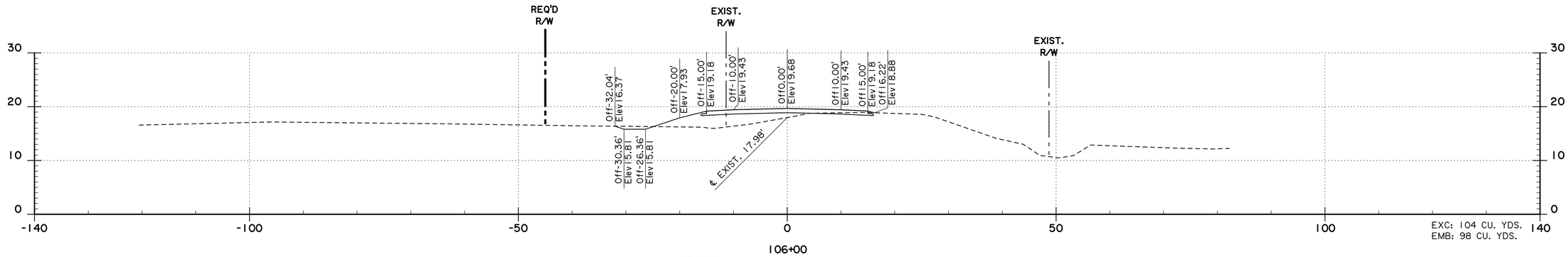
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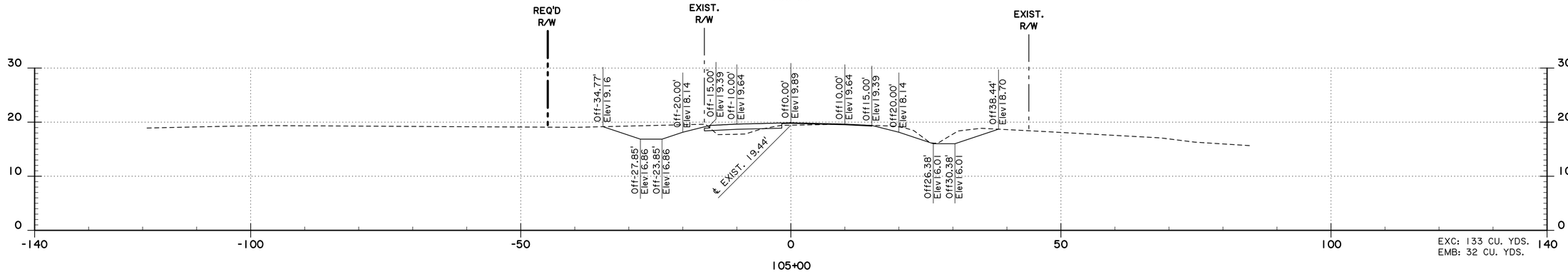
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

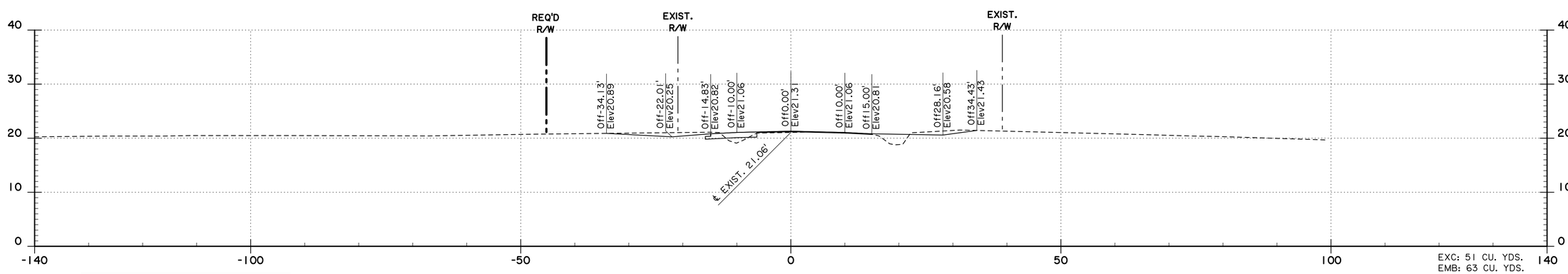
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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SCALE: 1"=10' (HORIZ. & VERT.)
EXISTING GROUND LINE ----------
FINISHED SURFACE ——————

SHEET NUMBER	402
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220001811
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	2 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
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CIVIL ENGINEERING
10/6/2025

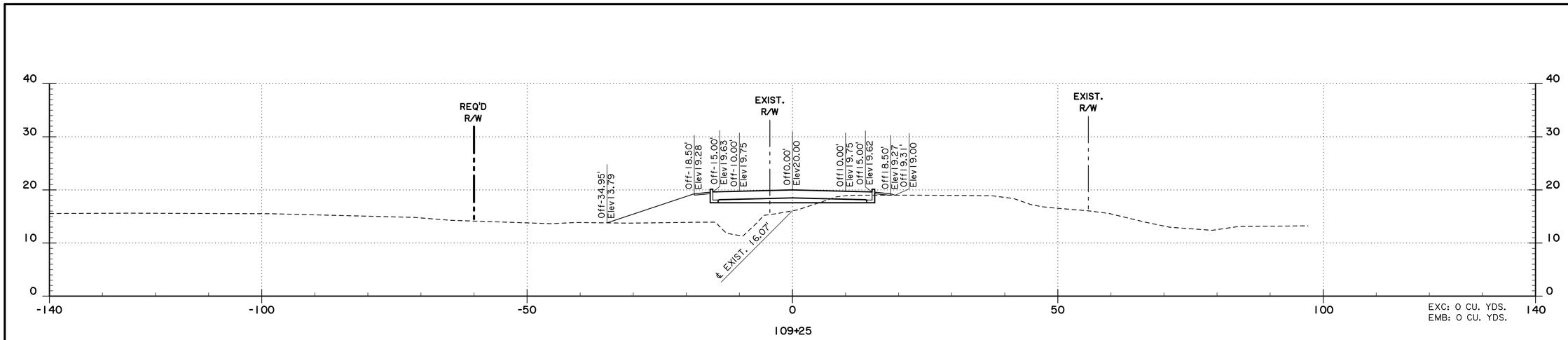
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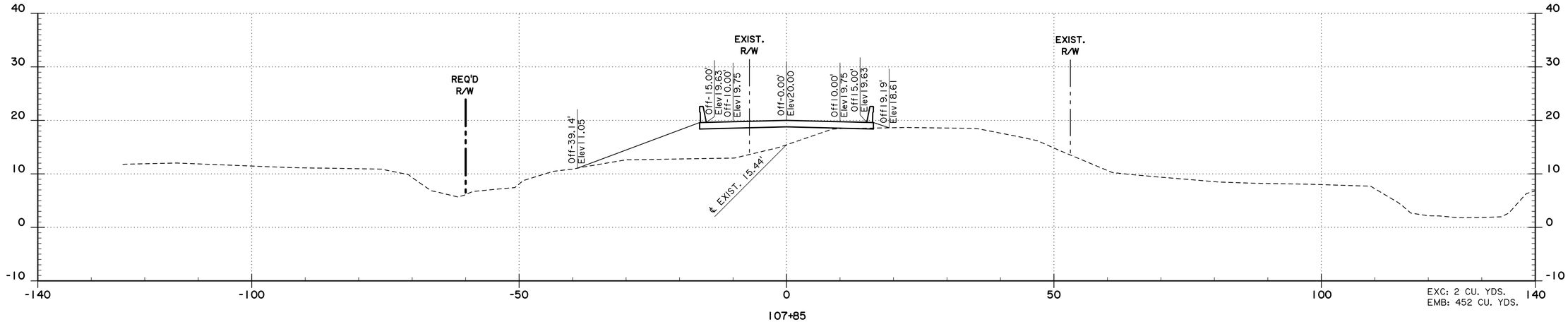
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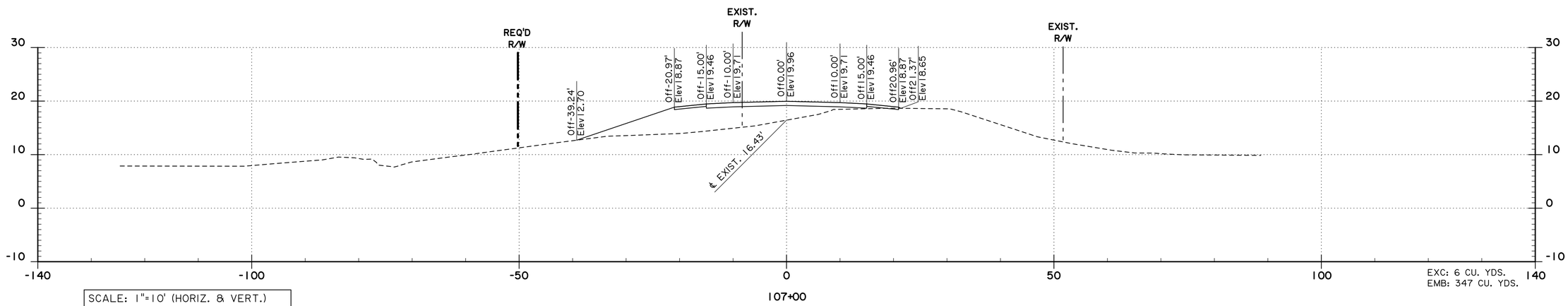
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC







SCALE: 1"=10' (HORIZ. & VERT.)
EXISTING GROUND LINE ----------
FINISHED SURFACE ——————

FINAL PLANS
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SHEET NUMBER	403
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220001811
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	3 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

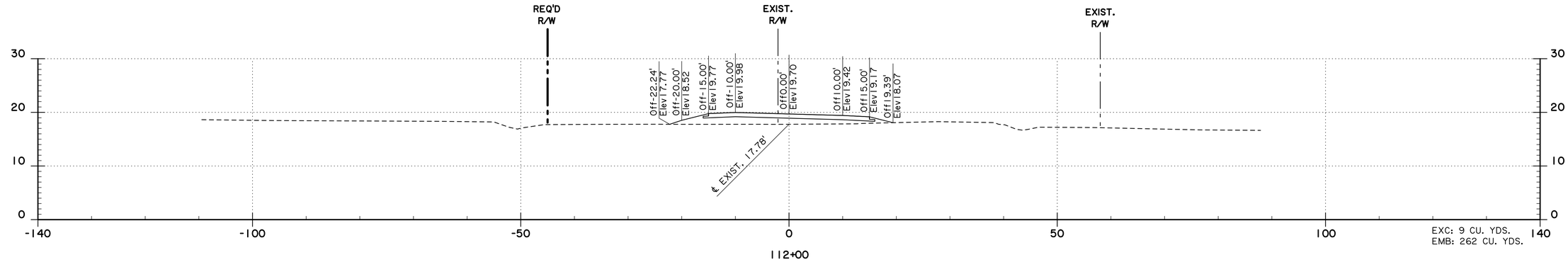
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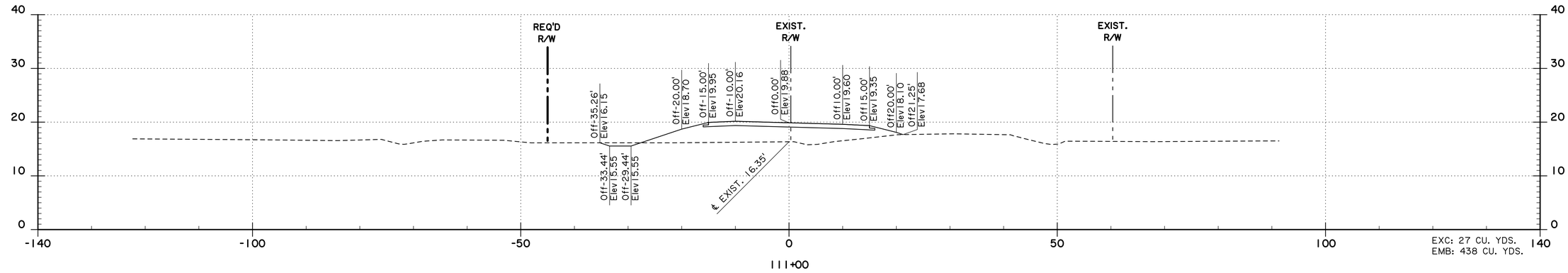
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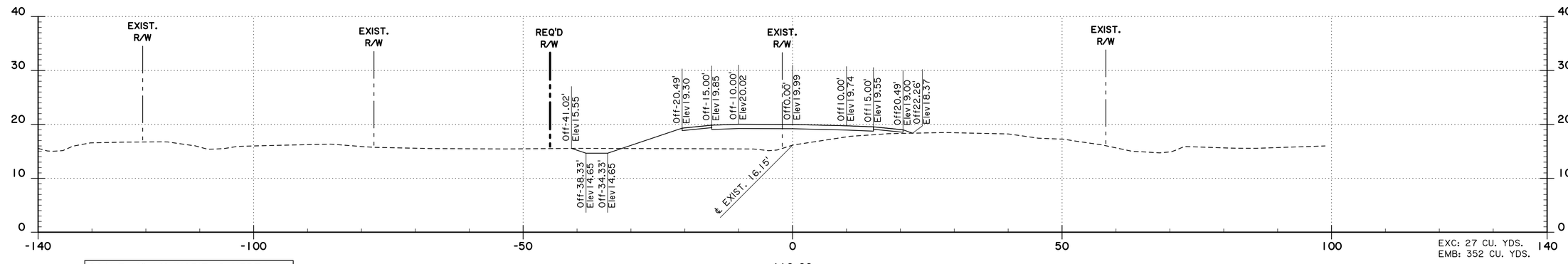
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

FINAL PLANS
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SCALE: 1"=10' (HORIZ. & VERT.)
EXISTING GROUND LINE ----------
FINISHED SURFACE ——————

SHEET NUMBER	404

PARISH	CONTROL SECTION	PARISH PROJECT
ST. TAMMANY	000-52	EN220001 81

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	4 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CROSS SECTIONS

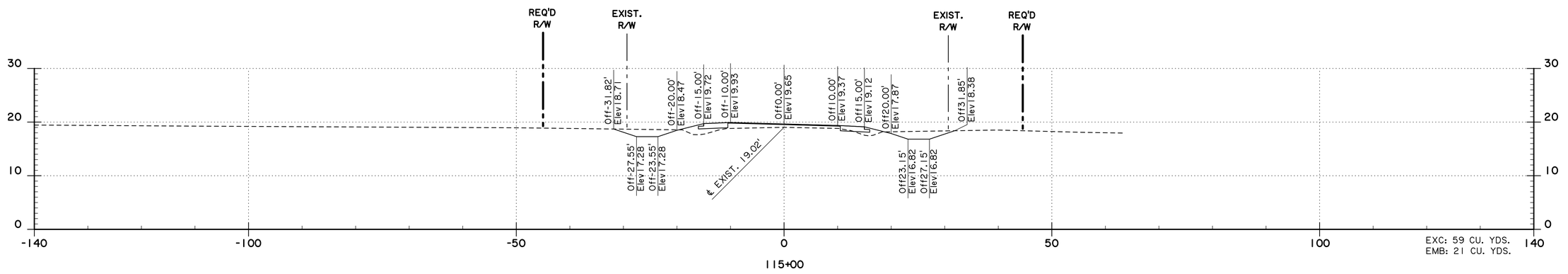
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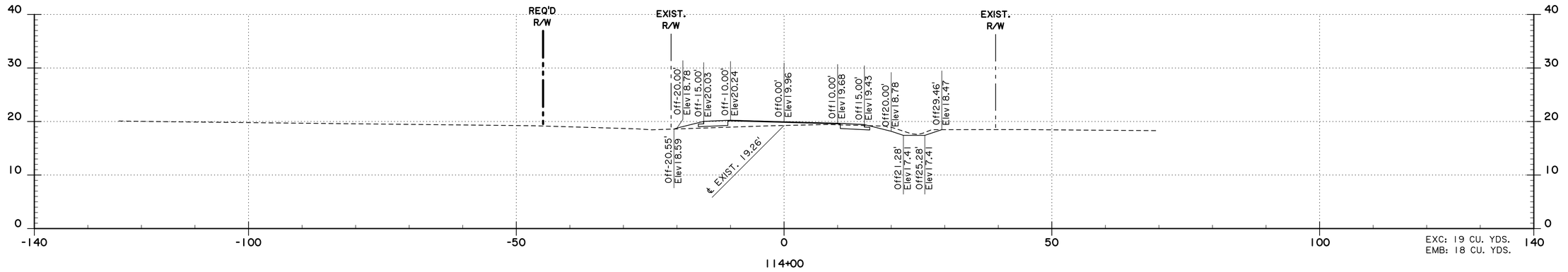
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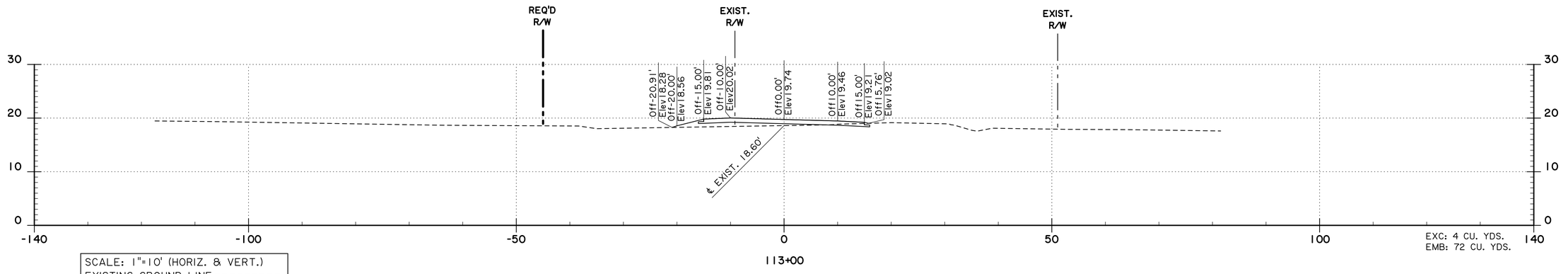
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FINAL PLANS







SCALE: 1"=10' (HORIZ. & VERT.)
EXISTING GROUND LINE ---------
FINISHED SURFACE ———————

SHEET NUMBER	405
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220000181
DESIGN	A. FALCON
CHECK	P. OLIVIER
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	D. HYMEL
SERIES #	5 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

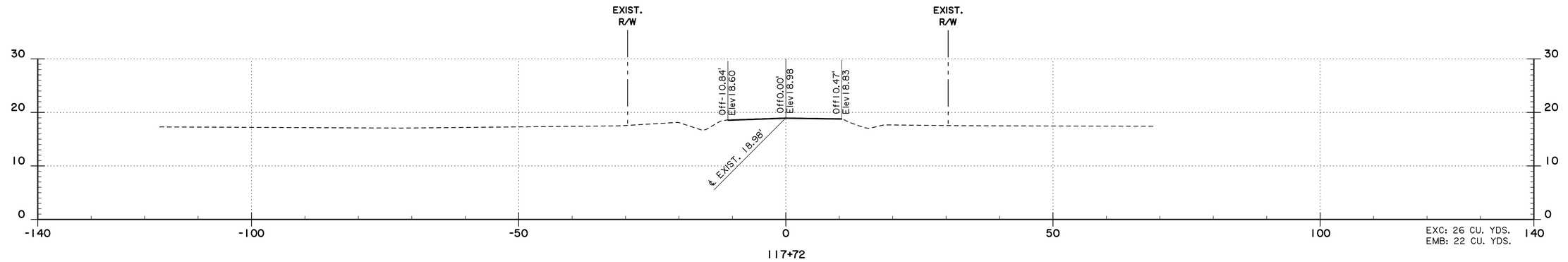
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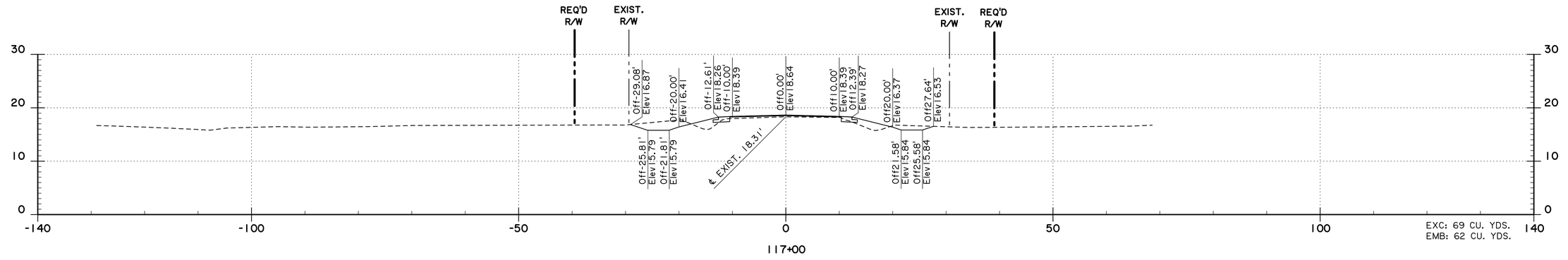
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

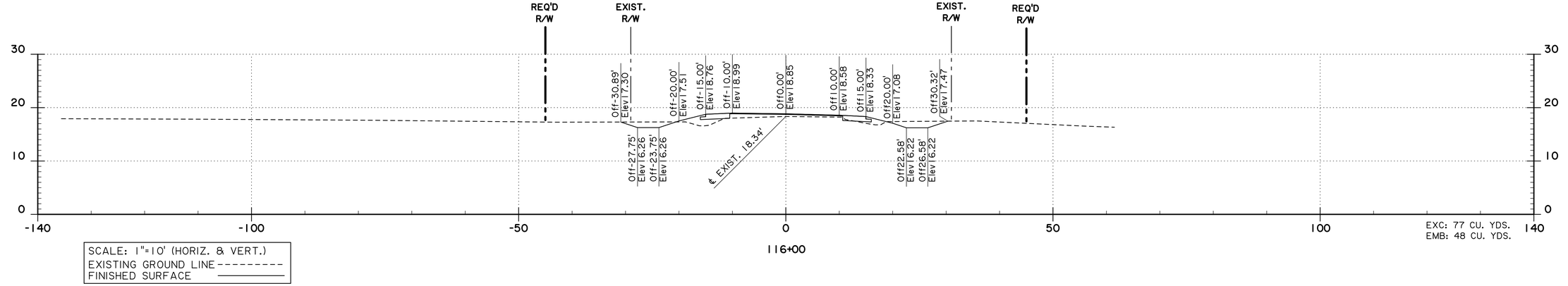
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

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FINAL PLANS
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SCALE: 1"=10' (HORIZ. & VERT.)
EXISTING GROUND LINE ---------
FINISHED SURFACE ———————

SHEET NUMBER	406
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
PARISH PROJECT	EN220001811

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
A. FALCON	P. OLIVIER	L. BOURG	P. OLIVIER	D. HYMEL	6 OF 6

STATE OF LOUISIANA
PAUL OLIVIER
License No. 39967
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/6/2025

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DOTD

CROSS SECTIONS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

Section 16

Geotechnical Report

GEOTECHNICAL DESIGN REPORT
ROUSSEAU ROAD BRIDGE REPLACEMENT
LA EN22000181: ROUSSEAU ROAD OVER SOAP & TALLOW BRANCH
FOR S. P. EN22000181
ST. TAMMANY PARISH, LOUISIANA

Draft



Ardaman & Associates, Inc.

CORPORATE HEADQUARTERS

8008 S. Orange Avenue, FL 32809 – Phone: (407) 855-3860 Fax: (407) 859-8121

Branch Office Locations

Florida: Bartow, Cocoa, Fort Meyers, Miami, Orlando, Port St. Lucie, Sarasota, Tallahassee, Tampa, West Palm Beach
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American Concrete Institute
Geoprofessional Business Association
Society of Military Engineers
American Council of Engineering Companies

Ardaman & Associates, Inc.

October 1, 2025
File: 22-84-2870
State Project No. EN22000181
Control Section 000-52

Crescent Engineering and Mapping, LLC
P.O. Box 370
Vacherie, LA 70090

Attention: Mr. Dennis Hymel, Jr., P.E.

Re: Geotechnical Design Report
Rousseau Road Bridge Replacement
St. Tammany Parish, Louisiana

We have completed the geotechnical design for the Rousseau Road Bridge Replacement associated with project S.P. No. EN22000181 and Recall Number 620076. The geotechnical design includes geotechnical exploration, analyses and foundation recommendations for the proposed bridge replacement. A short executive summary with recommended Plan Sheet Notes and Quantities is given below. We understand that a 7-span precast concrete bridge is planned to replace the existing bridge. We understand that design strength limit state structural loads for this bridge is 83 tons in compression for interior and exterior bents, and the bents are planned to be supported by 18-inch Precast Prestressed Concrete (PPC) piles. The table below summarizes the pile lengths to be included in the Project Plan.

Bridge Recall Number	**Pile Plan Length (feet)**	
	End Bents	**Intermediate Bents**
620076	68	68

We recommend that the following notes be included in the Plans:

1. **PILES:** ALL PILE REQUIREMENTS INCLUDING SIZE, TYPE, LOCATION, AND MAXIMUM DESIGN LOAD SHALL BE AS DESCRIBED IN THE CONTRACT DOCUMENTS. THE MINIMUM PILE TIP ELEVATION WILL BE THE PLAN TIP ELEVATION AS SHOWN IN THE PRODUCTION PILE DATA TABLE, UNLESS OTHERWISE NOTED OR OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.

2. **PILE CAPACITY VERIFICATION:** SHALL BE BASED ON THE MODIFIED GATES DYNAMIC FORMULA:

   ENGLISH DYNAMIC FORMULA:

$$R = \frac{(1.75\sqrt{E_r}\log(10N_b) - 100}{2}$$

   R = *Pile Bearing Capacity (Tons)*
   E_r = *Manufacturer's Rated Energy at the field observed ram stroke (foot-pounds)*
   N_b = *Number of Hammer Blows/Inch*

3. **REQUIRED NOMINAL RESISTANCE:** REQUIRED NOMINAL RESISTANCE "WITHOUT PREBORING" SHALL BE USED TO VERIFY PILE CAPACITY IF NO PREDRILLING IS PERFORMED. IF PREDRILLING TO THE SCOUR ELEVATION IS PERFORMED, THE REQUIRED NOMINAL RESISTANCE "PREBORING TO SCOUR" SHALL BE USED FOR PILE CAPACITY VERIFICATION.

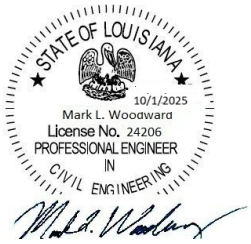
Quantities for the project should be included in the Project Plans Quantities Table:

Bridge Recall Number	Item No.	Description	Quantities
620076	804-01-00400	Precast Concrete Piles (18”) (lf)	2720

Please contact us at any time if there are any questions or concerns regarding the report content.

Sincerely,

ARDAMAN & ASSOCIATES, INC.
LAPELS No. EF.0001680



ROBERT E. ROUSSET, P.E.
Vice President/Regional Manager

MARK L. WOODWARD, MECE, P.E.
PRINCIPAL GEOTECHNICAL ENGINEER

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GEOTECHNICAL DESIGN REPORT
ROUSSEAU ROAD BRIDGE REPLACEMENT
LA EN22000181: ROUSSEAU ROAD OVER SOAP & TALLOW BRANCH
FOR S.P. EN22000181
ST. TAMMANY PARISH, LOUISIANA

This report details the geotechnical exploration, design criteria, and our geotechnical design recommendations for the Rousseau Road Bridge Replacement project located in St. Tammany Parish, Louisiana. The Appendices of this report contain the detailed geotechnical design calculations for the various project features.

SECTION 1. GENERAL PROJECT DESCRIPTION

We understand that this project will consist of replacing an existing bridge over Rousseau Road in St. Tammany Parish, LA. It is understood that a new 30 ft wide and 140 ft. long, precast concrete bridge is planned to replace the existing bridge. There will be seven 20-ft. long slab spans and eight bents to support the replacement bridge. A boring plan map showing the location of the bridge and boring locations is provided in Figure 1.

The subject bridge with Recall Number 620076 is located on the Rousseau Road approximately 500 ft. north of its intersection with Francis Road. We understand that there will be five piles per bent and all the bents are planned to be supported by 18-inch square Precast Prestressed Concrete (PPC) piles. It is also understood that the design strength limit state structural loads for the bridge is 83 tons in compression for all bents.

SECTION 2. DESIGN AIDS AND LRFD RESISTANCE SELECTION

Analyses to support foundation designs provided in this report are based on the AASHTO LRFD Bridge Design Specifications, the LADOTD Bridge Design Technical Memoranda, and the Louisiana Standard Specifications for Roads and Bridges (LSSRB).

The following sections describe the means of analysis that were utilized to perform the necessary engineering evaluations for this project.

2.1 Computer Programs

The following computer programs were utilized to perform the geotechnical analyses for this project:

Deep Foundation (piles):

- MDSC, LL. – "DrivenPiles 1.4.1" P.O. Box 6115 North Logan, UT, USA.
- Pile Dynamics, Inc. – "GRLWEAP v. 2010" 30725 Aurora Rd. Cleveland, OH, USA.

2.2 Pile Resistances

2.2.1 Vertical Resistances

The preliminary bridge plan provided by Crescent Engineering and Mapping, LLC. shows that 18-in square PPC piles will be used for support of the replacement bridge. The Load and Resistance Factor Design (LRFD) method is required for the foundation design. We understand that LADOTD desired to use a resistance factor of 0.50 with only limited or no verification testing. The pile acceptance will be based on the Modified Gates Formula.

2.2.2 Settlement and Downdrag

The subsurface soils at the bridge site are medium stiff to stiff clays and loose to medium sands. It is also understood no additional fill will be placed at the site. Downdrag due to soil settlement, if any, will be insignificant and should not impact the nominal pile resistance calculation.

SECTION 3. FIELD INVESTIGATION

A total of two (2) borings were drilled for this project. The boring locations were established in the field by Ardaman field personnel and surveyed by Crescent Engineering and Mapping, LLC. The borings are listed in Table 1.

TABLE 1 – BORING LOCATION SUMMARY

Bridge Recall Number	Boring No.	Surface Elevation Feet, NAVD88	Depth, feet	Location	
				Latitude	Longitude
620076	B-01	18.8	110	30°28'26.06"N	90° 8'53.60"W
	B-02	18.7	112	30°28'25.16"N	90° 8'53.24"W

The borings were drilled with an ATV mounted drill rig and at locations approximately as shown in plan on Figure 1.

Undisturbed sampling was performed continuously within the upper 10 feet and on 5 feet centers thereafter in all cohesive or semi-cohesive materials with a three-inch diameter thin wall tube sampler in general accordance with ASTM D 1587-93. Representative samples were cut from the cores and placed in moisture proof containers for preservation until laboratory testing could be performed.

When cohesionless or exceptionally stiff material was encountered, which could not be sampled by undisturbed methods, the Standard Penetration test was performed. This test consists of driving a two-inch diameter split spoon sampler one foot (after first seating it 6 inches) with a 140 lb. hammer falling 30 inches. The number of blows required to drive the sampler gives an indication of the density of the material. Logs of the borings showing the field results along with the detailed stratification and sample depths are included in Appendix A.

All soil borings were initially drilled up to 10 ft. depth using dry sampling methods in order to observe groundwater levels. Below this depth, rotary wash method drilling methods were used to further advance the borehole.

SECTION 4. LABORATORY TESTING

In order to determine the physical properties of the soils, geotechnical laboratory tests were performed on samples obtained from the soil borings. This testing consisted primarily of natural moisture content, percent fines, unit weight, Atterberg limits, and unconsolidated undrained triaxial compression tests. The results of the laboratory tests are tabulated alongside the soil boring logs at the appropriate sample and depth in Appendix A.

SECTION 5. SUBSOIL & GEOLOGIC INFORMATION

5.1 Site Geology

The near surface soil encountered at the sites are generally characterized geologically as Alluvium deposits of the Holocene Epoch. These generally consist of gray or tan clay and silty clay, with some sand and gravels.

5.2 Subsoil Description

Soil conditions described in this section are of a generalized nature and are intended to emphasize key features and characteristics. For a more detailed description of the subsurface materials encountered refer to the soil profiles on each Log of Boring in Appendix A of this report. Strata contacts indicated on our logs are approximate. Actual transitions may be gradual in nature. Soils at other locations or depths may be different than those encountered during this exploration. The following presents a general description of the subsurface conditions encountered at the various soil boring locations:

<u>Bridge Recall Number 620076 (Soil Borings B-01 and B-02)</u>

Underneath about 18 inches of asphalt in soil boring B-1 is gray gravelly sand to about Elev. +16.8. Following this is medium stiff light gray and tan lean clay to about Elev. +7. Underneath this is stiff gray fat clay to about Elev. -3 and then dense light gray sand about Elev. -12, followed by loose gray silty sand to about Elev. -16. This is underlined by medium stiff to stiff gray sandy lean clay to about Elev. -23, and then stiff to very stiff gray sandy lean clay, or fat clay or sandy fat clay to about Elev. -42. Below this is very stiff gray lean clay to about Elev.-46, followed by medium

dense gray clayey sand to about Elev. -49. Underneath this stiff dark gray sandy fat clay was encountered to about El -61 and then very dense light brown sand or silty sand to at least Elev.-91.2 where the soil boring B-1 was terminated.

Underneath about 18 inches of asphalt in soil boring B-2 is gray lean clay to about Elev. +16.7. Following this is stiff light gray and tan lean clay or very stiff gray lean clay to about Elev. +10.7, followed by medium stiff to stiff gray lean clay or gray and tan lean to about Elev. -3. This is underlined by loose light gray silty sand to about Elev. 6, followed by medium dense gray sandy silt to about Elev. -10, Below this medium stiff gray fat clay about Elev. -14. Underneath this stiff light gray and tan lean clay to about Elev. -19 and then medium dense gray clayey sand or silty sand were encountered to about Elev. -26. This is followed by very stiff gray fat clay to about Elev. -28 and then medium stiff gray and tan fat clay to about Elev. -35. Beneath this there is a layer of very loose gray sand or silt to about Elev. -42. This is followed by stiff gray or dark gray lean clay to about Elev. -46, and then stiff dark gray lean clay to about Elev. -52. Below this wood with trace clay was found up to Elev. -52 and then dense gray silty sand were encountered to about Elev. -58. Following this is loose gray silt to about Elev. -61 and below medium stiff gray lean clay to at least Elev. -64. Underneath this is dense to very dense gray sandy silt or light brown sand to about Elev. -82 and then medium dense to dense light brown sand or silty sand to about Elev. -93.3 where the soil boring B-2 was terminated.

5.3 Groundwater

At the time of the subsurface investigation, an initial and a short-term free water readings were attempted. If groundwater was not encountered prior to the rotary wash method of drilling being used to advance the soil boring, the designation NFWE (No Free Water Encountered) is shown in the table below.

TABLE 2 – ENCOUNTERED GROUNDWATER LEVELS

Bridge Recall Number	Soil Boring No.	Encountered Groundwater Elevation(s) Feet, NAVD88	
		Initial	Short-Term
620076	B-1	NFWE	NFWE
	B-2	NFWE	NFWE

These observations and measurements were made while completing the soil borings and groundwater may not have become fully steady state at the time of measurement. In any event, groundwater could fluctuate due to seasonal precipitation, drainage, prolonged drought, etc. and should be verified during construction activities affected by groundwater.

SECTION 6. GEOTECHNICAL DESIGN

The following sections will detail the analyses performed to aid in the design of the new pile supported bridge structure.

6.1 Design Strength Lines

Data obtained from the subsurface investigation were plotted against elevation using Microsoft Excel. The plotted data includes moisture content, undrained shear strength, standard penetration resistance (blows per foot), wet density, and percent fines. These profiles are subsequently used to develop a representative subsurface soil stratigraphy and design soil parameters. The design soil parameters are summarized in Table 3 below. It should be noted that as per LADOTD design recommendations, maximum friction angle of 36 degrees was used for static axial pile capacities in the very dense sands encountered at the site.

TABLE 3 – INTERPRETED SOIL PROFILE FOR RN 620076

Elevation Interval (feet, NAVD88)	Soil Type	Undrained Shear Strength, S_u (psf)	Friction Angle, Φ (deg)	Unit Weight, γ (pcf)
+18.8 to +6.8	Clay	700	-	125
+6.8 to -3.2	Clay	1000	-	122
-3.2 to -9.2	Sand	-	32	120
-9.2 to -19.2	Clay	750	-	120
-19.2 to -28.2	Clay	1700	-	124
-28.2 to -33.2	Clay	950	-	105
-33.2 to -45.2	Clay	1250	-	120
-45.2 to -51.2	Clay	1600	-	129
-51.2 to -59.2	Clay	1800	-	115
-59.2 to -64.2	Clay	750	-	120
-64.2 to -81.2	Sand	-	36	120
-81.2 to -93.2	Sand	-	28	120

6.2 Pile Foundations

6.2.1 Axial Resistance

The preliminary bridge plans show that 18-inch square PPC piles are being considered for this project. General bridge information is given in Table 4 below, including pile strength limit state loads and the design scour elevation. Bridge Plans are included in Appendix B.

TABLE 4 –BRIDGE INFORMATION

Bridge RN	Bridge Length (feet)	No. of Bents	Pile Strength Limit State Load for All Bents (tons)	Scour Elevation (ft., NAVD88)
620076	140	8	83	-3.11

Analyses were conducted to estimate the axial resistance of 18-inch sq. PPC piles using the program DrivenPiles v.1.4.1. For the calculations, the Tomlinson (1980) alpha method was used in clays and the Nordlund (1979) method was used in sand. Input and Output Files from the Program DrivenPiles are included in Appendix D along with Nominal Resistance plots versus Elevation. Consideration was given to a resistance factor of 0.5 as per LADOTD guidance and it is understood that field verification will be performed using the Modified Gates Equation.

Production Pile Data Table is included in Appendix C of this report for the bridge showing the strength limit state loads and required pile lengths. A summary table of pile lengths is given in Table 5 below.

TABLE 5 – PILE LENGTHS

Bridge Recall Number	Pile Plan Length (feet)	
	End Bents	Intermediate Bents
620076	68	68

6.2.2 Pile Installation

A pile installation plan shall be submitted in accordance with Section 804 of the Louisiana Standard Specification for Roadway and Bridge (LSSRB), latest version. We evaluated preliminary drivability using the program GRLWEAP v. 2010 and results are included in Appendix E. A brief discussion about anticipated driving conditions is included below.

For this site, it appears that the majority of the soils are medium stiff to stiff clays and loose to medium dense sands. Based on the drivability results from the program GRLWEAP as shown in Appendix E, it is believed that piles could be installed without the need for predrilling or preboring given that a properly sized hammer, cushion, etc. is utilized. However, it should be noted that multiple very stiff clay layers were encountered in both soil borings, and a dense sand stratum was encountered starting at about Elev. -3.0 to Elev. -12 in soil boring B-1, indicating that drivability might be an issue for these strata. If predrilling is utilized, the drill bit diameter should

not exceed 2/3 the pile tip diameter. Predrilling should only be performed until the impenetrable or problematic layer is surpassed and no deeper than 5 ft. above the desired pile tip elevation. The pile should then be driven using normal driving effort to the desired tip elevation.

6.2.3 Vibrations

The contractor shall provide pre- and post- construction site survey and monitor vibrations due to pile driving activities in accordance with LSSRB Section 804. The contractor shall submit site survey plan at least 30 days prior to any pile driving activities.

6.3 Slope Stability Analyses

We understand from furnished drawings by Crescent that the existing bridge embankment will be cut to side slopes of 3.0H:1V at this RN site. Since these slopes correspond to the required slope without slope stability analyses, no analyses were conducted for the cut roadway embankments.

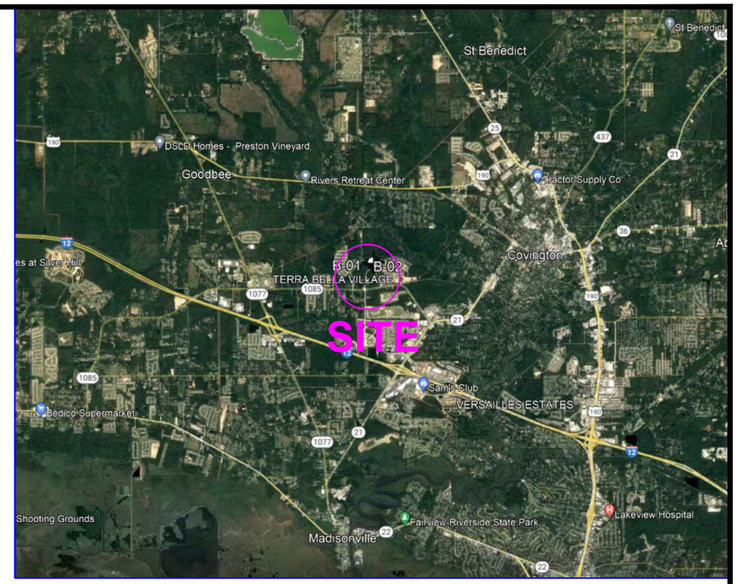
6.4 Settlement Analyses

We understand from furnished drawings by Crescent that no new embankment material will be placed at the site for the temporary repair. Therefore, no settlement analyses were conducted.

SECTION 7. FIGURES

FIGURE 1 – PROJECT LOCATION PLAN





VICINITY MAP
NOT TO SCALE

N

REFERENCE:
SITE IMAGE BY GOOGLE.

NOTE:
LOCATIONS ARE APPROXIMATE.

Rousseau Road Bridge Replacement
Covington, LA

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

ENG	Drawn by:	Checked by:
M.G.S	M.G.S	M.W.
File No.: 22-84-2870	Date: 7/30/24	FIG No. 1

Title: **Boring Location Plan**

\\tt.local\gfs\USVolume4\Legacy\tts240fs2\Data\Projects\2022\2022 Engineering\22-2870 (Rousseau Road Bridge Replacement-Crescent Engineering)\Site 22-2870 Site Plan.dwg

APPENDIX A. SOIL BORING LOGS

This appendix contains the following:

- Soil Boring Logs

12/15/2022 7:41 AM

rousseau road bridge replacement boring logs

DEPTH Feet	GRAPHIC	SOIL TYPE AND COLOR ⊗	WET DENSITY	MOISTURE CONTENT	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	SPT or UU	FAILURE MODE/ SPT TERMINATION	SAMPLE TYPE NUMBER	ELEVATION
0		Gray GRAVELLY SAND		7						A-1	18.8
		Medium stiff light gray and tan LEAN CLAY (CL) w/ trace organics	122	24	39	24		0.87@0.60	M.S.	C-2	
			122	23	41	26		0.57@1.10	M.S.	C-3	
			124	22	40	23		0.83@1.70	M.S.	C-4	
10				25						C-5	8.8
		Stiff gray FAT CLAY (CH)	124	26	52	34		1.87@3.60	M.S.	C-6	
20		--w/ organics	115	39	87	59	99.5	1.27@5.00	M.S.	C-7	-1.2
		Dense light gray SAND (SP-SM) w/ silt		21				11-15-23 (38)	4	D-8	
				27			5.6	17-23-24 (47)	4	D-9	
30				20				13-18-20 (38)	4	D-10	-11.2
		Loose gray SILTY SAND (SM)		25			29.4	4-4-5 (9)	4	D-11	
		Medium stiff to stiff gray SANDY LEAN CLAY (CL)		31				2-3-4 (7)	4	D-12	
40			124	26	35	21	63.6	1.71@10.60	M.S.	C-13	-21.2
		Very stiff gray SANDY LEAN CLAY (CL)		26	47	33	55.1	4-6-10 (16)	4	D-14	
		Very stiff gray FAT CLAY (CH)	105	48	90	61		2.28@13.30	M.S.	C-15	-31.2
50		Stiff to very stiff gray SANDY FAT CLAY (CH)		26	50	34	49.9			C-16	
				24			62.4	7-10-12 (22)	4	D-17	
60		Stiff gray LEAN CLAY (CL)		27				1-3-7 (10)	4	D-18	-41.2
		--w/ sand		22	39	25	82.6	5-6-5 (11)	4	D-19	
		Medium dense gray CLAYEY SAND (SC)	129	19	26	13	43.9	1.91@18.10	BLG.	C-20	
70		Stiff dark gray FAT CLAY (CH)		32	50	34				C-21	-51.2
		--w/ trace organics	115	35	53	33	82.8	1.85@20.80	M.S.	C-22	
80		Very dense light brown SAND (SP-SM) w/ silt		22			11.5	32-50/4"	1	D-23	-61.2
				21				38-50/6"	1	D-24	
				21			7.3	30-50/6"	1	D-25	
90				20				36-50/6"	1	D-26	-71.2
				17			7.4	50/6"	1	D-27	
				18				50/6"	1	D-28	
100				19			7.4	36-50/6"	1	D-29	-81.2
				18				40-50/6"	1	D-30	
		Very dense light brown SILTY SAND (SM)		19			17.8	17-28-39 (67)	4	D-31	-91.2
110		Bottom of hole at 110 feet Backfilled with cement/bentonite grout upon completion.									
120											-101.2

DRILL RIG AND EQUIPMENT

DRILL RIG MODEL:	CME 550X
DRILLING METHOD:	Auger / Rotary Wash
HOLE DIAMETER:	4"
SPT HAMMER / ETR:	N.O. Auto Hammer /71.7%

PL NM LL (10 20 30 40 50 60 70 80 90)

BORING NO. B-1	STA.: 109+26.21 ft	WATER LEVEL: No Free Water Encountered ATD
LATITUDE: 30.47394	OFFSET: 29.72 R	
LONGITUDE: -90.14822	DATE TAKEN: 9/19/2022	BACKFILL METHOD: Cement/Bentonite Gr
LRS ID:	RECALL NO.: 620076	SQD. LDR.: K. Cunningham

DEPTH Feet	GRAPHIC	SOIL TYPE AND COLOR ⊗	WET DENSITY	MOISTURE CONTENT	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	SPT or UU	FAILURE MODE/ SPT TERMINATION	SAMPLE TYPE NUMBER	ELEVATION
0		Gray LEAN CLAY (CL)		22						A-1	18.7
		Stiff light gray and tan LEAN CLAY (CL) w/ trace organics	124	22	39	23		1.09@0.60	M.S.	C-2	
			125	22	34	17		1.45@1.10	M.S.	C-3	
		Very stiff gray LEAN CLAY (CL) w/ trace organics	132	17	31	15		3.20@1.70	M.S.	C-4	
10		Medium stiff gray LEAN CLAY (CL) w/ trace gravel and trace organics	128	20	32	17		0.78@2.20	BLG.	C-5	8.7
		Stiff gray and tan LEAN CLAY (CL)	124	27	45	28		1.20@3.60	BLG.	C-6	
20			126	25	39	25		1.00@5.00	M.S.	C-7	-1.3
		Loose light gray SILTY SAND (SM)		20			45.8			C-8	
		Medium dense gray SANDY SILT (MLS)		22		NP	51.7	10-9-11 (20)	4	D-9	
30		Medium stiff gray FAT CLAY (CH)		36	65	46		5-3-3 (6)	4	D-10	-11.3
		Stiff light gray and tan LEAN CLAY (CL)	121	28	49	33		1.32@9.40	M.S.	C-11	
40		Medium dense gray CLAYEY SAND (SC)		24			41.9	4-4-5 (9)	4	D-12	-21.3
		Medium dense gray SILTY SAND (SM)		29			18.8	6-5-9 (14)	4	D-13	
		Very stiff gray FAT CLAY (CH)		30	59	38	94.0	3-12-7 (19)	4	D-14	
50		Medium stiff gray and tan FAT CLAY (CH)	107	51	81	55		0.99@13.90	M.S.	C-15	-31.3
		Very loose gray SAND (SP-SM) w/ silt		24			11.9			C-16	
60		Very loose gray SILT (ML)		31		NP	94.9	3-2-1 (3)	4	D-17	-41.3
		Stiff gray LEAN CLAY (CL)		23	38	22		1-5-8 (13)	4	D-18	
		Stiff dark gray LEAN CLAY (CL) w/ organics	130	23	29	16		1.66@18.30	M.S.	C-19	
70		Wood with trace clay		232						C-20	-51.3
		Dense gray SILTY SAND (SM)		14			37.7	14-11-23 (34)	4	D-21	
		Loose gray SILT (ML)		26		NP	96.9	5-1-6 (7)	4	D-22	
80		Medium stiff gray LEAN CLAY (CL)		23	27	11		4-4-2 (6)	4	D-23	-61.3
		Dense gray SANDY SILT (MLS)		21		NP	56.5			C-24	
		Very dense light brown SAND (SP-SM) w/ silt		23			8.6	25-43-50/6"	1	D-25	
90				24				24-41-42 (83)	4	D-26	-71.3
				16			7.9	50/1"	1	D-27	
				20				49-50/3"	1	D-28	
100				18			8.8	40-50/4"	1	D-29	-81.3
		Medium dense to dense light brown SAND (SP-SM) w/ silt		27				4-4-10 (14)	4	D-30	
				17			8.4	11-22-26 (48)	4	D-31	
				15				8-7-5 (12)	4	D-32	-91.3
110		Medium dense light brown SILTY SAND (SM)		16			15.8	11-13-16 (29)	4	D-33	
		Bottom of hole at 112 feet Backfilled with cement/bentonite grout upon completion.									
120											-101.3

DRILL RIG AND EQUIPMENT

DRILL RIG MODEL:	CME 550X
DRILLING METHOD:	Auger / Rotary Wash
HOLE DIAMETER:	4"
SPT HAMMER / ETR:	N.O. Auto Hammer /71.7%

PL NM LL (10 20 30 40 50 60 70 80 90)

BORING NO. B-2	STA.: 108+06.37 ft	WATER LEVEL: No Free Water Encountered ATD
LATITUDE: 30.47362	OFFSET: 28.47 R	
LONGITUDE: -90.14812	DATE TAKEN: 9/21/2022	BACKFILL METHOD: Cement/Bentonite Gr
LRS ID:	RECALL NO.: 670026	SQD. LDR.: K. Cunningham

STANDARD ABBREVIATIONS & DEFINITIONS

SPG, CH, SM, SC, ML, CL, SP-SM, CLS, MLS

N.P. = Non-Plastic
ORG. = Organic

FAILURE MODE:
M.S. = Multiple Shear SL = Slump
S/S = Slickensides YLD. = Yield
V.S. = Vertical Shear 60 S. = Shear Angle

SPT TERMINATION, AASHTO T 206
1 = 7.2.1 – 50 Blows Within A 6" Interval
2 = 7.2.2 – 100 Blows Total
3 = 7.2.3 – No Advancement for 10 Blows
4 = 7.2.4 – Sampler Driven the Entire 18"
5 = Non-standard
6 = WOR "Weight of Rod"
7 = WOH "Weight of Hammer"

SOIL PROPERTIES

⊗	= SOIL TYPE nomenclature is based on ASTM D2487
WET DENSITY	= Wet density of soil specimen, (pounds per cu. ft.) determined by ASTM D7263.
MOISTURE CONTENT	= Moisture Content of soil specimen, expressed as a percentage of the dry weight of the soil, (%), determined by ASTM D2216.
LIQUID LIMIT & PLASTICITY INDEX	= Atterberg limits and indices, ASTM D4318
SPT	= Standard Penetration Test, ASTM D1586, number of blows per each 6 inch increment, unless amount of penetration is shown
UU	= Unconsolidated Undrained triaxial test, ASTM D2850, compressive strength (tons per sq. ft.), of one specimen confined at noted pressure (pounds per sq. in.)
C	= Soil cohesion (tons per sq. ft.)
♦	= Soil angle of internal friction (degrees)
+	= Consolidated drained direct shear test, ASTM D3080, (c – ♦).
*	= Hydrometer test performed, ASTM D7928

MISCELLANEOUS:

C-3 = Location and identification of thin-walled tube sample, ASTM D1587

C-3 = Location and identification of thin-walled tube sample, ASTM D1587, with a portion of the sample saved for consolidation testing

D-3 = Location and identification of SPT sample, ASTM D1586

NO RECV. = No Recovery, unable to recover sample for testing or classification.

DIST. = Disturbed sample recovered with thin-walled tube sampler.

▽ 24 HRS = Water Table depth below ground surface recorded at noted time after completion of borehole.

ETR = Energy Transfer Ratio determined according to ASTM D4633

CORRELATION OF PENETRATION RESISTANCE AND SOIL PROPERTIES

SOIL		DESIGNATION	"N" (blows per ft.)
SAND AND SILT	RELATIVE DENSITY	VERY LOOSE	LESS THAN 4
		LOOSE	4 – 10
		MEDIUM DENSE	10 – 30
		DENSE	30 – 50
		VERY DENSE	OVER 50
CLAY	CONSISTENCY	VERY SOFT	LESS THAN 2
		SOFT	2 – 4
		MEDIUM STIFF	4 – 8
		STIFF	8 – 15
		VERY STIFF	15 – 30
		HARD	OVER 30

SHEET NUMBER

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	EN22000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
		JEK	CR		

STATE OF LOUISIANA — MARK L. WOODWARD — License No. 34304 — PROFESSIONAL ENGINEER IN — CIVIL ENGINEERING — 7/31/24

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA — DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT — "DOTD IS CONFIDENCE"

GEOTECHNICAL EXPLORATION LOGS

Rousseau Road Bridge Replacement

DOTD — LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

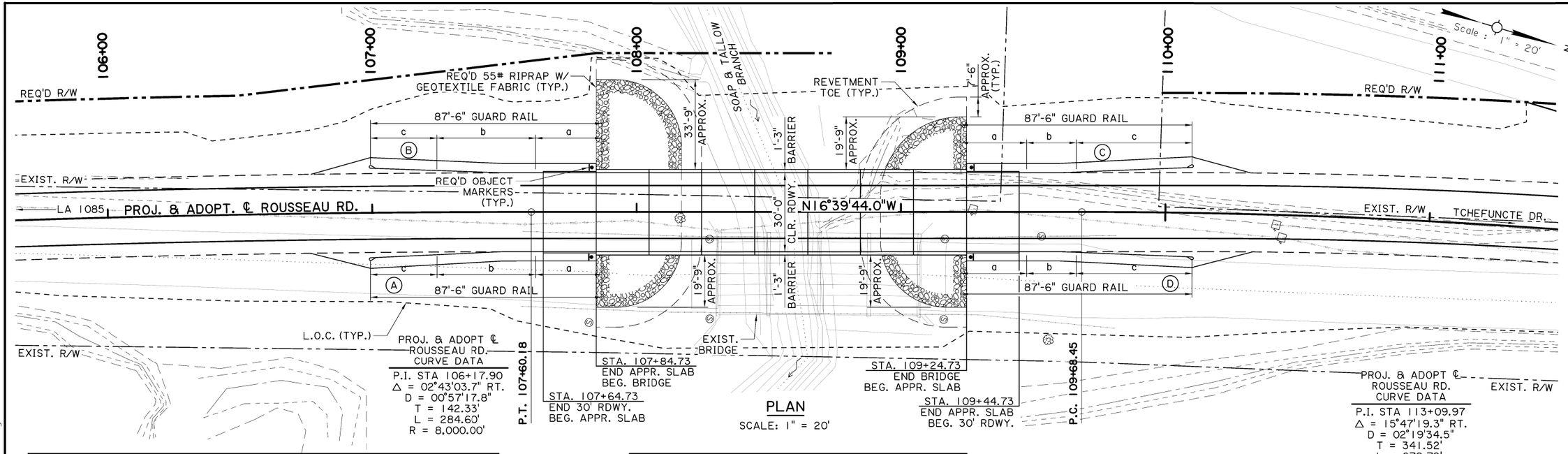
Ardaman & Associates, Inc.

APPENDIX B. FURNISHED BRIDGE PLAN

This appendix contains the following:

- Furnished Bridge Plans

60% FINAL PLANS
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_60 PCT\102 - General Plan & Elevation.dgn
7/8/2024 08:57



PLAN
SCALE: 1" = 20'

HYDRAULIC DATA					
DRAINAGE AREA (SQ. MI.): 6.89				PROJECTED SCOUR	
BASIN SLOPE (FT./MI.): 5.92					
FLOOD FREQUENCY (YRS.)	25	25	100	FLOOD FREQUENCY (YRS.)	500 YR.
DISCHARGE (C.F.S.)	1,649	1,649	2,127	DISCHARGE (C.F.S.)	2,807
STRUCTURE	EXIST. BRIDGE	PROP. BRIDGE		CONTRACTION SCOUR DEPTH: (FT.)	2.00
SIZE & TYPE	76'(L) x 28'(W)	120'(L) x 30'(W)		MAX. PIER SCOUR DEPTH: (FT.)	3.00
W.S. EL. (BASIN ONLY): (NAVD 88) (FT.)	11.73*	11.02*	11.85*	ABUTMENT SCOUR DEPTH: (FT.)	N/A
DESIGN W.S. EL. (W/ TCHEF. BACKWATER): (NAVD 88) (FT.)	-	18.40⊙	20.70⊙	BRIDGE SCOUR ELEV. (FT./M.S.L.)	-3.11
VELOCITY (FT./SEC.)	8.27	3.97	4.39		
BACKWATER (FT.)	0.13	NEGL.	NEGL.		
AREA OF OPENING (SQ. FT.)	720.7	1,092.2	1,092.2		

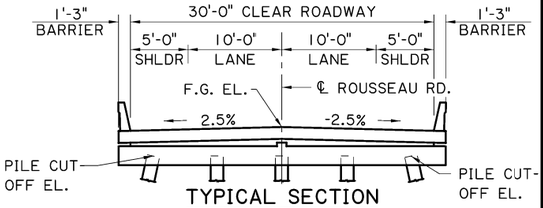
* DOES NOT INCLUDE BACKWATER FROM THE TCHEFUNCTE RIVER.

⊙ WATER SURFACE ELEVATION INTERPOLATED FROM THE TCHEFUNCTE RIVER PROFILE INCLUDED IN THE ST. TAMMANY PARISH FLOOD INSURANCE STUDY.

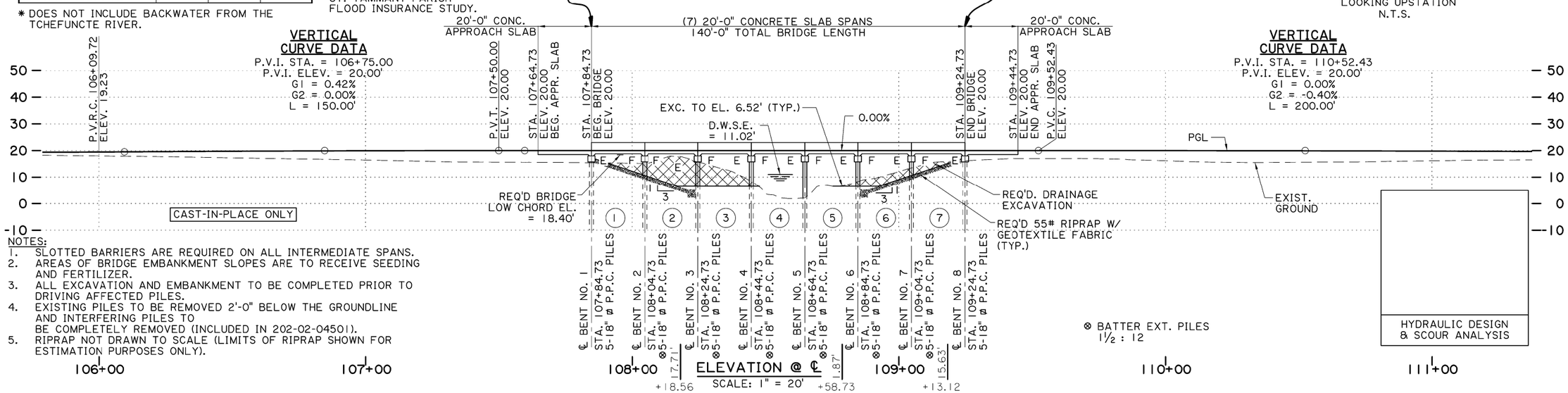
GUARD RAIL DESIGN DATA							
HIGHWAY CLASS			GUARD RAIL DESIGN SPEED (MPH)		2042 ADT	LC (FT)	
RURAL LOCAL			35		600	10	
GUARD RAIL DATA							
	LR	LA	L2	A:B	X	Y	Z
(A)	85'	10'	5'	0:1	42.50'	5.00'	14.00'
(B)	85'	10'	15'	0:1	-42.50'	15.00'	24.00'

GUARD RAIL ITEM LENGTHS		
SECTION	PAY ITEM	LENGTH
a	704-07-00200	25'-0"
b	704-03-00200	12'-6"
c	704-10-00205	50'-0"

IN PLACE TO BE REMOVED:
STATION 108+30.72 TO STATION 109+06.49
RECALL NO. 620076
28' (CLR.) X 76' CONC. BRIDGE



TYPICAL SECTION
LOOKING UPSTATION
N.T.S.



NOTES:
1. SLOTTED BARRIERS ARE REQUIRED ON ALL INTERMEDIATE SPANS.
2. AREAS OF BRIDGE EMBANKMENT SLOPES ARE TO RECEIVE SEEDING AND FERTILIZER.
3. ALL EXCAVATION AND EMBANKMENT TO BE COMPLETED PRIOR TO DRIVING AFFECTED PILES.
4. EXISTING PILES TO BE REMOVED 2'-0" BELOW THE GROUNDLINE AND INTERFERING PILES TO BE COMPLETELY REMOVED (INCLUDED IN 202-02-04501).
5. RIPRAP NOT DRAWN TO SCALE (LIMITS OF RIPRAP SHOWN FOR ESTIMATION PURPOSES ONLY).

ELEVATION @ ℄
SCALE: 1" = 20'

SHEET NUMBER	102
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	EN220001811
DESIGN	M. MILLER
CHECK	D. HYMEL
DETAIL	L. BOURG
CHECK	P. OLIVIER
REVIEW	J. LEDET
SERIES #	1 OF 1

60% FINAL PLANS
PRELIMINARY
FOR REVIEW ONLY
ENGINEER: MEGAN M. MILLER
LICENSE #: 39897
DATE: 7/8/2024

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

GENERAL PLAN & ELEVATION
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

ST. TAMMANY PARISH GOVERNMENT

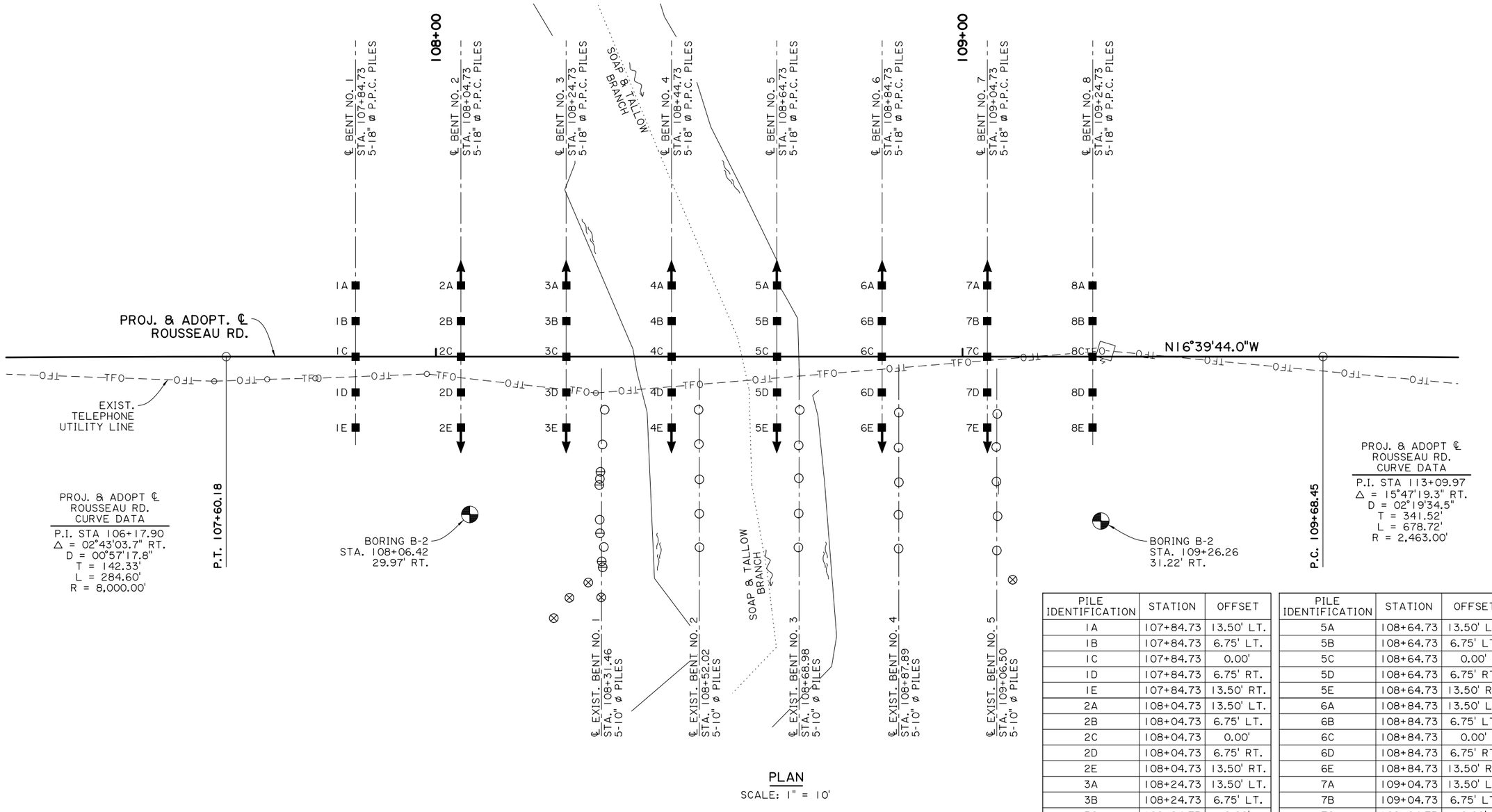
CRESCENT ENGINEERING & MAPPING LLC

60% FINAL PLANS
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_60 PCT\105 - Foundation Layout.dgn
7/8/2024 08:59

LEGEND:

- ■ REQ'D 18" ø P.P.C. PILE
- ○ EXIST. 10" ø TIMBER PILE
- ⊗ EXIST. TIMBER WINGWALL PILE
- ⊖ EXIST. HELPER PILE
- → PILE BATTER (1½ ON 12)
- ◓ BORING LOCATION

Scale: 1" = 10'



PLAN
SCALE: 1" = 10'

PILE IDENTIFICATION	STATION	OFFSET
1A	107+84.73	13.50' LT.
1B	107+84.73	6.75' LT.
1C	107+84.73	0.00'
1D	107+84.73	6.75' RT.
1E	107+84.73	13.50' RT.
2A	108+04.73	13.50' LT.
2B	108+04.73	6.75' LT.
2C	108+04.73	0.00'
2D	108+04.73	6.75' RT.
2E	108+04.73	13.50' RT.
3A	108+24.73	13.50' LT.
3B	108+24.73	6.75' LT.
3C	108+24.73	0.00'
3D	108+24.73	6.75' RT.
3E	108+24.73	13.50' RT.
4A	108+44.73	13.50' LT.
4B	108+44.73	6.75' LT.
4C	108+44.73	0.00'
4D	108+44.73	6.75' RT.
4E	108+44.73	13.50' RT.

PILE IDENTIFICATION	STATION	OFFSET
5A	108+64.73	13.50' LT.
5B	108+64.73	6.75' LT.
5C	108+64.73	0.00'
5D	108+64.73	6.75' RT.
5E	108+64.73	13.50' RT.
6A	108+84.73	13.50' LT.
6B	108+84.73	6.75' LT.
6C	108+84.73	0.00'
6D	108+84.73	6.75' RT.
6E	108+84.73	13.50' RT.
7A	109+04.73	13.50' LT.
7B	109+04.73	6.75' LT.
7C	109+04.73	0.00'
7D	109+04.73	6.75' RT.
7E	109+04.73	13.50' RT.
8A	109+24.73	13.50' LT.
8B	109+24.73	6.75' LT.
8C	109+24.73	0.00'
8D	109+24.73	6.75' RT.
8E	109+24.73	13.50' RT.

SHEET NUMBER 105

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	EN220001 81

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	D. HYMEL	L. BOURG	P. OLIVIER	J. LEDET	1 OF 1

60% FINAL PLANS
PRELIMINARY
FOR REVIEW ONLY

ENGINEER:
MEGAN M. MILLER

LICENSE #:
39897

DATE:
7/8/2024

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

FOUNDATION LAYOUT

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

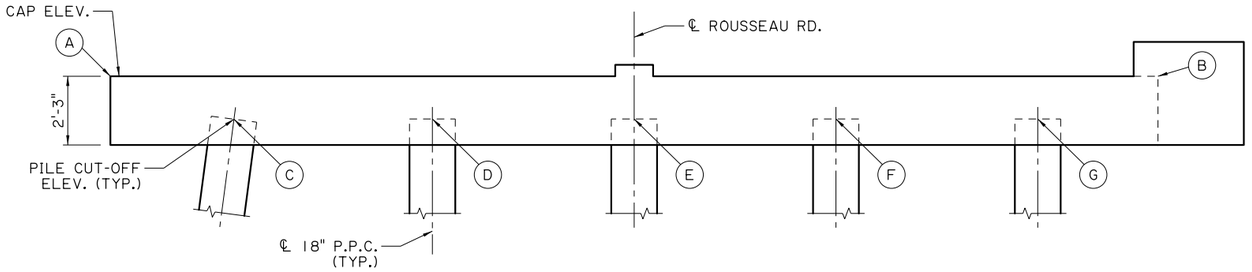
60% FINAL PLANS
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7/8/2024 09:04

ROUSSEAU ROAD OVER SOAP AND TALLOW BRANCH - PILE DATA TABLE

BENT NO.	STATION	NO. OF PILES PER BENT	PILE TYPE & SIZE	MONITOR PILE REQ'D (Y OR N)	LOAD (TONS)						SOIL RESISTANCE FACTOR (ø)				REQ'D NOMINAL PILE RESISTANCE (TONS)		MAX CUT-OFF EL. (FT.)	PLAN LENGTH (FT.)	PILE PLAN TIP EL. (FT.)	ORDER LENGTH (FT.)	AS-BUILT TIP EL. (FT.)		
					SERVICE		STRENGTH		EXTREME			STRENGTH			WITHOUT PREBORING	PREBORING TO SCOUR DEPTH					MAX.	MIN.	AVG.
					PERMANENT LOAD	TRANSIENT LOAD	COMPRESSION	TENSION	COMPRESSION	TENSION	SERVICE	COMPRESSION	TENSION	EXTREME									
1	107+84.73	5	18" P.P.C.		20	35	83																
2	108+04.73	5	18" P.P.C.		20	35	83																
3	108+24.73	5	18" P.P.C.		20	35	83																
4	108+44.73	5	18" P.P.C.		20	35	83																
5	108+64.73	5	18" P.P.C.		20	35	83																
6	108+84.73	5	18" P.P.C.		20	35	83																
7	109+04.73	5	18" P.P.C.		20	35	83																
8	109+24.73	5	18" P.P.C.		20	35	83																

CAP AND PILE CUTOFF ELEVATION (CAST-IN-PLACE)

BENT NO.	CAP ELEVATION (FT.)		CAP SLOPE (%)	PILE CUT-OFF ELEVATION (FT.)				
	A	B		C	D	E	F	G
1-8	18.00	18.00	0.00%	16.50	16.50	16.50	16.50	16.50



HALF ELEVATION - INTERMEDIATE BENT

HALF ELEVATION - END BENT

PILES: ALL PILE REQUIREMENTS INCLUDING SIZE, TYPE, LOCATION, AND MAXIMUM DESIGN LOAD SHALL BE AS DESCRIBED IN THE CONTRACT DOCUMENTS. THE MINIMUM PILE TIP ELEVATION WILL BE THE PLAN TIP ELEVATION AS SHOWN IN THE PRODUCTION PILE DATA TABLE, UNLESS OTHERWISE NOTED OR OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER. PLAN LENGTHS PROVIDED IN THE PRODUCTION PILE DATA TABLE ARE ORDER LENGTHS.

PILE CAPACITY VERIFICATION: SHALL BE BASED ON THE MODIFIED GATES DYNAMIC FORMULA:

ENGLISH DYNAMIC FORMULA:

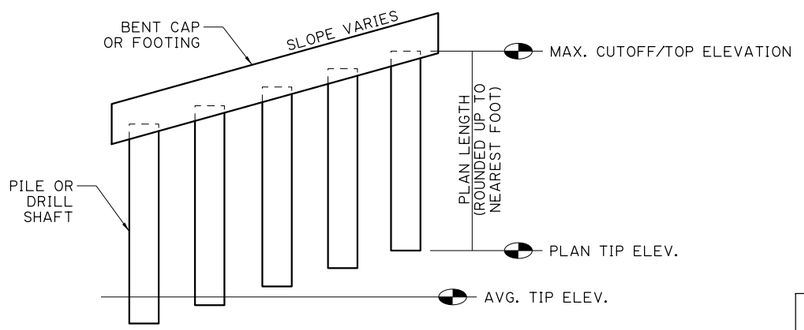
$$R = \frac{\left(1.75\sqrt{E_r}\log(10N_b)\right) - 100}{2}$$

R = Pile Bearing Capacity (Tons)

E_r = Manufacturer's Rated Energy at the field observed ram stroke (foot – pounds)

N_b = Number of Hammer Blows/Inch

REQUIRED NOMINAL RESISTANCE: REQUIRED NOMINAL RESISTANCE "WITHOUT PREBORING" SHALL BE USED TO VERIFY PILE CAPACITY IF NO PREBORING IS PERFORMED. IF PREBORING TO THE SCOUR ELEVATION IS PERFORMED, THE REQUIRED NOMINAL RESISTANCE "PREBORING TO SCOUR" SHALL BE USED FOR PILE CAPACITY VERIFICATION.



PILE AND DRILLED SHAFT LENGTH DIAGRAM

GEOTECHNICAL ANALYSIS & DESIGN

SHEET NUMBER 108

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	EN220001 81

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #
M. MILLER	D. HYMEL	L. BOURG	M. MILLER	J. LEDET	1 OF 1

60% FINAL PLANS
PRELIMINARY
FOR REVIEW ONLY

ENGINEER:
MEGAN M. MILLER

LICENSE #:
39897

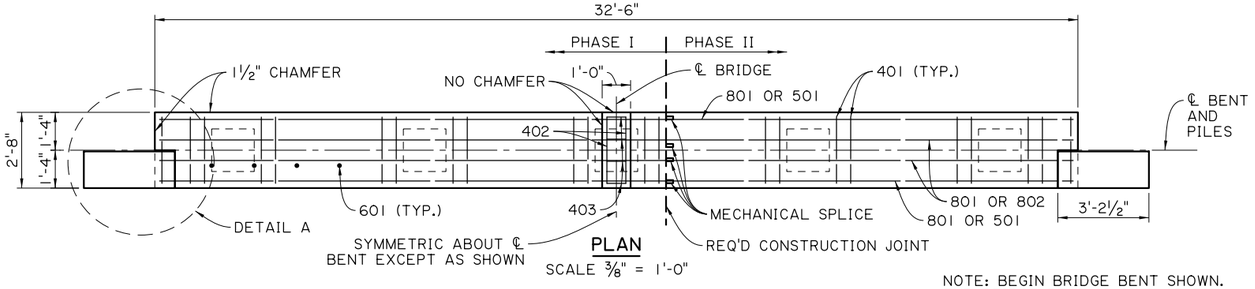
DATE:
7/8/2024

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PILE DATA & ELEVATIONS

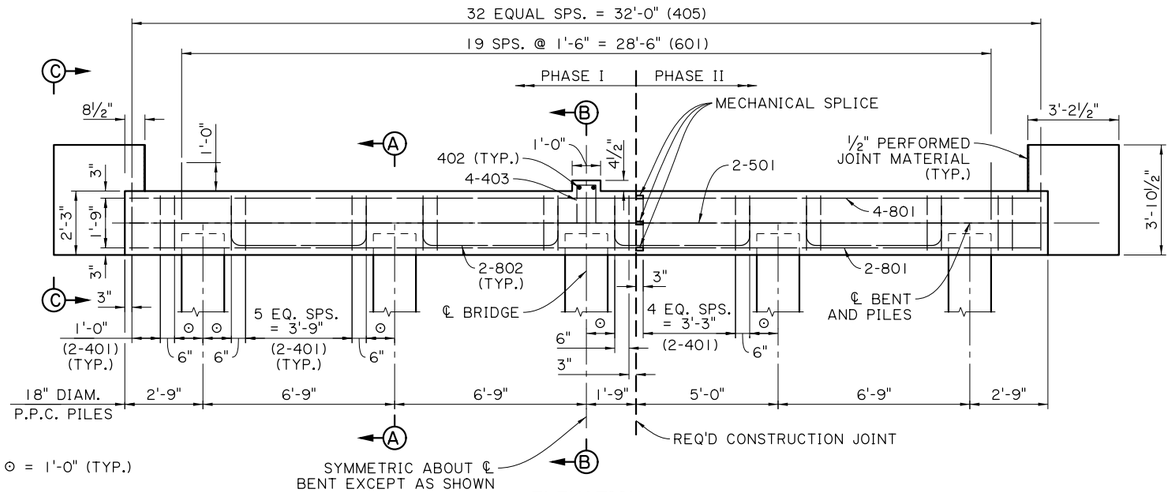
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

60% FINAL PLANS
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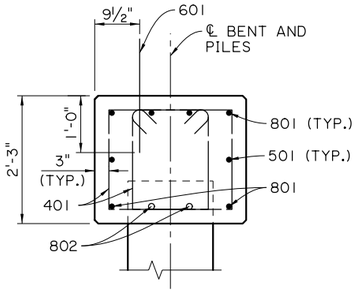


PLAN
SCALE ⅜" = 1'-0"

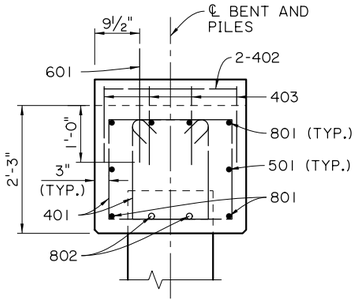
NOTE: BEGIN BRIDGE BENT SHOWN. END BRIDGE BENT IS SIMILAR BY ROTATION



ELEVATION
SCALE ⅜" = 1'-0"



SECTION A-A
SCALE ¾" = 1'-0"



SECTION B-B
SCALE ¾" = 1'-0"

ESTIMATED QUANTITIES (ONE BENT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
* 801	6	32'-0"	192'-0"	LONGIT. IN CAP
802	8	7'-3"	58'-0"	LONGIT. IN CAP BTWN. PILES
TOTAL NO. 8 BARS = 250'-0" = 668 LBS.				
601	20	2'-0"	40'-0"	DOWELS
TOTAL NO. 6 BARS = 40'-0" = 60 LBS.				
* 501	2	32'-0"	64'-0"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 64'-0" = 67 LBS.				
401	76	7'-11"	601'-8"	STIRRUPS IN CAP
402	2	1'-0"	2'-0"	LONGIT. IN KEY
403	4	3'-4"	13'-4"	STIRRUPS IN KEY
404	8	2'-10"	22'-8"	LONGIT. IN WINGWALL
405	12	4'-0"	48'-0"	LONGIT. IN WINGWALL
406	10	9'-8"	96'-8"	STIRRUPS IN WINGWALL
TOTAL NO. 4 BARS = 784'-4" = 524 LBS.				
DEFORMED REINFORCING STEEL = 1318 LBS.				
CLASS A1 CONCRETE = 8.0 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 20 TONS SERVICE LIVE LOAD = 35 TONS FACTORED TOTAL LOAD = 83 TONS				

* MECHANICALLY SPLICE BARS THAT CROSS THE REQUIRED LONGITUDINAL CONSTRUCTION JOINTS. ESTIMATED NUMBER OF SPLICES:
801: 6
501: 2

NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th EDITION.

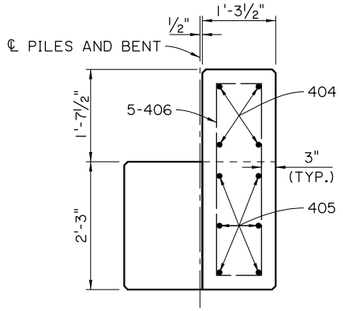
DESIGN LOAD: LIVE LOAD IS HL-93, AND LADV-11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED.

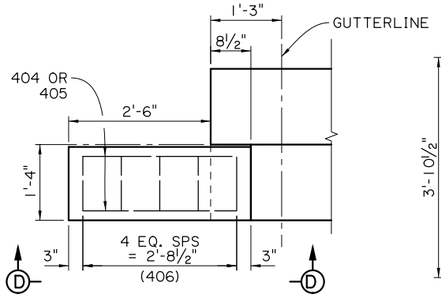
REINFORCING STEEL: ALL REINFORCING SHALL BE GRADE 60. DIMENSIONS RELATING TO FABRICATION ARE OUT TO OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS, UNLESS OTHERWISE NOTED. DOWELS (601 BARS) SHALL BE PROVIDED AT ALL FIXED BEARINGS AND APPROACH SLAB BEARINGS (SEE GENERAL PLAN). ALL EXPOSED ENDS OF DOWELS SHALL BE WRAPPED WITH TWO LAYERS OF 15 LB. ASPHALT SATURATED FELT. CLOSE FITTING TUBES OF COMPRESSIBLE MATERIAL NOT LESS THAN 3/16" THICK MAY BE SUBSTITUTED.

PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED, STRAIGHTED, AND SPLICED USING MECHANICAL SPLICING IN ACCORDANCE WITH THE AML. A TOTAL OF 6 MECHANICAL SPLICES (No. 8 BARS) PER BENT, A TOTAL OF 2 MECHANICAL SPLICES (No. 4 BARS) PER BENT, AND A TOTAL OF 2 MECHANICAL SPLICES (No. 5 BARS) PER BENT SHALL BE PAID FOR UNDER DEFORMED REINFORCING STEEL (MECHANICAL SPLICE) - 806-03-00100.

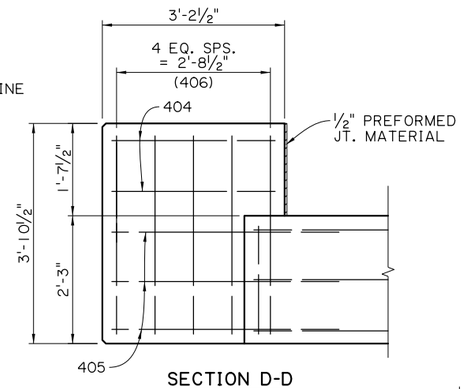
PRECAST CONCRETE PILES: FOR DETAILS SEE STANDARD DETAIL BD.2.5.1.0.01 (CS-216).



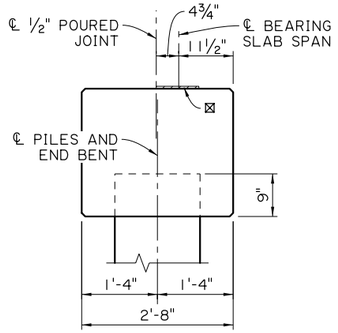
SECTION C-C
SCALE ¾" = 1'-0"



DETAIL A
SCALE ¾" = 1'-0"

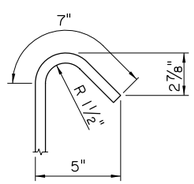


SECTION D-D
SCALE ¾" = 1'-0"

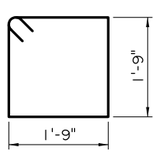


END BENT - SECTION A-A
(SHOWING SPAN PLACEMENT)
SCALE ¾" = 1'-0"

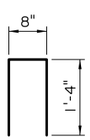
⊠ ½" THICK X 9" WIDE ELASTOMERIC BEARING PAD (70 HARDNESS) ALONG FULL LENGTH OF BENT DIRECTLY UNDERNEATH THE SLAB HAUNCH.



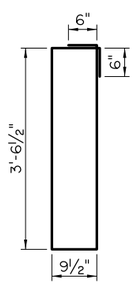
135° HOOK FOR 401
(2"ø PIN)
(N.T.S.)



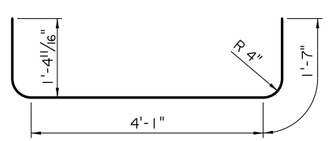
401
(2"ø PIN)
(N.T.S.)



403
(2"ø PIN)
(N.T.S.)



406
(2"ø PIN)
(N.T.S.)



802
(6ø PIN)
(N.T.S.)

SHEET NUMBER	109
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	EN220000181

DESIGN	M. MILLER
CHECK	D. HYMEL
DETAIL	L. BOURG
CHECK	A. FALCON
REVIEW	J. LEDET
SERIES	1 OF 1

60% FINAL PLANS
PRELIMINARY
FOR REVIEW ONLY
ENGINEER: MEGAN M. MILLER
LICENSE #: 39897
DATE: 6/25/2024

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

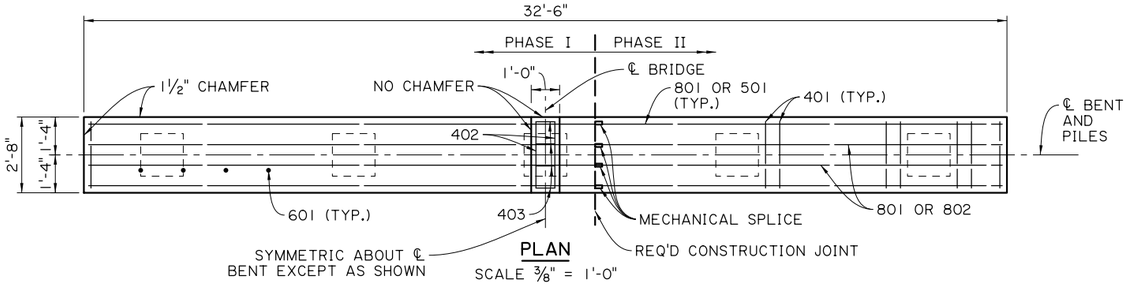
END BENT DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

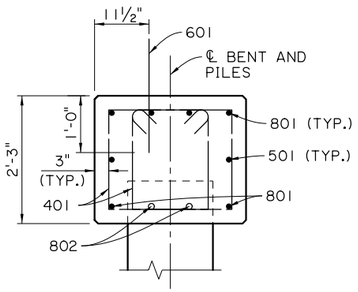
ST. TAMMANY PARISH GOVERNMENT

CRESCENT ENGINEERING & MAPPING LLC

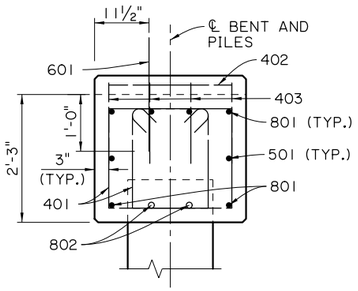
60% FINAL PLANS
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6/25/2024 08:24



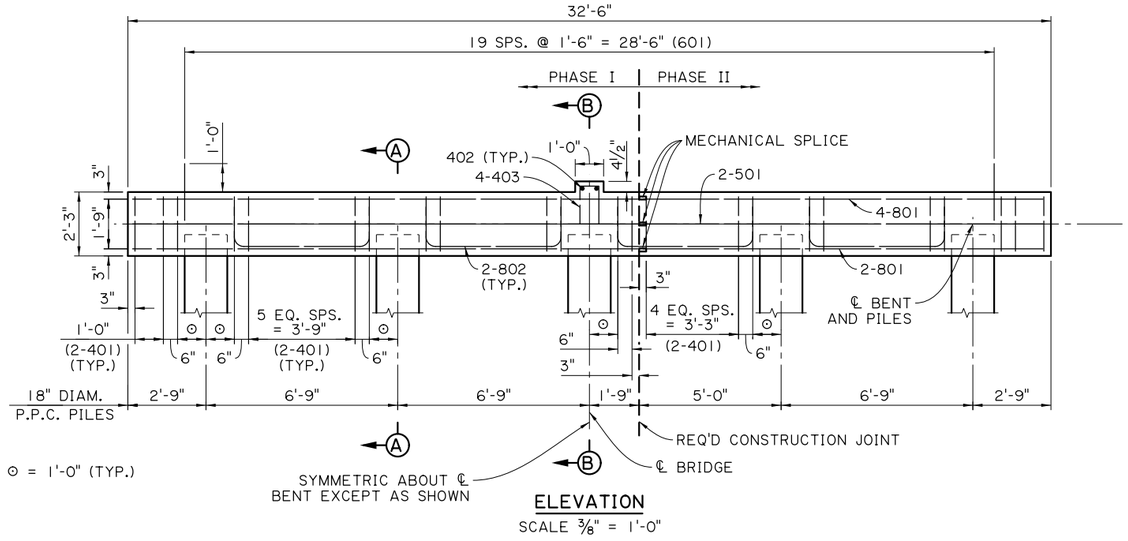
PLAN
SCALE ⅜" = 1'-0"



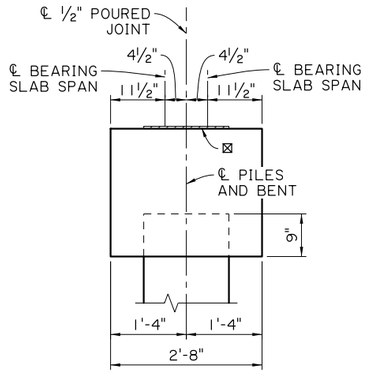
SECTION A-A
SCALE ¾" = 1'-0"



SECTION B-B
SCALE ¾" = 1'-0"



ELEVATION
SCALE ⅜" = 1'-0"



INT. BENT - SECTION A-A
(SHOWING SPAN PLACEMENT)
SCALE ¾" = 1'-0"

ESTIMATED QUANTITIES (ONE BENT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
* 801	6	32'-0"	192'-0"	LONGIT. IN CAP
802	8	7'-3"	58'-0"	LONGIT. IN CAP BTWN PILES
TOTAL NO. 8 BARS = 250'-0" = 668 LBS.				
601	20	2'-0"	40'-0"	DOWELS
TOTAL NO. 6 BARS = 40'-0" = 60 LBS.				
* 501	2	32'-0"	64'-0"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 64'-0" = 67 LBS.				
401	76	7'-11"	601'-8"	STIRRUPS IN CAP
402	2	1'-0"	2'-0"	LONGIT. IN KEY
403	4	3'-4"	13'-4"	STIRRUPS IN KEY
TOTAL NO. 4 BARS = 617'-0" = 412 LBS.				
⊗ DEFORMED REINFORCING STEEL = 1206 LBS.				
CLASS A1 CONCRETE = 8.84 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 20 TONS SERVICE LIVE LOAD = 35 TONS FACTORED TOTAL LOAD = 83 TONS				

⊗ ADD 60 LBS OF REINFORCING STEEL (20-601 DOWELS) WHEN TWO FIXED ENDS OCCUR ON THE SAME BENT.

* MECHANICALLY SPLICE BARS THAT CROSS THE REQUIRED LONGITUDINAL CONSTRUCTION JOINTS. ESTIMATED NUMBER OF SPLICES:
801: 6
501: 2

NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th EDITION.

DESIGN LOAD: LIVE LOAD IS HL-93, AND LADV-11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

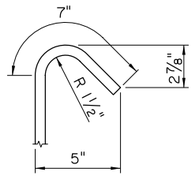
STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED.

REINFORCING STEEL: ALL REINFORCING SHALL BE GRADE 60. DIMENSIONS RELATING TO FABRICATION ARE OUT TO OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS, UNLESS OTHERWISE NOTED. DOWELS (601 BARS) SHALL BE PROVIDED AT ALL FIXED BEARINGS AND APPROACH SLAB BEARINGS (SEE GENERAL PLAN). ALL EXPOSED ENDS OF DOWELS SHALL BE WRAPPED WITH TWO LAYERS OF 15 LB. ASPHALT SATURATED FELT. CLOSE FITTING TUBES OF COMPRESSIBLE MATERIAL NOT LESS THAN 3/16" THICK MAY BE SUBSTITUTED.

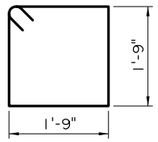
PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED, STRAIGHTED, AND SPLICED USING MECHANICAL SPLICING IN ACCORDANCE WITH THE AML. A TOTAL OF 6 MECHANICAL SPLICES (No. 8 BARS) PER BENT AND A TOTAL OF 2 MECHANICAL SPLICES (No. 5 BARS) PER BENT SHALL BE PAID FOR UNDER DEFORMED REINFORCING STEEL (MECHANICAL SPLICE) - 806-03-00100.

PRECAST CONCRETE PILES: FOR DETAILS SEE STANDARD DETAIL BD.2.5.1.0.01 (CS-216).

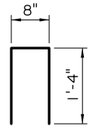
⊠ ½" THICK X 18" WIDE ELASTOMERIC BEARING PAD (70 HARDNESS) ALONG FULL LENGTH OF BENT DIRECTLY UNDERNEATH THE SLAB HAUNCH.



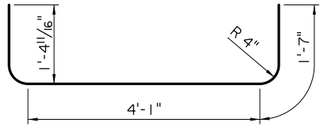
135° HOOK FOR 401
(2"ø PIN)
(N.T.S.)



401
(2"ø PIN)
(N.T.S.)



403
(2"ø PIN)
(N.T.S.)



802
(6ø PIN)
(N.T.S.)

SHEET NUMBER	110
PARISH: ST. TAMMANY	CONTROL SECTION: 000-52
STATE PROJECT: EN220000181	
DESIGN: M. MILLER	CHECK: D. HYMEL
DETAIL: L. BOURG	CHECK: A. FALCON
REVIEW: J. LEDET	SERIES: 1 OF 1

60% FINAL PLANS
PRELIMINARY
FOR REVIEW ONLY
ENGINEER: MEGAN M. MILLER
LICENSE #: 39897
DATE: 6/25/2024

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

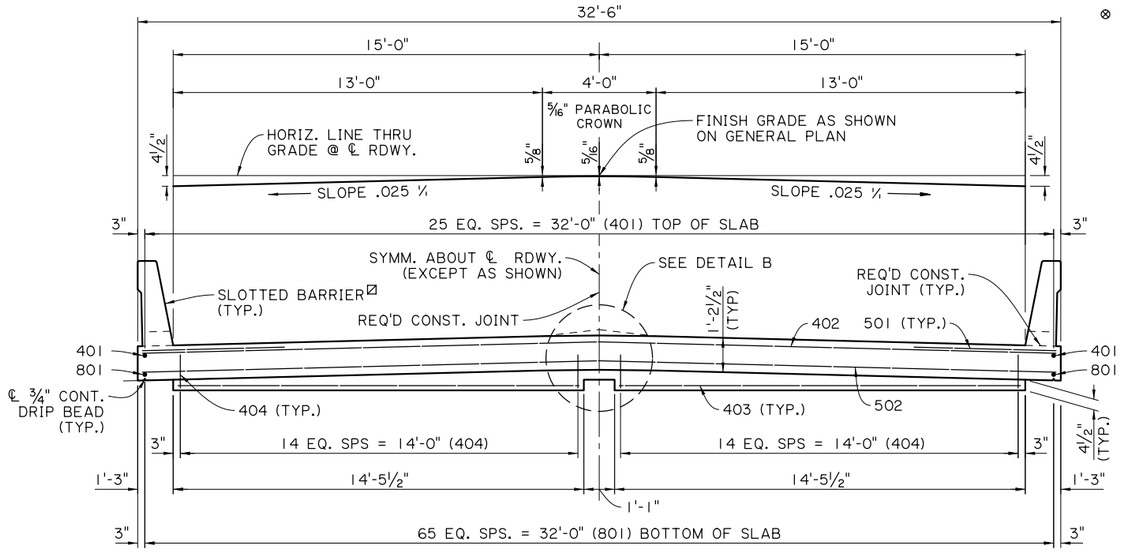
INTERMEDIATE BENT DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

ST. TAMMANY PARISH GOVERNMENT

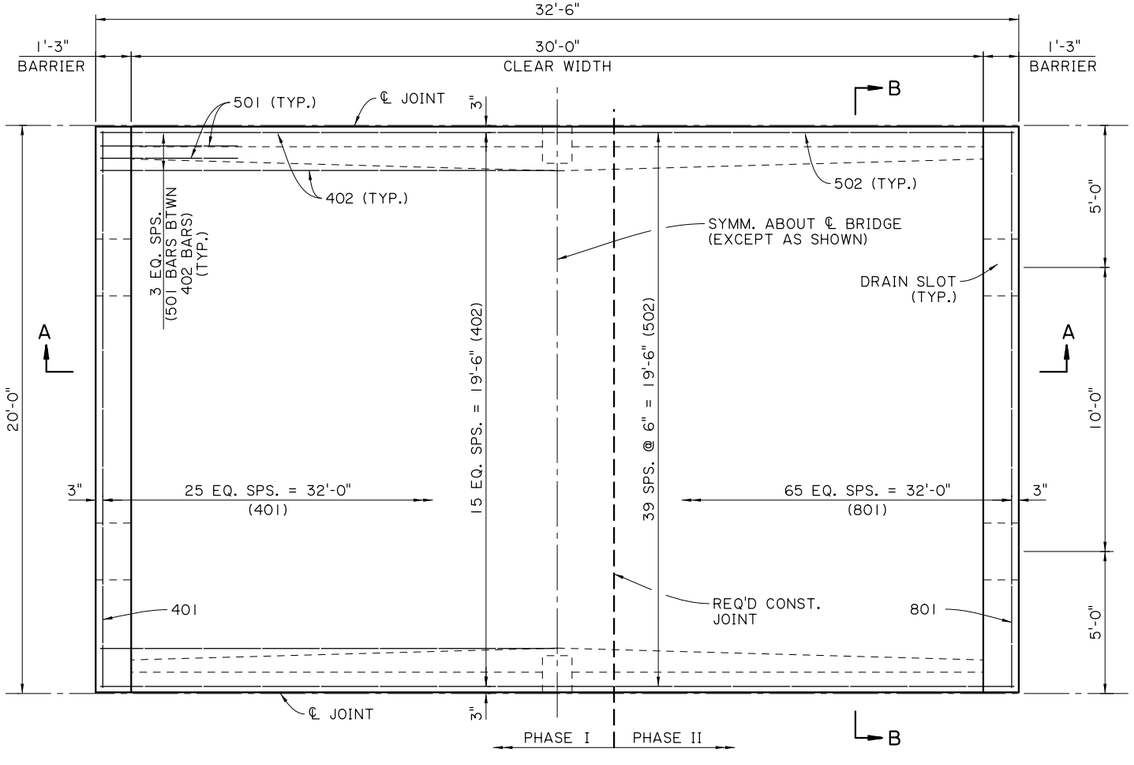
CRESCENT ENGINEERING & MAPPING LLC

60% FINAL PLANS
P:\2022\22.015_STPG_Rousseau Rd. Bridge\ENG\Drawings\FP_60 PCT\111 - Slab Span Details.dgn
6/25/2024 08:24



SECTION A-A
SCALE : ⅜" = 1'-0"

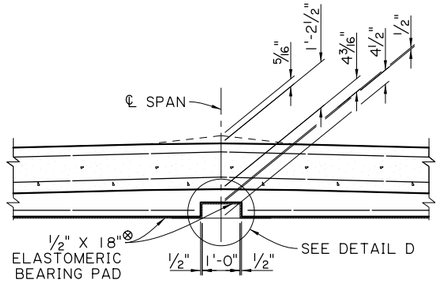
☑ STANDARD BARRIER REQUIRED ON THE END SPANS



HALF PLAN - TOP REINFORCING
SCALE : ⅜" = 1'-0"

HALF PLAN - BOTTOM REINFORCING
SCALE : ⅜" = 1'-0"

⊗ ½" THICK X 18" WIDE (½" X 9" @ END BENTS) ELASTOMERIC BEARING PAD (70 HARDNESS) ALONG FULL LENGTH OF BENT DIRECTLY UNDERNEATH THE SLAB HAUNCH. ADHESIVE SHALL BE USED IN ACCORDANCE WITH BEARING PAD AND ADHESIVE MANUFACTOR'S RECOMMENDATIONS TO HOLD ½" ELASTOMERIC MATERIAL IN PLACE DURING CONCRETE PLACEMENT.



DETAIL B
SCALE : ½" = 1'-0"

ESTIMATED QUANTITIES (ONE SPAN)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	25	19'-6"	1287'-0"	LONGIT. BOT. OF SLAB
TOTAL NO. 8 BARS = 1287'-0" = 3436 LBS.				
501	60	5'-0"	300'-0"	TRANS. TOP OF SLAB
* 502	40	32'-0"	1280'-0"	TRANS. BOT. OF SLAB
TOTAL NO. 5 BARS = 1580'-0" = 1648 LBS.				
401	26	19'-6"	507'-0"	LONGIT. TOP OF SLAB
* 402	16	32'-0"	512'-0"	TRANS. TOP OF SLAB
403	8	14'-0"	112'-0"	LONGIT. IN HAUNCH
404	60	2'-11"	175'-0"	STIRRUPS IN HAUNCH
TOTAL NO. 4 BARS = 1306'-0" = 872 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 5957 LBS.				
CLASS A1 CONCRETE (SLAB SPAN) = 30.13 CU. YDS.				
CONCRETE BRIDGE RAILING = 40.00 LIN. FT.				

* MECHANICALLY SPLICE BARS THAT CROSS THE REQUIRED LONGITUDINAL CONSTRUCTION JOINTS. ESTIMATED NUMBER OF SPLICES:
502: 40
402: 16

SPAN NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9th EDITION.

DESIGN LOAD: THE BRIDGE DECK IS DESIGNED FOR A FUTURE WEARING COURSE OF 25 PSF. THE LIVE LOAD IS HL-93, AND LADV-11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

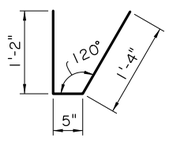
STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE GRADE 60. DIMENSIONS RELATING TO THE FABRICATION ARE OUT-TO-OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS.

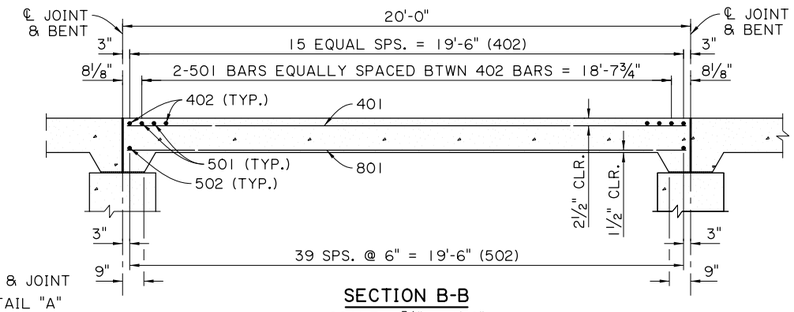
PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED, STRAIGHTED, AND SPLICED USING MECHANICAL SPLICING IN ACCORDANCE WITH THE AML. A TOTAL OF 40 MECHANICAL SPLICES (No. 5 BARS) PER SLAB SPAN, AND A TOTAL OF 16 MECHANICAL SPLICES (No. 4 BARS) PER SLAB SPAN, SHALL BE PAID FOR UNDER DEFORMED REINFORCING STEEL (MECHANICAL SPLICE) - 806-03-00100.

GUARD RAIL: REFER TO THE GENERAL PLAN FOR GUARD RAIL REQUIREMENTS. PROVIDE HOLES FOR GUARD RAIL CONNECTIONS ACCORDING TO STANDARD PLAN BD.1.1.0.01-11 AND BD.1.2.0.01 ON ALL FOUR BRIDGE RAIL ENDS.

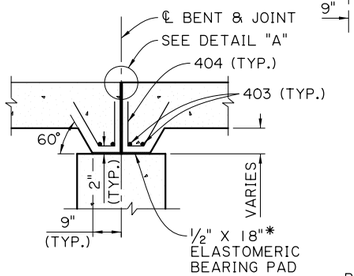
BASIS OF PAYMENT: ALL MATERIAL SHALL BE PAID FOR UNDER "CLASS A1 CONCRETE (SLAB SPAN)" AND "DEFORMED REINFORCING STEEL" ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET. BARRIER RAILING AND ASSOCIATED STEEL TO BE PAID FOR UNDER "CONCRETE BRIDGE RAILING (STANDARD)" AND "CONCRETE BRIDGE RAILING (SLOTTED)". PREFORMED JOINT FILLER, BACKER MATERIAL, AND JOINT SEALANT TO BE PAID FOR UNDER "JOINT SEAL (POURED)".



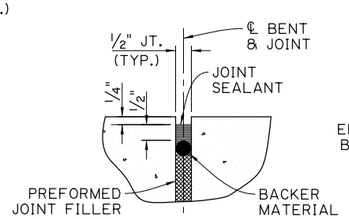
404
2" ø PIN



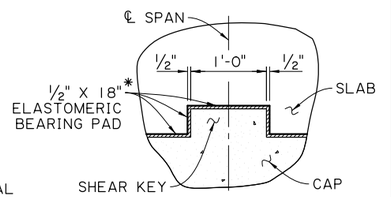
SECTION B-B
SCALE : ⅜" = 1'-0"



DETAIL SHOWING TYPICAL JOINT & HAUNCH
SCALE : ½" = 1'-0"



DETAIL "A"
N.T.S.



DETAIL D
N.T.S.

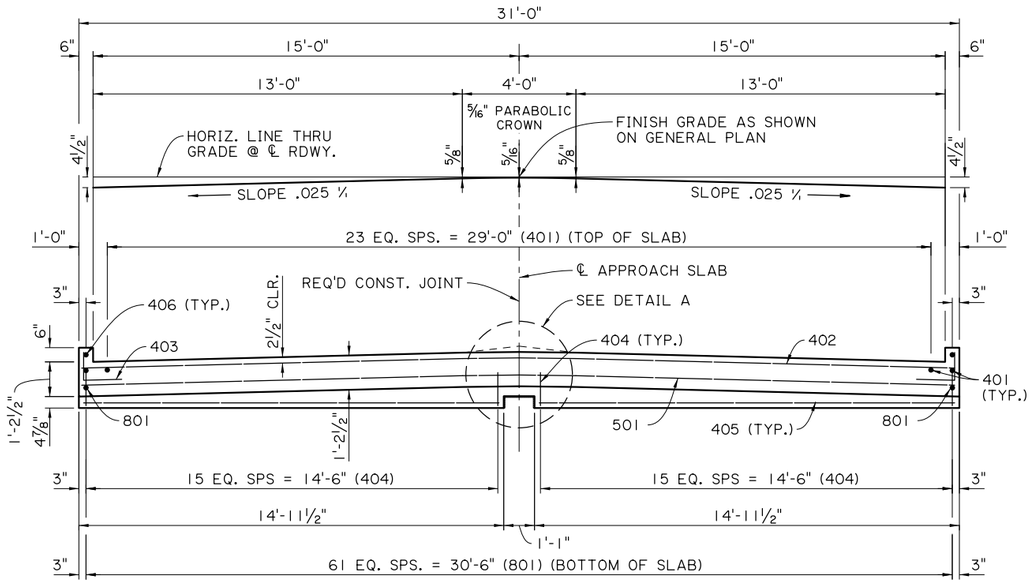
SHEET NUMBER	111
PARISH	ST. TAMMANY
CONTROL SECTION	000-52
STATE PROJECT	EN220000181
DESIGN	M. MILLER
CHECK	D. HYMEL
DETAIL	L. BOURG
CHECK	A. FALCON
REVIEW	J. LEDET
SERIES #	1 OF 1

60% FINAL PLANS
PRELIMINARY
FOR REVIEW ONLY
ENGINEER: MEGAN M. MILLER
LICENSE #: 39897
DATE: 6/25/2024

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

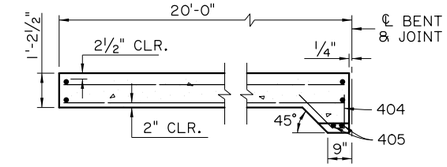
SPAN DETAILS
ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC



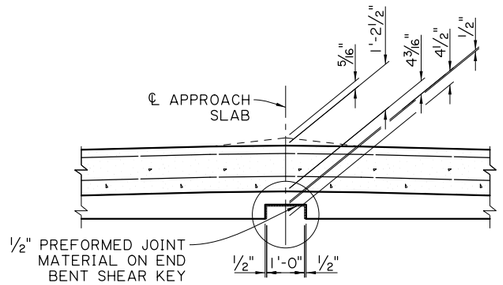
SECTION A-A

SCALE: 3/8" = 1'-0"



SECTION ALONG ℄ ROADWAY

SCALE: 3/8" = 1'-0"



DETAIL A

SCALE : 1/2" = 1'-0"

ESTIMATED QUANTITIES (ONE SLAB)				
BAR	NO.	LONG BAR	TOTAL LENGTH	LOCATION
801	62	19'-8"	1219'-4"	LONGIT. BOT. OF SLAB
TOTAL NO. 8 BARS = 1219'-4" = 3256 LBS.				
* 501	43	30'-8"	1318'-8"	TRANSV. BOT. OF SLAB
TOTAL NO. 5 BARS = 1318'-8" = 1375 LBS.				
401	24	19'-8"	472'-0"	LONGIT. TOP OF SLAB
* 402	16	30'-8"	490'-8"	TRANSV. TOP OF SLAB
403	22	2'-0"	44'-0"	DOWELS IN CURB
404	32	3'-3"	104'-0"	STIRRUPS IN HAUNCH
405	4	14'-2"	56'-8"	LONGIT. IN HAUNCH
406	2	13'-1"	26'-2"	LONGIT. IN CURB
TOTAL NO. 4 BARS = 1193'-6" = 797 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 5428 LBS.				
CONCRETE APPROACH SLAB = 68.89 SQ. YDS.				

* MECHANICALLY SPLICE BARS THAT CROSS THE REQUIRED LONGITUDINAL CONSTRUCTION JOINTS. ESTIMATED NUMBER OF SPLICES:
501: 43
402: 16

APPROACH SLAB NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9th EDITION.

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

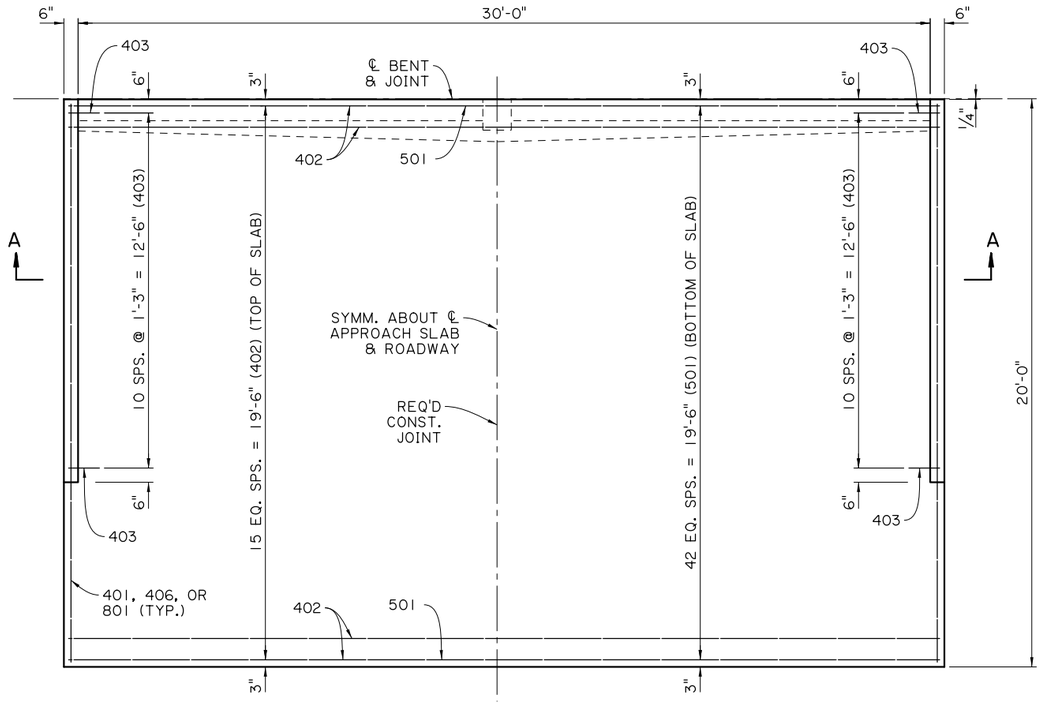
REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE GRADE 60. DIMENSIONS RELATING TO THE FABRICATION ARE OUT-TO-OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS.

PRIOR TO COMMENCEMENT OF PHASE II CONSTRUCTION, ALL LONGITUDINAL REBAR SHALL BE CLEANED, STRAIGHTED, AND SPLICED USING MECHANICAL SPLICING IN ACCORDANCE WITH THE AML. A TOTAL OF 43 MECHANICAL SPLICES (No. 5 BARS) PER APPROACH SLAB, AND A TOTAL OF 16 MECHANICAL SPLICES (No. 4 BARS) PER APPROACH SLAB, SHALL BE PAID FOR UNDER DEFORMED REINFORCING STEEL (MECHANICAL SPLICE) - 806-03-00100.

BEDDING MATERIAL: FOR DETAILS OF BEDDING MATERIAL AND UNDERDRAINS. SEE STANDARD DETAIL BD.2.10.1.0.07.

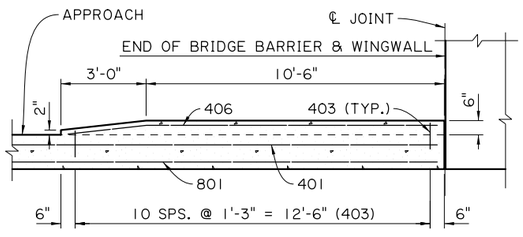
BASIS OF PAYMENT: ALL MATERIAL, INCLUDING DEFORMED REINFORCING STEEL, PORTLAND CONCRETE CEMENT AND PCC SLEEPER SLAB SHALL BE PAID FOR UNDER "CONCRETE APPROACH SLABS "(CAST-IN-PLACE)" ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET. AREA OF APPROACH SLAB IS MEASURED FROM BACK OF CURB TO BACK OF CURB.

SLEEPER SLAB:
REINFORCED CONCRETE SLEEPER SLAB REQUIRED BENEATH APPROACH SLAB. SEE TYPICAL SECTIONS AND DETAILS SHEET 6 OF 6 FOR ADDITIONAL INFORMATION.



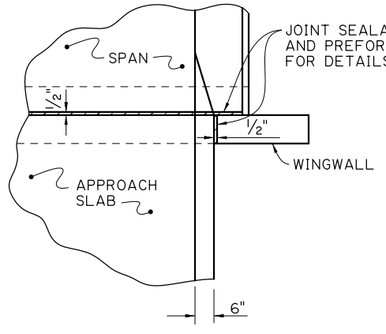
PLAN

SCALE: 3/8" = 1'-0"



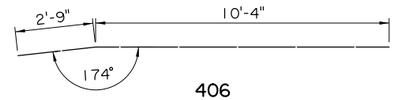
CURB DETAIL

SCALE : 1/2" = 1'-0"

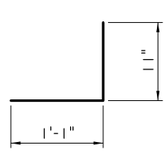


JOINT DETAIL

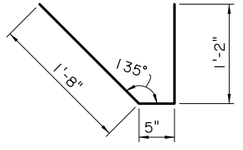
N.T.S.



406
2" ø PIN



403
2" ø PIN



404
2" ø PIN

SHEET NUMBER 117

PARISH	CONTROL SECTION	STATE PROJECT
ST. TAMMANY	000-52	EN220000181

DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES •
M. MILLER	D. HYMEL	L. BOURG	A. FALCON	J. LEDET	1 OF 1

60% FINAL PLANS
PRELIMINARY
FOR REVIEW ONLY

ENGINEER: MEGAN M. MILLER
LICENSE #: 39897
DATE: 6/25/2024

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROACH SLAB DETAILS

ROUSSEAU RD. OVER SOAP & TALLOW BRANCH

CRESCENT ENGINEERING & MAPPING LLC

60% FINAL PLANS

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APPENDIX C. PILE DATA TABLE

This appendix contains the following:

- Figure C-1: Pile Data Table

Jul 30, 2024 – 3:21pm

ROUSSEAU ROAD OVER SOAP & TALLOW BRANCH (RN 620076) Pile Data Table

BENT NO.	STATION	NO. OF PILES PER BENT	PILE TYPE & SIZE	MONITOR PILE REQUIRED	LOAD (TONS)						SOIL RESISTANCE FACTOR (φ)				REQUIRED NOMINAL RESISTANCE (TONS)		MAX CUTOFF EL (FT.)	PLAN LENGTH (FT.)	PLAN TIP EL (FT.)	ORDER LENGTH (FT.)	AS-BUILT TIP EL (FT.)		
					SERVICE		STRENGTH		EXTREME		SERVICE	STRENGTH		EXTREME	WITHOUT PREBORING	PREBORING TO SCOUR DEPTH					MAX	MIN	AVG
					PERMANENT LOAD	TRANSIENT LOAD	COMP.	TENS.	COMP.	TENS.		COMP.	TENS.										
1	108+04.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-
2	108+04.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-
3	108+24.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-
4	108+44.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-
5	108+64.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-
6	108+84.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-
7	109+04.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-
8	109+24.73	5	18" SQ P.P.C.	N	20	35	83	-	-	-	1.0	0.5	-	1.0	205	178	16.5	68.0	-51.50	-	-	-	-

NOTES:

1. **PILES:** ALL PILE REQUIREMENTS INCLUDING SIZE, TYPE, LOCATION, AND MAXIMUM DESIGN LOAD SHALL BE AS DESCRIBED IN THE CONTRACT DOCUMENTS. THE MINIMUM PILE TIP ELEVATION WILL BE THE PLAN TIP ELEVATION AS SHOWN IN THE PRODUCTION PILE DATA TABLE, UNLESS OTHERWISE NOTED OR OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.

2. **PILE CAPACITY VERIFICATION:** SHALL BE BASED ON THE MODIFIED GATES DYNAMIC FORMULA:

$$R = \frac{(1.75\sqrt{E_r}\log(10N_b) - 100}{2}$$

R = *Pile Bearing Capacity (Tons)*
E_r = *Manufacturer's Rated Energy at the field observed ram stroke (foot-pounds)*
N_b = *Number of Hammer Blows/Inch*

3. **REQUIRED NOMINAL RESISTANCE:** "WITHOUT PREBORING" SHALL BE USED TO VERIFY PILE CAPACITY IF NO PREDRILLING IS PERFORMED. IF PREDRILLING TO THE SCOUR ELEVATION IS PERFORMED, THE REQUIRED NOMINAL RESISTANCE "PREBORING TO SCOUR" SHALL BE USED FOR PILE CAPACITY VERIFICATION.

- -

EN22000181
Rousseau Road Bridge Replacement

AAI
Ardaman & Associates, Inc.
Baton Rouge, LA St. Rose, LA

ENG	Drawn by:	Checked by:
MGS	MGS	MLW
File No.: 22-84-2870	Date: 7/30/24	FIG C-1

Title: RN 620076 Site Driven Pile Data Tables

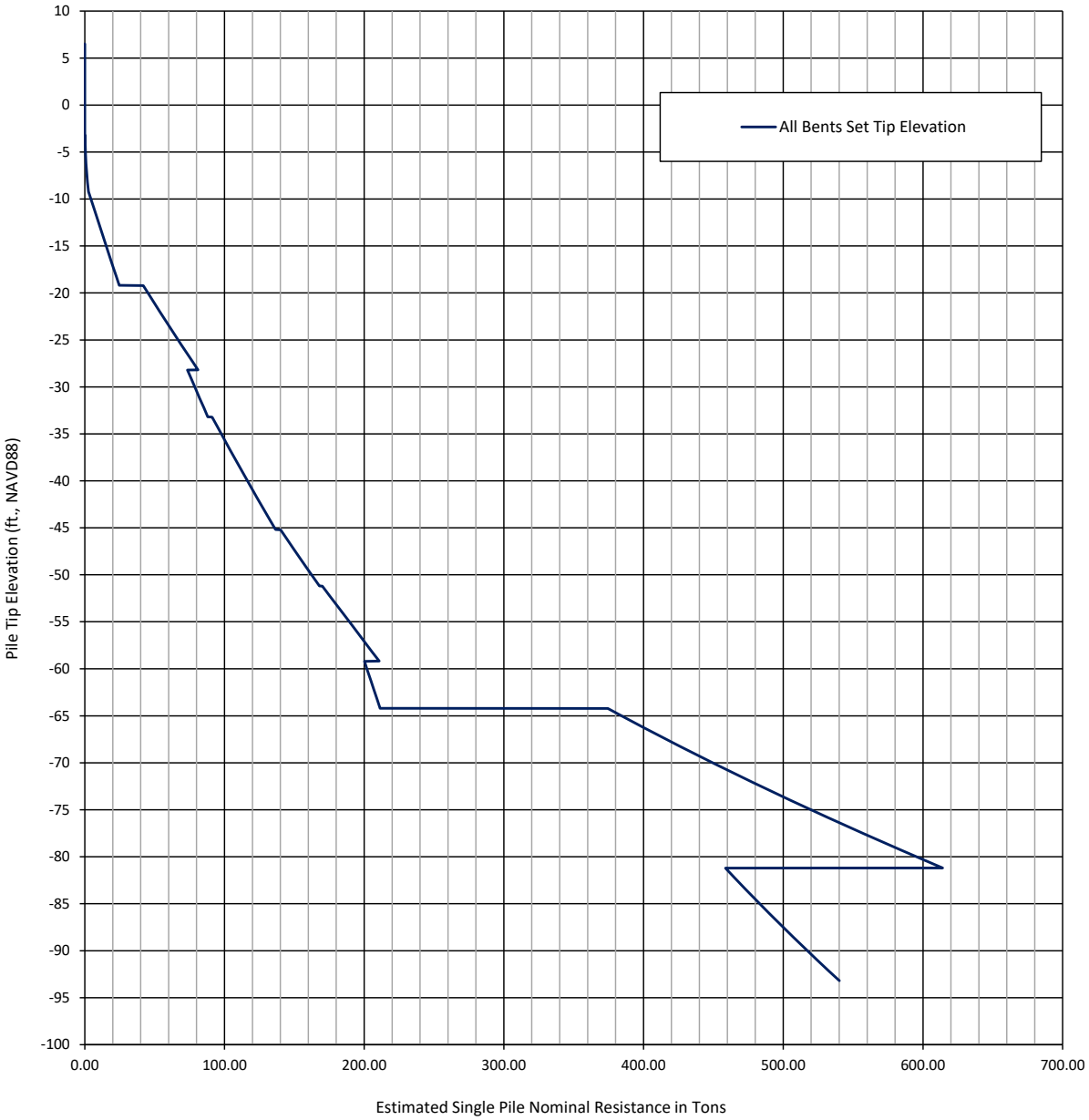
C:\Users\SOBHAN~1.SOB\AppData\Local\Temp\AcPublish_6788\Figures C-1.dwg

APPENDIX D. DRIVENPILES INPUT & OUTPUT FILES

This appendix contains the following:

- Plots of Axial Nominal Resistance vs. Elevation
- Input & Output Files DrivenPiles Program v. 1.4.1

AXIAL PILE NOMINAL RESISTANCES



NOTES:

1) Pile capacities do not include the weight of the pile.

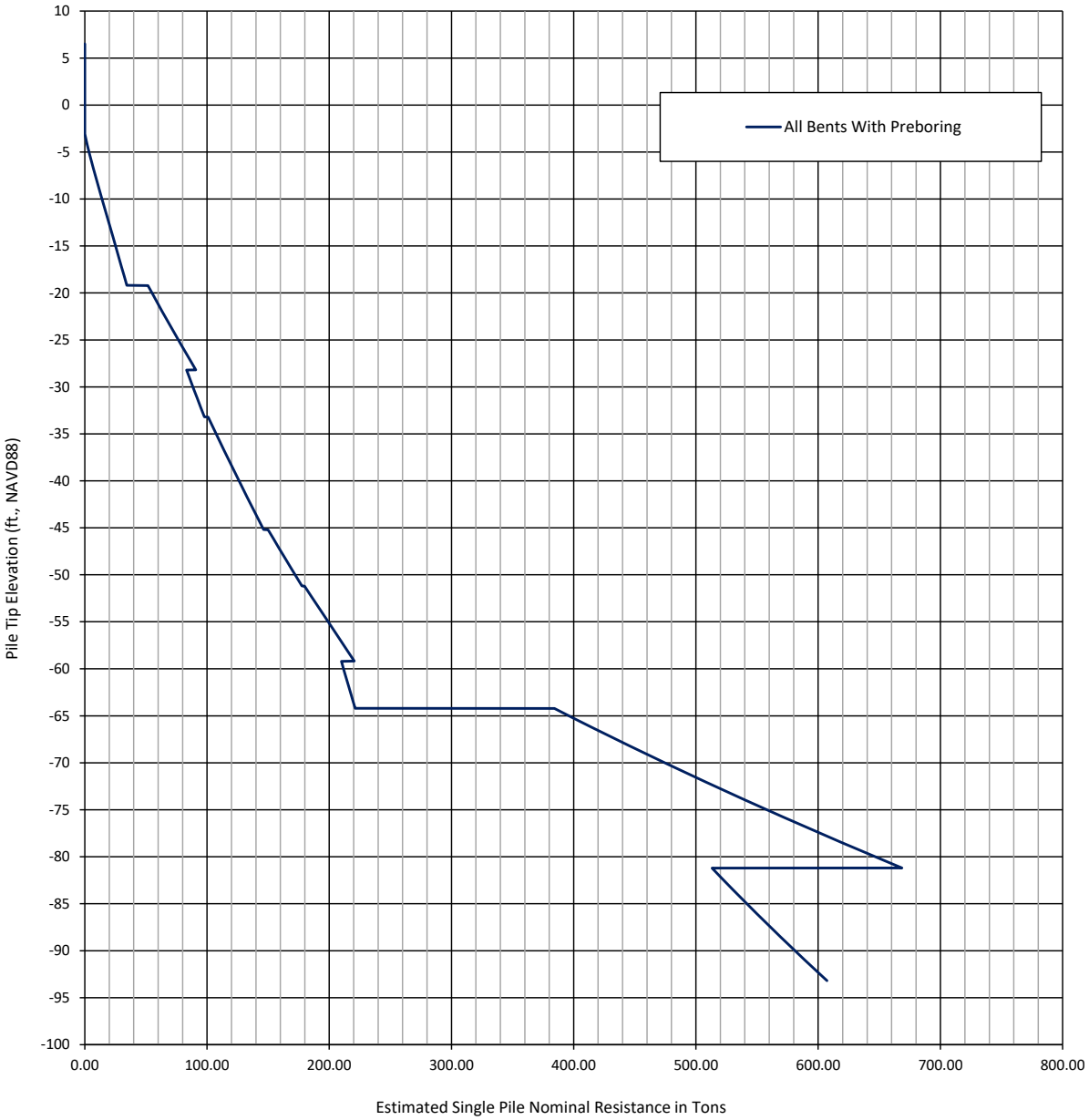
Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Rousseau Road Bridge Replacement
(EN22000181, RN 620076, & All Bents)
ST. Tammany Parish, Louisiana

Estimated Pile Nominal Resistance Curves

CALCULATED BY:	CHECKED BY:	DATE:
MGS	MGS	07/30/2024
FILE NO.:	APPROVED BY:	FIGURE:
22-84-2870	MW	D-1

AXIAL PILE NOMINAL RESISTANCES



NOTES:

1) Pile capacities do not include the weight of the pile.

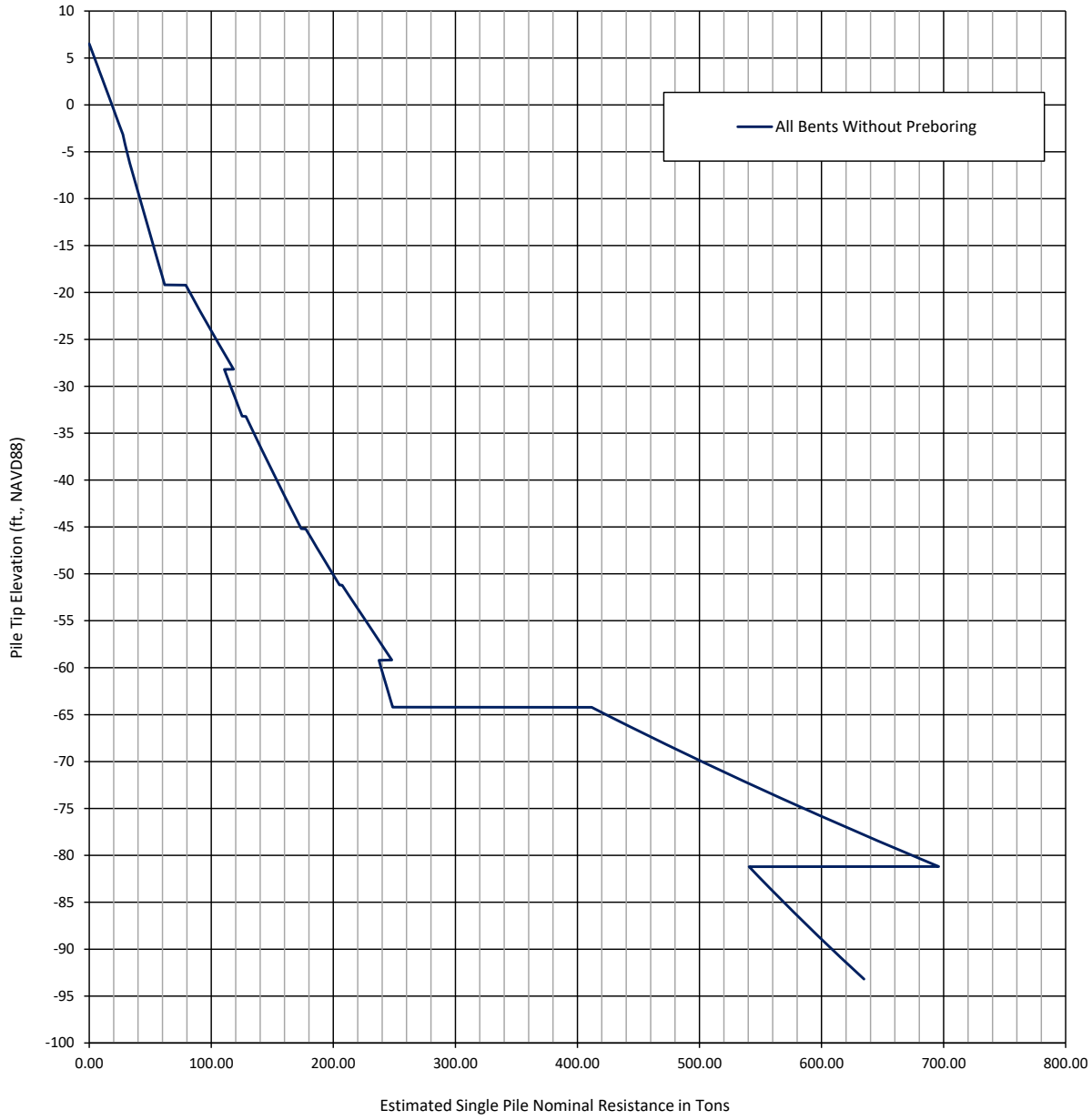
Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Rousseau Road Bridge Replacement
(EN22000181, RN 620076, & All Bents)
ST. Tammany Parish, Louisiana

Estimated Pile Nominal Resistance Curves

CALCULATED BY:	CHECKED BY:	DATE:
MGS	MGS	07/30/2024
FILE NO.:	APPROVED BY:	FIGURE:
22-84-2870	MW	D-2

AXIAL PILE NOMINAL RESISTANCES



NOTES:

1) Pile capacities do not include the weight of the pile.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Rousseau Road Bridge Replacement
(EN22000181, RN 620076, & All Bents)
ST. Tammany Parish, Louisiana

Estimated Pile Nominal Resistance Curves

CALCULATED BY:	CHECKED BY:	DATE:
MGS	MGS	07/30/2024
FILE NO.:	APPROVED BY:	FIGURE:
22-84-2870	MW	D-3

DrivenPiles - Report

General Project Information

Filename: ...cities\1. Set Tip Elevation (contraction scour to scour elevation)\RN620076_Bent all Set Tip Elev.dvn
Project Name: Rousseau Road Bridge Replacement
Project Client: Crescent Engineering and Mapping, LLC
Prepared By: AA
Project Manager: MGS

Pile Information

Pile Type: Concrete Pile
Top of Pile: 0.00 ft
Side of Square Section : 18.00 in

Nominal Considerations

Water Table Depth At Time Of:

Drilling:	2.72 ft
Driving/Restrike:	2.72 ft
Nominal:	2.72 ft

Nominal Considations:

Local Scour:	0.00 ft
Long Term Scour:	9.63 ft
Soft Soil:	0.00 ft

Nominal Profile

Layer	Soil Type	Thickness	Setup Factor	Unit Weight	Strength	Nominal Curve
1	Cohesive	9.72 ft	1.000	122.00 pcf	1000.00 psf	T-79 Concrete
2	Cohesionless	6.00 ft	1.000	120.00 pcf	32.0/32.0	Nordlund
3	Cohesive	10.00 ft	1.000	120.00 pcf	750.00 psf	T-79 Concrete
4	Cohesive	9.00 ft	1.000	124.00 pcf	1700.00 psf	T-79 Concrete
5	Cohesive	5.00 ft	1.000	105.00 pcf	950.00 psf	T-79 Concrete
6	Cohesive	12.00 ft	1.000	120.00 pcf	1250.00 psf	T-79 Concrete
7	Cohesive	6.00 ft	1.000	129.00 pcf	1600.00 psf	T-79 Concrete
8	Cohesive	8.00 ft	1.000	115.00 pcf	1800.00 psf	T-79 Concrete
9	Cohesive	5.00 ft	1.000	120.00 pcf	750.00 psf	T-79 Concrete
10	Cohesionless	17.00 ft	1.000	120.00 pcf	36.0/36.0	Nordlund
11	Cohesionless	12.00 ft	1.000	120.00 pcf	28.0/28.0	Nordlund

Nominal - Skin Friction

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
0.01 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
1.00 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
2.00 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
2.71 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
2.73 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
3.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
4.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
5.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
6.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
7.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
8.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
9.62 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
9.64 ft	Cohesive	0.00 psf	0.00	950.00 psf	0.06 kips
9.71 ft	Cohesive	0.00 psf	0.00	950.00 psf	0.46 kips
9.73 ft	Cohesionless	5.65 psf	29.25	N/A	0.51 kips
10.72 ft	Cohesionless	34.16 psf	29.25	N/A	0.66 kips
11.72 ft	Cohesionless	62.96 psf	29.25	N/A	1.06 kips
12.72 ft	Cohesionless	91.76 psf	29.25	N/A	1.72 kips
13.72 ft	Cohesionless	120.56 psf	29.25	N/A	2.62 kips
14.72 ft	Cohesionless	149.36 psf	29.25	N/A	3.78 kips
15.71 ft	Cohesionless	177.88 psf	29.25	N/A	5.17 kips
15.73 ft	Cohesive	178.16 psf	29.25	729.50 psf	5.23 kips
16.72 ft	Cohesive	178.16 psf	29.25	729.96 psf	9.57 kips
17.72 ft	Cohesive	178.16 psf	29.25	730.43 psf	13.95 kips
18.72 ft	Cohesive	178.16 psf	29.25	730.89 psf	18.34 kips
19.72 ft	Cohesive	178.16 psf	29.25	731.35 psf	22.74 kips
20.72 ft	Cohesive	178.16 psf	29.25	731.81 psf	27.14 kips
21.72 ft	Cohesive	178.16 psf	29.25	732.28 psf	31.55 kips
22.72 ft	Cohesive	178.16 psf	29.25	732.74 psf	35.96 kips
23.72 ft	Cohesive	178.16 psf	29.25	733.20 psf	40.38 kips
24.72 ft	Cohesive	178.16 psf	29.25	733.67 psf	44.81 kips
25.71 ft	Cohesive	178.16 psf	29.25	734.13 psf	49.19 kips
25.73 ft	Cohesive	178.16 psf	29.25	1395.34 psf	49.32 kips
26.72 ft	Cohesive	178.16 psf	29.25	1401.83 psf	57.65 kips
27.72 ft	Cohesive	178.16 psf	29.25	1408.39 psf	66.14 kips
28.72 ft	Cohesive	178.16 psf	29.25	1414.94 psf	74.70 kips
29.72 ft	Cohesive	178.16 psf	29.25	1421.50 psf	83.35 kips
30.72 ft	Cohesive	178.16 psf	29.25	1428.05 psf	92.08 kips
31.72 ft	Cohesive	178.16 psf	29.25	1434.61 psf	100.88 kips
32.72 ft	Cohesive	178.16 psf	29.25	1441.16 psf	109.76 kips
33.72 ft	Cohesive	178.16 psf	29.25	1447.72 psf	118.73 kips

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
34.71 ft	Cohesive	178.16 psf	29.25	1454.21 psf	127.68 kips
34.73 ft	Cohesive	178.16 psf	29.25	958.32 psf	127.82 kips
35.72 ft	Cohesive	178.16 psf	29.25	960.93 psf	133.53 kips
36.72 ft	Cohesive	178.16 psf	29.25	963.57 psf	139.33 kips
37.72 ft	Cohesive	178.16 psf	29.25	966.21 psf	145.16 kips
38.72 ft	Cohesive	178.16 psf	29.25	968.84 psf	151.02 kips
39.71 ft	Cohesive	178.16 psf	29.25	971.46 psf	156.85 kips
39.73 ft	Cohesive	178.16 psf	29.25	1209.91 psf	156.98 kips
40.72 ft	Cohesive	178.16 psf	29.25	1214.31 psf	164.20 kips
41.72 ft	Cohesive	178.16 psf	29.25	1218.76 psf	171.54 kips
42.72 ft	Cohesive	178.16 psf	29.25	1223.20 psf	178.93 kips
43.72 ft	Cohesive	178.16 psf	29.25	1227.64 psf	186.37 kips
44.72 ft	Cohesive	178.16 psf	29.25	1232.09 psf	193.87 kips
45.72 ft	Cohesive	178.16 psf	29.25	1236.53 psf	201.43 kips
46.72 ft	Cohesive	178.16 psf	29.25	1240.98 psf	209.03 kips
47.72 ft	Cohesive	178.16 psf	29.25	1245.42 psf	216.69 kips
48.72 ft	Cohesive	178.16 psf	29.25	1249.87 psf	224.40 kips
49.72 ft	Cohesive	178.16 psf	29.25	1254.31 psf	232.17 kips
50.72 ft	Cohesive	178.16 psf	29.25	1258.76 psf	239.99 kips
51.71 ft	Cohesive	178.16 psf	29.25	1263.16 psf	247.78 kips
51.73 ft	Cohesive	178.16 psf	29.25	1509.92 psf	247.95 kips
52.72 ft	Cohesive	178.16 psf	29.25	1515.92 psf	256.96 kips
53.72 ft	Cohesive	178.16 psf	29.25	1521.97 psf	266.12 kips
54.72 ft	Cohesive	178.16 psf	29.25	1528.03 psf	275.37 kips
55.72 ft	Cohesive	178.16 psf	29.25	1534.08 psf	284.68 kips
56.72 ft	Cohesive	178.16 psf	29.25	1540.14 psf	294.07 kips
57.71 ft	Cohesive	178.16 psf	29.25	1546.13 psf	303.43 kips
57.73 ft	Cohesive	178.16 psf	29.25	1682.85 psf	303.62 kips
58.72 ft	Cohesive	178.16 psf	29.25	1690.33 psf	313.67 kips
59.72 ft	Cohesive	178.16 psf	29.25	1697.88 psf	323.90 kips
60.72 ft	Cohesive	178.16 psf	29.25	1700.00 psf	334.12 kips
61.72 ft	Cohesive	178.16 psf	29.25	1700.00 psf	344.32 kips
62.72 ft	Cohesive	178.16 psf	29.25	1700.00 psf	354.52 kips
63.72 ft	Cohesive	178.16 psf	29.25	1700.00 psf	364.72 kips
64.72 ft	Cohesive	178.16 psf	29.25	1700.00 psf	374.92 kips
65.71 ft	Cohesive	178.16 psf	29.25	1700.00 psf	385.02 kips
65.73 ft	Cohesive	178.16 psf	29.25	750.00 psf	385.17 kips
66.72 ft	Cohesive	178.16 psf	29.25	750.00 psf	389.62 kips
67.72 ft	Cohesive	178.16 psf	29.25	750.00 psf	394.12 kips
68.72 ft	Cohesive	178.16 psf	29.25	750.00 psf	398.62 kips
69.72 ft	Cohesive	178.16 psf	29.25	750.00 psf	403.12 kips

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
70.71 ft	Cohesive	178.16 psf	29.25	750.00 psf	407.58 kips
70.73 ft	Cohesionless	3494.25 psf	32.90	N/A	407.87 kips
71.72 ft	Cohesionless	3522.76 psf	32.90	N/A	432.58 kips
72.72 ft	Cohesionless	3551.56 psf	32.90	N/A	457.94 kips
73.72 ft	Cohesionless	3580.36 psf	32.90	N/A	483.70 kips
74.72 ft	Cohesionless	3609.16 psf	32.90	N/A	509.88 kips
75.72 ft	Cohesionless	3637.96 psf	32.90	N/A	536.46 kips
76.72 ft	Cohesionless	3666.76 psf	32.90	N/A	563.46 kips
77.72 ft	Cohesionless	3695.56 psf	32.90	N/A	590.86 kips
78.72 ft	Cohesionless	3724.36 psf	32.90	N/A	618.66 kips
79.72 ft	Cohesionless	3753.16 psf	32.90	N/A	646.88 kips
80.72 ft	Cohesionless	3781.96 psf	32.90	N/A	675.50 kips
81.72 ft	Cohesionless	3810.76 psf	32.90	N/A	704.54 kips
82.72 ft	Cohesionless	3839.56 psf	32.90	N/A	733.98 kips
83.72 ft	Cohesionless	3868.36 psf	32.90	N/A	763.82 kips
84.72 ft	Cohesionless	3897.16 psf	32.90	N/A	794.08 kips
85.72 ft	Cohesionless	3925.96 psf	32.90	N/A	824.74 kips
86.72 ft	Cohesionless	3954.76 psf	32.90	N/A	855.82 kips
87.71 ft	Cohesionless	3983.28 psf	32.90	N/A	886.98 kips
87.73 ft	Cohesionless	4473.45 psf	25.59	N/A	887.42 kips
88.72 ft	Cohesionless	4501.96 psf	25.59	N/A	899.99 kips
89.72 ft	Cohesionless	4530.76 psf	25.59	N/A	912.85 kips
90.72 ft	Cohesionless	4559.56 psf	25.59	N/A	925.87 kips
91.72 ft	Cohesionless	4588.36 psf	25.59	N/A	939.06 kips
92.72 ft	Cohesionless	4617.16 psf	25.59	N/A	952.40 kips
93.72 ft	Cohesionless	4645.96 psf	25.59	N/A	965.91 kips
94.72 ft	Cohesionless	4674.76 psf	25.59	N/A	979.58 kips
95.72 ft	Cohesionless	4703.56 psf	25.59	N/A	993.42 kips
96.72 ft	Cohesionless	4732.36 psf	25.59	N/A	1007.41 kips
97.72 ft	Cohesionless	4761.16 psf	25.59	N/A	1021.57 kips
98.72 ft	Cohesionless	4789.96 psf	25.59	N/A	1035.89 kips
99.71 ft	Cohesionless	4818.48 psf	25.59	N/A	1050.23 kips

Nominal - End Bearing

Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
0.01 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
1.00 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
2.00 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
2.71 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
2.73 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
3.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
4.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
5.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
6.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
7.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
8.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
9.62 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
9.64 ft	Cohesive	0.60 psf	0.00	N/A	20.25 kips
9.71 ft	Cohesive	4.77 psf	0.00	N/A	20.25 kips
9.73 ft	Cohesionless	5.94 psf	40.40	74.25 kips	0.34 kips
10.72 ft	Cohesionless	62.96 psf	40.40	74.25 kips	3.58 kips
11.72 ft	Cohesionless	120.56 psf	40.40	74.25 kips	6.86 kips
12.72 ft	Cohesionless	178.16 psf	40.40	74.25 kips	10.13 kips
13.72 ft	Cohesionless	235.76 psf	40.40	74.25 kips	13.41 kips
14.72 ft	Cohesionless	293.36 psf	40.40	74.25 kips	16.68 kips
15.71 ft	Cohesionless	350.39 psf	40.40	74.25 kips	19.93 kips
15.73 ft	Cohesive	351.54 psf	0.00	N/A	15.19 kips
16.72 ft	Cohesive	408.56 psf	0.00	N/A	15.19 kips
17.72 ft	Cohesive	466.16 psf	0.00	N/A	15.19 kips
18.72 ft	Cohesive	523.76 psf	0.00	N/A	15.19 kips
19.72 ft	Cohesive	581.36 psf	0.00	N/A	15.19 kips
20.72 ft	Cohesive	638.96 psf	0.00	N/A	15.19 kips
21.72 ft	Cohesive	696.56 psf	0.00	N/A	15.19 kips
22.72 ft	Cohesive	754.16 psf	0.00	N/A	15.19 kips
23.72 ft	Cohesive	811.76 psf	0.00	N/A	15.19 kips
24.72 ft	Cohesive	869.36 psf	0.00	N/A	15.19 kips
25.71 ft	Cohesive	926.39 psf	0.00	N/A	15.19 kips
25.73 ft	Cohesive	927.58 psf	0.00	N/A	34.42 kips
26.72 ft	Cohesive	988.56 psf	0.00	N/A	34.42 kips
27.72 ft	Cohesive	1050.16 psf	0.00	N/A	34.42 kips
28.72 ft	Cohesive	1111.76 psf	0.00	N/A	34.42 kips
29.72 ft	Cohesive	1173.36 psf	0.00	N/A	34.42 kips
30.72 ft	Cohesive	1234.96 psf	0.00	N/A	34.42 kips
31.72 ft	Cohesive	1296.56 psf	0.00	N/A	34.42 kips
32.72 ft	Cohesive	1358.16 psf	0.00	N/A	34.42 kips
33.72 ft	Cohesive	1419.76 psf	0.00	N/A	34.42 kips

Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
34.71 ft	Cohesive	1480.75 psf	0.00	N/A	34.42 kips
34.73 ft	Cohesive	1481.79 psf	0.00	N/A	19.24 kips
35.72 ft	Cohesive	1523.96 psf	0.00	N/A	19.24 kips
36.72 ft	Cohesive	1566.56 psf	0.00	N/A	19.24 kips
37.72 ft	Cohesive	1609.16 psf	0.00	N/A	19.24 kips
38.72 ft	Cohesive	1651.76 psf	0.00	N/A	19.24 kips
39.71 ft	Cohesive	1693.94 psf	0.00	N/A	19.24 kips
39.73 ft	Cohesive	1694.94 psf	0.00	N/A	25.31 kips
40.72 ft	Cohesive	1751.96 psf	0.00	N/A	25.31 kips
41.72 ft	Cohesive	1809.56 psf	0.00	N/A	25.31 kips
42.72 ft	Cohesive	1867.16 psf	0.00	N/A	25.31 kips
43.72 ft	Cohesive	1924.76 psf	0.00	N/A	25.31 kips
44.72 ft	Cohesive	1982.36 psf	0.00	N/A	25.31 kips
45.72 ft	Cohesive	2039.96 psf	0.00	N/A	25.31 kips
46.72 ft	Cohesive	2097.56 psf	0.00	N/A	25.31 kips
47.72 ft	Cohesive	2155.16 psf	0.00	N/A	25.31 kips
48.72 ft	Cohesive	2212.76 psf	0.00	N/A	25.31 kips
49.72 ft	Cohesive	2270.36 psf	0.00	N/A	25.31 kips
50.72 ft	Cohesive	2327.96 psf	0.00	N/A	25.31 kips
51.71 ft	Cohesive	2384.99 psf	0.00	N/A	25.31 kips
51.73 ft	Cohesive	2386.23 psf	0.00	N/A	32.40 kips
52.72 ft	Cohesive	2452.16 psf	0.00	N/A	32.40 kips
53.72 ft	Cohesive	2518.76 psf	0.00	N/A	32.40 kips
54.72 ft	Cohesive	2585.36 psf	0.00	N/A	32.40 kips
55.72 ft	Cohesive	2651.96 psf	0.00	N/A	32.40 kips
56.72 ft	Cohesive	2718.56 psf	0.00	N/A	32.40 kips
57.71 ft	Cohesive	2784.50 psf	0.00	N/A	32.40 kips
57.73 ft	Cohesive	2785.69 psf	0.00	N/A	36.45 kips
58.72 ft	Cohesive	2837.76 psf	0.00	N/A	36.45 kips
59.72 ft	Cohesive	2890.36 psf	0.00	N/A	36.45 kips
60.72 ft	Cohesive	2942.96 psf	0.00	N/A	36.45 kips
61.72 ft	Cohesive	2995.56 psf	0.00	N/A	36.45 kips
62.72 ft	Cohesive	3048.16 psf	0.00	N/A	36.45 kips
63.72 ft	Cohesive	3100.76 psf	0.00	N/A	36.45 kips
64.72 ft	Cohesive	3153.36 psf	0.00	N/A	36.45 kips
65.71 ft	Cohesive	3205.44 psf	0.00	N/A	36.45 kips
65.73 ft	Cohesive	3206.54 psf	0.00	N/A	15.19 kips
66.72 ft	Cohesive	3263.56 psf	0.00	N/A	15.19 kips
67.72 ft	Cohesive	3321.16 psf	0.00	N/A	15.19 kips
68.72 ft	Cohesive	3378.76 psf	0.00	N/A	15.19 kips
69.72 ft	Cohesive	3436.36 psf	0.00	N/A	15.19 kips

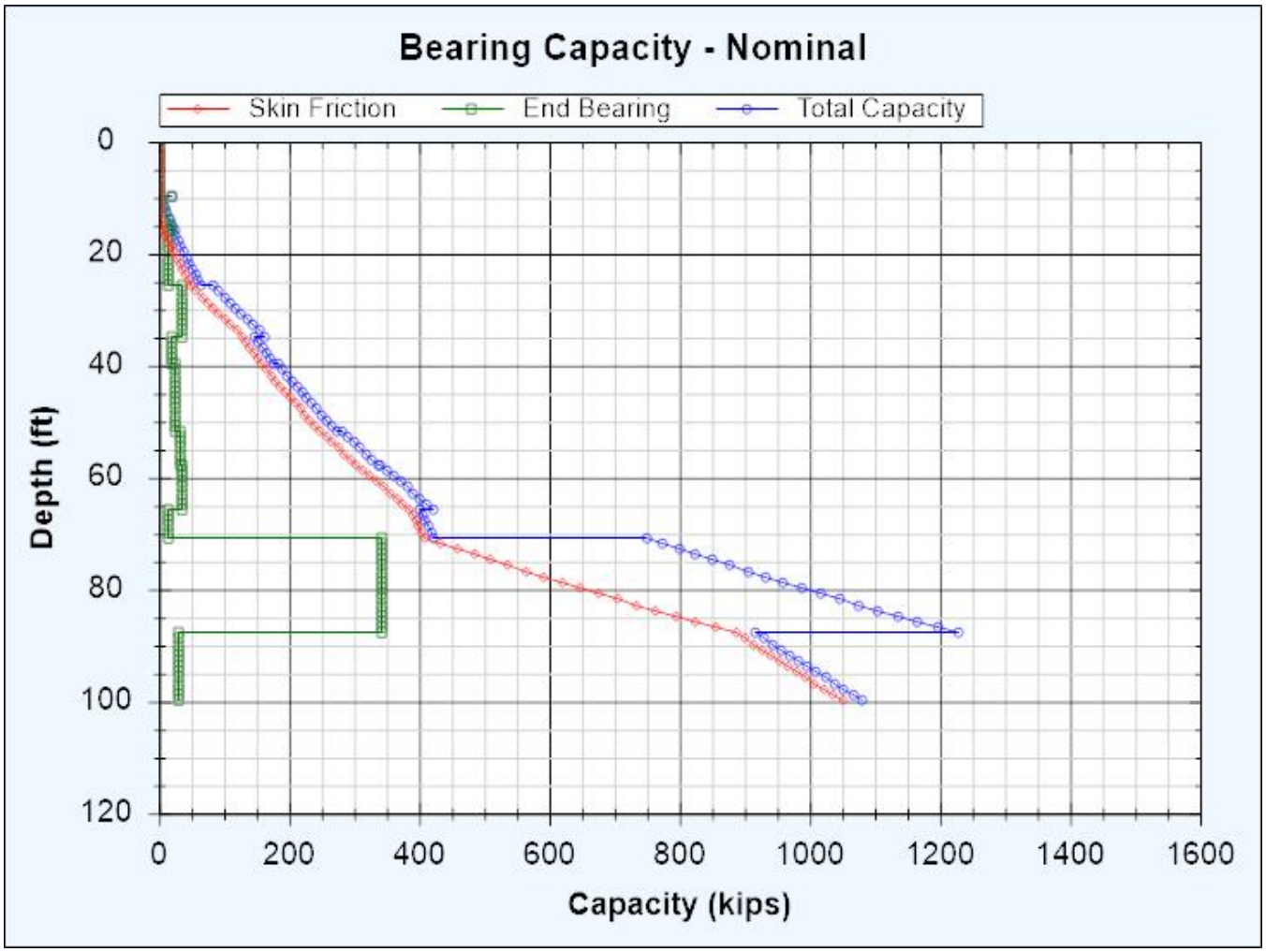
Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
70.71 ft	Cohesive	3493.39 psf	0.00	N/A	15.19 kips
70.73 ft	Cohesionless	3494.54 psf	77.60	341.10 kips	341.10 kips
71.72 ft	Cohesionless	3551.56 psf	77.60	341.10 kips	341.10 kips
72.72 ft	Cohesionless	3609.16 psf	77.60	341.10 kips	341.10 kips
73.72 ft	Cohesionless	3666.76 psf	77.60	341.10 kips	341.10 kips
74.72 ft	Cohesionless	3724.36 psf	77.60	341.10 kips	341.10 kips
75.72 ft	Cohesionless	3781.96 psf	77.60	341.10 kips	341.10 kips
76.72 ft	Cohesionless	3839.56 psf	77.60	341.10 kips	341.10 kips
77.72 ft	Cohesionless	3897.16 psf	77.60	341.10 kips	341.10 kips
78.72 ft	Cohesionless	3954.76 psf	77.60	341.10 kips	341.10 kips
79.72 ft	Cohesionless	4012.36 psf	77.60	341.10 kips	341.10 kips
80.72 ft	Cohesionless	4069.96 psf	77.60	341.10 kips	341.10 kips
81.72 ft	Cohesionless	4127.56 psf	77.60	341.10 kips	341.10 kips
82.72 ft	Cohesionless	4185.16 psf	77.60	341.10 kips	341.10 kips
83.72 ft	Cohesionless	4242.76 psf	77.60	341.10 kips	341.10 kips
84.72 ft	Cohesionless	4300.36 psf	77.60	341.10 kips	341.10 kips
85.72 ft	Cohesionless	4357.96 psf	77.60	341.10 kips	341.10 kips
86.72 ft	Cohesionless	4415.56 psf	77.60	341.10 kips	341.10 kips
87.71 ft	Cohesionless	4472.59 psf	77.60	341.10 kips	341.10 kips
87.73 ft	Cohesionless	4473.74 psf	22.80	29.97 kips	29.97 kips
88.72 ft	Cohesionless	4530.76 psf	22.80	29.97 kips	29.97 kips
89.72 ft	Cohesionless	4588.36 psf	22.80	29.97 kips	29.97 kips
90.72 ft	Cohesionless	4645.96 psf	22.80	29.97 kips	29.97 kips
91.72 ft	Cohesionless	4703.56 psf	22.80	29.97 kips	29.97 kips
92.72 ft	Cohesionless	4761.16 psf	22.80	29.97 kips	29.97 kips
93.72 ft	Cohesionless	4818.76 psf	22.80	29.97 kips	29.97 kips
94.72 ft	Cohesionless	4876.36 psf	22.80	29.97 kips	29.97 kips
95.72 ft	Cohesionless	4933.96 psf	22.80	29.97 kips	29.97 kips
96.72 ft	Cohesionless	4991.56 psf	22.80	29.97 kips	29.97 kips
97.72 ft	Cohesionless	5049.16 psf	22.80	29.97 kips	29.97 kips
98.72 ft	Cohesionless	5106.76 psf	22.80	29.97 kips	29.97 kips
99.71 ft	Cohesionless	5163.79 psf	22.80	29.97 kips	29.97 kips

Nominal - Summary of Capacities

Depth	Skin Friction	End Bearing	Total Capacity
0.01 ft	0.00 kips	0.00 kips	0.00 kips
1.00 ft	0.00 kips	0.00 kips	0.00 kips
2.00 ft	0.00 kips	0.00 kips	0.00 kips
2.71 ft	0.00 kips	0.00 kips	0.00 kips
2.73 ft	0.00 kips	0.00 kips	0.00 kips
3.72 ft	0.00 kips	0.00 kips	0.00 kips
4.72 ft	0.00 kips	0.00 kips	0.00 kips
5.72 ft	0.00 kips	0.00 kips	0.00 kips
6.72 ft	0.00 kips	0.00 kips	0.00 kips
7.72 ft	0.00 kips	0.00 kips	0.00 kips
8.72 ft	0.00 kips	0.00 kips	0.00 kips
9.62 ft	0.00 kips	0.00 kips	0.00 kips
9.64 ft	0.06 kips	20.25 kips	20.31 kips
9.71 ft	0.46 kips	20.25 kips	20.71 kips
9.73 ft	0.51 kips	0.34 kips	0.85 kips
10.72 ft	0.66 kips	3.58 kips	4.24 kips
11.72 ft	1.06 kips	6.86 kips	7.92 kips
12.72 ft	1.72 kips	10.13 kips	11.85 kips
13.72 ft	2.62 kips	13.41 kips	16.03 kips
14.72 ft	3.78 kips	16.68 kips	20.46 kips
15.71 ft	5.17 kips	19.93 kips	25.10 kips
15.73 ft	5.23 kips	15.19 kips	20.42 kips
16.72 ft	9.57 kips	15.19 kips	24.75 kips
17.72 ft	13.95 kips	15.19 kips	29.14 kips
18.72 ft	18.34 kips	15.19 kips	33.53 kips
19.72 ft	22.74 kips	15.19 kips	37.93 kips
20.72 ft	27.14 kips	15.19 kips	42.33 kips
21.72 ft	31.55 kips	15.19 kips	46.74 kips
22.72 ft	35.96 kips	15.19 kips	51.15 kips
23.72 ft	40.38 kips	15.19 kips	55.57 kips
24.72 ft	44.81 kips	15.19 kips	59.99 kips
25.71 ft	49.19 kips	15.19 kips	64.38 kips
25.73 ft	49.32 kips	34.42 kips	83.74 kips
26.72 ft	57.65 kips	34.42 kips	92.07 kips
27.72 ft	66.14 kips	34.42 kips	100.56 kips
28.72 ft	74.70 kips	34.42 kips	109.13 kips
29.72 ft	83.35 kips	34.42 kips	117.78 kips
30.72 ft	92.08 kips	34.42 kips	126.50 kips
31.72 ft	100.88 kips	34.42 kips	135.31 kips
32.72 ft	109.76 kips	34.42 kips	144.19 kips
33.72 ft	118.73 kips	34.42 kips	153.15 kips
34.71 ft	127.68 kips	34.42 kips	162.10 kips

Depth	Skin Friction	End Bearing	Total Capacity
34.73 ft	127.82 kips	19.24 kips	147.06 kips
35.72 ft	133.53 kips	19.24 kips	152.77 kips
36.72 ft	139.33 kips	19.24 kips	158.57 kips
37.72 ft	145.16 kips	19.24 kips	164.40 kips
38.72 ft	151.02 kips	19.24 kips	170.26 kips
39.71 ft	156.85 kips	19.24 kips	176.09 kips
39.73 ft	156.98 kips	25.31 kips	182.30 kips
40.72 ft	164.20 kips	25.31 kips	189.51 kips
41.72 ft	171.54 kips	25.31 kips	196.85 kips
42.72 ft	178.93 kips	25.31 kips	204.24 kips
43.72 ft	186.37 kips	25.31 kips	211.69 kips
44.72 ft	193.87 kips	25.31 kips	219.19 kips
45.72 ft	201.43 kips	25.31 kips	226.74 kips
46.72 ft	209.03 kips	25.31 kips	234.34 kips
47.72 ft	216.69 kips	25.31 kips	242.00 kips
48.72 ft	224.40 kips	25.31 kips	249.72 kips
49.72 ft	232.17 kips	25.31 kips	257.48 kips
50.72 ft	239.99 kips	25.31 kips	265.30 kips
51.71 ft	247.78 kips	25.31 kips	273.09 kips
51.73 ft	247.95 kips	32.40 kips	280.35 kips
52.72 ft	256.96 kips	32.40 kips	289.36 kips
53.72 ft	266.12 kips	32.40 kips	298.52 kips
54.72 ft	275.37 kips	32.40 kips	307.77 kips
55.72 ft	284.68 kips	32.40 kips	317.08 kips
56.72 ft	294.07 kips	32.40 kips	326.47 kips
57.71 ft	303.43 kips	32.40 kips	335.83 kips
57.73 ft	303.62 kips	36.45 kips	340.07 kips
58.72 ft	313.67 kips	36.45 kips	350.12 kips
59.72 ft	323.90 kips	36.45 kips	360.35 kips
60.72 ft	334.12 kips	36.45 kips	370.57 kips
61.72 ft	344.32 kips	36.45 kips	380.77 kips
62.72 ft	354.52 kips	36.45 kips	390.97 kips
63.72 ft	364.72 kips	36.45 kips	401.17 kips
64.72 ft	374.92 kips	36.45 kips	411.37 kips
65.71 ft	385.02 kips	36.45 kips	421.47 kips
65.73 ft	385.17 kips	15.19 kips	400.36 kips
66.72 ft	389.62 kips	15.19 kips	404.81 kips
67.72 ft	394.12 kips	15.19 kips	409.31 kips
68.72 ft	398.62 kips	15.19 kips	413.81 kips
69.72 ft	403.12 kips	15.19 kips	418.31 kips
70.71 ft	407.58 kips	15.19 kips	422.77 kips
70.73 ft	407.87 kips	341.10 kips	748.97 kips

Depth	Skin Friction	End Bearing	Total Capacity
71.72 ft	432.58 kips	341.10 kips	773.68 kips
72.72 ft	457.94 kips	341.10 kips	799.04 kips
73.72 ft	483.70 kips	341.10 kips	824.80 kips
74.72 ft	509.88 kips	341.10 kips	850.98 kips
75.72 ft	536.46 kips	341.10 kips	877.56 kips
76.72 ft	563.46 kips	341.10 kips	904.56 kips
77.72 ft	590.86 kips	341.10 kips	931.96 kips
78.72 ft	618.66 kips	341.10 kips	959.76 kips
79.72 ft	646.88 kips	341.10 kips	987.98 kips
80.72 ft	675.50 kips	341.10 kips	1016.60 kips
81.72 ft	704.54 kips	341.10 kips	1045.64 kips
82.72 ft	733.98 kips	341.10 kips	1075.08 kips
83.72 ft	763.82 kips	341.10 kips	1104.92 kips
84.72 ft	794.08 kips	341.10 kips	1135.18 kips
85.72 ft	824.74 kips	341.10 kips	1165.84 kips
86.72 ft	855.82 kips	341.10 kips	1196.92 kips
87.71 ft	886.98 kips	341.10 kips	1228.08 kips
87.73 ft	887.42 kips	29.97 kips	917.39 kips
88.72 ft	899.99 kips	29.97 kips	929.96 kips
89.72 ft	912.85 kips	29.97 kips	942.82 kips
90.72 ft	925.87 kips	29.97 kips	955.84 kips
91.72 ft	939.06 kips	29.97 kips	969.03 kips
92.72 ft	952.40 kips	29.97 kips	982.37 kips
93.72 ft	965.91 kips	29.97 kips	995.88 kips
94.72 ft	979.58 kips	29.97 kips	1009.55 kips
95.72 ft	993.42 kips	29.97 kips	1023.39 kips
96.72 ft	1007.41 kips	29.97 kips	1037.38 kips
97.72 ft	1021.57 kips	29.97 kips	1051.54 kips
98.72 ft	1035.89 kips	29.97 kips	1065.86 kips
99.71 ft	1050.23 kips	29.97 kips	1080.20 kips


Bearing Capacity - Nominal
Skin Friction
End Bearing
Total Capacity
Depth (ft)
0
20
40
60
80
100
120
0
200
400
600
800
1000
1200
1400
1600
Capacity (kips)

DrivenPiles - Report

General Project Information

Filename: ...\Axial Pile Capacities\2. With Preboring (local scour to scour elev.)\RN620076_Bent all Preboring.dvn
Project Name: Rousseau Road Bridge Replacement
Project Client: Crescent Engineering and Mapping, LLC
Prepared By: AA
Project Manager: MGS

Pile Information

Pile Type: Concrete Pile
Top of Pile: 0.00 ft
Side of Square Section : 18.00 in

Nominal Considerations

Water Table Depth At Time Of:

Drilling:	2.72 ft
Driving/Restrike:	2.72 ft
Nominal:	2.72 ft

Nominal Considations:

Local Scour:	9.63 ft
Long Term Scour:	0.00 ft
Soft Soil:	0.00 ft

Nominal Profile

Layer	Soil Type	Thickness	Setup Factor	Unit Weight	Strength	Nominal Curve
1	Cohesive	9.72 ft	1.000	122.00 pcf	1000.00 psf	T-79 Concrete
2	Cohesionless	6.00 ft	1.000	120.00 pcf	32.0/32.0	Nordlund
3	Cohesive	10.00 ft	1.000	120.00 pcf	750.00 psf	T-79 Concrete
4	Cohesive	9.00 ft	1.000	124.00 pcf	1700.00 psf	T-79 Concrete
5	Cohesive	5.00 ft	1.000	105.00 pcf	950.00 psf	T-79 Concrete
6	Cohesive	12.00 ft	1.000	120.00 pcf	1250.00 psf	T-79 Concrete
7	Cohesive	6.00 ft	1.000	129.00 pcf	1600.00 psf	T-79 Concrete
8	Cohesive	8.00 ft	1.000	115.00 pcf	1800.00 psf	T-79 Concrete
9	Cohesive	5.00 ft	1.000	120.00 pcf	750.00 psf	T-79 Concrete
10	Cohesionless	17.00 ft	1.000	120.00 pcf	36.0/36.0	Nordlund
11	Cohesionless	12.00 ft	1.000	120.00 pcf	28.0/28.0	Nordlund

Nominal - Skin Friction

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
0.01 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
1.00 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
2.00 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
2.71 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
2.73 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
3.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
4.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
5.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
6.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
7.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
8.72 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
9.62 ft	Cohesive	0.00 psf	0.00	0.00 psf	0.00 kips
9.64 ft	Cohesive	0.00 psf	0.00	950.00 psf	0.06 kips
9.71 ft	Cohesive	0.00 psf	0.00	950.00 psf	0.46 kips
9.73 ft	Cohesionless	749.33 psf	29.25	N/A	0.55 kips
10.72 ft	Cohesionless	777.84 psf	29.25	N/A	3.91 kips
11.72 ft	Cohesionless	806.64 psf	29.25	N/A	7.57 kips
12.72 ft	Cohesionless	835.44 psf	29.25	N/A	11.47 kips
13.72 ft	Cohesionless	864.24 psf	29.25	N/A	15.63 kips
14.72 ft	Cohesionless	893.04 psf	29.25	N/A	20.04 kips
15.71 ft	Cohesionless	921.55 psf	29.25	N/A	24.65 kips
15.73 ft	Cohesive	921.84 psf	29.25	729.50 psf	24.74 kips
16.72 ft	Cohesive	921.84 psf	29.25	729.96 psf	29.08 kips
17.72 ft	Cohesive	921.84 psf	29.25	730.43 psf	33.46 kips
18.72 ft	Cohesive	921.84 psf	29.25	730.89 psf	37.85 kips
19.72 ft	Cohesive	921.84 psf	29.25	731.35 psf	42.25 kips
20.72 ft	Cohesive	921.84 psf	29.25	731.81 psf	46.65 kips
21.72 ft	Cohesive	921.84 psf	29.25	732.28 psf	51.06 kips
22.72 ft	Cohesive	921.84 psf	29.25	732.74 psf	55.47 kips
23.72 ft	Cohesive	921.84 psf	29.25	733.20 psf	59.89 kips
24.72 ft	Cohesive	921.84 psf	29.25	733.67 psf	64.32 kips
25.71 ft	Cohesive	921.84 psf	29.25	734.13 psf	68.70 kips
25.73 ft	Cohesive	921.84 psf	29.25	1395.34 psf	68.83 kips
26.72 ft	Cohesive	921.84 psf	29.25	1401.83 psf	77.16 kips
27.72 ft	Cohesive	921.84 psf	29.25	1408.39 psf	85.65 kips
28.72 ft	Cohesive	921.84 psf	29.25	1414.94 psf	94.22 kips
29.72 ft	Cohesive	921.84 psf	29.25	1421.50 psf	102.86 kips
30.72 ft	Cohesive	921.84 psf	29.25	1428.05 psf	111.59 kips
31.72 ft	Cohesive	921.84 psf	29.25	1434.61 psf	120.39 kips
32.72 ft	Cohesive	921.84 psf	29.25	1441.16 psf	129.28 kips
33.72 ft	Cohesive	921.84 psf	29.25	1447.72 psf	138.24 kips

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
34.71 ft	Cohesive	921.84 psf	29.25	1454.21 psf	147.19 kips
34.73 ft	Cohesive	921.84 psf	29.25	958.32 psf	147.34 kips
35.72 ft	Cohesive	921.84 psf	29.25	960.93 psf	153.04 kips
36.72 ft	Cohesive	921.84 psf	29.25	963.57 psf	158.84 kips
37.72 ft	Cohesive	921.84 psf	29.25	966.21 psf	164.67 kips
38.72 ft	Cohesive	921.84 psf	29.25	968.84 psf	170.53 kips
39.71 ft	Cohesive	921.84 psf	29.25	971.46 psf	176.36 kips
39.73 ft	Cohesive	921.84 psf	29.25	1209.91 psf	176.49 kips
40.72 ft	Cohesive	921.84 psf	29.25	1214.31 psf	183.71 kips
41.72 ft	Cohesive	921.84 psf	29.25	1218.76 psf	191.05 kips
42.72 ft	Cohesive	921.84 psf	29.25	1223.20 psf	198.44 kips
43.72 ft	Cohesive	921.84 psf	29.25	1227.64 psf	205.89 kips
44.72 ft	Cohesive	921.84 psf	29.25	1232.09 psf	213.38 kips
45.72 ft	Cohesive	921.84 psf	29.25	1236.53 psf	220.94 kips
46.72 ft	Cohesive	921.84 psf	29.25	1240.98 psf	228.54 kips
47.72 ft	Cohesive	921.84 psf	29.25	1245.42 psf	236.20 kips
48.72 ft	Cohesive	921.84 psf	29.25	1249.87 psf	243.91 kips
49.72 ft	Cohesive	921.84 psf	29.25	1254.31 psf	251.68 kips
50.72 ft	Cohesive	921.84 psf	29.25	1258.76 psf	259.50 kips
51.71 ft	Cohesive	921.84 psf	29.25	1263.16 psf	267.29 kips
51.73 ft	Cohesive	921.84 psf	29.25	1509.92 psf	267.46 kips
52.72 ft	Cohesive	921.84 psf	29.25	1515.92 psf	276.47 kips
53.72 ft	Cohesive	921.84 psf	29.25	1521.97 psf	285.64 kips
54.72 ft	Cohesive	921.84 psf	29.25	1528.03 psf	294.88 kips
55.72 ft	Cohesive	921.84 psf	29.25	1534.08 psf	304.19 kips
56.72 ft	Cohesive	921.84 psf	29.25	1540.14 psf	313.58 kips
57.71 ft	Cohesive	921.84 psf	29.25	1546.13 psf	322.94 kips
57.73 ft	Cohesive	921.84 psf	29.25	1682.85 psf	323.14 kips
58.72 ft	Cohesive	921.84 psf	29.25	1690.33 psf	333.18 kips
59.72 ft	Cohesive	921.84 psf	29.25	1697.88 psf	343.41 kips
60.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	353.64 kips
61.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	363.84 kips
62.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	374.04 kips
63.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	384.24 kips
64.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	394.44 kips
65.71 ft	Cohesive	921.84 psf	29.25	1700.00 psf	404.53 kips
65.73 ft	Cohesive	921.84 psf	29.25	750.00 psf	404.68 kips
66.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	409.14 kips
67.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	413.64 kips
68.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	418.14 kips
69.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	422.64 kips

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
70.71 ft	Cohesive	921.84 psf	29.25	750.00 psf	427.09 kips
70.73 ft	Cohesionless	4237.93 psf	32.90	N/A	427.44 kips
71.72 ft	Cohesionless	4266.44 psf	32.90	N/A	457.36 kips
72.72 ft	Cohesionless	4295.24 psf	32.90	N/A	487.98 kips
73.72 ft	Cohesionless	4324.04 psf	32.90	N/A	519.02 kips
74.72 ft	Cohesionless	4352.84 psf	32.90	N/A	550.46 kips
75.72 ft	Cohesionless	4381.64 psf	32.90	N/A	582.31 kips
76.72 ft	Cohesionless	4410.44 psf	32.90	N/A	614.57 kips
77.72 ft	Cohesionless	4439.24 psf	32.90	N/A	647.24 kips
78.72 ft	Cohesionless	4468.04 psf	32.90	N/A	680.32 kips
79.72 ft	Cohesionless	4496.84 psf	32.90	N/A	713.80 kips
80.72 ft	Cohesionless	4525.64 psf	32.90	N/A	747.69 kips
81.72 ft	Cohesionless	4554.44 psf	32.90	N/A	781.99 kips
82.72 ft	Cohesionless	4583.24 psf	32.90	N/A	816.70 kips
83.72 ft	Cohesionless	4612.04 psf	32.90	N/A	851.81 kips
84.72 ft	Cohesionless	4640.84 psf	32.90	N/A	887.34 kips
85.72 ft	Cohesionless	4669.64 psf	32.90	N/A	923.27 kips
86.72 ft	Cohesionless	4698.44 psf	32.90	N/A	959.61 kips
87.71 ft	Cohesionless	4726.95 psf	32.90	N/A	995.99 kips
87.73 ft	Cohesionless	5217.13 psf	25.59	N/A	996.50 kips
88.72 ft	Cohesionless	5245.64 psf	25.59	N/A	1011.15 kips
89.72 ft	Cohesionless	5274.44 psf	25.59	N/A	1026.11 kips
90.72 ft	Cohesionless	5303.24 psf	25.59	N/A	1041.22 kips
91.72 ft	Cohesionless	5332.04 psf	25.59	N/A	1056.51 kips
92.72 ft	Cohesionless	5360.84 psf	25.59	N/A	1071.95 kips
93.72 ft	Cohesionless	5389.64 psf	25.59	N/A	1087.56 kips
94.72 ft	Cohesionless	5418.44 psf	25.59	N/A	1103.32 kips
95.72 ft	Cohesionless	5447.24 psf	25.59	N/A	1119.26 kips
96.72 ft	Cohesionless	5476.04 psf	25.59	N/A	1135.35 kips
97.72 ft	Cohesionless	5504.84 psf	25.59	N/A	1151.61 kips
98.72 ft	Cohesionless	5533.64 psf	25.59	N/A	1168.02 kips
99.71 ft	Cohesionless	5562.15 psf	25.59	N/A	1184.44 kips

Nominal - End Bearing

Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
0.01 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
1.00 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
2.00 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
2.71 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
2.73 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
3.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
4.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
5.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
6.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
7.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
8.72 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
9.62 ft	Cohesive	0.00 psf	0.00	N/A	0.00 kips
9.64 ft	Cohesive	744.27 psf	0.00	N/A	20.25 kips
9.71 ft	Cohesive	748.44 psf	0.00	N/A	20.25 kips
9.73 ft	Cohesionless	749.62 psf	40.40	74.25 kips	42.63 kips
10.72 ft	Cohesionless	806.64 psf	40.40	74.25 kips	45.87 kips
11.72 ft	Cohesionless	864.24 psf	40.40	74.25 kips	49.15 kips
12.72 ft	Cohesionless	921.84 psf	40.40	74.25 kips	52.42 kips
13.72 ft	Cohesionless	979.44 psf	40.40	74.25 kips	55.70 kips
14.72 ft	Cohesionless	1037.04 psf	40.40	74.25 kips	58.97 kips
15.71 ft	Cohesionless	1094.06 psf	40.40	74.25 kips	62.22 kips
15.73 ft	Cohesive	1095.22 psf	0.00	N/A	15.19 kips
16.72 ft	Cohesive	1152.24 psf	0.00	N/A	15.19 kips
17.72 ft	Cohesive	1209.84 psf	0.00	N/A	15.19 kips
18.72 ft	Cohesive	1267.44 psf	0.00	N/A	15.19 kips
19.72 ft	Cohesive	1325.04 psf	0.00	N/A	15.19 kips
20.72 ft	Cohesive	1382.64 psf	0.00	N/A	15.19 kips
21.72 ft	Cohesive	1440.24 psf	0.00	N/A	15.19 kips
22.72 ft	Cohesive	1497.84 psf	0.00	N/A	15.19 kips
23.72 ft	Cohesive	1555.44 psf	0.00	N/A	15.19 kips
24.72 ft	Cohesive	1613.04 psf	0.00	N/A	15.19 kips
25.71 ft	Cohesive	1670.06 psf	0.00	N/A	15.19 kips
25.73 ft	Cohesive	1671.26 psf	0.00	N/A	34.42 kips
26.72 ft	Cohesive	1732.24 psf	0.00	N/A	34.42 kips
27.72 ft	Cohesive	1793.84 psf	0.00	N/A	34.42 kips
28.72 ft	Cohesive	1855.44 psf	0.00	N/A	34.42 kips
29.72 ft	Cohesive	1917.04 psf	0.00	N/A	34.42 kips
30.72 ft	Cohesive	1978.64 psf	0.00	N/A	34.42 kips
31.72 ft	Cohesive	2040.24 psf	0.00	N/A	34.42 kips
32.72 ft	Cohesive	2101.84 psf	0.00	N/A	34.42 kips
33.72 ft	Cohesive	2163.44 psf	0.00	N/A	34.42 kips

Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
34.71 ft	Cohesive	2224.42 psf	0.00	N/A	34.42 kips
34.73 ft	Cohesive	2225.47 psf	0.00	N/A	19.24 kips
35.72 ft	Cohesive	2267.64 psf	0.00	N/A	19.24 kips
36.72 ft	Cohesive	2310.24 psf	0.00	N/A	19.24 kips
37.72 ft	Cohesive	2352.84 psf	0.00	N/A	19.24 kips
38.72 ft	Cohesive	2395.44 psf	0.00	N/A	19.24 kips
39.71 ft	Cohesive	2437.61 psf	0.00	N/A	19.24 kips
39.73 ft	Cohesive	2438.62 psf	0.00	N/A	25.31 kips
40.72 ft	Cohesive	2495.64 psf	0.00	N/A	25.31 kips
41.72 ft	Cohesive	2553.24 psf	0.00	N/A	25.31 kips
42.72 ft	Cohesive	2610.84 psf	0.00	N/A	25.31 kips
43.72 ft	Cohesive	2668.44 psf	0.00	N/A	25.31 kips
44.72 ft	Cohesive	2726.04 psf	0.00	N/A	25.31 kips
45.72 ft	Cohesive	2783.64 psf	0.00	N/A	25.31 kips
46.72 ft	Cohesive	2841.24 psf	0.00	N/A	25.31 kips
47.72 ft	Cohesive	2898.84 psf	0.00	N/A	25.31 kips
48.72 ft	Cohesive	2956.44 psf	0.00	N/A	25.31 kips
49.72 ft	Cohesive	3014.04 psf	0.00	N/A	25.31 kips
50.72 ft	Cohesive	3071.64 psf	0.00	N/A	25.31 kips
51.71 ft	Cohesive	3128.66 psf	0.00	N/A	25.31 kips
51.73 ft	Cohesive	3129.91 psf	0.00	N/A	32.40 kips
52.72 ft	Cohesive	3195.84 psf	0.00	N/A	32.40 kips
53.72 ft	Cohesive	3262.44 psf	0.00	N/A	32.40 kips
54.72 ft	Cohesive	3329.04 psf	0.00	N/A	32.40 kips
55.72 ft	Cohesive	3395.64 psf	0.00	N/A	32.40 kips
56.72 ft	Cohesive	3462.24 psf	0.00	N/A	32.40 kips
57.71 ft	Cohesive	3528.17 psf	0.00	N/A	32.40 kips
57.73 ft	Cohesive	3529.37 psf	0.00	N/A	36.45 kips
58.72 ft	Cohesive	3581.44 psf	0.00	N/A	36.45 kips
59.72 ft	Cohesive	3634.04 psf	0.00	N/A	36.45 kips
60.72 ft	Cohesive	3686.64 psf	0.00	N/A	36.45 kips
61.72 ft	Cohesive	3739.24 psf	0.00	N/A	36.45 kips
62.72 ft	Cohesive	3791.84 psf	0.00	N/A	36.45 kips
63.72 ft	Cohesive	3844.44 psf	0.00	N/A	36.45 kips
64.72 ft	Cohesive	3897.04 psf	0.00	N/A	36.45 kips
65.71 ft	Cohesive	3949.11 psf	0.00	N/A	36.45 kips
65.73 ft	Cohesive	3950.22 psf	0.00	N/A	15.19 kips
66.72 ft	Cohesive	4007.24 psf	0.00	N/A	15.19 kips
67.72 ft	Cohesive	4064.84 psf	0.00	N/A	15.19 kips
68.72 ft	Cohesive	4122.44 psf	0.00	N/A	15.19 kips
69.72 ft	Cohesive	4180.04 psf	0.00	N/A	15.19 kips

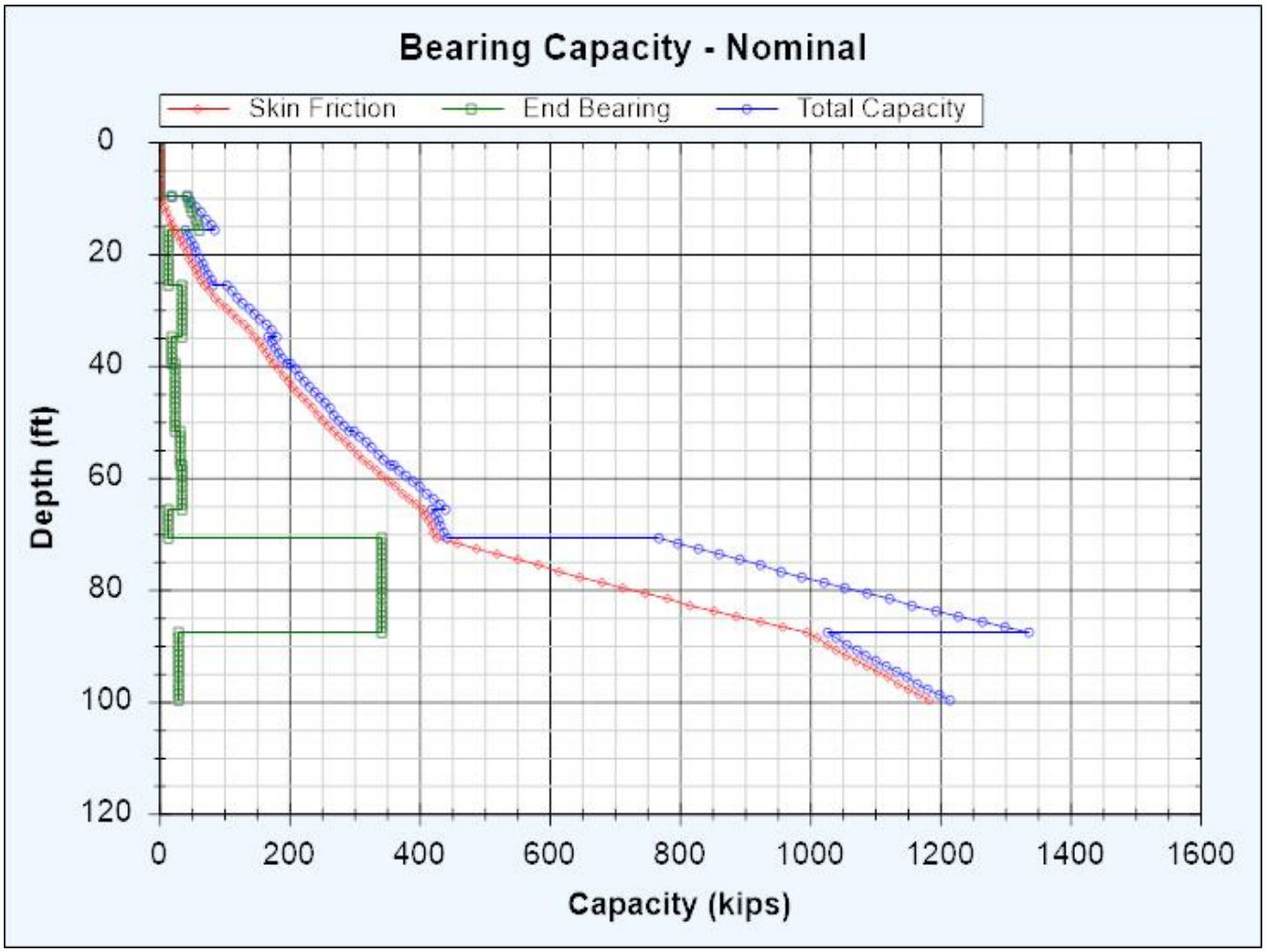
Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
70.71 ft	Cohesive	4237.06 psf	0.00	N/A	15.19 kips
70.73 ft	Cohesionless	4238.22 psf	77.60	341.10 kips	341.10 kips
71.72 ft	Cohesionless	4295.24 psf	77.60	341.10 kips	341.10 kips
72.72 ft	Cohesionless	4352.84 psf	77.60	341.10 kips	341.10 kips
73.72 ft	Cohesionless	4410.44 psf	77.60	341.10 kips	341.10 kips
74.72 ft	Cohesionless	4468.04 psf	77.60	341.10 kips	341.10 kips
75.72 ft	Cohesionless	4525.64 psf	77.60	341.10 kips	341.10 kips
76.72 ft	Cohesionless	4583.24 psf	77.60	341.10 kips	341.10 kips
77.72 ft	Cohesionless	4640.84 psf	77.60	341.10 kips	341.10 kips
78.72 ft	Cohesionless	4698.44 psf	77.60	341.10 kips	341.10 kips
79.72 ft	Cohesionless	4756.04 psf	77.60	341.10 kips	341.10 kips
80.72 ft	Cohesionless	4813.64 psf	77.60	341.10 kips	341.10 kips
81.72 ft	Cohesionless	4871.24 psf	77.60	341.10 kips	341.10 kips
82.72 ft	Cohesionless	4928.84 psf	77.60	341.10 kips	341.10 kips
83.72 ft	Cohesionless	4986.44 psf	77.60	341.10 kips	341.10 kips
84.72 ft	Cohesionless	5044.04 psf	77.60	341.10 kips	341.10 kips
85.72 ft	Cohesionless	5101.64 psf	77.60	341.10 kips	341.10 kips
86.72 ft	Cohesionless	5159.24 psf	77.60	341.10 kips	341.10 kips
87.71 ft	Cohesionless	5216.26 psf	77.60	341.10 kips	341.10 kips
87.73 ft	Cohesionless	5217.42 psf	22.80	29.97 kips	29.97 kips
88.72 ft	Cohesionless	5274.44 psf	22.80	29.97 kips	29.97 kips
89.72 ft	Cohesionless	5332.04 psf	22.80	29.97 kips	29.97 kips
90.72 ft	Cohesionless	5389.64 psf	22.80	29.97 kips	29.97 kips
91.72 ft	Cohesionless	5447.24 psf	22.80	29.97 kips	29.97 kips
92.72 ft	Cohesionless	5504.84 psf	22.80	29.97 kips	29.97 kips
93.72 ft	Cohesionless	5562.44 psf	22.80	29.97 kips	29.97 kips
94.72 ft	Cohesionless	5620.04 psf	22.80	29.97 kips	29.97 kips
95.72 ft	Cohesionless	5677.64 psf	22.80	29.97 kips	29.97 kips
96.72 ft	Cohesionless	5735.24 psf	22.80	29.97 kips	29.97 kips
97.72 ft	Cohesionless	5792.84 psf	22.80	29.97 kips	29.97 kips
98.72 ft	Cohesionless	5850.44 psf	22.80	29.97 kips	29.97 kips
99.71 ft	Cohesionless	5907.46 psf	22.80	29.97 kips	29.97 kips

Nominal - Summary of Capacities

Depth	Skin Friction	End Bearing	Total Capacity
0.01 ft	0.00 kips	0.00 kips	0.00 kips
1.00 ft	0.00 kips	0.00 kips	0.00 kips
2.00 ft	0.00 kips	0.00 kips	0.00 kips
2.71 ft	0.00 kips	0.00 kips	0.00 kips
2.73 ft	0.00 kips	0.00 kips	0.00 kips
3.72 ft	0.00 kips	0.00 kips	0.00 kips
4.72 ft	0.00 kips	0.00 kips	0.00 kips
5.72 ft	0.00 kips	0.00 kips	0.00 kips
6.72 ft	0.00 kips	0.00 kips	0.00 kips
7.72 ft	0.00 kips	0.00 kips	0.00 kips
8.72 ft	0.00 kips	0.00 kips	0.00 kips
9.62 ft	0.00 kips	0.00 kips	0.00 kips
9.64 ft	0.06 kips	20.25 kips	20.31 kips
9.71 ft	0.46 kips	20.25 kips	20.71 kips
9.73 ft	0.55 kips	42.63 kips	43.17 kips
10.72 ft	3.91 kips	45.87 kips	49.79 kips
11.72 ft	7.57 kips	49.15 kips	56.71 kips
12.72 ft	11.47 kips	52.42 kips	63.89 kips
13.72 ft	15.63 kips	55.70 kips	71.33 kips
14.72 ft	20.04 kips	58.97 kips	79.01 kips
15.71 ft	24.65 kips	62.22 kips	86.87 kips
15.73 ft	24.74 kips	15.19 kips	39.93 kips
16.72 ft	29.08 kips	15.19 kips	44.27 kips
17.72 ft	33.46 kips	15.19 kips	48.65 kips
18.72 ft	37.85 kips	15.19 kips	53.04 kips
19.72 ft	42.25 kips	15.19 kips	57.44 kips
20.72 ft	46.65 kips	15.19 kips	61.84 kips
21.72 ft	51.06 kips	15.19 kips	66.25 kips
22.72 ft	55.47 kips	15.19 kips	70.66 kips
23.72 ft	59.89 kips	15.19 kips	75.08 kips
24.72 ft	64.32 kips	15.19 kips	79.50 kips
25.71 ft	68.70 kips	15.19 kips	83.89 kips
25.73 ft	68.83 kips	34.42 kips	103.26 kips
26.72 ft	77.16 kips	34.42 kips	111.58 kips
27.72 ft	85.65 kips	34.42 kips	120.07 kips
28.72 ft	94.22 kips	34.42 kips	128.64 kips
29.72 ft	102.86 kips	34.42 kips	137.29 kips
30.72 ft	111.59 kips	34.42 kips	146.01 kips
31.72 ft	120.39 kips	34.42 kips	154.82 kips
32.72 ft	129.28 kips	34.42 kips	163.70 kips
33.72 ft	138.24 kips	34.42 kips	172.66 kips
34.71 ft	147.19 kips	34.42 kips	181.61 kips

Depth	Skin Friction	End Bearing	Total Capacity
34.73 ft	147.34 kips	19.24 kips	166.57 kips
35.72 ft	153.04 kips	19.24 kips	172.28 kips
36.72 ft	158.84 kips	19.24 kips	178.08 kips
37.72 ft	164.67 kips	19.24 kips	183.91 kips
38.72 ft	170.53 kips	19.24 kips	189.77 kips
39.71 ft	176.36 kips	19.24 kips	195.60 kips
39.73 ft	176.49 kips	25.31 kips	201.81 kips
40.72 ft	183.71 kips	25.31 kips	209.02 kips
41.72 ft	191.05 kips	25.31 kips	216.36 kips
42.72 ft	198.44 kips	25.31 kips	223.75 kips
43.72 ft	205.89 kips	25.31 kips	231.20 kips
44.72 ft	213.38 kips	25.31 kips	238.70 kips
45.72 ft	220.94 kips	25.31 kips	246.25 kips
46.72 ft	228.54 kips	25.31 kips	253.86 kips
47.72 ft	236.20 kips	25.31 kips	261.51 kips
48.72 ft	243.91 kips	25.31 kips	269.23 kips
49.72 ft	251.68 kips	25.31 kips	276.99 kips
50.72 ft	259.50 kips	25.31 kips	284.81 kips
51.71 ft	267.29 kips	25.31 kips	292.61 kips
51.73 ft	267.46 kips	32.40 kips	299.86 kips
52.72 ft	276.47 kips	32.40 kips	308.87 kips
53.72 ft	285.64 kips	32.40 kips	318.04 kips
54.72 ft	294.88 kips	32.40 kips	327.28 kips
55.72 ft	304.19 kips	32.40 kips	336.59 kips
56.72 ft	313.58 kips	32.40 kips	345.98 kips
57.71 ft	322.94 kips	32.40 kips	355.34 kips
57.73 ft	323.14 kips	36.45 kips	359.59 kips
58.72 ft	333.18 kips	36.45 kips	369.63 kips
59.72 ft	343.41 kips	36.45 kips	379.86 kips
60.72 ft	353.64 kips	36.45 kips	390.09 kips
61.72 ft	363.84 kips	36.45 kips	400.29 kips
62.72 ft	374.04 kips	36.45 kips	410.49 kips
63.72 ft	384.24 kips	36.45 kips	420.69 kips
64.72 ft	394.44 kips	36.45 kips	430.89 kips
65.71 ft	404.53 kips	36.45 kips	440.98 kips
65.73 ft	404.68 kips	15.19 kips	419.87 kips
66.72 ft	409.14 kips	15.19 kips	424.32 kips
67.72 ft	413.64 kips	15.19 kips	428.82 kips
68.72 ft	418.14 kips	15.19 kips	433.32 kips
69.72 ft	422.64 kips	15.19 kips	437.82 kips
70.71 ft	427.09 kips	15.19 kips	442.28 kips
70.73 ft	427.44 kips	341.10 kips	768.54 kips

Depth	Skin Friction	End Bearing	Total Capacity
71.72 ft	457.36 kips	341.10 kips	798.45 kips
72.72 ft	487.98 kips	341.10 kips	829.08 kips
73.72 ft	519.02 kips	341.10 kips	860.12 kips
74.72 ft	550.46 kips	341.10 kips	891.56 kips
75.72 ft	582.31 kips	341.10 kips	923.41 kips
76.72 ft	614.57 kips	341.10 kips	955.67 kips
77.72 ft	647.24 kips	341.10 kips	988.34 kips
78.72 ft	680.32 kips	341.10 kips	1021.42 kips
79.72 ft	713.80 kips	341.10 kips	1054.90 kips
80.72 ft	747.69 kips	341.10 kips	1088.79 kips
81.72 ft	781.99 kips	341.10 kips	1123.09 kips
82.72 ft	816.70 kips	341.10 kips	1157.80 kips
83.72 ft	851.81 kips	341.10 kips	1192.91 kips
84.72 ft	887.34 kips	341.10 kips	1228.44 kips
85.72 ft	923.27 kips	341.10 kips	1264.37 kips
86.72 ft	959.61 kips	341.10 kips	1300.71 kips
87.71 ft	995.99 kips	341.10 kips	1337.09 kips
87.73 ft	996.50 kips	29.97 kips	1026.47 kips
88.72 ft	1011.15 kips	29.97 kips	1041.12 kips
89.72 ft	1026.11 kips	29.97 kips	1056.08 kips
90.72 ft	1041.22 kips	29.97 kips	1071.19 kips
91.72 ft	1056.51 kips	29.97 kips	1086.48 kips
92.72 ft	1071.95 kips	29.97 kips	1101.92 kips
93.72 ft	1087.56 kips	29.97 kips	1117.53 kips
94.72 ft	1103.32 kips	29.97 kips	1133.29 kips
95.72 ft	1119.26 kips	29.97 kips	1149.23 kips
96.72 ft	1135.35 kips	29.97 kips	1165.32 kips
97.72 ft	1151.61 kips	29.97 kips	1181.58 kips
98.72 ft	1168.02 kips	29.97 kips	1197.99 kips
99.71 ft	1184.44 kips	29.97 kips	1214.41 kips


Bearing Capacity - Nominal
Skin Friction
End Bearing
Total Capacity
Depth (ft)
0
20
40
60
80
100
120
0
200
400
600
800
1000
1200
1400
1600
Capacity (kips)

DrivenPiles - Report

General Project Information

Filename: ...r Final Report\Axial Pile Capacities\3. No Preboring (no scour)\RN620076_Bent all No Preboring.dvn
Project Name: Rousseau Road Bridge Replacement
Project Client: Crescent Engineering and Mapping, LLC
Prepared By: AA
Project Manager: MGS

Pile Information

Pile Type: Concrete Pile
Top of Pile: 0.00 ft
Side of Square Section : 18.00 in

Nominal Considerations

Water Table Depth At Time Of:

Drilling:	2.72 ft
Driving/Restrike:	2.72 ft
Nominal:	2.72 ft

Nominal Considations:

Local Scour:	0.00 ft
Long Term Scour:	0.00 ft
Soft Soil:	0.00 ft

Nominal Profile

Layer	Soil Type	Thickness	Setup Factor	Unit Weight	Strength	Nominal Curve
1	Cohesive	9.72 ft	1.000	122.00 pcf	1000.00 psf	T-79 Concrete
2	Cohesionless	6.00 ft	1.000	120.00 pcf	32.0/32.0	Nordlund
3	Cohesive	10.00 ft	1.000	120.00 pcf	750.00 psf	T-79 Concrete
4	Cohesive	9.00 ft	1.000	124.00 pcf	1700.00 psf	T-79 Concrete
5	Cohesive	5.00 ft	1.000	105.00 pcf	950.00 psf	T-79 Concrete
6	Cohesive	12.00 ft	1.000	120.00 pcf	1250.00 psf	T-79 Concrete
7	Cohesive	6.00 ft	1.000	129.00 pcf	1600.00 psf	T-79 Concrete
8	Cohesive	8.00 ft	1.000	115.00 pcf	1800.00 psf	T-79 Concrete
9	Cohesive	5.00 ft	1.000	120.00 pcf	750.00 psf	T-79 Concrete
10	Cohesionless	17.00 ft	1.000	120.00 pcf	36.0/36.0	Nordlund
11	Cohesionless	12.00 ft	1.000	120.00 pcf	28.0/28.0	Nordlund

Nominal - Skin Friction

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
0.01 ft	Cohesive	0.00 psf	0.00	950.00 psf	0.06 kips
1.00 ft	Cohesive	0.00 psf	0.00	950.00 psf	5.70 kips
2.00 ft	Cohesive	0.00 psf	0.00	950.00 psf	11.40 kips
2.71 ft	Cohesive	0.00 psf	0.00	950.00 psf	15.45 kips
2.73 ft	Cohesive	0.00 psf	0.00	950.00 psf	15.56 kips
3.72 ft	Cohesive	0.00 psf	0.00	950.00 psf	21.20 kips
4.72 ft	Cohesive	0.00 psf	0.00	950.00 psf	26.90 kips
5.72 ft	Cohesive	0.00 psf	0.00	950.00 psf	32.60 kips
6.72 ft	Cohesive	0.00 psf	0.00	950.00 psf	38.30 kips
7.72 ft	Cohesive	0.00 psf	0.00	950.00 psf	44.00 kips
8.72 ft	Cohesive	0.00 psf	0.00	950.00 psf	49.70 kips
9.71 ft	Cohesive	0.00 psf	0.00	950.00 psf	55.35 kips
9.73 ft	Cohesionless	749.33 psf	29.25	N/A	55.44 kips
10.72 ft	Cohesionless	777.84 psf	29.25	N/A	58.81 kips
11.72 ft	Cohesionless	806.64 psf	29.25	N/A	62.46 kips
12.72 ft	Cohesionless	835.44 psf	29.25	N/A	66.36 kips
13.72 ft	Cohesionless	864.24 psf	29.25	N/A	70.52 kips
14.72 ft	Cohesionless	893.04 psf	29.25	N/A	74.93 kips
15.71 ft	Cohesionless	921.55 psf	29.25	N/A	79.54 kips
15.73 ft	Cohesive	921.84 psf	29.25	729.50 psf	79.63 kips
16.72 ft	Cohesive	921.84 psf	29.25	729.96 psf	83.97 kips
17.72 ft	Cohesive	921.84 psf	29.25	730.43 psf	88.36 kips
18.72 ft	Cohesive	921.84 psf	29.25	730.89 psf	92.75 kips
19.72 ft	Cohesive	921.84 psf	29.25	731.35 psf	97.14 kips
20.72 ft	Cohesive	921.84 psf	29.25	731.81 psf	101.54 kips
21.72 ft	Cohesive	921.84 psf	29.25	732.28 psf	105.95 kips
22.72 ft	Cohesive	921.84 psf	29.25	732.74 psf	110.37 kips
23.72 ft	Cohesive	921.84 psf	29.25	733.20 psf	114.78 kips
24.72 ft	Cohesive	921.84 psf	29.25	733.67 psf	119.21 kips
25.71 ft	Cohesive	921.84 psf	29.25	734.13 psf	123.59 kips
25.73 ft	Cohesive	921.84 psf	29.25	1395.34 psf	123.72 kips
26.72 ft	Cohesive	921.84 psf	29.25	1401.83 psf	132.05 kips
27.72 ft	Cohesive	921.84 psf	29.25	1408.39 psf	140.54 kips
28.72 ft	Cohesive	921.84 psf	29.25	1414.94 psf	149.11 kips
29.72 ft	Cohesive	921.84 psf	29.25	1421.50 psf	157.75 kips
30.72 ft	Cohesive	921.84 psf	29.25	1428.05 psf	166.48 kips
31.72 ft	Cohesive	921.84 psf	29.25	1434.61 psf	175.28 kips
32.72 ft	Cohesive	921.84 psf	29.25	1441.16 psf	184.17 kips
33.72 ft	Cohesive	921.84 psf	29.25	1447.72 psf	193.13 kips
34.71 ft	Cohesive	921.84 psf	29.25	1454.21 psf	202.08 kips
34.73 ft	Cohesive	921.84 psf	29.25	958.32 psf	202.23 kips

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
35.72 ft	Cohesive	921.84 psf	29.25	960.93 psf	207.93 kips
36.72 ft	Cohesive	921.84 psf	29.25	963.57 psf	213.73 kips
37.72 ft	Cohesive	921.84 psf	29.25	966.21 psf	219.56 kips
38.72 ft	Cohesive	921.84 psf	29.25	968.84 psf	225.42 kips
39.71 ft	Cohesive	921.84 psf	29.25	971.46 psf	231.25 kips
39.73 ft	Cohesive	921.84 psf	29.25	1209.91 psf	231.39 kips
40.72 ft	Cohesive	921.84 psf	29.25	1214.31 psf	238.60 kips
41.72 ft	Cohesive	921.84 psf	29.25	1218.76 psf	245.94 kips
42.72 ft	Cohesive	921.84 psf	29.25	1223.20 psf	253.33 kips
43.72 ft	Cohesive	921.84 psf	29.25	1227.64 psf	260.78 kips
44.72 ft	Cohesive	921.84 psf	29.25	1232.09 psf	268.28 kips
45.72 ft	Cohesive	921.84 psf	29.25	1236.53 psf	275.83 kips
46.72 ft	Cohesive	921.84 psf	29.25	1240.98 psf	283.43 kips
47.72 ft	Cohesive	921.84 psf	29.25	1245.42 psf	291.09 kips
48.72 ft	Cohesive	921.84 psf	29.25	1249.87 psf	298.81 kips
49.72 ft	Cohesive	921.84 psf	29.25	1254.31 psf	306.57 kips
50.72 ft	Cohesive	921.84 psf	29.25	1258.76 psf	314.39 kips
51.71 ft	Cohesive	921.84 psf	29.25	1263.16 psf	322.18 kips
51.73 ft	Cohesive	921.84 psf	29.25	1509.92 psf	322.35 kips
52.72 ft	Cohesive	921.84 psf	29.25	1515.92 psf	331.36 kips
53.72 ft	Cohesive	921.84 psf	29.25	1521.97 psf	340.53 kips
54.72 ft	Cohesive	921.84 psf	29.25	1528.03 psf	349.77 kips
55.72 ft	Cohesive	921.84 psf	29.25	1534.08 psf	359.08 kips
56.72 ft	Cohesive	921.84 psf	29.25	1540.14 psf	368.47 kips
57.71 ft	Cohesive	921.84 psf	29.25	1546.13 psf	377.83 kips
57.73 ft	Cohesive	921.84 psf	29.25	1682.85 psf	378.03 kips
58.72 ft	Cohesive	921.84 psf	29.25	1690.33 psf	388.07 kips
59.72 ft	Cohesive	921.84 psf	29.25	1697.88 psf	398.30 kips
60.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	408.53 kips
61.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	418.73 kips
62.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	428.93 kips
63.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	439.13 kips
64.72 ft	Cohesive	921.84 psf	29.25	1700.00 psf	449.33 kips
65.71 ft	Cohesive	921.84 psf	29.25	1700.00 psf	459.42 kips
65.73 ft	Cohesive	921.84 psf	29.25	750.00 psf	459.57 kips
66.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	464.03 kips
67.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	468.53 kips
68.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	473.03 kips
69.72 ft	Cohesive	921.84 psf	29.25	750.00 psf	477.53 kips
70.71 ft	Cohesive	921.84 psf	29.25	750.00 psf	481.98 kips
70.73 ft	Cohesionless	4237.93 psf	32.90	N/A	482.33 kips

Depth	Soil Type	Effective Stress at Midpoint	Sliding Friction Angle	Adhesion	Skin Friction
71.72 ft	Cohesionless	4266.44 psf	32.90	N/A	512.25 kips
72.72 ft	Cohesionless	4295.24 psf	32.90	N/A	542.87 kips
73.72 ft	Cohesionless	4324.04 psf	32.90	N/A	573.91 kips
74.72 ft	Cohesionless	4352.84 psf	32.90	N/A	605.35 kips
75.72 ft	Cohesionless	4381.64 psf	32.90	N/A	637.20 kips
76.72 ft	Cohesionless	4410.44 psf	32.90	N/A	669.46 kips
77.72 ft	Cohesionless	4439.24 psf	32.90	N/A	702.13 kips
78.72 ft	Cohesionless	4468.04 psf	32.90	N/A	735.21 kips
79.72 ft	Cohesionless	4496.84 psf	32.90	N/A	768.69 kips
80.72 ft	Cohesionless	4525.64 psf	32.90	N/A	802.58 kips
81.72 ft	Cohesionless	4554.44 psf	32.90	N/A	836.88 kips
82.72 ft	Cohesionless	4583.24 psf	32.90	N/A	871.59 kips
83.72 ft	Cohesionless	4612.04 psf	32.90	N/A	906.70 kips
84.72 ft	Cohesionless	4640.84 psf	32.90	N/A	942.23 kips
85.72 ft	Cohesionless	4669.64 psf	32.90	N/A	978.16 kips
86.72 ft	Cohesionless	4698.44 psf	32.90	N/A	1014.50 kips
87.71 ft	Cohesionless	4726.95 psf	32.90	N/A	1050.88 kips
87.73 ft	Cohesionless	5217.13 psf	25.59	N/A	1051.39 kips
88.72 ft	Cohesionless	5245.64 psf	25.59	N/A	1066.04 kips
89.72 ft	Cohesionless	5274.44 psf	25.59	N/A	1081.00 kips
90.72 ft	Cohesionless	5303.24 psf	25.59	N/A	1096.12 kips
91.72 ft	Cohesionless	5332.04 psf	25.59	N/A	1111.40 kips
92.72 ft	Cohesionless	5360.84 psf	25.59	N/A	1126.84 kips
93.72 ft	Cohesionless	5389.64 psf	25.59	N/A	1142.45 kips
94.72 ft	Cohesionless	5418.44 psf	25.59	N/A	1158.22 kips
95.72 ft	Cohesionless	5447.24 psf	25.59	N/A	1174.15 kips
96.72 ft	Cohesionless	5476.04 psf	25.59	N/A	1190.24 kips
97.72 ft	Cohesionless	5504.84 psf	25.59	N/A	1206.50 kips
98.72 ft	Cohesionless	5533.64 psf	25.59	N/A	1222.92 kips
99.71 ft	Cohesionless	5562.15 psf	25.59	N/A	1239.33 kips

Nominal - End Bearing

Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
0.01 ft	Cohesive	1.22 psf	0.00	N/A	20.25 kips
1.00 ft	Cohesive	122.00 psf	0.00	N/A	20.25 kips
2.00 ft	Cohesive	244.00 psf	0.00	N/A	20.25 kips
2.71 ft	Cohesive	330.62 psf	0.00	N/A	20.25 kips
2.73 ft	Cohesive	332.44 psf	0.00	N/A	20.25 kips
3.72 ft	Cohesive	391.44 psf	0.00	N/A	20.25 kips
4.72 ft	Cohesive	451.04 psf	0.00	N/A	20.25 kips
5.72 ft	Cohesive	510.64 psf	0.00	N/A	20.25 kips
6.72 ft	Cohesive	570.24 psf	0.00	N/A	20.25 kips
7.72 ft	Cohesive	629.84 psf	0.00	N/A	20.25 kips
8.72 ft	Cohesive	689.44 psf	0.00	N/A	20.25 kips
9.71 ft	Cohesive	748.44 psf	0.00	N/A	20.25 kips
9.73 ft	Cohesionless	749.62 psf	40.40	74.25 kips	42.63 kips
10.72 ft	Cohesionless	806.64 psf	40.40	74.25 kips	45.87 kips
11.72 ft	Cohesionless	864.24 psf	40.40	74.25 kips	49.15 kips
12.72 ft	Cohesionless	921.84 psf	40.40	74.25 kips	52.42 kips
13.72 ft	Cohesionless	979.44 psf	40.40	74.25 kips	55.70 kips
14.72 ft	Cohesionless	1037.04 psf	40.40	74.25 kips	58.97 kips
15.71 ft	Cohesionless	1094.06 psf	40.40	74.25 kips	62.22 kips
15.73 ft	Cohesive	1095.22 psf	0.00	N/A	15.19 kips
16.72 ft	Cohesive	1152.24 psf	0.00	N/A	15.19 kips
17.72 ft	Cohesive	1209.84 psf	0.00	N/A	15.19 kips
18.72 ft	Cohesive	1267.44 psf	0.00	N/A	15.19 kips
19.72 ft	Cohesive	1325.04 psf	0.00	N/A	15.19 kips
20.72 ft	Cohesive	1382.64 psf	0.00	N/A	15.19 kips
21.72 ft	Cohesive	1440.24 psf	0.00	N/A	15.19 kips
22.72 ft	Cohesive	1497.84 psf	0.00	N/A	15.19 kips
23.72 ft	Cohesive	1555.44 psf	0.00	N/A	15.19 kips
24.72 ft	Cohesive	1613.04 psf	0.00	N/A	15.19 kips
25.71 ft	Cohesive	1670.06 psf	0.00	N/A	15.19 kips
25.73 ft	Cohesive	1671.26 psf	0.00	N/A	34.42 kips
26.72 ft	Cohesive	1732.24 psf	0.00	N/A	34.42 kips
27.72 ft	Cohesive	1793.84 psf	0.00	N/A	34.42 kips
28.72 ft	Cohesive	1855.44 psf	0.00	N/A	34.42 kips
29.72 ft	Cohesive	1917.04 psf	0.00	N/A	34.42 kips
30.72 ft	Cohesive	1978.64 psf	0.00	N/A	34.42 kips
31.72 ft	Cohesive	2040.24 psf	0.00	N/A	34.42 kips
32.72 ft	Cohesive	2101.84 psf	0.00	N/A	34.42 kips
33.72 ft	Cohesive	2163.44 psf	0.00	N/A	34.42 kips
34.71 ft	Cohesive	2224.42 psf	0.00	N/A	34.42 kips
34.73 ft	Cohesive	2225.47 psf	0.00	N/A	19.24 kips

Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
35.72 ft	Cohesive	2267.64 psf	0.00	N/A	19.24 kips
36.72 ft	Cohesive	2310.24 psf	0.00	N/A	19.24 kips
37.72 ft	Cohesive	2352.84 psf	0.00	N/A	19.24 kips
38.72 ft	Cohesive	2395.44 psf	0.00	N/A	19.24 kips
39.71 ft	Cohesive	2437.61 psf	0.00	N/A	19.24 kips
39.73 ft	Cohesive	2438.62 psf	0.00	N/A	25.31 kips
40.72 ft	Cohesive	2495.64 psf	0.00	N/A	25.31 kips
41.72 ft	Cohesive	2553.24 psf	0.00	N/A	25.31 kips
42.72 ft	Cohesive	2610.84 psf	0.00	N/A	25.31 kips
43.72 ft	Cohesive	2668.44 psf	0.00	N/A	25.31 kips
44.72 ft	Cohesive	2726.04 psf	0.00	N/A	25.31 kips
45.72 ft	Cohesive	2783.64 psf	0.00	N/A	25.31 kips
46.72 ft	Cohesive	2841.24 psf	0.00	N/A	25.31 kips
47.72 ft	Cohesive	2898.84 psf	0.00	N/A	25.31 kips
48.72 ft	Cohesive	2956.44 psf	0.00	N/A	25.31 kips
49.72 ft	Cohesive	3014.04 psf	0.00	N/A	25.31 kips
50.72 ft	Cohesive	3071.64 psf	0.00	N/A	25.31 kips
51.71 ft	Cohesive	3128.66 psf	0.00	N/A	25.31 kips
51.73 ft	Cohesive	3129.91 psf	0.00	N/A	32.40 kips
52.72 ft	Cohesive	3195.84 psf	0.00	N/A	32.40 kips
53.72 ft	Cohesive	3262.44 psf	0.00	N/A	32.40 kips
54.72 ft	Cohesive	3329.04 psf	0.00	N/A	32.40 kips
55.72 ft	Cohesive	3395.64 psf	0.00	N/A	32.40 kips
56.72 ft	Cohesive	3462.24 psf	0.00	N/A	32.40 kips
57.71 ft	Cohesive	3528.17 psf	0.00	N/A	32.40 kips
57.73 ft	Cohesive	3529.37 psf	0.00	N/A	36.45 kips
58.72 ft	Cohesive	3581.44 psf	0.00	N/A	36.45 kips
59.72 ft	Cohesive	3634.04 psf	0.00	N/A	36.45 kips
60.72 ft	Cohesive	3686.64 psf	0.00	N/A	36.45 kips
61.72 ft	Cohesive	3739.24 psf	0.00	N/A	36.45 kips
62.72 ft	Cohesive	3791.84 psf	0.00	N/A	36.45 kips
63.72 ft	Cohesive	3844.44 psf	0.00	N/A	36.45 kips
64.72 ft	Cohesive	3897.04 psf	0.00	N/A	36.45 kips
65.71 ft	Cohesive	3949.11 psf	0.00	N/A	36.45 kips
65.73 ft	Cohesive	3950.22 psf	0.00	N/A	15.19 kips
66.72 ft	Cohesive	4007.24 psf	0.00	N/A	15.19 kips
67.72 ft	Cohesive	4064.84 psf	0.00	N/A	15.19 kips
68.72 ft	Cohesive	4122.44 psf	0.00	N/A	15.19 kips
69.72 ft	Cohesive	4180.04 psf	0.00	N/A	15.19 kips
70.71 ft	Cohesive	4237.06 psf	0.00	N/A	15.19 kips
70.73 ft	Cohesionless	4238.22 psf	77.60	341.10 kips	341.10 kips

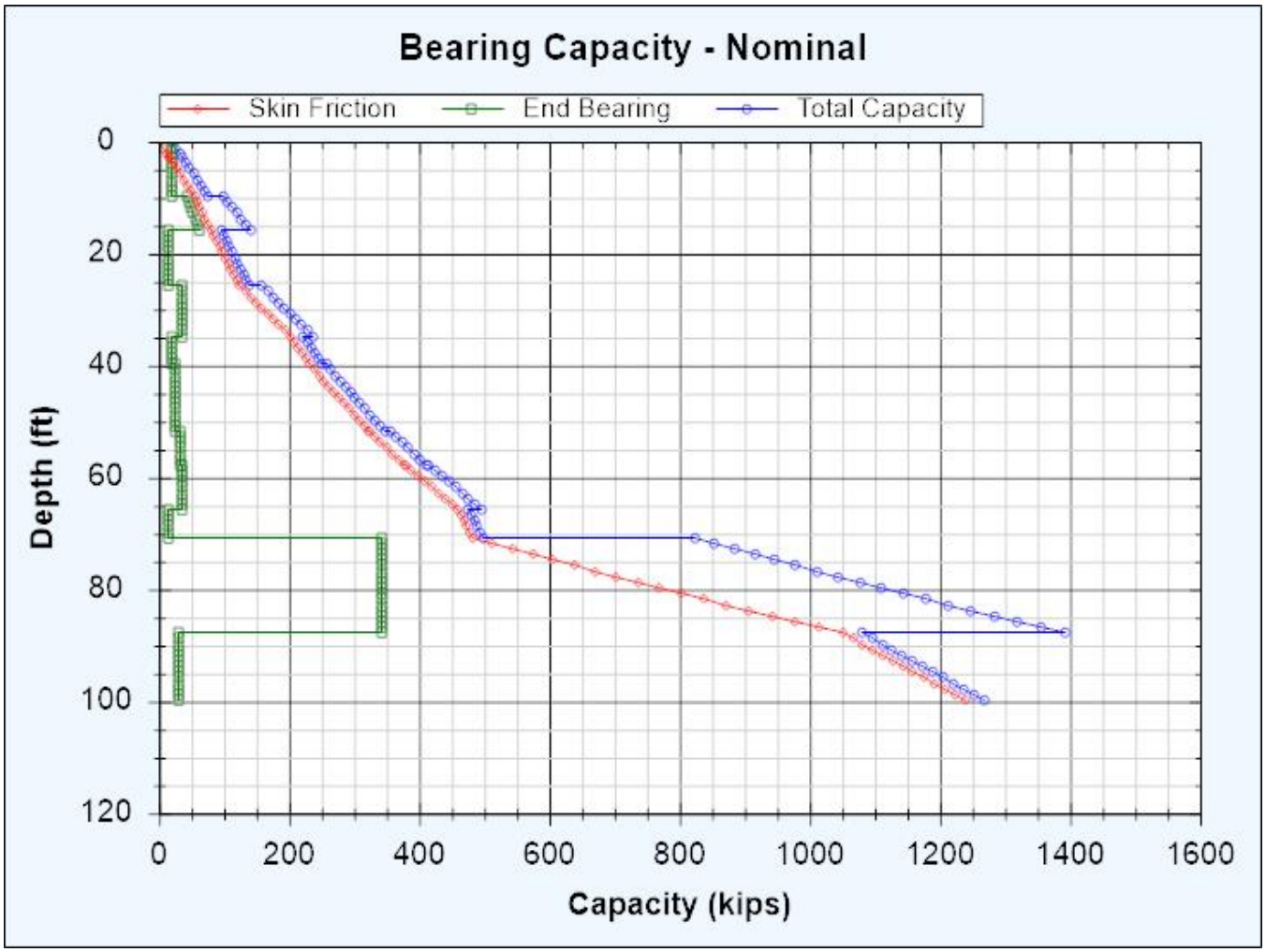
Depth	Soil Type	Effective Stress at Midpoint	Bearing Capacity Factor	End Bearing (Limiting)	End Bearing
71.72 ft	Cohesionless	4295.24 psf	77.60	341.10 kips	341.10 kips
72.72 ft	Cohesionless	4352.84 psf	77.60	341.10 kips	341.10 kips
73.72 ft	Cohesionless	4410.44 psf	77.60	341.10 kips	341.10 kips
74.72 ft	Cohesionless	4468.04 psf	77.60	341.10 kips	341.10 kips
75.72 ft	Cohesionless	4525.64 psf	77.60	341.10 kips	341.10 kips
76.72 ft	Cohesionless	4583.24 psf	77.60	341.10 kips	341.10 kips
77.72 ft	Cohesionless	4640.84 psf	77.60	341.10 kips	341.10 kips
78.72 ft	Cohesionless	4698.44 psf	77.60	341.10 kips	341.10 kips
79.72 ft	Cohesionless	4756.04 psf	77.60	341.10 kips	341.10 kips
80.72 ft	Cohesionless	4813.64 psf	77.60	341.10 kips	341.10 kips
81.72 ft	Cohesionless	4871.24 psf	77.60	341.10 kips	341.10 kips
82.72 ft	Cohesionless	4928.84 psf	77.60	341.10 kips	341.10 kips
83.72 ft	Cohesionless	4986.44 psf	77.60	341.10 kips	341.10 kips
84.72 ft	Cohesionless	5044.04 psf	77.60	341.10 kips	341.10 kips
85.72 ft	Cohesionless	5101.64 psf	77.60	341.10 kips	341.10 kips
86.72 ft	Cohesionless	5159.24 psf	77.60	341.10 kips	341.10 kips
87.71 ft	Cohesionless	5216.26 psf	77.60	341.10 kips	341.10 kips
87.73 ft	Cohesionless	5217.42 psf	22.80	29.97 kips	29.97 kips
88.72 ft	Cohesionless	5274.44 psf	22.80	29.97 kips	29.97 kips
89.72 ft	Cohesionless	5332.04 psf	22.80	29.97 kips	29.97 kips
90.72 ft	Cohesionless	5389.64 psf	22.80	29.97 kips	29.97 kips
91.72 ft	Cohesionless	5447.24 psf	22.80	29.97 kips	29.97 kips
92.72 ft	Cohesionless	5504.84 psf	22.80	29.97 kips	29.97 kips
93.72 ft	Cohesionless	5562.44 psf	22.80	29.97 kips	29.97 kips
94.72 ft	Cohesionless	5620.04 psf	22.80	29.97 kips	29.97 kips
95.72 ft	Cohesionless	5677.64 psf	22.80	29.97 kips	29.97 kips
96.72 ft	Cohesionless	5735.24 psf	22.80	29.97 kips	29.97 kips
97.72 ft	Cohesionless	5792.84 psf	22.80	29.97 kips	29.97 kips
98.72 ft	Cohesionless	5850.44 psf	22.80	29.97 kips	29.97 kips
99.71 ft	Cohesionless	5907.46 psf	22.80	29.97 kips	29.97 kips

Nominal - Summary of Capacities

Depth	Skin Friction	End Bearing	Total Capacity
0.01 ft	0.06 kips	20.25 kips	20.31 kips
1.00 ft	5.70 kips	20.25 kips	25.95 kips
2.00 ft	11.40 kips	20.25 kips	31.65 kips
2.71 ft	15.45 kips	20.25 kips	35.70 kips
2.73 ft	15.56 kips	20.25 kips	35.81 kips
3.72 ft	21.20 kips	20.25 kips	41.45 kips
4.72 ft	26.90 kips	20.25 kips	47.15 kips
5.72 ft	32.60 kips	20.25 kips	52.85 kips
6.72 ft	38.30 kips	20.25 kips	58.55 kips
7.72 ft	44.00 kips	20.25 kips	64.25 kips
8.72 ft	49.70 kips	20.25 kips	69.95 kips
9.71 ft	55.35 kips	20.25 kips	75.60 kips
9.73 ft	55.44 kips	42.63 kips	98.07 kips
10.72 ft	58.81 kips	45.87 kips	104.68 kips
11.72 ft	62.46 kips	49.15 kips	111.61 kips
12.72 ft	66.36 kips	52.42 kips	118.79 kips
13.72 ft	70.52 kips	55.70 kips	126.22 kips
14.72 ft	74.93 kips	58.97 kips	133.90 kips
15.71 ft	79.54 kips	62.22 kips	141.76 kips
15.73 ft	79.63 kips	15.19 kips	94.82 kips
16.72 ft	83.97 kips	15.19 kips	99.16 kips
17.72 ft	88.36 kips	15.19 kips	103.54 kips
18.72 ft	92.75 kips	15.19 kips	107.93 kips
19.72 ft	97.14 kips	15.19 kips	112.33 kips
20.72 ft	101.54 kips	15.19 kips	116.73 kips
21.72 ft	105.95 kips	15.19 kips	121.14 kips
22.72 ft	110.37 kips	15.19 kips	125.55 kips
23.72 ft	114.78 kips	15.19 kips	129.97 kips
24.72 ft	119.21 kips	15.19 kips	134.40 kips
25.71 ft	123.59 kips	15.19 kips	138.78 kips
25.73 ft	123.72 kips	34.42 kips	158.15 kips
26.72 ft	132.05 kips	34.42 kips	166.47 kips
27.72 ft	140.54 kips	34.42 kips	174.96 kips
28.72 ft	149.11 kips	34.42 kips	183.53 kips
29.72 ft	157.75 kips	34.42 kips	192.18 kips
30.72 ft	166.48 kips	34.42 kips	200.90 kips
31.72 ft	175.28 kips	34.42 kips	209.71 kips
32.72 ft	184.17 kips	34.42 kips	218.59 kips
33.72 ft	193.13 kips	34.42 kips	227.55 kips
34.71 ft	202.08 kips	34.42 kips	236.50 kips
34.73 ft	202.23 kips	19.24 kips	221.46 kips
35.72 ft	207.93 kips	19.24 kips	227.17 kips

Depth	Skin Friction	End Bearing	Total Capacity
36.72 ft	213.73 kips	19.24 kips	232.97 kips
37.72 ft	219.56 kips	19.24 kips	238.80 kips
38.72 ft	225.42 kips	19.24 kips	244.66 kips
39.71 ft	231.25 kips	19.24 kips	250.49 kips
39.73 ft	231.39 kips	25.31 kips	256.70 kips
40.72 ft	238.60 kips	25.31 kips	263.91 kips
41.72 ft	245.94 kips	25.31 kips	271.25 kips
42.72 ft	253.33 kips	25.31 kips	278.64 kips
43.72 ft	260.78 kips	25.31 kips	286.09 kips
44.72 ft	268.28 kips	25.31 kips	293.59 kips
45.72 ft	275.83 kips	25.31 kips	301.14 kips
46.72 ft	283.43 kips	25.31 kips	308.75 kips
47.72 ft	291.09 kips	25.31 kips	316.41 kips
48.72 ft	298.81 kips	25.31 kips	324.12 kips
49.72 ft	306.57 kips	25.31 kips	331.88 kips
50.72 ft	314.39 kips	25.31 kips	339.70 kips
51.71 ft	322.18 kips	25.31 kips	347.50 kips
51.73 ft	322.35 kips	32.40 kips	354.75 kips
52.72 ft	331.36 kips	32.40 kips	363.76 kips
53.72 ft	340.53 kips	32.40 kips	372.93 kips
54.72 ft	349.77 kips	32.40 kips	382.17 kips
55.72 ft	359.08 kips	32.40 kips	391.48 kips
56.72 ft	368.47 kips	32.40 kips	400.87 kips
57.71 ft	377.83 kips	32.40 kips	410.23 kips
57.73 ft	378.03 kips	36.45 kips	414.48 kips
58.72 ft	388.07 kips	36.45 kips	424.52 kips
59.72 ft	398.30 kips	36.45 kips	434.75 kips
60.72 ft	408.53 kips	36.45 kips	444.98 kips
61.72 ft	418.73 kips	36.45 kips	455.18 kips
62.72 ft	428.93 kips	36.45 kips	465.38 kips
63.72 ft	439.13 kips	36.45 kips	475.58 kips
64.72 ft	449.33 kips	36.45 kips	485.78 kips
65.71 ft	459.42 kips	36.45 kips	495.87 kips
65.73 ft	459.57 kips	15.19 kips	474.76 kips
66.72 ft	464.03 kips	15.19 kips	479.21 kips
67.72 ft	468.53 kips	15.19 kips	483.71 kips
68.72 ft	473.03 kips	15.19 kips	488.21 kips
69.72 ft	477.53 kips	15.19 kips	492.71 kips
70.71 ft	481.98 kips	15.19 kips	497.17 kips
70.73 ft	482.33 kips	341.10 kips	823.43 kips
71.72 ft	512.25 kips	341.10 kips	853.35 kips
72.72 ft	542.87 kips	341.10 kips	883.97 kips

Depth	Skin Friction	End Bearing	Total Capacity
73.72 ft	573.91 kips	341.10 kips	915.01 kips
74.72 ft	605.35 kips	341.10 kips	946.45 kips
75.72 ft	637.20 kips	341.10 kips	978.30 kips
76.72 ft	669.46 kips	341.10 kips	1010.56 kips
77.72 ft	702.13 kips	341.10 kips	1043.23 kips
78.72 ft	735.21 kips	341.10 kips	1076.31 kips
79.72 ft	768.69 kips	341.10 kips	1109.79 kips
80.72 ft	802.58 kips	341.10 kips	1143.68 kips
81.72 ft	836.88 kips	341.10 kips	1177.98 kips
82.72 ft	871.59 kips	341.10 kips	1212.69 kips
83.72 ft	906.70 kips	341.10 kips	1247.80 kips
84.72 ft	942.23 kips	341.10 kips	1283.33 kips
85.72 ft	978.16 kips	341.10 kips	1319.26 kips
86.72 ft	1014.50 kips	341.10 kips	1355.60 kips
87.71 ft	1050.88 kips	341.10 kips	1391.98 kips
87.73 ft	1051.39 kips	29.97 kips	1081.36 kips
88.72 ft	1066.04 kips	29.97 kips	1096.01 kips
89.72 ft	1081.00 kips	29.97 kips	1110.97 kips
90.72 ft	1096.12 kips	29.97 kips	1126.09 kips
91.72 ft	1111.40 kips	29.97 kips	1141.37 kips
92.72 ft	1126.84 kips	29.97 kips	1156.81 kips
93.72 ft	1142.45 kips	29.97 kips	1172.42 kips
94.72 ft	1158.22 kips	29.97 kips	1188.19 kips
95.72 ft	1174.15 kips	29.97 kips	1204.12 kips
96.72 ft	1190.24 kips	29.97 kips	1220.21 kips
97.72 ft	1206.50 kips	29.97 kips	1236.47 kips
98.72 ft	1222.92 kips	29.97 kips	1252.89 kips
99.71 ft	1239.33 kips	29.97 kips	1269.30 kips


Bearing Capacity - Nominal
Skin Friction
End Bearing
Total Capacity
Depth (ft)
0
20
40
60
80
100
120
0
200
400
600
800
1000
1200
1400
1600
Capacity (kips)

APPENDIX E. WEAP DRIVABILITY OUTPUT FILES

This appendix contains the following:

- Figure E-1: Pile Drivability Outputs without Predrilling

Gain/Loss 1 at Shaft and Toe 1.000 / 1.000

Depth ft	Ultimate Capacity kips	Friction kips	End Bearing kips	Blow Count blows/ft	Comp. Stress ksi	Tension Stress ksi	Stroke ft	ENTHRU kips-ft
2.0	23.6	12.8	10.8	0.0	0.000	0.000	11.25	0.0
5.0	42.8	32.0	10.8	2.6	2.011	-0.926	5.47	36.3
10.0	77.9	64.4	13.5	3.8	2.186	-0.844	5.85	33.7
15.0	115.5	102.0	13.5	6.4	2.299	-0.688	6.14	30.6
20.0	344.2	143.9	200.3	28.3	2.714	-0.425	7.24	26.0
25.0	486.5	257.5	229.0	39.1	2.876	-0.365	7.47	25.3
30.0	314.4	303.6	10.8	22.4	2.800	-0.564	7.03	24.6
35.0	348.8	338.0	10.8	27.4	2.862	-0.635	7.25	24.0
40.0	401.9	383.9	18.0	31.6	2.903	-0.408	7.38	23.4
45.0	446.0	432.5	13.5	35.1	2.933	-0.511	7.52	23.1
50.0	488.9	475.4	13.5	39.2	2.932	-0.604	7.65	22.7
52.0	506.3	492.8	13.5	41.0	2.938	-0.610	7.72	22.6
55.0	532.7	519.2	13.5	44.1	2.934	-0.611	7.81	22.2
58.0	559.3	545.8	13.5	47.6	2.926	-0.622	7.87	21.8
60.0	577.2	563.7	13.5	50.2	2.895	-0.634	7.92	21.6
62.0	598.3	582.1	16.2	53.7	2.895	-0.636	7.95	21.2
65.0	628.9	612.7	16.2	60.0	2.875	-0.632	8.00	20.4
68.0	659.5	643.3	16.2	67.1	2.852	-0.629	8.05	19.4

Total Continuous Driving Time 46.00 minutes; Total Number of Blows 1990 (starting at penetration 2.0 ft)

Figure E-1
Drivability Output
18 inch PPC Piles
Site RN 620076
Hammer: APE D36-42
Gain/Loss Factor 1.0 Shaft/1.0 Toe
Assumed 12-inch plywood cushion
No Predrilling Case