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., **Tuesday, March 8, 2022,** and then opened and read publicly at that time by the Procurement Staff for the following project:

Bid # 22-4-2 – Third Avenue Bridge Replacement at Ponchitolawa Creek

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:

- St. Tammany Parish Government Website: http://www.stpgov.org/
- Bid Express: http://www.bidexpress.com
- LaPAC – Louisiana Procurement and Contract Network: https://wwwcfprd.doa.louisiana.gov/osp/lapac/dspBid.cfm?search=department&term=185

NOTE: LaPAC is the State's online electronic solicitation notification system on the Office of State Procurement website. LaPAC provides an immediate e-mail notification to subscribing vendors of a STPGOV solicitation and any addenda posted. To receive the e-mail notification, vendors must register in the LaGov portal. Registration is intuitive at the following link: https://lagoverpvendor.doa.louisiana.gov/irj/portal/anonymous?guest_user=self_reg

It is the Vendor's responsibility to check the Parish website or bid express 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.

Non-Mandatory Pre-Bid Located at St. Tammany Parish Government, Building B 3rd Floor Staff Conference Room on Tuesday, February 15, 2022 at 2:00 PM.

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

THIRD AVENUE BRIDGE REPLACEMENT AT PONCHITOLAWA CREEK
PROJECT NO.: EN15000018

BID NO.: 22-4-2

JANUARY 18, 2022

Section 01

Table of Contents

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 the limited contract time in the contract is **Three Hundred (300) Calendar Days + approved excess adverse weather 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. 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. 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.

22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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 insure that bids are delivered in a timely fashion. **Late bids, regardless of reason, will not be considered, and will be returned to bidder.**

28. 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

29. Complete sets of Drawings, Specifications and Contract Documents may be secured at the Office of the Owner. See Notice to Bidders for availability via electronic methods.

30. The successful Bidder shall be required to post in each direction a public information sign, 4' x 8' in size, at the location of the project containing information required by the Owner. The Owner shall supply this information.

31. 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.

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

33. Failure of the successful Bidder to execute the Contract 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. Award may then be made to the next lowest responsible bidder.

34. 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.

35. 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.

36. 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.

37. 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.

38. 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.

39. 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.

40. 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.

41. 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.

42. Contractor, upon receipt of the executed contract, bond, purchase order, and Notice to Proceed shall record the contract and bond with the Clerk of Court, obtain a Certificate of Recordation from the Clerk of Court, and forward this Certificate immediately to the Department of Procurement. The Department will process no invoices until receipt of the Certificate of Recordation.

43. 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.

44. 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.

45. 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.

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

47. 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.

48. 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.

49. 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.

50. 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.

51. 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.

52. 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 these times. 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).

53. 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.

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

55. 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.

56. 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).

57. 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 must provide all labor, equipment, tools, testing and material necessary to complete the work shown in the construction drawings and specifications for the Third Avenue Bridge Replacement at Ponchitolawa Creek (STP Project No. EN15000018).

The scope of work shall include all items as listed within the drawings and specifications. 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 work is located at Third Avenue bridge (B03L007) Section 23, Township 7, S. Range 11 E, Covington, Louisiana.

III. Documents: Bid Documents dated January 18, 2022, and entitled:

Third Avenue Bridge Replacement at Ponchitolawa Creek.

Bid #22-4-2

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).

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: Third Avenue Bridge Replacement at Ponchitolawa Creek
Bid No.22-4-2
(*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: Professional Engineering Consultants Corporation and dated: January 18, 2022.
(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 ($ _____)

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

N/A Dollars ($ _____)

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

N/A Dollars ($_____)

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:

Third Avenue Bridge Replacement at

Ponchitolawa Creek

Bid No. 22-4-2

(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 OR	☐ ALT #	CLEARING AND GRUBBING	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
201-01-00100	1	LUMP		
Description:	☑ BASE BID OR	☐ ALT #	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 OR	☐ ALT #	REMOVAL OF BRIDGE	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-04000	1	EACH		
Description:	☑ BASE BID OR	☐ ALT #	REMOVAL OF SURFACING AND STABILIZED BASE	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-38500	2,900.0	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 OR	☐ ALT #	REMOVAL OF SIGNS & SUPPORTS	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
202-02-38240	2	EACH		
Description:	☑ BASE BID OR	☐ ALT #	EXCAVATION AND EMBANKMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
203-05-00100	1	LUMP		
Description:	☑ BASE BID OR	☐ ALT #	SETTLEMENT PLATE INSTALLATION AND MONITORING	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
203-11-00100	4	EACH		
Description:	☑ BASE BID OR	☐ ALT #	TEMPORARY HAY BALES	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
204-02-00100	50	EACH		
Description:	☑ BASE BID OR	☐ ALT #	TEMPORARY SLOPE DRAINS	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
204-03-00100	40	LNFT		
Description:	☑ BASE BID OR	☐ ALT #	TEMPORARY SILT FENCING	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
204-06-00100	2,490	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 OR	☐ ALT #	CLASS II BASE COURSE (10" THICK)(RECYCLED PCC)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
302-02-10040	3,000.0	SQYD		
Description:	☑ BASE BID OR	☐ ALT #	LIME	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
304-01-00100	28.0	TONS		
Description:	☑ BASE BID OR	☐ ALT #	LIME TREATMENT (TYPE E)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
304-05-00100	1,800	SQYD		
Description:	☑ BASE BID OR	☐ ALT #	AGGREGATE SURFACE COURSE (NET SECTION)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
401-01-00100	42.3	CUYD		
Description:	☑ BASE BID OR	☐ ALT #	TRAFFIC MAINTENANCE AGGREGATE (VEHICULAR MEASUREMENT)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
402-01-00100	60.0	CUYD		
Description:	☑ BASE BID OR	☐ ALT #	ASPHALT CONCRETE	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
502-01-00100	650	TON		

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 OR	☐ ALT #	STORM DRAIN PIPE (18" RCP)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-03-01020	50.0	LNFT		
Description:	☑ BASE BID OR	☐ ALT #	SIDE DRAIN PIPE (15" RCP/PP/CMP)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-05-01020	22.0	LNFT		
Description:	☑ BASE BID OR	☐ ALT #	REINFORCED CONCRETE PIPE (EXTENSION)(18")	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-10-01040	20.0	LNFT		
Description:	☑ BASE BID OR	☐ ALT #	REINFORCED CONCRETE PIPE (EXTENSION)(36")	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
701-10-01100	40.0	LNFT		
Description:	☑ BASE BID OR	☐ ALT #	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	50.0	LNFT		
Description:	☑ BASE BID OR	☐ ALT #	GUARD RAIL ANCHOR SECTIONS - 31" (TRAILING END)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
704-05-00300	6.3	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 OR	☐ ALT #	GUARD RAIL TRANSITIONS (DOUBLE THRIE BEAM)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
704-07-00200	84.0	LNFT		
Description:	☑ BASE BID OR	☐ ALT #	GUARD RAIL END TREATMENT, MASH (TL-3 FLARED)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
704-10-00310	3.0	EACH		
Description:	☑ BASE BID OR	☐ ALT #	RIGHT-OF-WAY MONUMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
708-01-00100	11.0	EACH		
Description:	☑ BASE BID OR	☐ ALT #	FLEXIBLE REVETMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
712-04-00100	480	SQYD		
Description:	☑ BASE BID OR	☐ ALT #	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 OR	☐ ALT #	MULCH (VEGETATIVE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
716-01-00100	3.0	TON		

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 OR	☐ ALT #	SEEDING	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
717-01-00100	45	LB		
Description:	☑ BASE BID OR	☐ ALT #	FERTILIZER	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
718-01-00100	1,500	LB		
Description:	☑ BASE BID OR	☐ ALT #	MOBILIZATION	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
727-01-00100	1	LUMP		
Description:	☑ BASE BID OR	☐ ALT #	OBJECT MARKER ASSEMBLY (TYPE 3)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
729-16-00100	4	EACH		
Description:	☑ BASE BID OR	☐ ALT #	CONSTRUCTION LAYOUT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
740-01-00100	1	LUMP		
Description:	☑ BASE BID OR	☐ ALT #	PRECAST CONCRETE PILES (16")	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
804-01-00200	2,760	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 OR	☐ ALT #	DYNAMIC MONITORING ASSISTANCE	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
804-14-00100	4	EACH		
Description:	☑ BASE BID OR	☐ ALT #	BRIDGE SUPER AND SUB (24' CLR RDWY, 90 DEG CROSSING)(PRECAST)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
805-12-00100	2,400	SQFT		
Description:	☑ BASE BID OR	☐ ALT #	CONCRETE APPROACH SLABS (CAST-IN-PLACE)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
813-03-00100	1,000	SQFT		
Description:	☑ BASE BID OR	☐ ALT #	SAW CUTTING ASPHALTIC CONCRETE PAVEMENT	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
S-1	200	IN-LF		
Description:	☑ BASE BID OR	☐ ALT #	SURCHARGE (PLACEMENT AND REMOVAL)(3 MONTH DURATION)	
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**
S-2	350	CUYD		
Description:	☐ BASE BID OR	☐ ALT #		
REF NO.:	**QUANTITY**	**UNIT OF MEASURE**	**UNIT PRICE**	**UNIT PRICE EXTENSION (Quantity times unit price)**

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: _____

INSURANCE REQUIREMENTS*

Construction Project: Third Avenue Bridge Replacement at Ponchitolawa Creek

Project/Quote/Bid#: 22-4-2

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. Deductibles/Self-Insured Retentions: Any deductibles and/or self-insured retentions in the described insurance policies **must be declared on the Certificate of Insurance,** and are both assumed by and the sole risk of the Provider. The Parish will have the sole discretion to accept or reject deductibles and/or self-insured retentions exceeding $100,000 as it deems appropriate. The Parish may require Provider to produce evidence of verifiable financial ability to satisfy its deductibles and/or self-insured retentions; however, the Parish assumes no liability or obligation resulting from its examination, acceptance, or rejection of information presented.

5. 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 $1,000,000 per Occurrence / $3,000,000 General Aggregate and $3,000,000 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 / $2,000,000 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 on an "all-risk" policy form shall be furnished by Contractor for 100% of the contract cost. 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 the first named insured 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 the first named insured 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: 985-898-2797
Fax: 985-898-3070
Email: riskman@stpgov.org

HOLD HARMLESS AGREEMENT

_____ (Contractor) agrees to protect, defend, indemnify, save, and hold harmless St. Tammany Parish Government, its elected and appointed officials, departments, agencies, boards and commissions, its 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 act or omission of Contractor, its agents, servants, employees, and subcontractors, or any and all costs, expense and/or attorney fees incurred as a result of any claim, demands, and/or causes of action that results under the performance or non-performance of this contract.

_____ (Contractor) agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit, as described in the paragraph above, at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent.

SIGNED, this ____ day of _____, 20___

WITNESSES:

_____

Print Name: _____

_____

Print Name: _____

_____
(Name of Contractor)

BY:_____
(Signature of Authorized Officer)

Print Name: :_____

Title: _____

STATE OF _____

PARISH/COUNTY OF_____

SWORN TO and subscribed before me, Notary, on this ____ day of _____, 20___.

_____
NOTARY PUBLIC

My Commission Expires: _____

Please complete the following:

Claims contact for this project will be:

_____
(Print name and title of Contact Person)

_____
Address

_____
Email address

_____ _____ _____
Telephone# Cell # Fax #

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.

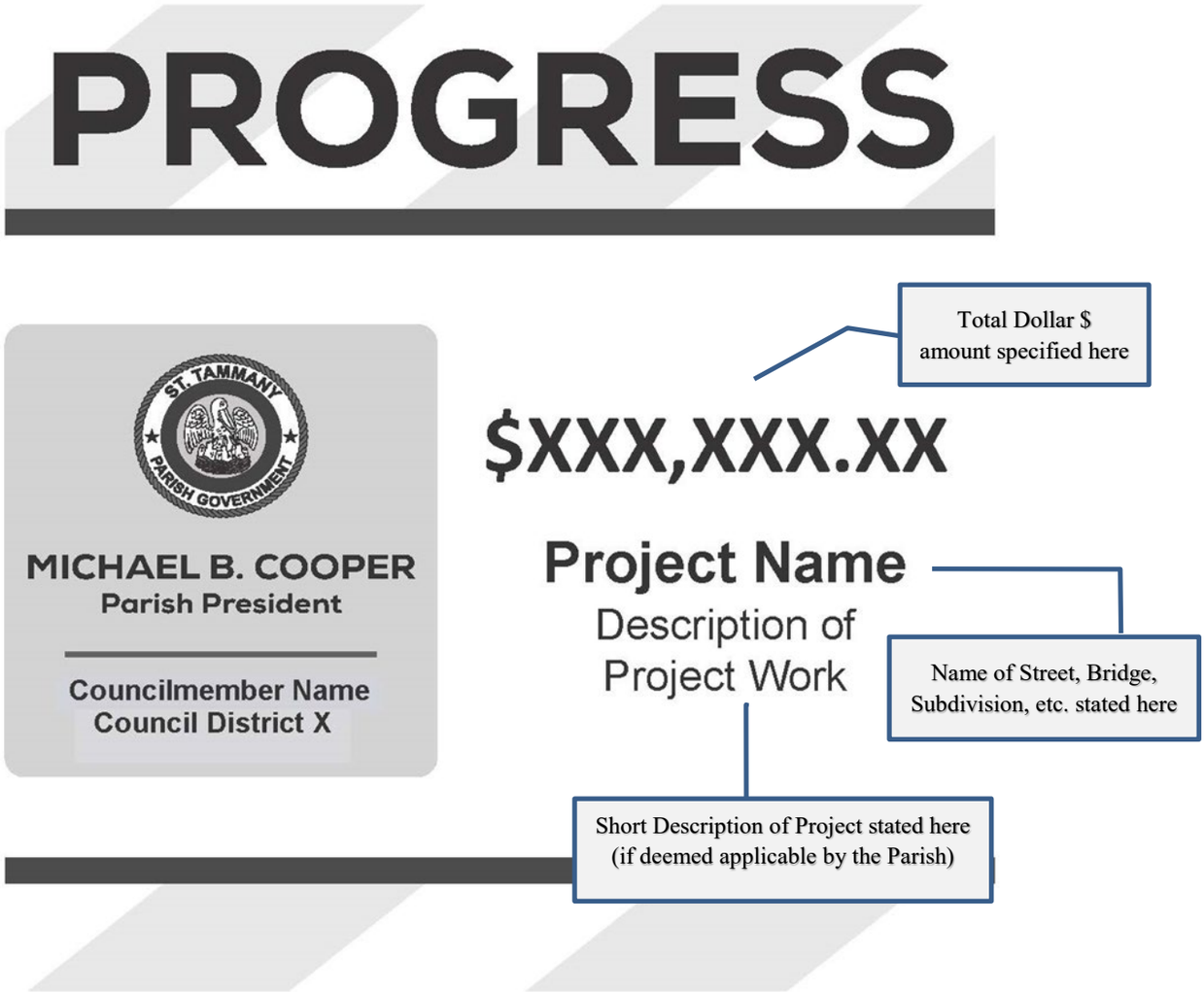
d. The sign(s) is to be installed such that the bottom of the sign is a minimum of 5' above the existing ground elevation.

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:

PROGRESS

MICHAEL B. COOPER
Parish President

RYKERT O. TOLEDANO, JR
Council District 5

$514,444.40

Dove Park
Subdivision Drainage
Drainage Improvements along
Swallow St., Sparrow St.,
Partridge St. and Egret St.

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.

GENERAL CONDITIONS INDEX

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 provider with whom the Owner has executed the Agreement.

01.16 Defective Work 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 Complete sets of Drawings, Specifications, and Contract Documents may be secured at the Office of the Owner. See Notice to Bidders for deposit schedule.

02.24 The successful bidder shall be required to post in each direction a public information sign, 4' x 8' 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 $500.00 per day 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 of the sum of $500.00 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 vendor, 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 seven working days prior to the opening of bids. Within three 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/$3,000,000 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 Department of Legal, Office of Risk Management prior to execution of a contract for services.

For inquiries regarding insurance requirements, please contact:
St. Tammany Parish Government
Legal Department
Office of Risk Management
P. O. Box 628
Covington, LA 70434
Telephone: 985-898-2797
Fax: 985-898-3070
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.

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

Section 00900 - Contract Time Extension Specifications

The contractor shall document for each month of the scheduled construction, the occurrence of adverse weather conditions having an impact on controlling items of work. An adverse weather day is a previously scheduled or normally scheduled work day on which rainfall, wet conditions or cold weather will prevent construction operations on the controlling work activity from proceeding for at least five (5) continuous hours of the day or sixty-five (65) percent of the normal work day, whichever is greater, with the normal working force engaged in performing the controlling item of work.

If the contractor submits a written request for additional contract time due to adverse weather conditions, the contractor's request will be considered only after the Department agrees with the days and then only for adverse weather days in excess of allowable number of days per month stated below. Adverse weather days will be documented by the Engineer and agreed upon monthly. Adverse weather days will be prorated for partial months when a work order or final inspection is issued other than the first or last of the month and agreed to by the Department.

If the contractor is being considered for disqualification by the department, an equitable adjustment in contract time may be made at the end of the original contract period, including all days added by approved change orders.

Contract time will be adjusted by comparing the actual number of adverse weather days to the statistical number of adverse weather days over the specific time period per the table below. The resulting number of adverse weather days will be multiplied by 1.45 to convert the calendar days.

Adjustments for adverse weather cannot result in a contract time reduction. Once adjusted, a new adverse weather day accounting will begin using the adverse weather conditions having an impact on the controlling items of work, in excess of the allowable number of days per month stated below. A second and final contract time adjustment will be done at the final acceptance of the project.

An adjustment in the contract time due to adverse weather will not be cause for an adjustment in the contract amount. There will be no direct or indirect cost reimbursement for excess adverse weather days.

The following are anticipated adverse weather days that the contractor shall include in each month of his calendar day construction schedule.

January	10 days	May	5 days	September	4 days
February	9 days	June	6 days	October	3 days
March	8 days	July	6 days	November	7 days
April	7 days	August	5 days	December	7 days

1.01 SCOPE OF WORK

Removal of the existing Third Avenue Bridge at the Pontchitolawa Creek. Replace with a new 100-foot long by 24-foot wide precast concrete bridge on precast concrete piles with precast concrete approach slabs. The work is including but not limited to clearing, grubbing, demolition, temporary traffic routing and construction of embankment and bridge replacement. The work area is located in an environmentally sensitive area. Adherence to best management practices during all construction activities is required. St. Tammany Parish Government acquired the necessary federal and state permits from the USACE and State of Louisiana.

1.02 TIME OF COMPLETION AND LIQUIDATED DAMAGES

The Contractor shall begin work on or before the date stipulated in the Notice to Proceed. Due consideration has been given to normal bad weather and delays in specifying the project times. By entering this Project, each respective CONTRACTOR and the OWNER both mutually agree that failure to complete the Project within time limits constitutes due cause for liquidated damages. Furthermore, both parties to the Project hereby agree that the amount of liquidated damages is recognized as the amount of actual damage to the OWNER and is not assessed as a penalty.

Project	Consecutive Calendar Days	Liquidated Damages/ Day
Third Avenue Bridge Replacement at Ponchitolawa Creek Bid No.:	300	$500.00

Reasonable anticipated days for bad weather shall not be cumulative and are as follows:

January	10 days	July	6 days
February	9 days	August	5 days
March	8 days	September	4 days
April	7 days	October	3 days
May	5 days	November	7 days
June	6 days	December	7 days

The Contractor shall ask for total adverse weather days; and shall only be allowed for the number days in excess of the days stated above.

1.03 LABOR

All skilled and unskilled labor, craftsmen and mechanics must be proficient in their respective trades as deemed satisfactory to the ENGINEER.

1.04 HEALTH AND SAFETY

The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction, promulgated under the Occupational and Safety and Health Act of 1970 (PL 91-596) and under Section 107 of the Project Work Hours and Safety Standards Act (PL 91-54), and updated laws and acts.

1.05 INSPECTION BY GOVERNMENT AGENCIES

Representatives of Federal, state and local agencies, concerned directly or indirectly with the project, shall have access to the work wherever it is in preparation or progress, and the CONTRACTOR shall provide proper facilities for such access and inspection.

1.06 WORK SCHEDULES

The Contractor shall supply the ENGINEER with daily work schedules that give the type of work to be performed, location of work, and time the work will begin. This work schedule shall be given to the ENGINEER at least 24 hours prior to commencing the work so listed.

1.07 MEASUREMENT AND PAYMENT

Payment will be made only for the items of work listed in the BID FORM. The cost of all other work necessary shall be included in the items for which unit prices are established.

Partial payment, cost breakdown, estimates, etc. shall be in accordance with the General Conditions.

1.10 GUARANTEE

The Contractor shall guarantee all workmanship and materials under this Project for a period of twelve (12) months after FINAL ACCEPTANCE of the Project and shall in the event of failure of any item due to faulty workmanship or materials replace same without cost to the OWNER.

1.11 PRECONSTRUCTION CONFERENCE

The preconstruction conference will be held at a time and place as directed by the ENGINEER. The successful Bidder shall submit his construction schedule to the OWNER at least seven (7) days prior to the preconstruction conference for review and approval. The preconstruction conference will not be scheduled until the contractor submits his construction schedule.

1.12 PLANS AND SPECIFICATIONS

The ENGINEER shall furnish to the CONTRACTOR without charge two (2) copies of the Plans and Specifications for the CONTRACTOR's use in constructing the project.

The ENGINEER shall provide to the CONTRACTOR additional copies of the Plans and Specifications at a cost of $30.00 per set.

1.13 LOCATION, PROTECTION AND REPAIR OF ANY DAMAGE TO EXISTING UTILITIES

The Contractor is advised that existing overhead and underground utilities such as (but not limited to) electrical lines and poles, telephone cables, gas lines, water lines, fiber optic cables, and sanitary sewers, exist in the rights-of-way where the proposed improvements are to be installed, all in accordance with the provisions of R.S. 38:2223. It shall be the Contractor's responsibility to protect these existing utilities during construction of the work to be installed under this Project and any damage to existing utilities caused by negligent acts of the Contractor shall be repaired by the Contractor at his own expense. The Contractor shall contact Louisiana One Call a minimum of 48 hours prior to beginning construction in the work area.

1.14 SHOP DRAWINGS AND MATERIALS

Prior to final acceptance, the CONTRACTOR shall furnish to the OWNER three (3) copies of diagrams, curves, data, operation and maintenance manuals, and spare parts lists for all pieces of equipment furnished.

Materials data, information, dimensions, and specifications, shall be submitted to the ENGINEER for review prior to ordering for major material items such as pipe, fittings, valves, prefabricated manholes and casing pipe.

1.15 RECORD DRAWINGS

Contractor shall furnish all necessary field information to the Owner such as marked up drawings for completion of record drawings.

1.16 EXCAVATION AND REPLACEMENT OF CULVERTS, DRIVEWAYS, AND LAWNS

The Contractor shall be responsible for excavation, removal and replacement (or reinstallation) of all culverts, driveways and lawns damaged where as required to install sewer lines. The cost for the removal and replacement shall be included in the unit price bid in Section 00300. If reinstallation is not possible contractor shall replace driveway, lawn or culvert to the approval of the Engineer. At the end of each day, the Contractor shall make all driveways accessible unless given approval by the Resident Project Representative or Engineer.

1.17 CONFORMANCE TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

During performance of work within the right-of-way of interstate, state, or rural highways, the CONTRACTOR shall provide traffic control and warning devices in accordance with the latest revision of the "Manual on Uniform Traffic Control Devices" as adopted by the Louisiana Department of Transportation and Development."

1.18 TOOLS, PLANT AND EQUIPMENT

If at any time before the commencement or during the progress of the work, tools, plant, or equipment appear to the ENGINEER to be insufficient, inefficient, or inappropriate to secure the quality of work required or the proper rate of progress, the ENGINEER may order the CONTRACTOR to increase their efficiency to improve their character, to augment their number, or to substitute new tools, plant, or equipment as the case may be, and the CONTRACTOR must conform to such order; but the failure of the ENGINEER to demand such increase of efficiency number, or improvement shall not relieve the CONTRACTOR of his obligation to secure the quality of work and the rate of progress necessary to complete the work within the time required by this Project to the satisfaction of the OWNER.

1.19 PLANS

The word PLANS shall have the same meanings as the word DRAWINGS in the Specifications and Bidding Documents.

1.20 NOTIFICATION OF COMMENCEMENT OF WORK

Prior to the CONTRACTOR starting the job, he shall notify the ENGINEER at least forty-eight (48) hours in advance of his proposed time of commencement.

1.21 WASTE MATERIALS

All waste materials from excavations or removals shall be hauled from the site and shall be disposed of by the CONTRACTOR in a manner acceptable to the ENGINEER at no cost to the OWNER unless otherwise directed by the ENGINEER and the OWNER to be turned over to the OWNER.

1.22 SEQUENCE OF CONSTRUCTION

Before commencing work, the CONTRACTOR shall submit to the ENGINEER for approval his proposed sequence of construction. Subsequent to the ENGINEER'S approval, deviations from the approved sequence of construction shall not be made without written approval of the ENGINEER.

1.23 INTERRUPTION OF TRAFFIC

During construction, the CONTRACTOR shall under no circumstances block traffic at more than one end of the same block. Traffic will always be allowed entry and exit from blocks. Detours shall be provided where through traffic will be blocked. The CONTRACTOR shall provide a schedule and plan of work on street crossing to the Resident Project Representative or ENGINEER for approval prior to the start of construction.

1.24 EROSION AND SILTATION

The Contractor shall proceed with all construction activities in a manner that will minimize siltation and bank erosion during construction. Upon completion of all construction activities, all disturbed areas shall be returned to existing or better conditions.

1.25 WELL POINTS, SHEETING AND BRACING (NO DIRECT PAY ITEM)

The Contractor shall include in the unit price for sewer lines, pump stations, and other structures the required dewatering and shoring of excavations during construction. The cost for dewatering and shoring shall be included in the unit prices for sewer lines, manholes, pumping stations, and other structures and no additional payment will be made therefore.

1.26 RECORD DRAWINGS (NO DIRECT PAY ITEM)

Record information concurrently with construction progress and do not conceal any work until required information is recorded.

A. Legibly mark drawings to record actual construction.

1. Elevations of various structure elements in relation to elevation datum.

2. All underground piping and appurtenances, including service lines, sewer main, man holes, service wyes, cleanouts, etc. with elevations and dimensions, changes to piping, locations, horizontal and vertical location of underground piping, utilities (including electrical) and appurtenances referenced to permanent surface improvements, actual installed pipe material, class, etc.

3. Location of internal utilities and appurtenances concealed in the construction by referencing to visible and accessible features of the structure.
4. Field changes of dimensions and details.

5. Changes made by field order or by change orders.

6. Details not on original project drawings.

7. Equipment and piping relocations.

B. Furnish certified site survey and line elevations and stationing at 100 foot increments at all points of change of directions of pipelines by a registered land surveyor.

1.27 AUDIO-VIDEO RECORDS (NO DIRECT PAY ITEM)

Prior to commencement of any Project or performance of any work, the Contractor shall provide a professionally made video tape of the entire site area. The video tape shall clearly show the existing conditions of the work area and adjacent to the work area and Contractor staging areas.

Additional features, if existent, shall also be video taped as follows:

1. Pavement
2. Curbs
3. Driveways
4. Sidewalks
5. Drainage Ditches and Catch Basins
6. Landscapes
7. Fences

The list above shall not be construed as all inclusive and the entire construction site area shall be included on the video.

Each video tape shall begin at one end of the project site and proceed uninterrupted to the other end of the project site. Progression along the project site shall be recorded and referenced to a tape counter and the plans in respect to items and areas being viewed. The contractor shall provide one (1) copy of the tape to the Owner/Engineer and retain the original.

The video inspection and tape will be provided by the contractor at no direct pay.

1.28 CONSTRUCTION MEETING

Construction meetings may be held at the discretion of the ENGINEER. Representatives of the OWNER, ENGINEER, RESIDENT PROJECT REPRESENTATIVE, CONTRACTOR, SUBCONTRACTORS and testing lab shall be present. The purpose of these meetings is to track progress and keep each party informed. The ENGINEER will be responsible for keeping minutes of the meetings. The CONTRACTOR will be responsible for bringing updated as-built drawings and construction schedules to each meeting for review by the ENGINEER.

1.29 ROADSIDE OBSTRUCTIONS (MAIL BOXES, SIGNS, TREES, ETC.)

The contractor is advised that obstructions exist along the roadside where the work is to be performed. These obstructions may include mailboxes, street signs, trees, etc. The contractor is further advised that obstructions of this nature shall be removed and or removed and replaced as directed by the project engineer as necessary to properly carry out the work. THE CONTRACTOR SHALL RECEIVE NO DIRECT PAY FOR THIS WORK.

1.30 TECHNICAL SPECIFICATION CONFLICTS

In the event any provisions in any of the technical specifications or referenced technical specifications or standards may be in conflict or inconsistent with one another the more stringent shall apply. Reference is made to the "Louisiana Standard Specifications For Roads And Bridges" latest edition and copies shall be provided onsite for each project representative.

1.31 STORMWATER PERMITS (NO DIRECT PAY ITEM)

It shall be the Contractor's full responsibility to follow all applicable Best Management Practices as related to Stormwater Pollution Prevention and to obtain all required permits from the Louisiana Department of Environmental Quality (or any other Federal, State or Local Agency as applicable). If required by those agencies, the Contractor shall develop and maintain on site a Stormwater Pollution Prevention Plan. All such permits and/or plans shall be provided at no additional cost to the Owner.

1.32 DEMOBILIZATION NOTICE

Contractor shall give the Owner and the Engineer a 72-hour notice prior to demobilization of significant equipment off the jobsite.

END OF SECTION

DIVISION 1

GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE AND INTENT

A. Description

1. The work to be done consists of the furnishing of all labor, materials and equipment, and the performance of all work included in this Contract. The summary of the work is presented in Section 01010.

B. Work Included

1. The Contractor shall furnish all labor, superintendence, materials, power, light, heat, fuel, water, tools, appliances, equipment, supplies, and other means of construction necessary or proper for performing and completing the work. He shall obtain and pay for all applicable required permits. He shall perform and complete the work in the manner best calculated to promote rapid construction consistent with safety of life and property and to the satisfaction of the Engineer, and in strict accordance with the Contract Documents. The Contractor shall clean up the work and maintain it during and after construction, until accepted, and shall do all work and pay all costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the work.

2. The cost of incidental work described in these General Requirements, for which there are no specific Contract Items, shall be considered as part of the general cost of doing the work and shall be included in the prices for the various Contract Items. No additional payment will be made therefor.

3. The Contractor shall provide and maintain such modern tools, and equipment as may be necessary, in the opinion of the Engineer, to perform in a satisfactory and acceptable manner all the work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his workmanship, materials and equipment, prior approval of the Engineer notwithstanding.

C. Public Utility Installations and Structures

1. Prior to construction, the Contractor shall familiarize himself with the location of all existing utilities and facilities within the Project Sites, and with the applicable provisions of the General Conditions.

2. The Contractor shall notify utility companies at least 48 hours, excluding Saturdays, Sundays, and legal holidays, prior to excavation. Utility companies shall be contacted by calling the Louisiana One Call (D.O.T.T.I.E.) at 1-800-272-3020.

3. Public utility installations and structures understood to include all poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes and all other appurtenances and facilities pertaining thereto whether owned or controlled by the Owner, other governmental bodies or privately owned by individuals, firms or corporations, used to serve the public with transportation, traffic control, gas, electricity, telephone, sewerage, drainage, water or other public or private property which may be affected by the work shall be deemed to be included hereunder.

4. The Contract Documents may contain data relative to existing public utility installations and structures above and below the ground surface. These data are not guaranteed as to their completeness or accuracy and it is the responsibility of the Contractor to make his own investigations to inform himself fully of the character, condition and extent of all such installations and structures as may be encountered and as may affect the construction operations.

5. The Contractor shall protect all public utility installations and structures from damage during the work. Access across any buried public utility installation or structure shall be made only in such locations and by means approved by the Engineer. The Contractor shall so arrange his operations as to avoid any damage to these facilities. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public utilities damaged by the Contractor which are shown on the plans or have been located in the field by the utility shall be repaired by the Contractor, at his expense, as directed by the Engineer. No separate payment shall be made for such protection or repairs to public utility installations or structures.

6. Public utility installation or structures owned or controlled by the Owner or other governmental body which are shown on the plans to be removed, relocated, replaced or rebuilt by the Contractor shall be considered as a part of the general cost of doing the work and shall be included in the prices bid for the various contract items. No separate payment shall be made therefor.

7. Where public utility installations or structures owned or controlled by the Owner or other governmental body are encountered during the course of the work, and are not indicated on the Plans or in the Specifications, and when, in the opinion of the engineer, removal, relocation, replacement or rebuilding is necessary to complete the work under this Contract, such work shall be accomplished by the utility having jurisdiction, or such work may be ordered, in writing by the Engineer, for the Contractor to accomplish. If such work is accomplished by the utility having jurisdiction it will be carried out expeditiously and the Contractor shall give full cooperation to permit the utility to complete the removal, relocation, replacement or rebuilding as required. If such work is accomplished by the Contractor, it will be paid for as extra work as provided in the General Conditions.

8. The Contractor shall, at all times in performance of the work, employ approved methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage or destruction of public utility installations and structures; and shall, at all times in the performance of the work, avoid unnecessary interference with, or interruption of, public utility services, and shall cooperate fully with the owners thereof to that end. All Owner and other governmental utility departments and other owners of public utilities which may be affected by the work will be informed in writing by the Engineer within two weeks after the execution of the Contract or Contracts covering the work. Such notice will set out, in general, and direct attention to the responsibilities of the Owner and other governmental utility departments and other owners of public utilities for such installations and structures as may be affected by the work and will be accompanied by one set of Plans and Specifications covering the work under such Contract or Contracts.

9. The Contractor shall give written notice to Owner and other governmental utility departments and other owners of public utilities of the location of his proposed construction operations, at least forty-eight hours in advance of breaking ground in any area or on any unit of the work. This can be accomplished by making the appropriate contact with the utility companies indicated on the Drawings.

10. The maintenance, repair, removal, relocation or rebuilding of public utility installations and structures, when accomplished by the Contractor as herein provided, shall be done by methods approved by the Engineer.

1.02 PLANS AND SPECIFICATIONS

A. Plans

1. The Plans referred to in the Contract Documents bear the general project name and number as shown in the Advertisement for Bids.

2. When obtaining data and information from the Plans, figures shall be used in preference to scaled dimensions, and large scale drawings in preference to small scale drawings.

B. Copies Furnished to Contractor

1. In addition to the executed set of Contract Documents, the Owner will furnish, free of charge to the Contractor, two (2) sets of paper prints of the Plans and Specifications, the same size as the original drawings and specifications. Any additional Plans and Specifications, when requested, will be sold to the Contractor at the cost of reproduction.

2. The Contractor shall furnish each of the subcontractors, manufacturers, and material suppliers such copies of the Contract Documents as maybe required for their work.

C. Supplementary Drawings

1. When, in the opinion of the Engineer, it becomes necessary to explain more fully the work to be done or to illustrate the work further or to show any changes which may be required, drawings known as Supplementary Drawings, with specifications pertaining thereto, will be prepared by the Engineer and five (5) paper prints thereof will be given to the Contractor.

2. The Supplementary Drawings shall be binding upon the Contractor with the same force as the Plans. Where such Supplementary Drawings require either less or more than the estimated quantities of work, credit to the Owner or compensation therefor to the Contractor shall be subject to the terms of the Agreement.

D. Contractor to Check Plans and Data

1. The Contractor shall verify all dimensions, quantities and details shown on the plans, Supplementary Drawings, schedules, Specifications or other data received from the Engineer, and shall notify him of all errors, omissions, conflicts, and discrepancies and shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction or improper operation resulting therefrom nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of

any errors or omissions he discovered. All schedules are given for the convenience of the Engineer and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quality of materials and equipment included in work to be done under the Contract.

E. Specifications

1. The Technical Specifications consist of three (3) parts: General, Products and Execution. The General Section contains General Requirements which govern the work. Products and Execution modify and supplement these by detailed requirements for the work and shall always govern whenever there appears to be a conflict.

F. Intent

1. All work called for in the Specifications applicable to this Contract, but not shown on the plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications, but involved in carrying out their intent or in the complete and proper execution of the work, is required and shall be performed by the Contractor as though it were specifically delineated or described.

2. The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specifications shall be made upon that basis.

3. The inclusion of the Related Requirements (or work specified elsewhere) in the General part of the specifications is only for the convenience of the Contractor, and shall not be interpreted as a complete list of related Specification Sections.

1.03 MATERIALS AND EQUIPMENT

A. Manufacturer

1. The names of proposed manufacturers, material suppliers, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Engineer for approval, in accordance with the General Conditions, seven (7) business days prior to the bid opening, to afford proper investigation and checking. Such approval must be obtained before Shop Drawings will be checked. No manufacturer will be approved for any materials to be furnished under this Contract unless he shall be of good reputation and have a plant of ample capacity. He shall, upon the request of the Engineer, be required to submit evidence that he has manufactured a similar product to the one specified and that it has been previously used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.

2. All transactions with the manufacturers or subcontractors shall be through the Contractor, unless the Contractor requests, in writing to the Engineer and the Engineer approves that the manufacturer or subcontractor deal directly with the Engineer. Any such transactions shall not in any way release the Contractor from his full responsibility under this Contract.

3. Any two (2) or more pieces of material or equipment of the same kind, type or classification, and being used for identical types of service, shall be made by the same manufacturer.

B. Delivery

1. The Contractor shall deliver materials in ample quantities to ensure the most speedy and uninterrupted progress of the work so as to complete the work within the allotted time. The Contractor shall also coordinate deliveries in order to avoid delay in, or impediment of, the progress of the work of any related Contractor.

C. Tools and Accessories

1. The Contractor shall, unless otherwise stated in the Contract Documents, furnish with each type, kind or size of equipment, one complete set of suitably marked high grade special tools and appliances which may be needed to adjust, operate, maintain or repair the equipment. Such tools and appliances shall be furnished in approved painted steel cases, properly labeled and equipped with good grade cylinder locks and duplicate keys.

D. Spare parts shall be furnished as specified

1. Each piece of equipment shall be provided with a substantial nameplate, securely fastened in place and clearly inscribed with the manufacturer's name, year of manufacture, serial number, weight and

principal rating data.

E. Installation of Equipment

1. The Contractor shall have on hand sufficient proper equipment and machinery of ample capacity to facilitate the work and to handle all emergencies normally encountered in work of this character.

2. Equipment shall be erected in a neat and workmanlike manner on the foundations at the locations and elevations shown on the Plans, unless directed otherwise by the Engineer during installation. All equipment shall be correctly aligned, leveled and adjusted for satisfactory operation and shall be installed so that proper and necessary connections can be made readily between the various units.

3. The Contractor shall furnish, install and protect all necessary anchor and attachment bolts and all other appurtenances needed for the installation of the devices included in the equipment specified. Anchor bolts shall be as approved by the Engineer and made of ample size and strength for the purpose intended. Substantial templates and working drawings for installation shall be furnished.

4. The Contractor shall, at his own expense, furnish all materials and labor for, and shall properly bed in non-shrink grout, each piece of equipment on its supporting base that rests on masonry foundations. Grout shall completely fill the space between the equipment base and the foundation. All metal surfaces coming in contact with concrete or grout shall receive two (2) coats (9 mils each coat) of coal tar epoxy equal to Kop-Coat 300M.

F. Service of Manufacturer's Engineer

1. The Contract prices for equipment shall include the cost of furnishing a competent and experienced engineer or superintendent who shall represent the manufacturer and shall assist the Contractor, when required, to install, adjust, test and place in operation the equipment in conformity with the Contract Documents. After the equipment is placed in permanent operation by the Owner, such engineer or superintendent shall make all adjustments and tests required by the Engineer to prove that such equipment is proper and satisfactory operating condition, and shall instruct such personnel as may be designated by the Owner in the proper operation and maintenance of such equipment.

1.04 INSPECTION AND TESTING

A. General

1. The Engineer may require testing by certified personnel of certain materials to be incorporated in the Work, such as: soils density, pavement, concrete pipe and appurtenances, and welds.

2. In the event any such testing is required by the Engineer, a detailed description will be found in these Technical Specifications concerned with the specific item of Work.

3. Inspection and testing of materials will be performed by the Owner unless otherwise specified.

4. For tests specified to be made by the Contractor, the testing personnel shall make the necessary inspections and tests and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Contract Documents. Five (5) copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Engineer as a prerequisite for the acceptance of any material or equipment.

5. If, in the making of any test of any material or equipment, it is ascertained by the Engineer that the material or equipment does not comply with the Contract, the Contractor will be notified thereof and he will be directed to refrain from delivering said material or equipment, or to remove it promptly from the site or from the work and replace it with acceptable material, without cost to the Owner.

6. Tests of electrical and mechanical equipment and appliances shall be conducted in accordance with recognized test codes of the ANSI, ASME, or the IEEE, except as may otherwise be stated herein.

7. The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the Owner formally takes over the operation thereof.

B. Costs

1. All inspection and testing of materials furnished under this Contract will be performed by the Owner or duly authorized inspection engineers or inspection bureaus without cost to the Contractor, unless otherwise expressly specified.

2. The cost of shop and field tests of equipment and of certain other tests specifically called for in the Contract Documents shall be borne by the Contractor and such costs shall be deemed to be included in the Contract price.

3. Materials and equipment submitted by the Contractor as the equivalent to those specifically named in the Contract may be tested by the Owner for compliance. The Contractor shall reimburse the Owner for the expenditures incurred in making such tests on materials and equipment which are rejected for non-compliance.

C. Inspection of Materials

1. The Contractor shall give notice in writing to the Engineer, sufficiently in advance of his intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, the Engineer will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials or he will notify the Contractor that the inspection will be made at a point other than the point of manufacture, or he will notify the Contractor that inspection will be waived. The Contractor must comply with these provisions before shipping any material. Such inspection shall not release the Contractor from the responsibility for furnishing materials meeting the requirements of the Contract Documents.

D. Certificate of Manufacture

1. When inspection is waived or when the Engineer so requires, the Contractor shall furnish to him authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Contract Documents. These certificates shall be notarized and shall include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer. The certificates shall be delivered to the Engineer prior to shipment of the materials.

E. Shop Tests of Operating Equipment

1. Each piece of equipment for which pressure, duty, capacity, rating, efficiency, performance, function or special requirements are specified shall be tested in the shop of the maker in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents. No such equipment shall be shipped to the work until the Engineer notifies the Contractor, in writing, that the results of such tests are acceptable.

2. Five (5) copies of the manufacturer's actual test data and interpreted results thereof, accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company, shall be forwarded to the Engineer for approval.

3. The cost of shop tests and of furnishing manufacturer's preliminary and shop test data of operating equipment shall be borne by the Contractor.

F. Preliminary Field Tests

1. As soon as conditions permit, the Contractor shall furnish all labor, materials, and instruments and shall make preliminary field tests of equipment. If the preliminary field tests disclose any equipment furnished under this Contract which does not comply with the requirements of the Contract Documents, the Contractor shall, prior to the acceptance tests, make all changes, adjustments and replacements required. The furnishing Contractor shall assist in the preliminary field tests as applicable.

G. Final Field Tests

1. Upon completion of the work and prior to final payment, all equipment and piping installed under this Contract shall be subjected to acceptance tests as specified or required to prove compliance with the Contact Documents.
2. The Contractor shall furnish labor, fuel, energy, water and all other materials, equipment and instruments necessary for all acceptance tests, at no additional cost to the Owner. The Furnishing Supplier shall assist in the final field tests as applicable.

H. Failure of Tests

1. Any defects in the materials and equipment or their failure to meet the tests, guarantees or requirements of the Contract Documents shall be promptly corrected by the Contractor by replacements or otherwise. The decision of the Engineer as to whether or not the Contractor has fulfilled his obligations under the Contract shall be final and conclusive. If the Contractor fails to make these corrections or if the improved materials and equipment, when tested, shall again fail to meet the guarantees or specified requirements, the Owner, notwithstanding its partial payment for work, and materials and equipment, may reject the materials and equipment and may order the Contractor to remove them from the site at his own expense.

2. If the failure during testing is fully or partly due to the equipment provided by the Furnishing Supplier, as determined by the Engineer, the Furnishing Supplier shall make all requirement improvements at no cost to the Owner.

3. In case the Owner rejects any materials and equipment, then the Contractor shall replace the rejected materials and equipment within a reasonable time. If he fails to do so, the Owner may, after the expiration of a period of thirty (3) calendar days after giving him notice in writing, proceed to replace such rejected materials and equipment, and the cost thereof shall be deducted from any compensation due or which may become due the Contractor under his Contract.

4. The Owner agrees to obtain other equipment within a reasonable time and the Contractor agrees that the Owner may use the equipment furnished by him without rental or other charges until the new equipment is obtained.

I. Final Inspection

1. During such final inspections, the work shall be clean and free from water. In no case will the final estimate be prepared until the Contractor has complied with all requirements set forth and the Engineer has made his final inspection of the entire work and is satisfied that the entire work is properly and satisfactorily constructed in accordance with the requirements of the Contract Documents.

1.05 TEMPORARY STRUCTURES

A. Temporary Fences

1. If, during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall provide a suitable temporary fence at his own expenses, which shall be maintained until the permanent fence is replaced. The Engineer shall be solely responsible for the determination of the necessity for providing a temporary fence and the type of temporary fence to be used.

B. Responsibility for Temporary Structures

1. In accepting the Contract, the Contractor assumes full responsibility for the sufficiency and safety of all temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance or operation and will indemnify and save harmless the Owner from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provisions.

1.06 SAFETY

A. Accident Prevention

1. Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, and existing building and construction codes shall be observed. Machinery, equipment, and other hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, and OSHA's Safety and Health Standards (29 CFR 1926/1910) U.S. Department of Labor, to the extent that such provisions are not in contravention of applicable law of the state of Louisiana.

B. First Aid

1. The Contractor shall keep upon the site, at each location where work is in progress, a completely equipped first aid kit and shall provide ready access thereto at all times when men are employed on the work.

1.07 LINES AND GRADES

A. Grade

1. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Plans, or as given by the Owner/Engineer. The full responsibility for keeping alignment and grade shall rest upon the Contractor.

2. The Owner/Engineer will establish bench marks and base line controlling points.

B. Surveys

1. The Contractor shall furnish, maintain, and be responsible for, at his own expense, stakes and other such materials required.

C. Safeguarding Marks

1. The Contractor shall safeguard all points, stakes, grade marks, monuments and bench marks made or established on the work, bear the cost of reestablishing them if disturbed, and bear the entire expense of recertifying work improperly installed due to not maintaining or protecting or to remove without authorization such established points, stakes and marks.

2. The Contractor shall safeguard all existing and known property corners, monuments and marks adjacent to but not related to the work and, if required, shall bear the cost or reestablishing them if disturbed or destroyed.

1.08 ADJACENT STRUCTURES AND LANDSCAPING

A. Responsibility

1. The Contractor shall also be entirely responsible and liable for all damage or injury as a result of his operations to all other adjacent public and private property, structures of any kind and appurtenances thereto met with during the progress of the work. The cost of protection, replacement in their original locations and conditions or payment of damages for injuries to such adjacent public and private property and structures affected by the work, whether or not shown on the Plans, and the removal, relocation and reconstruction of such items called for on the Plans or specified shall be included in the various Contract Items and no separate payments will be made therefor. Where such public and private property, structures of any kind and appurtenances thereto are not shown on the Plans and when, in the opinion of the Engineer will interfere with the work, payment therefor will be made as provided for in the General Conditions.

2. Contractor is expressly advised that the protection of buildings, structures, tunnels, tanks, pipelines, etc. and related work adjacent and in the vicinity of his operations, wherever they may be, is solely his responsibility. Conditional inspection of buildings or structures in the immediate vicinity of the project which may reasonably be expected to be affected by the Work shall be performed by and be the responsibility of the Contractor.

3. Contractor shall, before starting operations, make an examination of the interior and exterior of the adjacent structures, buildings, facilities, etc., and record by notes, measurements, photographs, etc., conditions which might be aggravated by open excavation and construction. Repairs or replacement of all conditions disturbed by the construction shall be made to the satisfaction of the Owner and to the satisfaction of the Engineer. This does not preclude conforming to the requirements of the insurance underwriters. Copies of surveys, photographs, reports, etc., shall be given to the Engineer.

4. Prior to the beginning of any excavations the Contractor shall advise the Engineer of all buildings or structures on which he intends to perform work or which performance of the project work will affect.

B. Lawn Areas

1. Lawn areas shall be left in as good condition as before the starting of the work. Where sod is to be removed, it shall be carefully removed, and later replaced, or the area where sod has been removed shall be restored with new sod in the manner described in the Workmanship and Materials section.

C. Restoration of Fences

1. Any fence, or part thereof, that is damaged or removed during the course of the work shall be replaced or repaired by the Contractor and shall be left in as good a condition as before the starting of the work. The manner in which the fence is repaired or replaced and the materials used in such work shall be subject to the approval of the Engineer. The cost of all labor, materials, equipment, and work for the replacement or repair of any fence shall be deemed included in the appropriate Contract Item or items, or if no specific Item is provided therefor, as part of the overhead cost of the work, and no additional payment will be made therefor.

1.09 PROTECTION OF WORK AND PUBLIC

A. Barriers and Lights

1. During the prosecution of the work, the Contractor shall put up and maintain at all times such barriers and lights as will effectually prevent accidents. The Contractor shall provide suitable barricades, red lights, "danger" or "caution" or "street closed" signs and watchmen at all places where the work causes obstructions to the normal traffic or constitutes in any way a hazard to the public, in accordance with state and local requirements.

B. Smoke Prevention

1. The Contractor shall use hard coal, coke, oil or gas as fuel for equipment generating steam. A strict compliance with ordinances regulating the production and emission of smoke will be required. No open fires will be permitted.

C. Noise

1. The Contractor shall eliminate noise to as great as extent as practicable at all times. Air compressing plants shall be equipped with silencers and the exhaust of all gasoline motors or other power equipment shall be provided with mufflers. In the vicinity of hospitals and schools, special care shall be used to avoid noise or other nuisances. The Contractor shall strictly observe all local regulations and ordinances covering noise control.

2. Except in the event of an emergency, no work shall be done between the hours of 7:00 P.M. and 7:00 A.M. If the proper and efficient prosecution of the work requires operations during the night, the written permission of the Engineer shall be obtained before starting such items of the work.

D. Access to Public Services

1. Neither the materials excavated nor the materials or plant used in the construction of the work shall be so placed as to prevent free access to all fire hydrants, valves, or manholes.

E. Dust Prevention

1. The Contractor shall prevent dust nuisance from his operations or from traffic by keeping the roads and/or construction areas sprinkled with water at all times.

1.10 CUTTING AND PATCHING

A. The Contractor shall do all cutting, fitting or patching of his portion of the work that may be required to make the several parts thereof join and coordinate in a manner satisfactory to the Engineer and in accordance with the Plans and Specifications. The work must be done by competent workmen skilled in the trade required by the restoration.

1.11 CLEANING

A. During Construction

1. During construction of the work, the Contractor shall, at all times, keep the site of the work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove the same from any portion of the site if, in the opinion of the Engineer, such material, debris, or rubbish constitutes a nuisance or is objectionable.

2. The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefore develops. Contractor shall be responsible and liable for all spillage and incur all associated costs including, but not limited to, costs related to repair and maintenance resulting from damages thereof.

B. Final Cleaning

1. At the conclusion of the work, all erection plant, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away, and he shall remove and promptly dispose of all water, dirt, rubbish or any other foreign substances,

2. The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver such materials and equipment undamaged in a bright, clean, polished and new condition.

1.12 INSPECTION AUTHORITY

A. The Engineer has ultimate responsibility for contract administration and inspection for the Project. Field inspection responsibilities may be assigned to a Design Professional and/or Owner Inspector.

B. Each step of construction is subject to approval by the Engineer prior to proceeding with a subsequent step in accordance with General Conditions.

C. During the progress of the Work and up to the date of final acceptance, the Contractor shall at all times afford representatives of the Owner, the City/Parish, the State, the Department of Environmental Quality, the Department of Labor, or any other agency with jurisdiction, every reasonable, safe, and proper facility for observation of the Work done or being done at the site, and also the manufacture or preparation of materials and

equipment at the place of such manufacture or preparation.

D. The Project line of authority will be presented at the Pre-Construction Meeting.

1.13 SAMPLES

A. The Contractor shall, when required, submit to the Engineer for approval, typical samples of material and appliances. The samples shall be properly identified by tags and shall be submitted sufficiently in advance of the time when they are to be incorporated into the Work so that rejections thereof will not cause delay. A letter of transmittal from the Contractor requesting approval shall accompany all such samples.

1.14 EQUIVALENT QUALITY

A. In the Bidding Documents, whenever an article, material, apparatus, equipment, or process is called for by trade name or by name of a patentee, manufacturer, or dealer, or by reference to catalog of a manufacturer or dealer followed by "or equal", it shall be understood as intending to mean and specify the article, material, apparatus, equipment, or process designated, or any equal thereto in quality, finish, design, efficiency, and durability, and equally serviceable for the purposes for which it is intended.

B. Whenever material or equipment is submitted for approval as being equal to that specified, the submittal shall include sufficient information and data to demonstrate that the material or equipment conforms to the contract requirements. The decision as to whether or not such material or equipment is equal to that specified shall be made by the Engineer.

C. Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the contract, the Contractor shall immediately proceed to furnish the designated material or equipment.

D. Neither the approval by the Engineer of alternate material or equipment as being equivalent to that specified, nor the furnishing of the material or equipment specified, shall in any way relieve the Contractor of responsibility for failure of the material or equipment, due to faulty design, material, or workmanship, to perform the functions required of them by the Contract Documents.

E. Items requiring "approved equal" must be submitted to the Parish a minimum of seven (7) days prior to the bid opening for consideration, and if acceptable will be incorporated by Addendum.

1.15 MISCELLANEOUS

A. Protection Against Siltation and Bank Erosion

1. The Contractor shall arrange his operations to minimize siltation and bank erosion on construction sites and on existing or proposed water courses and drainage ditches.

2. The Contractor, at his own expense, shall remove any siltation deposits and correct any erosion problems as directed by the Engineer which results from his construction operations.

B. Protection of Wetland Areas

1. The Contractor shall properly dispose of all surplus material, including spoil, in accordance with Local, State and Federal regulations. Under no circumstances shall surplus material be disposed of in wetland areas as defined by the Louisiana Department of Environmental Quality.

C. Existing Facilities

1. The work shall be so conducted to maintain existing facilities in operation insofar as is possible. Requirements and schedules of operation for maintaining existing facilities in service during construction shall be as described in these Specifications.

D. Use of Chemicals

1. All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must shown approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

E. Cooperation With Other Contractors Forces

1. During progress of work under this Contract, it may be necessary for other contractors and persons employed by the Owner to work in or about the Site. The Owner reserves the right to put such other

contractors to work and to afford such access to the Site of the Work to be performed hereunder at such times as the Owner deems proper. The Contractor shall not impede or interfere with the work of such other contractors engaged in or about the Work and shall so arrange and conduct his work that such other contractors may complete their work at the earliest date possible.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. The single construction contract system will be used for this PROJECT.

B. CONTRACTOR shall furnish all labor, permits, fees, equipment, supplies, materials, services and incidentals required to complete the WORK.

C. Mention herein or indication on the DRAWINGS of articles, operations, or methods requires that the CONTRACTOR provide each item mentioned, indicated, or necessary as an adjunct to the item, subject to qualifications noted, and perform according to conditions required.

1.02 DESCRIPTION OF WORK

A. Removal of the existing Third Avenue Bridge at the Pontchitolawa Creek. Replace with a new 100-foot long by 24-foot wide precast concrete bridge on precast concrete piles with precast concrete approach slabs. The work is including but not limited to clearing, grubbing, demolition, temporary traffic routing and construction of embankment and bridge replacement. The work area is located in an environmentally sensitive area. Adherence to best management practices during all construction activities is required. St. Tammany Parish Government acquired the necessary federal and state permits from the USACE and State of Louisiana.

1.03 CONSTRUCTION LIMITS AND STORAGE

A. Refer to the DRAWINGS for the location of the PROJECT.

B. CONTRACTOR shall limit his construction activities to the right-of-way and to approved storage areas for the PROJECT.

C. Access to private property must be maintained during construction.

D. CONTRACTOR shall provide barricades, safety or warning devices, signs and warning lights required for the protection of employees, the public and property.

E. The OWNER will designate storage areas to be used for material and equipment deliveries and access.

1.04 COORDINATION OF WORK WITH OWNER AND OTHERS

A. The CONTRACTOR shall coordinate WORK and cooperate with OWNER working in the PROJECT area. Contractors shall coordinate, cooperate and schedule their work to complete all work in an efficient manner in the areas of common occupancy.

B. The CONTRACTOR shall limit his use of the premises for WORK and for storage to allow for work by other SUBCONTRACTORS, utility agencies, and OWNER operations.

C. OWNER personnel may require access to the PROJECT site. The CONTRACTOR shall coordinate all stored products or equipment under his control with the RESIDENT PROJECT REPRESENTATIVE to prevent interference with operation of the OWNER.

1.05 MEASUREMENTS AND PROJECT LAYOUT

A. The CONTRACTOR is responsible for survey and complete layout of all vertical and horizontal controls necessary to construct the PROJECT. The CONTRACTOR shall verify all field conditions, elevations and dimensions affecting the construction of the WORK and be responsible for correctness of same.

B. No extra compensation will be allowed for differences between actual elevations, dimensions or measurements indicated on DRAWINGS. Differences found shall be reported to the ENGINEER for consideration before proceeding with the WORK.

C. Contract Drawings:

1. DRAWINGS indicate the general area of construction routing and levels; CONTRACTOR shall field verify and coordinate.

2. Adjustments in dimensions, elevations, routing and connections shall be made for field coordination with other trades.

3. All field adjustments shall be subject to the ENGINEER's approval.

1.06 EASEMENTS

A. All necessary easements have been obtained by the OWNER.

1.07 WORKMANSHIP

A. Materials, methods and workmanship shall be the best obtainable within established trade standard tolerance.

B. Uniformity: The CONTRACTOR shall provide uniform quality and appearance throughout the PROJECT.

C. Stability: All members shall be rigid and shall be securely anchored in place. Members subject to vibration or wracking shall be adequately attached. Connections shall be adequate to withstand stress to which they would be subject.

D. Joints: Joints in all materials shall be true, neat and inconspicuous. Joints between materials of different kinds shall be closely fitted.

E. Surfaces: Surfaces of all materials fabricated into a single article of composition or into an assembly of units shall be uniform, true, plumb, level, properly curved or pitched as required, and free from defects and blemishes. All edges, angles and corners shall be uniform and true.

F. Finish: Exposed surfaces of materials in which natural irregularity does not contribute to desired character shall be smooth and free from blemishes of any kind.

1.08 CONSTRUCTION GUARANTEE

A. The CONTRACTOR shall guarantee all equipment, materials and workmanship incorporated in the PROJECT for a period of one year following date of FINAL ACCEPTANCE by the OWNER.

B. The CONTRACTOR shall immediately correct all deficiencies reported to him without cost to the OWNER within this guarantee period.

1.09 CODES, STANDARDS AND REGULATIONS

A. All WORK shall conform to the latest edition of the codes or regulations of the following:

1. "Standard Specifications For Roads And Bridges", Louisiana Department of Transportation And Development.
2. Louisiana Department of Health & Hospitals.
   a. State Sanitary Code
   b. Recommended Standards For Wastewater Facilities (Ten States Standard)
   c. Recommended Standards For Water Works (Ten States Standards)
3. Local Utility Service Company Requirements for electric services.
4. National Electric Code.
5. National Plumbing Code.
6. American Water Works Association Standards.
7. American Society of Testing and Materials Standards.
8. Occupational Safety And Health Administration Standards.
9. American Concrete Institute.
10. American Institute of Steel Construction.
11. American Welding Society.
12. Anti-Friction Bearing Manufacturers Association.
13. Concrete Reinforcing Steel Institute.
14. Factory Mutual Association (FM).
15. Instrument Society of America (ISA).
16. National Bureau of Standards (NBS) Voluntary PROJECT Standard (PS).
17. National Electrical Manufacturer's Association (NEMA).
18. National Fire Protection Association (NFPA).
19. Steel Structures Painting Council (SSPC).
20. Underwriters' Laboratories, Inc. (UL).
21. Occupational Safety and Health Administration Standards (OSHA).

1.10 NOTICE TO UTILITY COMPANIES AND AGENCIES

A. Notify all utility companies a minimum of 48 hours prior to excavation, or as required by the utility company.

B. Obtain permission of utility owner to excavate in the vicinity of their utility.

C. Arrange with owners and operators of respective utility systems to mark the location, and if necessary or prudent, to expose existing utilities or structures prior to construction of the facilities contained in this CONTRACT.

D. If in course of the WORK it is found necessary to repair utility systems or structures damaged by the CONTRACTOR's activities, repairs or revisions shall be made by employees of the respective utilities and agencies with all costs borne by the CONTRACTOR.

1.11 EXISTING UTILITIES

A. In general, the locations of existing underground utilities are not indicated on the DRAWINGS. The OWNER does not guarantee the accuracy or completeness of the information shown on the DRAWINGS, and it is to be understood that aboveground or underground facilities not shown on the DRAWINGS may be encountered during the course of the WORK.

B. Existing aboveground utilities including, not limited to, power distribution and telephone systems, whether shown on the DRAWINGS or not, shall be maintained, relocated, rerouted, removed and restored as may be necessary in a manner satisfactory to owners and operators of the utilities and to the OWNER.

C. Existing underground utilities and appurtenance structures, whether shown on the DRAWINGS or not, shall be maintained, relocated, rerouted, removed and restored in a manner satisfactory to owners and operators of the utilities and to the OWNER. In the following special cases, the CONTRACTOR will be reimbursed in accordance with the GENERAL CONDITIONS for all costs of modifying, rerouting or relaying utilities:

1. An existing utility is shown on the DRAWINGS as being above or below the pipeline or structure to be constructed under this CONTRACT but is found during construction to be in conflict with the proposed WORK.

2. An existing utility is shown on the DRAWINGS in plan, but not in profile, and is found during construction to be in conflict with the proposed WORK.

3. An existing utility is not shown on the DRAWINGS but is found during construction to be in conflict with the proposed WORK.

4. An existing utility is not shown on the drawings and is found during construction to cross or project into the allowable excavation for the proposed WORK at an angle of 30 degrees or less at any elevation.

D. Minor underground utility service lines including, but not limited to, sanitary sewer services, water services, house or yard drains, and electric or telephone services, shall be maintained, relocated, rerouted, removed and restored with the least possible interference with such services, and in no case shall the interference of such service lines be considered for extra compensation under any of the special cases listed hereinbefore.

E. The right is reserved by owners of public utilities and franchises to enter upon any street, road, right-of-way or easement for the purpose of maintaining their property and for making necessary repairs or changes caused by the WORK. Except as specifically noted, all costs thus incurred shall be incidental to the CONTRACT, and borne by the CONTRACTOR.

1.12 RESTORATION OF STRUCTURES AND SURFACES

A. General: Whenever any of the work is accomplished on or through property other than that owned by the PROJECT OWNER, before final acceptance of the WORK by the PROJECT OWNER, a written release from the adjoining property owner or proper authority citing for the owner of the property affected stating that the restoration of structures and surfaces has been satisfactorily accomplished. If in the opinion of the PROJECT OWNER the release is arbitrarily withheld, the PROJECT OWNER may, at its sole discretion, accept the portion of the WORK involved and cause final payment therefore to be made.

In addition to the requirements of any applicable utility permit, street use permit or franchise relating to this CONTRACT, the CONTRACTOR shall, as a minimum for any restoration work, conform to standard plans and specifications of the agency which controls the use of the right-of-way in which this construction WORK is performed.

B. Structures: The CONTRACTOR shall remove such existing above and below-ground structures as may be necessary for the performance of the WORK and, if required, shall rebuild the structures thus removed in as good a condition as found with minimum requirements as herein specified. He shall also repair all existing structures which may be damaged as a result of the WORK under this CONTRACT. Reconstruction shall be of the same kind of material with the same finish and in not less than the same dimensions as the original work. All concrete shall be as specified herein unless otherwise indicated. Repairs shall be made by removing and replacing the entire portions between joints or scores and not merely refinishing any damaged part. All WORK shall match the appearance of the existing improvements as nearly as possible.

C. Roads and Streets: All roads and streets in which the surface is removed, broken or damaged, or in which the

ground has caved or settled due to WORK under this CONTRACT, shall be resurfaced and brought to the original grade and crown section unless otherwise indicated. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces. Roadways used by the CONTRACTOR for hauling materials, equipment, supplies, and the like, shall be cleaned and repaired if the condition of the roadway is damaged or otherwise affected due to the CONTRACTOR's operations.

D. Planted Areas and Other Surface Improvements: All planted areas, such as trees or lawns, and other surface improvements which are damaged by actions of the CONTRACTOR, shall be restored as nearly as possible to their original condition. The CONTRACTOR shall resod areas which have been damaged during construction.

E. Existing Stakes and Marks: All section, section subdivision, plat, U.S.C. and G.S., U.S.G.S. and other official monuments or bench marks shall be carefully preserved or replaced. In the event any such monument or marker is disturbed as a result of the CONTRACTOR's operations, the CONTRACTOR shall effect the replacement or resetting of the monument or marker in a manner satisfactory to the ENGINEER. Replaced or reset monuments shall be of acceptable type and quality, and shall be located so as to clear existing utilities or any other interferences. They shall be placed by a licensed surveyor in a manner consistent with good and recognized engineering and surveying practices.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. The CONTRACTOR shall be solely responsible for coordination of all of the WORK. The CONTRACTOR shall supervise, direct and cooperate fully with all SUBCONTRACTORS, manufacturers, fabricators, suppliers, distributors, installers, testing agencies and all others whose services, materials or equipment are required to ensure completion of the WORK within the CONTRACT TIME.

B. The CONTRACTOR shall cooperate with and coordinate his WORK with the work of any other contractor, utility service company or OWNER's employees performing additional WORK related to the PROJECT at the site.

C. The CONTRACTOR shall attend and participate in all project coordination or progress meetings and report on the progress of all WORK and compliance with schedules.

D. The CONTRACTOR shall cooperate with others doing WORK in the area or who require access to various parts of the site. Whenever there is interference between WORK under this CONTRACT with work or access by others, the ENGINEER shall decide the manner in which the WORK shall proceed. The CONTRACTOR shall cooperate in scheduling his WORK as required by the ENGINEER.

E. The CONTRACTOR shall be responsible for maintaining continued and uninterrupted operation of all facilities in the PROJECT area.

1.02 COORDINATION

A. Coordination: Coordinate construction activities included under various sections of these SPECIFICATIONS to assure efficient and orderly installation of each part of the WORK. Coordinate construction operations included under different sections of the SPECIFICATIONS that are dependent upon each other for proper installation, connection, and operation.

Where installation of one part of the WORK is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.

Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.

Make adequate provisions to accommodate items scheduled for later installation.

Prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.

B. Work Site Boundary Coordination: Strict adherence to predetermined WORK site boundaries is required. Where construction activities overlap in perimeter areas, WORK shall be coordinated to prevent activities outside of these boundaries.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction work activities to avoid conflicts and ensure orderly progress of the WORK. Such administrative activities include, but are not limited to, the following:

1. Preparation of schedules;
2. Installation and removal of temporary facilities;
3. Delivery and processing of submittals;
4. Progress meetings; and,
5. Project close-out activities.

1.03 SUBMITTALS

A. Coordination Drawings: Prepare and submit coordination drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.

1. Show the interrelationship of components shown on separate SHOP DRAWINGS.

2. Indicate required installation sequences.

3. Comply with requirements contained in Section 01340 - Shop Drawings, Product Data and Samples.

B. Staff Names: CONTRACTORS shall provide proposed organization charts, listing both home and field office personnel to be assigned to the PROJECT.

1. Within 15 days of NOTICE TO PROCEED, submit a list of the CONTRACTOR's principal staff assignments, including the superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

2. Post copies of the list in the PROJECT meeting rooms, the temporary field office, and at each temporary telephone.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION PROVISIONS

A. Inspection of Conditions: Require the installer of each major component to inspect both the substrate and conditions under which WORK is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in CONTRACT DOCUMENTS.

C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

D. Recheck measurements and dimensions before starting each installation.

E. Install each component during weather conditions and project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

F. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

3.02 CLEANING AND PROTECTION

During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at substantial completion.

Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

A. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading.
2. Excessive internal or external pressures.
3. Heavy traffic.

END OF SECTION

SECTION 01210 –
PRECONSTRUCTION CONFERENCE

PART 1 - GENERAL

1.01 GENERAL

A. Date, Time and Location: Conference will be held after execution of the CONTRACT and before construction is started at the site. The ENGINEER will fix the date, time and location of the meeting.

B. The ENGINEER will prepare agenda, preside at meeting, and prepare and distribute a transcript of proceedings to all parties.

C. CONTRACTOR shall provide data required, contribute appropriate items for discussion, and be prepared to discuss all items on agenda.

1.02 REQUIRED ATTENDANCE

A. CONTRACTOR, and major SUBCONTRACTORS and equipment suppliers, at his discretion. The CONTRACTOR's superintendent shall be present at this meeting.

1.03 AGENDA

A. Agenda will include, but will not necessarily be limited to, the following:

1. Designation of responsible personnel.
2. Subcontractors' responsibilities and designated representatives.
3. Coordination with other contractors.
4. Construction schedule.
5. Contract Time.
6. Processing of Shop Drawings and distribution of Submittals.
7. Processing of field decisions, Requests for Information and Change Orders.
8. Operation and Maintenance Manuals.
9. Meetings.
10. Temporary Utilities.
11. Processing and Schedule of Payments.
12. Contractor responsibility for safety and first aid procedures.
13. Security.
14. Housekeeping.
15. Record Drawings.
16. Letter of Notice to Proceed.
17. Emergency Telephone Numbers.
18. Testing and Inspection.
19. Any other Project related items.

1.04 SCHEDULES

A. CONTRACTOR shall have the following schedules completed and ready for distribution at the PRECONSTRUCTION CONFERENCE:

1. Construction Schedule

2. Shop Drawing Schedule

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

SECTION 01310 – CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Promptly after award of the CONTRACT, the CONTRACTOR shall prepare and submit to the ENGINEER estimated construction progress and payment schedules for the WORK, with subschedules of related activities which are essential to its progress.

B. Submit revised progress schedules periodically.

1.02 FORM OF PROGRESS SCHEDULES

A. Submit network analysis system using either critical path method, generally as outlined in Associated General Contractors of America (AGC) publication "The Use of CPM in Construction - A Manual for General Contractors" or a bar graph schedule containing sufficient information for analysis. Revised schedule showing current status of the WORK as compared to projected status shall be submitted on a regular basis as described herein.

B. Format of Listings: The chronological order of the start of each item of WORK.

C. Identification of Listings: By major SPECIFICATION section numbers.

1.03 CONTENT OF PROGRESS SCHEDULES

A. Show the complete sequence of construction by activity.

B. Activities shall identify all WORK that must be accomplished to achieve SUBSTANTIAL COMPLETION and final completion, such as WORK related to prerequisite approvals from agencies with jurisdiction over the PROJECT; work involved in the preparation, submittal, and approval of SHOP DRAWINGS and samples; work pertaining to the fabrication and delivery of materials and equipment; work associated with CONTRACTOR's installation, erection and construction activities; WORK required by the existence of underground facilities, WORK required to implement closures or cut-offs, power shutdowns, or temporary or permanent take-down of existing facilities, WORK associated with the performance of preoperational, start-up and final testing; WORK related to the tentative list of items to be completed or corrected before and subsequent to preoperational, start-up and final testing.

C. Show the dates for the beginning, and completion of, each major element of construction. Include time for SHOP DRAWING and O&M manual production, submittal, and review. Specifically list:

1. Mobilization
2. Date of Substantial Completion
3. Date of Final Completion

1.04 PROGRESS SCHEDULE SUBMITTALS

A. Detailed Schedule Submittal: Set shall consist of an initial (detailed) schedule diagram which will show detailed activities for WORK to be performed from date of commencement of the WORK until substantial completion of the WORK, or parts thereof, and summary activities for the balance of the WORK (until final completion).

1. Within one week of the PRECONSTRUCTION CONFERENCE, CONTRACTOR shall deliver three (3) copies of the Initial Detailed Schedule. The Initial Detailed Schedule shall use the date for commencement of the WORK as the date from which all activity dates are calculated; expand, revise, and modify the preliminary progress schedule submittal; reflect CONTRACTOR's preliminary plan of operations for the performance of the WORK; and point out schedule coordination requirements with respect to work by other contractors. CONTRACTOR is responsible for ensuring that the Initial Detailed Schedule Diagram has been reviewed by CONTRACTOR's subcontractors. No application for progress payment will be processed until CONTRACTOR's schedule is reviewed and concurred as reasonable.

2. If a resubmittal is required, CONTRACTOR shall be required to respond with three (3) copies of a revised, adjusted, or modified Detailed Schedule Diagram within seven (7) days.

B. Monthly Status Report: Monthly Status Report submittal sets shall consist of "marked-up" versions of the corresponding Detailed Schedule Diagram in accordance with the requirements of this Section of the CONTRACT DOCUMENTS.

1. CONTRACTOR shall submit three (3) copies of monthly (schedule) status reports with each

application for progress payment. The first such status report shall be submitted with the first application following initial submittal of the detailed schedule, and include data as of the cut-off day of the pay period. No application for progress payment will be processed until CONTRACTOR furnishes the corresponding Monthly Status Report.

2. Monthly Status Reports will be used in the processing of progress payments. The ENGINEER and CONTRACTOR will review status reports at monthly scheduled meetings, and CONTRACTOR will be required to address ENGINEER's comments on the subsequent Monthly Status Report.

3. Indicate progress of each activity to date of submission. Show changes occurring since previous submission of schedule.

   a. Major changes in scope.
   b. Activities modified since previous submission.
   c. Revised projections of progress and completion.
   d. Other identifiable changes.

1.05 ENGINEER SCHEDULE REVIEW RESPONSIBILITY

A. ENGINEER will, upon receipt and review of each schedule submittal, either indicate in writing his concurrence as noted, or return the submittal to CONTRACTOR indicating in writing reasons for refusing to concur with the submittal. In the latter case, CONTRACTOR may be required to make the necessary corrections or alterations and resubmit within the prescribed period. If CONTRACTOR fails to provide schedule submittals as required, he will be deemed not to have provided the basis upon which progress can be evaluated, which may force OWNER to refuse to make payments of the full amount requested on any pending applications for payment, or which may alternatively entitle OWNER to a set-off against the amount requested.

B. ENGINEER's review of schedule submittals shall be only for conformance with CONTRACT times, sequencing restraints, and other information given in the CONTRACT DOCUMENTS, and shall not extend beyond the limitations applicable to the review of SHOP DRAWINGS or samples set forth in the SPECIFICATIONS.

C. ENGINEER's review of schedule submittals will be predicated on stamps or approvals signed off by CONTRACTOR and CONTRACTOR's subcontractor (as that term is defined in the GENERAL CONDITIONS) performing WORK under an appropriate agreement with CONTRACTOR. CONTRACTOR's stamp of approval on schedule submittals shall constitute a representation to OWNER that CONTRACTOR has either determined or verified all data on the schedule submittal, and assumes full responsibility for doing so, and that CONTRACTOR and his subcontractor's have reviewed and coordinated the sequences shown in the schedule submittal with the requirements of the WORK under the CONTRACT DOCUMENTS.

D. ENGINEER'S review of schedule submittals shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the CONTRACT DOCUMENTS.

E. The most current approved detailed schedule will be considered the official schedule as long as it is prepared, submitted, used and kept current by CONTRACTOR in accordance with the requirements of this Section or the CONTRACT DOCUMENTS.

1.06 SUBMITTAL SCHEDULE

A. Provide a schedule of all SHOP DRAWINGS, product data, and samples as required by the SPECIFICATIONS. Schedule shall be in the form of a chronological list indicating the date of each SHOP DRAWING, product and sample. Where more than one submittal is to be made on a particular product, sample or element of work, each such submittal shall be numbered separately and a date for such submittal shall be assigned.

B. Submit schedule at or prior to the pre-construction conference.

1.07 PAYMENT SCHEDULE

A. Payment schedule shall be graphically constructed to show the job progress by month on one ordinate and the cumulative anticipated job costs shown on the other ordinate. The graph should represent the CONTRACTOR's best estimate of job expenditures per month as of commencement of WORK. Payment schedule may be integral to construction schedule. Submit within 30 days of NOTICE TO PROCEED.

B. Submit revised payment schedule as necessary to coordinate with construction schedule.

1.08 SUBMISSIONS

A. Submit the number of copies which the CONTRACTOR requires, but not more than three (3), plus three (3) copies which will be retained by the ENGINEER.

1.09 DISTRIBUTION

A. Distribute copies of the reviewed schedules to:

1. Job size file (progress and payment schedule).
2. Subcontractors (progress schedule only).
3. Other concerned parties (progress schedule only).

B. Instruct recipients to report promptly to the CONTRACTOR, in writing, any problems anticipated by the projections shown in the schedules.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

SECTION 01340 –
SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.01 SHOP DRAWINGS

A. The term "SHOP DRAWINGS" as used herein shall include detailed design calculations; fabrication and installation drawings; material and parts lists; graphs; test data; operating instructions; and other items as specified or shown which shall include but not necessarily be limited to:

1. Drawings and/or catalog information and cuts.
2. Specifications, parts lists, suggested spare parts lists, and equipment drawings.
3. Complete lubrication, maintenance and operation instructions, including initial startup instructions.
4. Applicable certifications.
5. Anchor bolt templates, mounting instructions and mounting design calculations as required per the Contract Documents.
6. Required maintenance operations to allow all installed equipment to remain idle for the period of time prior to its installation.
7. Other technical, installation, and maintenance data as applicable.
8. Unloading and handling methods, and storage requirements.
9. Proposed changes to the Contract Documents noted and highlighted.
10. Paint or coating submittal showing type of paint or coating and the mils thickness of coating system used.
11. Drawings showing CONTRACTOR field verifications illustrating all field dimensions. CONTRACTOR shall field verify all dimensions and existing materials shown on the Drawings. Any modifications required to structures and/or support systems to accommodate CONTRACTOR submitted equipment and/or systems shall be at the CONTRACTOR's expense.

B. Present in a clear and thorough manner. Each fabrication drawing to have a title block in the lower right hand corner with the PROJECT name and number, OWNER's name, fabricator's and CONTRACTOR's name, fabricator's plant location, drawing number, date, and revision block.

C. Identify field dimensions; show relation to adjacent or critical features of WORK or products.

D. Provide CONTRACTOR's approval stamp on each SHOP DRAWING.

E. Minimum Sheet Size: 8 1/2 x 11 inches.

1.02 PRODUCT DATA

A. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to SPECIFICATION section and article number. Show reference standards, performance characteristics, and capacities; component parts; finishes; dimensions; and required clearances.

B. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the WORK. Delete information not applicable.

1.03 SAMPLES

A. Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for ENGINEER selection.

B. Submit samples to illustrate functional characteristics of products, including parts and attachments.

C. Approved samples which may be used in the WORK are indicated in the SPECIFICATION section.

D. Label each sample with identification required for transmittal letter.

E. Provide field samples of finishes at PROJECT, at location acceptable to ENGINEER, as required by individual SPECIFICATIONS section. Install each sample complete and finished. Acceptable finishes in place may be retained in complete WORK.

1.04 MANUFACTURER'S INSTRUCTIONS

A. When required in individual SPECIFICATION sections or requested by the ENGINEER, submit manufacturer's printed instructions for delivery, storage, preparation, assembly, installation, startup, adjusting, balancing, and finishing.

B. Comply with the provisions of Section 01400 - Quality Control.

1.05 CONTRACTOR REVIEW

A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of CONTRACT DOCUMENTS.

B. Coordinate submittals with requirements of WORK and of CONTRACT DOCUMENTS.

C. Provide CONTRACTOR's stamp, and sign or initial each SHOP DRAWING and product data submittal, and each sample label to certify compliance with requirements of CONTRACT DOCUMENTS. Notify ENGINEER in writing at time of submittal, of any deviations from requirements of CONTRACT DOCUMENTS.

D. Do not fabricate products or begin work which requires submittals until return of submittal with ENGINEER acceptance.

1.06 SUBMITTAL REQUIREMENTS

A. Transmit submittals in accordance with approved Progress Schedule, and in such sequence to avoid delay in the WORK.

B. Provide blank space on each submittal for ENGINEER's stamp.

C. Apply CONTRACTOR's stamp, signed or initialed, certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of WORK and CONTRACT DOCUMENTS.

D. Coordinate submittals into logical groupings to facilitate interrelation of the several items:

1. Finishes which involve ENGINEER selection of colors, textures, or patterns.
2. Associated items which require correlation for efficient function or for installation.

E. Submit number of copies of SHOP DRAWINGS CONTRACTOR requires, plus three (3) which will be retained by ENGINEER.

F. Submit number of copies of product data and manufacturer's instructions CONTRACTOR requires, plus three (3) copies which will be retained by ENGINEER.

G. Submit the number of samples specified in individual SPECIFICATION section; one (1) will be retained by ENGINEER. Reviewed samples which may be used in the WORK are indicated in the SPECIFICATION section.

H. Submit under ENGINEER-accepted transmittal form letter. Identify PROJECT by title and number. Identify WORK and product by SPECIFICATIONS section and article number.

I. Allow ten (10) to twenty-one (21) calendar days for ENGINEER's review.

1.07 RESUBMITTALS

A. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.

1.08 DISTRIBUTION

A. Distribute reproductions of SHOP DRAWINGS, copies of product data, and samples, which bear ENGINEER stamp of approval, to job site file, record documents file, subcontractors, suppliers, and other entities requiring information.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. CONTRACTOR shall submit to the ENGINEER a SCHEDULE OF VALUES allocated to the various portions of the WORK, within 10 days after Award of CONTRACT. Modify SCHEDULE OF VALUES as required to reflect all items of WORK in the CSI format for specifications.

B. Upon request of the ENGINEER, support the values with data which will substantiate their correctness.

C. The SCHEDULE OF VALUES, unless objected to by the ENGINEER, shall be used only as the basis for the CONTRACTOR'S Applications for Payment.

1.02 FORM AND CONTENT OF SCHEDULE OF VALUES

A. Type schedule on 8-1/2 inch by 11-inch white paper; CONTRACTOR'S standard forms and automated printout will be considered for approval by ENGINEER upon CONTRACTOR'S request. Identify schedule with:

1. Title of project and location.
2. Engineer and project number.
3. Name and address of Contractor.
4. Contract designation.
5. Date of submission.

B. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing value for progress payments during construction.

C. Follow the table of contents of this CONTRACT as the format for listing component items.

1. Identify each line item with the number and title of the respective major section of the SPECIFICATIONS.

D. For each major line item list subvalues of major products or operations under the item.

E. For the various portions of the WORK:

1. Each item shall include a directly proportional amount of the CONTRACTOR'S overhead and profit.
2. For items on which progress payments will be requested for stored materials, break down the values into:
   a. The cost of the materials, delivered and unloaded, with taxes paid.
   b. The total installed value.
3. Submit a subschedule for each separate stage of WORK specified in Section 01310.

F. The sum of all values listed in the schedule shall equal the total contract sum.

1.03 REVIEW AND RESUBMITTAL

A. After review by ENGINEER revise and resubmit schedule as required.

B. Resubmit revised schedules in same manner.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

This page is intentionally left blank.

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. WORK under this Section includes all testing required by the CONTRACT as specified herein and further specified in the technical sections.

1.02 TESTING METHODS

A. All tests shall be made in accordance with commonly recognized standards of national organizations unless alternate specific testing methods are set forth in the technical sections.

1.03 COSTS

A. The OWNER will employ and pay for an independent testing laboratory to perform all testing services as specified in the technical sections, unless otherwise specified.

Additional inspection and tests required because of defective work or ill-timed notices shall be performed at the CONTRACTOR's expense.

1.04 QUALITY ASSURANCE

A. Samples: The CONTRACTOR shall supply samples or test specimens if and when required by the SPECIFICATIONS or the ENGINEER. These samples or test specimens shall be prepared and furnished with information as to their source in such quantities and size as may be required for proper examination and tests, with all freight charges prepaid. All samples shall be submitted before shipment of materials to the site of the WORK and in ample time to permit the making of proper tests, analysis, examination, rejections and resubmissions before the time required to incorporate the materials into the WORK. No such materials shall be used in WORK until they have been accepted in writing by the ENGINEER. Samples of materials will be retained by the ENGINEER for references and comparison purposes.

B. Certification: Producers and associations which have instituted approved systems of quality control and have been approved may submit certifications of compliance in lieu of further testing. Lumber and plywood grademarks by approved associations and materials for equipment bearing Underwriter's Laboratory label require no further plan inspection and testing, unless more restrictive requirements are required, or otherwise specifically required in the SPECIFICATIONS.

1.05 TESTING LABORATORIES

A. The testing laboratories will be provided by the OWNER.

1.06 CONTRACTOR'S RESPONSIBILITY

A. Access: Furnish free access to various parts of the WORK and assist testing inspection personnel in performance of their duties at no additional cost to the OWNER.

B. Concealed Work: When directed by the ENGINEER, the CONTRACTOR shall open for inspection any part of the WORK which has been concealed. Should the CONTRACTOR refuse or neglect such a request, the OWNER may employ any other person to open up the same or do so himself. If any parts of the WORK have been concealed in violation of the ENGINEER's instructions or, if on being opened, it is found not to be in accordance with the terms of the CONTRACT DOCUMENTS, the expense of opening and recovering, whether done by the CONTRACTOR or not, shall be charged to the CONTRACTOR. If the work is found to be in accordance with the terms of the CONTRACT DOCUMENTS, the actual necessary expense of opening and recovering shall be borne by the OWNER, and if the work of opening and recovering is done by the CONTRACTOR, it shall be considered as extra work and paid for accordingly.

C. Data: Furnish samples, records, drawings, certificates, and similar data as may be required by testing and inspection personnel to assure compliance with the CONTRACT DOCUMENTS.

D. Notices: The CONTRACTOR shall notify the ENGINEER not less than 48 hours before WORK requiring inspection is started. The CONTRACTOR shall schedule portions of the WORK requiring inspection and testing, so that the ENGINEER's time on the PROJECT is continuous and as brief as possible. Provide notice to the ENGINEER 24 hours prior to concealment.

1.07 RESIDENT PROJECT REPRESENTATIVE

A. Appointment: The OWNER is providing RESIDENT PROJECT REPRESENTATIVE to inspect necessary portions of the WORK. Such inspection may extend to any or all parts of the WORK, and to the preparation or manufacture of materials to be used.

B. Authority of RESIDENT PROJECT REPRESENTATIVE: RESIDENT PROJECT REPRESENTATIVES are not authorized to revoke, alter, enlarge or relax the provisions of the CONTRACT DOCUMENTS, and the RESIDENT PROJECT REPRESENTATIVE is placed on the WORK to keep the ENGINEER informed as to the progress of the WORK and the manner in which it is being done. He may also call the attention of the CONTRACTOR to any deviations from the plans or SPECIFICATIONS. Failure of the RESIDENT PROJECT REPRESENTATIVE or the ENGINEER to call the attention of the CONTRACTOR to faulty WORK or deviation from the CONTRACT DOCUMENTS shall not constitute acceptance of said WORK. A RESIDENT PROJECT REPRESENTATIVE is not authorized to approve or accept any portions of the WORK or to issue instructions contrary to the CONTRACT DOCUMENTS. The RESIDENT PROJECT REPRESENTATIVE will exercise only such additional authority as may be specially delegated to him by the ENGINEER, notice of which will be given in writing to the CONTRACTOR.

C. The CONTRACTOR shall be responsible for ensuring safe working conditions per OSHA to allow inspection of all WORK by the RESIDENT PROJECT REPRESENTATIVE. This shall include providing all necessary monitoring devices and safety equipment for entering any confined spaces made part of the WORK. Payment will not be made for any part of the WORK which cannot be safely inspected by the RESIDENT PROJECT REPRESENTATIVE.

1.08 TEST REPORTS

A. The OWNER's testing laboratory will prepare logs, test reports and certificates applicable to specific tests and inspections. Reports will include description of method of test, identification of samples and portions of the WORK tested. They will state description of location of WORK, time and date of obtaining and testing samples, weather and climatic conditions, and evaluation of results of test, including recommendations for action. As a minimum, copies will be distributed by the testing lab as follows:

OWNER:	1
ENGINEER:	1

1.09 DEFECTIVE WORK

A. Remove and replace any work found defective or not complying with requirements of contract documents, at no additional cost to OWNER.

Work will be checked as it progresses, but failure to detect any defective work or materials shall not in any way prevent later rejection when such defect is discovered, nor shall it obligate the ENGINEER for final acceptance.

If test cylinders for concrete fail to meet design stresses, make core and load tests as directed.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01500 –
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 HOURS OF WORK

A. The CONTRACTOR shall establish his own work hours in accordance with the Construction Schedule submitted in Section 01310. No WORK shall be performed between the hours of 7:00 p.m. and 7:00 a.m., on Saturdays, Sundays or holidays unless written request is made to the ENGINEER and approved by the OWNER and ENGINEER.

1.02 PUBLIC SAFETY AND CONVENIENCE

A. The CONTRACTOR shall comply with all rules and regulations of state and local authorities regarding the closing of public traffic. No roads shall be closed to the public except by express permission of the ENGINEER. The CONTRACTOR shall conduct the WORK so as to ensure the least possible obstruction to traffic and normal commercial pursuits. He shall protect all obstructions within traveled roadways with approved signs, barricades and lights where necessary or where ordered by the ENGINEER for the safety of the public. The convenience of the general public and residents along the WORK, and the protection of persons and property is of prime importance and shall be provided for in an adequate and satisfactory manner.

Whenever the CONTRACTOR's operations create a hazardous condition, he shall furnish flagmen and guards as necessary to give adequate warning to the public of any dangerous condition encountered.

1.03 TRAFFIC CONTROL

A. All traffic control devices shall conform to the current edition of the "Manual of Uniform Traffic Control Devices."

B. The cost for all necessary traffic control by the CONTRACTOR shall be incidental to the entire PROJECT and shall be included in the CONTRACT PRICE.

1.04 CONSTRUCTION UTILITIES AND MISCELLANEOUS FACILITIES

A. General: The CONTRACTOR shall provide the temporary facilities and controls as hereinafter specified and as required by law.

B. Hoists, scaffolds, staging, storage and miscellaneous:

1. Equipment shall be provided with proper guys, bracing and other safety devices as required by local or state codes and regulations.

2. Provide suitable substantial facilities or protection for storing, immediately after delivery, materials which may be damaged by storage in the open.

C. Power: Unless otherwise specified, the CONTRACTOR shall provide all necessary power and special connections to power lines. The CONTRACTOR is responsible for removing any temporary electrical systems installed for construction purposes.

The location of temporary power facilities shall be determined by the CONTRACTOR and approved by the utility agency and the INSPECTOR.

D. Water: Unless otherwise specified, the CONTRACTOR shall provide and pay for all necessary water and special connections to a water supply.

Where applicable, the CONTRACTOR shall provide a backflow preventer device to prevent a direct cross connection between the water supply and wastewater conveying systems.

E. Telephone: The CONTRACTOR shall provide a telephone service at the site. A radio telephone service is not acceptable as a substitute for the required telephone service. A properly operating and continually accessible cellular phone is acceptable.

F. Sanitary Facilities: The CONTRACTOR shall provide adequate toilet facilities for all workmen and OWNER's representatives employed on the WORK. The CONTRACTOR shall maintain the same in a sanitary condition from the beginning of the WORK until completion and shall then remove the facilities and disinfect the premises. All portions of the WORK shall be maintained at all times in a sanitary condition. Temporary sanitary facilities shall be removed upon the completion of the PROJECT.

G. Permanent Facilities: The CONTRACTOR is specifically prohibited from utilizing permanent facilities, such as pumps, heating and ventilation equipment, water, air and power systems, cranes and hoists in the construction of the PROJECT.

H. Parking Facilities: The CONTRACTOR shall provide adequate off-road parking facilities for the automobiles used by his construction employees and the OWNER's representatives.

I. Temporary Heating: The CONTRACTOR shall provide temporary heating, covering and enclosures as necessary to protect all WORK and material against damage by dampness and cold, and to facilitate completion of WORK. The CONTRACTOR shall supply all the fuel, equipment and material required for temporary heating.

J. Construction Signs: No commercial or advertising signs shall be allowed on the site of the WORK.

K. Fencing: Provide temporary fencing around site at all times when it appears that the WORK area could be a hazard to the public.

L. Fire Protection: Provide portable, operable fire extinguishers at the site at all times in accordance with NFPA Standard 10.

1.05 PROTECTION OF EXISTING CONSTRUCTION

A. The CONTRACTOR shall protect existing construction and finishes liable to damage through performance of the WORK.

1.06 BARRIERS

A. The CONTRACTOR shall erect and maintain guard rails or other suitable barriers where required.

1.07 WATER CONTROL

A. The CONTRACTOR shall provide all necessary pumping equipment and temporary swales as required to keep the WORK areas free from water. Water shall be discharged as directed by the ENGINEER.

1.08 FIRE PREVENTION CONTROL

A. General: The CONTRACTOR shall take all precautions necessary and required to prevent fires. Comply with requirements of local authorities having jurisdiction.

B. Fuel for cutting and heating torches shall be gas only, and shall be contained in Underwriter's Laboratory approved containers.

C. The CONTRACTOR shall provide and maintain a 20-pound capacity, dry-chemical type fire extinguisher in the immediate vicinity of the WORK when welding tools or torches of any type are in use.

D. The CONTRACTOR shall not use volatile liquids for cleaning agents or as fuels for motorized equipment or tools within building, except with the written approval of the ENGINEER.

E. Tarpaulins shall be securely anchored and flame-proofed when attached to any wood scaffolding, and when used to enclose any portion of a building above the first floor.

1.09 POLLUTION CONTROL

A. General: The CONTRACTOR's construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, and other pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.

1.10 RUBBISH REMOVAL

A. The CONTRACTOR shall clean up the debris resulting from WORK at least once a day or more often, if it interferes with the work of others or presents a fire hazard. Debris shall be closely piled where directed.

B. The CONTRACTOR shall remove and dispose of all debris when directed.

C. Waste materials including, but not restricted to, refuse, garbage, sanitary wastes, industrial wastes, and oil and other petroleum products, shall be disposed of by the CONTRACTOR. Except for burnable materials, disposal of waste materials shall be by removal from the construction area. Waste materials removed from the construction area shall be disposed of at an approved landfill.

D. The CONTRACTOR shall stockpile all waste material at the waste site in an expeditious manner. Burning of waste material will be permitted.

1.11 DISPOSAL OF MATERIAL BY BURNING

A. The CONTRACTOR shall secure the permission of the City and the necessary burning permits from the state and local authorities. All burning shall be in accordance with state and local laws.

B. All materials to be burned shall be piled in such a manner as will cause the least fire hazards. Burning shall be thorough and complete and all charred pieces remaining after burning, except for scattered small pieces, shall be removed from the construction area and disposed of as otherwise provided in this paragraph.

C. The CONTRACTOR shall, at all times, take special precautions to prevent fire from spreading beyond the areas being burned and shall be liable for any damage caused by the CONTRACTOR's burning operations. The CONTRACTOR shall have available, at all times, suitable equipment and supplies for use in preventing and suppressing fires and shall be subject to all laws and regulations applicable for presuppression, suppression, and prevention of fires.

D. Material to be disposed of by removal from the construction area shall be removed from the area upon completion of the WORK under these CONTRACT DOCUMENTS. All materials removed shall become the property of the CONTRACTOR.

E. Materials to be disposed of by dumping shall be hauled to an approved landfill. It shall be the responsibility of the CONTRACTOR to make any necessary arrangements with private parties and with local officials pertinent to locations and regulations of such dumping. Any fees or charges required to be paid for dumping of materials shall be paid by the CONTRACTOR.

1.12 DISCONTINUANCE, CHANGES AND REMOVAL

A. The CONTRACTOR shall discontinue the temporary services herein specified when their use is no longer required or they impede progress on the WORK, all as directed. The discontinuance of any temporary service herein specified prior to the completion of any or all branches of the WORK shall not render the OWNER liable for any additional cost of the WORK entailed thereby, and the CONTRACTOR shall thereafter furnish under his contract, and at no additional cost to the OWNER, any and all temporary service required by his WORK to replace that discontinued.

B. Should a change in location of any of the temporary facilities be necessary in order to progress the WORK properly, CONTRACTOR shall remove and relocate such items as directed without additional cost to the OWNER.

C. When directed and no longer required, CONTRACTOR shall remove the temporary facilities specified herein. Material used for temporary facilities which are removed shall become the property of the CONTRACTOR and shall be removed from the site by the CONTRACTOR.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

This page is intentionally left blank.

SECTION 01600 – MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. This Section describes material and equipment incorporated into the WORK.

1. Material and equipment shall conform to applicable SPECIFICATIONS and standards.

2. Material and equipment shall comply with size, make, type and quality specified, or as specifically approved in writing by the ENGINEER.

3. The CONTRACTOR shall provide manufactured and fabricated products conforming to the following requirements:

   a. Design, fabricate and assemble in accord with the best engineering and shop practices.

   b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.

   c. Two or more items of the same kind shall be identical, by the same manufacturer.

   d. Products shall be suitable for service conditions.

   e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.

4. The CONTRACTOR shall not use material or equipment for a purpose other than that for which it is designed or is specified.

1.02 MANUFACTURER'S INSTRUCTIONS

A. The CONTRACTOR shall perform WORK in accordance with manufacturer's instructions. No preparatory step or installation procedure shall be omitted unless specifically modified or exempted by CONTRACT DOCUMENTS.

1.03 TRANSPORTATION AND HANDLING

A. The CONTRACTOR shall arrange deliveries on products in accordance with construction schedules. The CONTRACTOR shall coordinate to avoid conflict with WORK and conditions at the site.

1. The CONTRACTOR shall deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

2. Immediately on delivery, CONTRACTOR shall inspect shipments to assure compliance with requirements of CONTRACT DOCUMENTS and approved submittals, and that products are properly protected and undamaged.

B. The CONTRACTOR shall provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.04 STORAGE AND PROTECTION

A. The CONTRACTOR shall store products in accordance with manufacturer's instructions, with seals and labels intact and legible.

1. The CONTRACTOR shall store products subject to damage by the elements in weathertight enclosures.

2. The CONTRACTOR shall maintain temperature and humidity within the ranges required by manufacturer's instructions.

B. Exterior Storage

1. The CONTRACTOR shall store fabricated products above the ground, on blocking or skids, to prevent soiling or staining. Products which are subject to deterioration shall be covered with impervious sheet coverings, and adequate ventilation shall be provided to avoid condensation.

2. The CONTRACTOR shall store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

3. The CONTRACTOR shall maintain covers on equipment until the equipment is put into operation.

C. The CONTRACTOR shall arrange storage in a manner to provide easy access for inspection. Periodic inspections of stored products shall be made to assure that products are maintained under specified conditions, and free from damage or deterioration.

D. Protection After Installation

1. The CONTRACTOR shall provide substantial coverings as necessary to protect installed products from damage from traffic, weather and subsequent construction operations, and shall remove when no longer needed.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01630 –
PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. CONTRACTOR shall submit proposed options and product substitution data and information for review by ENGINEER on the Substitution Request Form provided herein.

1.02 PROPOSED SUBSTITUTIONS

A. Substitutions will be considered only under the following conditions:

1. Substitutions required for compliance with final interpretations of code requirements or insurance regulations.

2. Unavailability of specified products, through no fault of CONTRACTOR.

3. Subsequent information disclosed inability of specified product to perform properly or to fit in designated space.

4. Manufacturer/fabricator refusal to certify or guarantee performance of specified product as required.

5. When a substitution would be substantially beneficial to OWNER.

1.03 CONTRACTOR OPTIONS

A. Products specified by reference standards or by description only: Any product meeting those standards.

B. Products specified by naming one or more manufacturers with a substitution paragraph or an "or equal" clause: Submit a request for substitution for any manufacturer not specifically named.

C. Products specified by naming several manufacturers but without a substitution paragraph or an "or equal" clause; No options, no substitutions, allowed.

D. Products specified by naming only one manufacturer but without a substitution paragraph or an "or equal" clause: No option; no substitutions allowed.

1.04 LIMITATIONS ON SUBSTITUTIONS

A. Requests for substitutions of products will be considered only within time frame defined in Section 01600 - Material and Equipment. Submittals received after that time will not be considered. Substitutions will be considered in accordance with Paragraph 1.02A and 1.03 above.

B. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.

C. Substitute products shall not be ordered or installed without written acceptance.

D. Only one request for substitution for each product will be considered. When substitution is not accepted, provide specified product.

E. ENGINEER will determine acceptability of substitutions.

1.05 REQUESTS FOR SUBSTITUTIONS

A. Submit request for each substitution. Document each request by submitting a Substitution Request Form for review by ENGINEER.

B. Identify product by SPECIFICATIONS section and article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number.

C. Attach product data to each request form

1.06 CONTRACTOR REPRESENTATION

A. Request for substitution constitutes a representation that CONTRACTOR has investigated propose product and has determined that it is equal to or superior in all respects to specified product or that the cost reduction offered is ample justification for accepting the offered substitution.

B. CONTRACTOR will provide same warranty or bond for substitution as for specified product.

C. CONTRACTOR will coordinate installation of accepted substitute, making such changes as may be required for WORK to be complete in all respects.

D. CONTRACTOR waives claims for additional costs related to substitution which may later become apparent.

1.07 SUBMITTAL PROCEDURES

A. Submit three copies of each separate Substitution Request Form. All items must be completed or marked "no change".

B. ENGINEER will notify CONTRACTOR, in writing, of decision to accept or reject requested substitution within fifteen (15) working days.

C. For accepted products, submit shop drawings, product data and samples in accordance with Section 01340.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

SUBSTITUTION REQUEST FORM

TO:_____

PROJECT:_____

We hereby submit for your consideration the following product instead of the specified item for the above project:

Section: Paragraph: Specified Item:

_____ _____ _____

Proposed Substitution: _____

Attach complete technical data, including laboratory tests, if applicable. Include complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Fill in blanks below:

A. Does the substitution affect dimensions shown on Drawings? _____

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? _____

C. What affect does substitution have on construction schedule & other trades?
_____

D. State quality and performance differences between proposed substitutions and specified items.
_____

E. Cost differences between proposed substitution and specified item? (Indicate net change to contract sum) __
_____

F. Manufacturer's guarantees of the proposed and specified items are:
_____ Same _____ Different (explain on attachment)

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted By:

_____
Signature

_____
Firm

_____
Address

_____

Date _____ Telephone _____

For use by Engineer:

_____Accepted _____Accepted As Noted

_____Not Accepted _____Received Too Late

By_____

Date _____

Remarks_____

_____

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

PART 1 - GENERAL

1.01 GENERAL

A. The CONTRACTOR shall provide and maintain methods, equipment, and temporary construction as necessary to provide controls over environmental conditions at the construction site and adjacent areas and shall remove physical evidence of the temporary facilities at the completion of WORK.

B. The CONTRACTOR shall, at his own expense, obtain all required permits for environmental controls unless otherwise specified.

1.02 NOISE CONTROL

A. The CONTRACTOR's vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA and local agency standards.

1.03 DUST CONTROL

A. The CONTRACTOR shall be responsible for controlling objectionable dust caused by his operation of vehicles and equipment, clearing or for any reason whatever. The CONTRACTOR shall apply water or use other methods subject to the ENGINEER's approval which will keep dust in the air to a minimum.

B. Dust control measures shall be maintained at all times to the satisfaction of the ENGINEER.

1.04 PEST AND RODENT CONTROL

A. The CONTRACTOR shall provide rodent and pest control as necessary to prevent infestation of construction or storage areas. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

1.05 EROSION PROTECTION

A. CONTRACTOR shall plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.

1. Hold the areas of bare soil exposed at any time to a minimum.

2. Provide temporary control measures such as berms, dikes and drains.

B. CONTRACTOR shall construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.

C. CONTRACTOR shall periodically inspect earthwork to detect any evidence of the start of erosion. Apply corrective measures as required to control erosion.

1.06 PAINT AND SOLVENT CONTROL

A. CONTRACTOR shall comply with all requirements of regulatory agencies in use, storage, application, and disposal of paints and solvents, and containers for paints and solvents. All disposal shall be at an approved legal disposal site.

1.07 AIR EMISSIONS

A. CONTRACTOR shall comply with all requirements of regulatory agencies for pollutant emissions from all vehicles and equipment.

1.08 USED HYDROCARBONS

A. Used hydrocarbons shall be disposed of at an approved legal disposal site.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01700 – CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. Conditions of the CONTRACT: Fiscal provisions, legal submittals, and other administrative requirements.

B. Section 01500- Temporary Facilities and Controls

1.02 CLOSEOUT PROCEDURES

A. CONTRACTOR shall comply with procedures stated in GENERAL CONDITIONS of the CONTRACT for issuance of CERTIFICATE OF SUBSTANTIAL COMPLETION.

B. When CONTRACTOR considers WORK has reached final completion, CONTRACTOR shall submit written certification that CONTRACT DOCUMENTS have been reviewed, WORK has been inspected, and that WORK is complete in accordance with CONTRACT DOCUMENTS and ready for ENGINEER's inspection.

C. In addition to submittals required by the conditions of the CONTRACT, CONTRACTOR shall provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted CONTRACT SUM, previous payments, and sum remaining due.

D. If appropriate, the ENGINEER will issue a final CHANGE ORDER reflecting any approved adjustments to CONTRACT SUM not previously made by CHANGE ORDER.

1.03 FINAL CLEANING

A. CONTRACTOR shall execute prior to final inspection.

B. CONTRACTOR shall clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces.

C. CONTRACTOR shall clean site; sweep paved area; rake clean other surfaces.

D. CONTRACTOR shall remove waste and surplus materials, rubbish, and construction facilities from the PROJECT and from the site.

1.04 WARRANTIES AND BONDS

A. CONTRACTOR shall provide duplicate copies. Execute CONTRACTOR's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers.

B. CONTRACTOR shall submit material prior to final application for payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. CONTRACTOR shall maintain and provide the ENGINEER with the PROJECT record documents as specified below except where otherwise specified or modified in other Divisions of the CONTRACT DOCUMENTS. Current status of RECORD DRAWINGS shall be a condition precedent to progress payments.

1.02 MAINTENANCE OF DOCUMENTS

A. A set of bluelines of the CONTRACT DRAWINGS shall be updated by the CONTRACTOR with record information and reviewed by the ENGINEER prior to each request for payment made by the CONTRACTOR.

1.03 RECORDING

A. CONTRACTOR shall keep record documents current, and updated at least monthly.

B. CONTRACTOR shall not permanently conceal any WORK until required information has been recorded.

C. Contract Drawings: CONTRACTOR shall legibly mark to record actual construction including:

1. Depths of various elements of foundation in relation to datum.
2. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
3. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
4. Field changes of dimensions and details.
5. Changes made by modification or field change.
6. Details not on original CONTRACT DRAWINGS.

D. Specifications and Addenda: CONTRACTOR shall legibly mark up each Section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes made by modification or field change.
3. Other matters not originally specified.

E. Shop Drawings: CONTRACTOR shall maintain as record documents and legibly annotate drawings to record changes made after review.

1.04 RECORD DRAWINGS

A. RECORD DRAWINGS shall be prepared for all the WORK included in the CONTRACT showing the actual in-place installation of the items installed under this CONTRACT. The drawings shall show the WORK in plan and sections as required for clarity with reference dimensions and elevations for complete RECORD DRAWINGS.

B. The CONTRACT DRAWINGS may be used as a starting point in developing these drawings. Subcontractor and manufacturer drawings may be included in this drawing package. The drawing package must be fully integrated and include the necessary cross references between the drawings. The drawing package shall include interconnection and termination details to equipment furnished under this CONTRACT.

C. The RECORD DRAWINGS of the electrical work shall show one-line diagrams with all conduit and wire sizes shown of the distribution systems and the actual in-place grounding system, lighting arrangement, motor control centers, corrected wiring diagrams, equipment and conduit and cable plans.

1.05 SUBMITTAL

A. No later than 30 days after the completion of the WORK, the CONTRACTOR shall furnish three (3) blueline sets of the RECORD DRAWINGS to the ENGINEER for review and approval. The RECORD DRAWINGS will be reviewed and returned to the CONTRACTOR within 30 days. A set of reproducibles and three (3) blueline sets of the final record documents shall be submitted to the ENGINEER. The final submittal of RECORD DRAWINGS shall be made not later than 30 days after the ENGINEER returns the documents and prior to final payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. This Section includes operations which cannot be specified in detail as separate Items, but can be sufficiently described as to the kind and extent of work involved. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals to complete the WORK under this Section.

B. The WORK of this Section includes, but is not limited to, the following:

1. Restoring servitudes and rights-of-way.

2. Cleaning up.

3. Incidental work.

C. All WORK shall be completed in a workmanlike manner by competent workmen in full compliance with all applicable sections of these SPECIFICATIONS.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials required for this Section shall be of at least the same type and quality as materials that are to be replaced or restored. Where possible, the CONTRACTOR shall reuse existing materials that are removed and then replaced, with the exception of paving.

PART 3 - EXECUTION

3.01 RESTORING OF FENCES AND GUARD RAILS

A. It may be necessary for the CONTRACTOR to remove, store and replace existing fences and guard rails during construction. Only the sections directed by the ENGINEER shall be removed. If any section of fence or guard rail is damaged due to the CONTRACTOR'S negligence, it shall be replaced with fencing or guard rail equal to or better than that damaged, and the WORK shall be satisfactory to the ENGINEER.

3.02 RESTORING SERVITUDES AND RIGHTS-OF-WAY

A. Portions of the construction occur in servitudes through private property. The CONTRACTOR shall be responsible for all damage to private property due to his operations. He shall protect from injury all walls, fences, cultivated shrubbery, pavement, underground facilities such as water pipe, or other utilities which may be encountered. If removal and replacement are required, it shall be done in a workmanlike manner so that the replacement is equivalent to that which existed prior to construction.

B. Existing lawn, pasture or other grassed surfaces damaged by construction shall be regraded and resodded or reseeded. These areas shall be maintained until all WORK under this CONTRACT has been completed and accepted.

3.03 CLEANING UP

The CONTRACTOR shall remove all construction material, excess excavation, buildings, equipment and other debris remaining on the job as a result of construction operations and shall render the site of the WORK in a neat and orderly condition.

3.04 INCIDENTAL WORK

Perform all incidental work not otherwise specified, but obviously necessary for the proper completion of the CONTRACT as specified and as shown on the DRAWINGS.

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

DIVISION 2

SITE CONSTRUCTION

SECTION 02230 - CLEARING AND GRUBBING

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. The work covered under this section includes clearing and grubbing, removal of all stumps, limbs, roots, and tree debris as necessary to construct the facilities shown on the drawings or as specified herein.

1.02 PROTECTION OF ADJACENT SURFACES

A. Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation designated by the OWNER to remain in place against unnecessary cutting, breaking or skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line. Provide temporary guards to protect trees and vegetation to be left standing.

B. Construction Limits: All construction limits shall be strictly adhered to during construction. The preservation and protection of wetlands shall be strictly followed, including restoration of the construction area and sedimentation control measures during construction.

C. Sedimentation Control Measures: Sedimentation control measures (bales, screens, etc.) shall be placed at the construction limits prior to any physical work activities. These control measures shall be carefully maintained during initial clearing activities and throughout the duration of construction and startup activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 CLEARING

A. Clearing shall consist of the removal of all natural growth, trees, down timber, logs, stumps, branches, and any other objects deemed detrimental or in the way of construction. Over-cutting and over-cleaning shall be the sole responsibility of the CONTRACTOR and all costs to correct over-cutting and over-clearing shall be borne by CONTRACTOR.

B. Protect existing trees and vegetation and other growth which does not interfere with construction for use as part of the landscape treatment and buffer zone. Do not damage root systems.

C. Maintain all bench marks, monuments, and other reference points. If disturbed or destroyed, restore as directed by ENGINEER.

D. Construction Limits: The project construction limits must be clearly marked and approved for all impacted areas before any physical work is done on this site. This work site is environmentally sensitive and all measures must be taken to eliminate construction encroachment outside predetermined boundaries. Marking system (stakes, flags, etc.) shall designate boundaries for the construction site.

3.02 GRUBBING

A. Grubbing shall consist of the removal and disposal of stumps, roots, logs, and other organic metallic debris not suitable for foundation purposes, below the original surface level of the ground. Depressions made by grubbing shall be filled with suitable material and compacted as specified in Section 02330, Embankment and Backfilling, so that the surface conforms with the adjacent ground surface. Earth material of topsoil quality shall be stockpiled for placement on exposed embankments or other designated surfaces.

3.03 STRUCTURAL CONSTRUCTION

A. Remove all vegetation, topsoil, debris, organic material, and otherwise objectionable materials which are not suitable for use as fill for support of structural loads or slabs from within the designated area. Remove all roots and matted root systems. Extended clearing and grubbing at least 10 feet beyond structure lines or as shown on drawing. Unless further excavation is required, fill all depressions made by grubbing and compact to 95% of the modified Proctor (ASTM D 1557) maximum dry density before placing subsequent embankment material.

3.04 DISPOSAL OF CLEARED AND GRUBBED MATERIALS

A. Remove from the construction area all logs, stumps, roots, branches, rotten wood, branches, and other refuse which are the products of clearing and grubbing operations. Remove the products of clearing and grubbing operations from the construction area, and dispose of the materials in approved waste areas. Disposal of cleared and grubbed material in adjacent streams, drainage channels, or on the banks thereof, other than the areas designated, will not be allowed.

B. Abandoned pipelines, structures, existing fences, or other improvements encountered within the limits of the work, shall become the property of the CONTRACTOR and shall be removed from the site and disposed of in areas arranged for, by and at the expense of the CONTRACTOR.

END OF SECTION

SECTION 02315 -
EXCAVATION, BACKFILLING, AND COMPACTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary to perform all excavation, backfill, grading, and wall protection required to complete the work shown on the Drawings and specified herein. The work shall include, but not necessarily be limited to, excavation, filling and grading under and around precast and cast in place structures to attain the subgrades and grades indicated on the Drawings, trenching operations to install pipe, manholes, vaults, electrical duct conduit, and other structures, including all backfilling, grading, disposal of surplus and unsuitable materials, and all related work such as sheeting, bracing and water handling.

1.02 QUALITY ASSURANCE

A. The CONTRACTOR shall perform excavation work in compliance with applicable requirement codes and standards of governing authorities having jurisdiction.

1.03 JOB CONDITIONS

A. The CONTRACTOR shall examine the site and review all available information prior to submitting his bid, taking into consideration all conditions that may affect his work. The OWNER and ENGINEER will not assume responsibility for subsurface conditions.

B. Existing Utilities: Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.

1. The location of pipes, ducts, or underground structures is not warranted to be exact, nor is it warranted that all underground pipes, ducts, or structures are shown. The CONTRACTOR shall contact Louisiana One Call and any other appropriate utility company for location of their underground service a minimum of 48 hours prior to beginning construction in each area. It is the CONTRACTOR's responsibility to verify and locate all utilities in the field at no cost to the OWNER.

2. Cooperate with OWNER and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility OWNER or make the site available to the utility OWNER for his work crews to make the necessary repairs at no additional cost to the OWNER.

3. Demolish and completely remove from site any existing underground utilities indicated on the Drawings to be removed.

4. Examine the areas and conditions under which excavating, filling, and grading are to be performed. Do not proceed with the work until unsatisfactory conditions have been corrected.

5. Examine existing grades prior to commencement of work and report to ENGINEER if elevations of existing subgrade vary from elevations shown on Drawings.

6. If it is determined that existing utilities are to be relocated by OWNER of those utilities, the CONTRACTOR shall be responsible for that coordination. The CONTRACTOR shall notify the utility OWNER in sufficient time as to avoid any delays to the CONTRACTOR's schedule. The CONTRACTOR is solely responsible for this coordination, and no delay or extension of time will be allowed as a result of or the cause of inaction by the CONTRACTOR or utility OWNER.

1.04 PROTECTION

A. Slope sides of excavations to comply with OSHA regulation and any applicable local codes and ordinances. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

PART 2 - PRODUCTS

2.01 REQUIREMENTS INCLUDED

A. Definitions:

1. Select Material - Select fill shall conform to Louisiana DOTD designation TR 423 Classes A-I-a, A-l-b, A-3, A-2-4, A-2-6, A-4 or A-6 having a maximum liquid limit of 35, a maximum plasticity index of 15, a maximum organic content of 2%, and a maximum silt content of 60%. This material is referred to as "selected soils" in the Louisiana DOTD Specifications. Based on an approved geotechnical engineering report, particularly A-6 soils, a higher elasticity index of up to 25 will be considered. These materials can be used for backfill in over-excavated areas, for backfill from 12 inches above the top of the pipe to the top of the subgrade and as structural fill/backfill.

2. Bedding Materials - Bedding materials shall conform to Louisiana DOTD Specifications 1003.08, however, shell will not be allowed as bedding material. These materials shall be used for placement under the pipes in the trench and as a bedding material as defined on the Drawings and shall have a minimum thickness of 6 inches; these materials shall also be used for backfill in over-excavated trench areas and may be used for backfill from above the top of the pipe to the top of subgrade and as structural fill/backfill.

3. Stabilization Materials - Stabilization materials shall be a blended, manufactured aggregate conforming to the requirements for concrete aggregate as stated in ASTM C33 except for gradation which shall be between sizes 78 and 57 (inclusive) as specified in ASTM D448.

4. Granular Materials Granular materials shall conform to Louisiana DOTD Specifications 1003.07. These materials shall be used for backfilling around the pipes from the bedding material up to at least 12 inches above the top of the pipes or to subgrade and in confined areas around structures; these materials may also be used as structural fill/backfill.

5. Usable Excavated Soils - Usable excavated soils, referred to as "usable soils" in Louisiana DOTD specifications, shall conform to Classes A-I-a, A-l-b, A-2-4, A-2-5, A-2-6, A-2-7, A-3, A-4, A-5, A-6, A-7-5, and/or A-7-6, except that soils in Classes A-5, A-6, A-7-5 and A-7-6 which are considered unusable by the ENGINEER and any soil with a plasticity index exceeding 60 will not be accepted in accordance with paragraph 203.06 in the Louisiana DOTD specifications. These materials can be used for backfill from 12 inches above the top of the pipe up to the surface in unimproved areas.

6. Soil classifications used herein are to be in accordance with the AASHTO table for "Classification of Soils and Soil-Aggregate Mixtures (With Suggested Subgroups) " as shown on LADOTD designation TR423.

B. General:

1. Materials for use as fill and backfill shall be as described above. The CONTRACTOR shall notify the ENGINEER of the source of each material and shall furnish to the ENGINEER for testing and approval, a representative sample of each material weighing approximately 50 pounds, at least ten (10) calendar days prior to the date of anticipated use of such material.

2. Additional materials shall be furnished as required from off-site sources and hauled to the site.

3. Disposal of unsuitable material is specified in this Section, see Paragraph 3.07.

C. Structural Fill:

1. Structural fill shall consist of select fill and shall be used below spread footing foundations, slab-on-grade floors, and other structures and as backfill within three (3) feet of the below grade portions of structures, except that, when stabilization layers of courses are shown on the Drawings, stabilization material shall be placed and compacted over the structural fill material in accordance with the requirements for the structural fill.

2. Material falling within the above specification, encountered during the excavation, may be stored in segregated stockpiles for reuse. All material which, in the opinion of the ENGINEER, is not suitable for reuse shall be spoiled as specified herein for disposal of unsuitable materials.

PART 3 - EXECUTION

3.01 EXCAVATION

A. General:

Excavation consists of removal and disposal of material encountered when establishing required grade elevations and in accordance with the Drawings.

B. Excavation Classifications:

The following classifications of excavation will be made when unclassified excavation is encountered in the work. Do not perform such work until material to be excavated has been cross-sectioned and classified by ENGINEER or specialized geotechnical consultant.

1. Authorized earth excavation includes removal and disposal of pavements and other obstructions visible on ground surface, underground structures and utilities indicated in soil boring data to be removed, and other materials encountered that are not classified but are to be removed.

2. Unauthorized excavation consists of removal of material beyond the limits needed to establish required grade and subgrade elevations without specific direction of ENGINEER. Unauthorized excavation, as well as remedial work directed by the ENGINEER, shall be at no additional expense to the OWNER. Backfill and compact unauthorized excavations as specified for authorized excavations, except that bedding material as specified above shall be used for backfill under footings, foundations bases, or retaining walls unless otherwise directed by the ENGINEER. The ENGINEER may approve the use of

lean concrete fill, reinforced or unreinforced as required by the site conditions and as required by the ENGINEER, if soil conditions allow the extra loading.

C. Additional Structural Excavation:

When excavation has reached required subgrade elevations, notify the ENGINEER who will make an inspection of conditions or contact a geotechnical consultant to do so.

1. If unsuitable, unsatisfactory bearing materials are encountered at the required subgrade elevation, carry excavation deeper and replace the excavated material as directed by the ENGINEER.

2. Removal of unsuitable material and its replacement as directed beyond the authorized limits will be paid on the basis of contract conditions relative to changes in the Work as provided in the General Conditions.

D. Excavation for Structures:

Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet, and extending a sufficient distance from footings and foundations to permit placing and removal of concrete framework, installation of services, other construction, and for inspection, or as shown on the Drawings.

1. In excavation for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive any required stabilization material or concrete.

2. In the event that excavations subsequent to the placement of the fill are performed by the CONTRACTOR to install piping, conduit, or other appurtenances, any fill placed above the level of the planned excavation shall be fully compacted in accordance with the requirements of this specification prior to beginning the excavation.

3.02 FILL PLACEMENT

A. General:

1. Material placed in fill areas under and around structures or within the pipe trench limits shall be deposited within the lines and to the grades shown on the Drawings or as directed by the ENGINEER, making due allowance for settlement of the material. Fill shall be placed only on properly prepared surfaces which have been inspected and approved by the ENGINEER. If sufficient fill material is not available from excavation on site, the CONTRACTOR shall provide borrows as may be required.

2. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.

3. Fill shall be brought up in substantially level lifts throughout the site, starting in the deepest portion of the fill. The entire surface of the work shall be maintained free from ruts, and in such condition that construction equipment can readily travel over any section. Fill shall not be placed against concrete structures until they have attained sufficient strength.

4. Fill shall be dumped and spread in layers by a bulldozer or other approved method. During the process of dumping and spreading, all roots, debris, and other objectionable material shall be removed from the fill areas, and the CONTRACTOR shall assign a sufficient number of men to this work to insure satisfactory compliance with these requirements.

5. If the compacted surface of any layer of material is determined to be too smooth to bond properly with the succeeding layer, it shall be loosened by harrowing or by an other approved method before the succeeding layer is placed.

6. All fill materials shall be placed and compacted in dry conditions. The CONTRACTOR shall dewater excavated areas and is required to perform the work in such manner as to preserve the undisturbed state of the natural inorganic soils.

3.03 COMPACTION

A. General:

1. CONTRACTOR shall control soil compaction during construction and obtain the minimum required percentage of the total maximum dry densities as specified herein and as shown on the structural or civil drawings. The CONTRACTOR shall maintain the backfill for a period of one (1) year after final acceptance and shall restore any backfill that fails and repair any pavement or other structures which may be damaged as a result of backfill failure. It shall be the CONTRACTOR's responsibility to notify the ENGINEER in writing that compaction tests of either the nuclear gauge, sand-cone, or other method as required can be performed.

2. The frequency for density tests will be a minimum of one (1) test per lift per 1,000 linear feet under pavements, within street and highway rights-of-way, and under building slabs and one (1) randomly

selected test per 2,500 linear feet for open areas (testing of each lift in open areas is not required). If the density tests indicate that the work does not meet specified density requirements, the ENGINEER may require additional density tests to determine the extent of the deficient Work. The CONTRACTOR will not be allowed an extension of contract time as a result of any density testing.

3. It is the CONTRACTOR's responsibility to provide equipment and labor as needed to achieve the required compaction as specified herein. Should the rates of compaction fall below the values specified herein, the ENGINEER has the right to instruct the CONTRACTOR to alter his work to assure that the required backfill quality is consistently achieved. Any decision by the ENGINEER to forgo such instructions shall in no way relieve the CONTRACTOR of his responsibility to provide backfill of the specified quality.

B. Percentage of Maximum Density Requirements:

1. Compact soil to not less than the following percentages of maximum dry density as determined in accordance with AASHTO T-180 (ASTM D1557) or seventy-five percent (75%) relative density as determined by ASTM D2049 as applicable.

a. Building Slabs: Compact top 12-inches of subgrade and each layer of backfill or fill material to a minimum of ninety-five percent (95%) of the maximum dry density.

b. Compaction of Backfill near Highways or Streets: Where the trench limit falls under the roadway pavement or within two (2) feet of the edge of pavement, requiring granular backfill and in other areas designated on the plans where future roadways are to be constructed, backfill for the balance of the trench above a point one (1) foot above the top of the pipe shall be placed in layers of not more than 6-inch compacted thickness and compacted with mechanical tampers or by any satisfactory method or methods that will obtain the density hereinafter specified. The density of compacted material in each layer of backfill shall not be less than ninety-five percent (95%) of the maximum dry density.

c. Walkways: Compact top 6-inches of subgrade to a minimum of ninety-five percent (95%) of the maximum dry density.

d. Pavements and Steps: Compact top 24-inches of subgrade to a minimum of ninety-five percent (95%) of the maximum dry density.

e. Bedding Material: Shall be compacted to a minimum of ninety-two percent (92%) of the maximum dry density.

f. Compaction of all other Backfill: Where a trench is in open ground and the backfill is not influenced by the loading conditions as described in the other listed backfilling requirements, the balance of the trench above a point one (1) foot above the top of the pipe may be filled and compacted in layers of not more than 12 inches to obtain a minimum density of the measured in-situ condition prior to excavation. If the CONTRACTOR has to dry the excavated soil to a moisture content below the insitu moisture content in order to achieve the required rate of compaction, he shall do so at no additional expense to the OWNER. The final surface shall be left in a condition equal to that originally found at the start of the work.

C. Moisture Control: Condition subgrade or layer material correcting moisture content:

1. When the material is too dry to be compacted efficiently, the CONTRACTOR shall uniformly apply water to surface of subgrade or layer of soil material and thoroughly mix the soil to achieve a moisture content near the optimum level to facilitate compaction.

2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

3. Soil material that has been removed because it is too wet to permit compaction but is otherwise satisfactory may be stockpiled or spread and allowed to dry. The CONTRACTOR may assist the drying process by discing, harrowing or pulverizing to reduce the moisture content to a satisfactory value.

D. Structural fill and base course in open areas shall be placed in layers not to exceed the thicknesses specified above. Each layer shall be compacted to the minimum dry density as stated herein. Incidental compaction due to traffic by construction equipment will not be credited toward the required minimum compaction as required for any material.

E. All other fill shall be placed and compacted in a manner similar to that described above for structural fill except that dike or levee fill required below water level in peat excavation areas, may be placed as one lift, in-the-wet, to an elevation one (1) foot above the water level at the time of filling.

F. Areas adjacent to structures and other confined areas inaccessible to roller type equipment shall be compacted with approved hand guided mechanical compaction equipment. The CONTRACTOR shall also conform to additional backfilling requirements at structures as specified elsewhere in these specifications. Compaction of the fill by such means shall be to the same degree of compaction as obtained by roller type equipment and the ENGINEER may make the necessary tests to determine the amount of compactive effort necessary to obtain compaction. Unless such tests indicate that modifications may be made, the fill compacted by mechanical

compactors shall be placed in 6-inch layers and thoroughly tamped over the entire surface. Compaction equipment is subject to approval by the ENGINEER.

3.04 PIPE EXCAVATION AND BACKFILLING

A. Excavation for all trenches required for the installation of pipes and electrical ducts shall be made to the depths indicated on the Drawings and in such manner and to such widths as will give suitable room for laying the pipe or installing the ducts within the trenches, for bracing and supporting and for pumping and drainage facilities. The bottom of the excavations shall be firm and dry, and in all respects acceptable to the ENGINEER.

B. Where pipes or ducts are to be laid in bedding or encased in concrete, the trench may be excavated by machinery to or just below the designated subgrade provided that the material remaining in the bottom of the trench is no more than slightly disturbed.

C. Where the pipes or ducts are to be laid directly on the trench bottom, the lower part of the trenches shall be excavated to grade by machinery. The material being excavated shall be done in such a manner that will give a flat bottom true to grade so that pipe or duct can be evenly supported on undisturbed material. Bell holes shall be made as required.

D. Backfilling over pipes shall begin as soon as practicable after the pipe has been laid, jointed, and inspected and the trench filled with suitable compacted bedding material up to a level even with six-tenths of the outside diameter of the pipe or as otherwise required on the Drawings.

E. Backfilling over ducts shall begin not less than three (3) days after placing concrete encasement.

F. All backfilling shall be prosecuted expeditiously and as detailed on the Drawings and specified herein.

G. Any space remaining between the pipe and sides of the trench shall be packed full by hand shovel with bedding material and thoroughly compacted with a tamper. Material shall be placed in lifts no greater than 6-inches in thickness, up to a level even with six-tenths of the outside diameter of the pipe.

H. The backfilling shall be carried up evenly on both sides of the pipe with at least one man tamping for each man shoveling material into the trench.

I. Granular material shall then be placed and compacted from the top of the bedding material to a minimum depth of one (1) foot above the top of the pipe.

J. The remainder of the trench above the compacted granular material as just described above shall be filled and thoroughly compacted to the required density by rolling, ramming, or puddling to prevent subsequent settling.

K. **[**ENGINEER – USE "K" FOR WATER LINES ONLY**]** The width of the trench at the top of the pipe for water pipe installation shall not exceed the external diameter of the barrel of the pipe plus nine inches (9") on each side.

Trenches for water lines shall be of a depth to provide a thirty-inch (30") minimum cover over the top of the pipe.

Where sanitary sewer, storm sewer, or other subsurface utilities are encountered in trenching for water lines, it will be permitted to lay pipe above the obstruction if a minimum cover of twenty-four inches (24") can be obtained while providing a cushion between the bottom of the pipe and the top of the obstruction of at least six inches (6") in thickness. Otherwise, the obstruction will have to be by-passed or tunneled under. Approval must be sought by the Department of Health in these situations.

3.05 BACKFILLING AROUND STRUCTURES

A. Fill shall be placed in layers having a maximum thickness of eight (8) inches in loose state and shall be compacted sufficiently to prevent settlement. If compaction is by rolling or ramming, material shall be wet down as required. Where material can be suitably compacted by flooding, the CONTRACTOR may use this method.

B. The final finished surface of filled areas shall be graded to smooth true lines, strictly conforming to grades indicated on the plans, and no soft spots or uncompacted areas will be allowed in the work.

C. Temporary bracing shall be provided as required during construction of all structures to protect partially completed structures against all construction loads, hydraulic pressure, and earth pressure. The bracing shall be capable of resisting all loads applied to the walls as a result of backfilling.

3.06 GRADING

A. General: Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades as are required or shown on the Drawings.

B. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum dry density for each area classification.

C. Grading shall be performed at such places as are indicated on the Drawings, to the lines, grades, and elevations shown or as directed by the ENGINEER and shall be made in such a manner that the requirements for formation of embankments can be followed. All unacceptable material encountered, of whatever nature within the limits indicated, shall be removed and disposed of in accordance with Paragraph 3.07. During the process of excavation, the grade shall be maintained in such condition that it will be well drained at all times. When directed, temporary drains and drainage ditches shall be installed to intercept or divert surface water which may affect the prosecution or condition of the work.

D. If at the time of excavation it is not possible to place any material in its proper section of the permanent structure, it shall be stockpiled in approved areas for later use. No additional cost is allowed for the stockpiling or double handling of excavated material

E. The right is reserved to make adjustments or revisions in lines or grades if found necessary as the work progresses, in order to obtain satisfactory construction.

F. All fill slopes shall be uniformly dressed to the slope, cross section and alignment shown on the Drawings, or as directed by the ENGINEER.

G. In cuts, all loose material on the back slopes shall be barred loose or otherwise removed to line or finished grade of slope. All cut and fill slopes shall be uniformly dressed to the slope, cross section and alignment shown on the Drawings or as directed by the ENGINEER.

H. No grading is to be done in areas where there are existing pipelines that may be uncovered or damaged until such lines, which must be maintained, are relocated, or where lines are to be abandoned, all required valves are closed and drains plugged at manholes.

3.07 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL

A. Unsuitable and surplus excavated materials, unless specified otherwise below, and pavement shall become the property of the CONTRACTOR and shall be removed and disposed of by the CONTRACTOR off the project site.

B. Usable, excavated material may be used for fill or backfill if it meets the specifications and is approved by the ENGINEER. Excavated material so approved may be neatly stockpiled at the site where designated by the ENGINEER provided there is an area available that will not interfere with the OWNER's access nor inconvenience traffic or adjoining property OWNERs.

C. Surplus suitable excavated material may be used to fill depressions as the ENGINEER may direct.

D. In instances where the OWNER can use surplus excavated materials and so desires to retain possession of the material, the CONTRACTOR will be directed to stockpile the material on site.

3.08 SPECIAL FOUNDATIONS

A. The CONTRACTOR shall furnish and install a special foundation for sewer pipe, water pipe, and manholes or other pipes as shown on the Drawings.

B. All piping shall be installed on the special bedding foundation and the prices for laying pipe shall include this cost. This bedding shall be as previously specified and placed in the trench to the proposed elevation prior to any pipe laying. This bedding shall not be used under any circumstances as a drain for groundwater. The CONTRACTOR shall take all precautions necessary to maintain the bedding in a compacted state and to prevent washing erosion or loosening of this bed.

3.09 MAINTENANCE

A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep areas free of trash and debris and repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape and compact to required density prior to further construction.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Work consists of providing all labor, material and equipment for installing grass seed and mulch as indicated below.

1. The CONTRACTOR shall furnish and spread mulch and furnish and sow grass seed mixtures on miscellaneous fill areas, borrow areas, permanent cutslopes, roadways, trenches and ditches. The limits to which the above described surfaces are to be seeded shall be prescribed by the ENGINEER. Seeding shall include areas where construction operations have removed the existing grass cover, where such areas have otherwise been denuded of grass cover, or where due to other reasons grass seeding is determined to be necessary.

2. The CONTRACTOR shall maintain the seeded areas until final acceptance thereof and any damage caused to the seeded area shall be repaired by and at the expense of the CONTRACTOR.

3. Where the grass seed and mulch is intended to replace existing grass, the CONTRACTOR has the option of carefully removing the grass surface, keeping it alive during construction, and replacing it once construction is complete. Areas where the existing surface does not re-take shall be replaced by the CONTRACTOR at no additional cost.

1.02 QUALIFICATIONS

A. Work performed as described in this section shall be done under the supervision of a CONTRACTOR having experience in landscape construction.

1.03 REFERENCE STANDARDS

A. United States Department of Agriculture (USDA).

B. State of Louisiana Standard Specifications for Roads and Bridges, 1992 Edition.

1.04 SUBMITTALS

A. Guaranteed analysis of lawn seed mixture.

B. Guaranteed analysis of field grass seed mixture.

C. Samples of seed mixtures.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.

1.06 JOB CONDITIONS

A. Weather Conditions: Seeding is not permitted during the following conditions:

1. Cold Weather: When air or ground temperature is less than 32 degrees F.

2. Hot Weather: When air temperatures is greater than 95 degrees F.

3. Wet Weather: When ground becomes saturated.

4. Windy Weather: When wind velocity is greater than 30 mph.

PART 2 - PRODUCTS

2.01 SEED MIXTURE

A. Seed

1. Seeds shall be labeled in accordance with USDA Rules and Regulations under the Federal Seed Act.

2. Seed shall conform to requirements of Louisiana Law. The minimum percentage of pure live seed and the maximum percentage of weed seed permitted shall be in accordance with Section 2.01C.

3. Each variety of seed shall be furnished and delivered in separate bags or other containers. Each bag or container shall bear an analysis tag which is a minimum No. 6 standard shipping tag having all information required by the Louisiana Seed Law.

B. Field grass seed mixtures and application rates shall be:

Seed Mixture	Pounds per Acre	Planting Dates
Hulled Bermuda	30	March - September
Hulled Bermuda Crimson Clover	20 25	February - March
Kentucky 31 Fescue Unhulled Bermuda	25 20	September - February
Unhulled Bermuda Crimson Clover	20 40	September - February
Pensacola Bahia	25	March - September
Bald Clover Unhulled Bermuda	25 20	February - March
Vetch (Common) Unhulled Bermuda	40 20	September - October
Lespedeza	40	March - May

C. Seed Quality

1. The minimum purity of grass seeds that will be acceptable are as follows:

Variety	Minimum Percentage of Pure Live Seed (Purity Times Germination Including Hard Seed by Count)	Maximum Percentage of Weed Seed, by Count
Hulled Bermuda	83	1
Pensacola Bahia	81	2
Crimson Clover	78	1
Kentucky 31 Fescue	80	1
Unhulled Bermuda	80	1
Balled Clover	80	1
Vetch (Common)	80	1
Lespedeza	80	1

2. Noxious Weeds: Noxious weeds shall be interpreted to mean that list of weeds, except Bermuda, which has been adopted by the Louisiana Seed Commission as being noxious in Louisiana. Noxious weed seeds shall not exceed the limitations prescribed in the regulations and in no case shall they exceed 500 per pound.

Analysis tags shall be removed from each bag or container only by the ENGINEER or an authorized representative.

D. The CONTRACTOR shall furnish suppliers certificate guaranteeing that the seed conforms to the above requirements and USDA certification. Seed shall be delivered to the contract site in unopened containers bearing the USDA and suppliers certificates.

2.02 TEMPORARY SEEDING

During construction, temporary seeding shall be placed as directed. Temporary seeding may be any of the types listed or rye grass. Rye grass is the only acceptable grass for winter cover.

2.03 WATER

A. Water shall be free from oil, acid, alkali, salt and other substances harmful to growth of grass, and shall be from a source approved prior to use.

2.04 VEGATATIVE MULCH

A. Mulch shall consist of pine straw, stems or stalks of oats, rye, rice, or the approved straws. The CONTRACTOR may also use hay obtained from various legumes and greases such as lespedezas, vetches, soybeans, Bermuda, Dallis, carpet sedge, fescue or other approved legumes or grasses of any combination thereof. Straw or hay shall be reasonably dry and free from mold, Johnson grass or other noxious weeds.

PART 3 - EXECUTION

3.01 PREPARATION

A. Verify that grading has been completely correctly. Notify ENGINEER of any discrepancies; do not proceed with work until discrepancies have been resolved.

B. Seedbed Preparation: Boulders brought to the surface by construction operations shall be buried at least 6 inches below the ground surface. After the seeding areas have been leveled and compacted to the required thickness, it shall be brought to a friable condition by harrowing or otherwise loosening and mixing to a depth of at least 3 inches.

C. Notify ENGINEER at least 24 hours prior to planting or seeding operations.

3.02 SEEDING

A. Sowing Seed:

1. Method: The mixture specified herein shall be sown by drilling with either an approved disc, shoe-type grass drill or by mechanical or hand broadcasting.

2. Drilling Seeding: If the drill seeding method is used, the drill shall be regulated to uniformly distribute the seed at the rate specified herein on the areas to be seeded. Where possible to safely operate equipment as determined by the ENGINEER, drilling shall be done crosswise to the general slope. The drill shall be regulated so that the seed is properly placed in the soil and covered with soil to a depth of 1/2 to 3/4-inch.

3. Broadcast Seeding: In areas inaccessible by methods prescribed in 2 above, the seed may be applied by either mechanical or hand broadcasting. When either of these methods are used, the seed shall be applied separately.

   a. Mechanical Broadcasting: A mechanical broadcaster of either the centrifugal or pull type similar to fertilizer spreaders are acceptable. Any equipment of this type used for broadcast seeding shall be designed and regulated to ensure that the proper seeding rate per acre specified herein is uniformly applied on areas to be seeded.

   b. Hand Broadcasting: Seed application may be performed by using an approved hand broadcaster or by broadcasting the seed by hand from a sack or other suitable container. Whichever means is used, the seed shall be uniformly applied at the rates specified herein.

4. Immediately after broadcasting the seed they shall be properly covered with soil to the depths prescribed above by means of a hand rake or float. Covering broadcast seed by dragging a log chain or similar device will not be permitted.

3.03 MULCHING

A. The CONTRACTOR shall furnish and uniformly place after seeding a minimum of 4 tons per acre (1.6 pounds per square yard) of hay mulch on all seeded areas. Mulching material shall not be applied when in the judgement of the ENGINEER and wind velocity is such as to prevent uniform distribution of the material. The mulch material shall be firmly anchored with a treader of by other approved methods. Threader shall be operated at a depth of 3 to 4 inches and crosswise to all slopes. Mulch shall be anchored at 6- to 12-inch intervals across the slope.

3.04 ESTABLISHMENT

A. General: The CONTRACTOR will be responsible for proper care of seeded areas while grass is becoming established for a maintenance period of 6 months after completion of treatment on entire project unless desired cover is established in a shorter period of time and the ENGINEER shortens the responsibility period.

B. Reseeding: The ENGINEER will designate areas requiring reseeding at least 15 days before specified for reseeding. Reseeding shall occur as specified for original seeding unless written permission is obtained from the ENGINEER.

C. Watering: Water to ensure uniform seed germination and to keep surface of soil damp. Avoid water puddling.

3.05 ACCEPTANCE

A. Seeded areas will be accepted at end of maintenance period when seeded areas are properly established and otherwise acceptable.

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

SECTION 02925 -
SETTLEMENT PLATE INSTALLATION AND MONITORING

PART 1 - GENERAL

1.01 SCOPE OF WORK

This work consists of installing, monitoring, and subsequently removing and disposing of a granular material surcharge with plastic soil blanket in accordance with these specifications and in conformity with the lines, grades, and thickness as established by the Engineer.

This work shall be performed in accordance with the provisions of Section 203 of the *Louisiana Standard Specifications for Roads and Bridges*, 2016 Edition and latest revisions, except as noted otherwise in these specifications.

1.02 GENERAL

Prior to installing the surcharge material, within the limits of the required surcharge, the contractor shall excavate 6 inches below the existing ditch slope, and shall excavate 12 inches below the existing ditch bottom; then the contractor shall install geotextile fabric on the ground surface for the limits of the surcharged area.

Granular material surcharge shall be installed in accordance with the Sub-section 203.07.5, Embankment. Settlement plates shall be installed on the theoretical sub-base layer and monitored in accordance with Sub-section 203.07.4, Settlement Plate Installation and Monitoring. Plastic Soil Blanket shall be installed to a thickness of 6 inches in accordance with Sub-section 203.10.

1.03 MATERIALS

Geotextile Fabric shall be Type D as per the requirements of Section 1019 (Geotextile Fabric and Geocomposite Systems). Granular Material for surcharge shall be in accordance with Sub-section 1003.09. Plastic Soil Blanket shall be in accordance with Sub-section 203.10.

1.04 SURCHARGE MAINTENANCE AND REMOVAL

Upon completion of surcharge installation, contractor shall maintain the surcharge in place for a period of six months, ensuring that all roadways and ditches remain free of surcharge materials. The contractor shall provide settlement plate readings to the nearest 100th of a foot and in accordance with Sub-section 203.07.4. Upon completion of the six-month surcharge period, the Contractor shall remove surcharge materials in conformity with the lines, grades, thickness, and typical sections shown on the plans and shall dispose of excess surcharge materials in accordance with Section 203.

1.05 MEASUREMENT AND PAYMENT

No separate measurement will be made for surcharge surface preparation, including but not limited to removal of aggregate shoulder, excavation of ditch slope, excavation of ditch bottom, and installation of geotextile fabric. No separate measurement will be made for excavation and disposal of excess surcharge material. Measurement of surcharge will be computed by the average end area method and will be that area bound by (1) the original ground line established by location (plan) cross sections or new original cross sections obtained by the contractor, and (2) the final theoretical pay line as shown on the plans, or established by the engineer, adjusted for field changes.

Settlement Plate installation and monitoring will be measured per each, which includes furnishing, installing, monitoring, and removing the plates.

Payment for installing, monitoring, subsequently removing and disposing of a granular material surcharge with plastic clay blanket will be made at the contract unit price per cubic yard, which includes furnishing the equipment, labor, and materials necessary to complete the work.

Payment for settlement plate installation and monitoring will be made at the contract unit price per each.

Payment shall be made under:

ITEM NO.	PAY ITEM	PAY UNIT
203-11-00100	SETTLEMEMT PLATE INSTALLATION AND MONITORING	EACH
S-008	SURCHARGE (PLACEMENT AND REMOVAL) (6 MONTH DURATION)	CU YD

THIS PAGE IS INTENTIONALLY LEFT BLANK.

DIVISION 3

CONCRETE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Precast structural concrete.

B. Related Sections:

1. "Cast-in-Place Concrete" for placing connection anchors in concrete.
2. "Miscellaneous Metalwork" for furnishing and installing connections attached to structural-steel framing.
3. "Metal Fabrications" for kickers and other miscellaneous steel shapes.
4. LDOTD Section 805.

1.03 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design precast structural concrete, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. Structural Performance: Precast structural concrete units and connections shall withstand design loads indicated within limits and under conditions indicated.

C. Structural Performance: Provide precast structural concrete units and connections capable of withstanding the design loads indicated on the drawings within limits and under conditions indicated.

1. Design precast structural concrete framing system and connections to maintain clearances, to allow for fabrication and construction tolerances, to accommodate live-load deflection, shrinkage and creep of structure, and other structure movements. Maintain precast structural concrete deflections within limits of ACI 318.

   a. Thermal Movements: Allow for in-plane thermal movements resulting from annual ambient temperature changes of 120 deg F.

1.04 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each precast concrete mixture. Include compressive strength and water-absorption tests.

C. Shop Drawings: Include member locations, plans, elevations, dimensions, shapes and sections, openings, support conditions, and types of reinforcement, including special reinforcement. Detail fabrication and installation of precast structural concrete units.

1. Indicate joints, reveals, and extent and location of each surface finish.
2. Indicate separate face and backup mixture locations and thicknesses.
3. Indicate welded connections by AWS standard symbols. Show size, length, and type of each weld.
4. Detail loose and cast-in hardware, lifting and erection inserts, connections, and joints.
5. Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.
6. Include and locate openings.
7. Indicate location of each precast structural concrete unit by same identification mark placed on panel.
8. Indicate relationship of precast structural concrete units to adjacent materials.
9. Indicate estimated camber.
10. Indicate shim sizes and grouting sequence.
11. Design Modifications: If design modifications are proposed to meet performance requirements and field conditions, submit design calculations and Shop Drawings. Do not adversely affect the appearance, durability, or strength of units when modifying details or materials and maintain the general design concept.

D. Delegated-Design Submittal: For precast structural concrete indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

E. Qualification Data: For Installer, fabricator, and testing agency.

F. Welding certificates.

G. Material Certificates: For the following, from manufacturer:

1. Cementitious materials.
2. Reinforcing materials and prestressing tendons.
3. Admixtures.
4. Bearing pads.
5. Structural-steel shapes and hollow structural sections.

H. Material Test Reports: For aggregates.

I. Source quality-control reports.

J. Field quality-control and special inspection reports.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: A firm that assumes responsibility for engineering precast structural concrete units to comply with performance requirements. Responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer. Shop drawings shall be stamped, dated, and signed by a Louisiana Licensed Professional Engineer.

1. Participates in PCI's Plant Certification program and is designated a PCI-certified plant as follows:

a. Group C.

B. Installer Qualifications: A precast concrete erector qualified, as evidenced by PCI's Certificate of Compliance, to erect Category S1 – Simple Structural Systems.

C. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

D. Design Standards: Comply with ACI 318 and design recommendations in PCI MNL 120, "PCI Design Handbook – Precast and Prestressed Concrete," applicable to types of precast structural concrete units indicated.

E. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 116, "Manual for Quality Control for Plants and Production of Structural Precast Concrete Products."

F. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D.1.1M, "Structural Welding Code – Steel."
2. AWS D1.4, "Structural Welding Code – Reinforcing Steel."

G. Preinstallation Conference: Conduct conference at Project site.

1.06 DELIVERY, STORAGE AND HANDLING

A. Support units during shipment on nonstaining shock-absorbing material in same position as during storage.

B. Store units with adequate bracing and protect units to prevent contact with soil, to prevent staining, and to prevent cracking, distortion, warping or other physical damage.

1. Store units with dunnage across full width of each bearing point unless otherwise indicated.
2. Place adequate dunnage of even thickness between each unit.
3. Place stored units so identification marks are clearly visible, and units can be inspected.

C. Handle and transport units in a position consistent with their shape and design in order to avoid excessive stresses that would cause cracking or damage.

D. Lift and support units only at designated points shown on Shop Drawings.

1.07 COORDINATION

A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction before starting that Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

Fabricators: Subject to compliance with requirements, provide products by one of the following:

1. Waskey Bridges, Inc., or approved equal

2.02 MOLD MATERIALS

A. Molds: Rigid, dimensionally stable, non-absorptive material, warp and buckle free, that will provide continuous and true precast concrete surfaces within fabrication tolerances indicated; nonreactive with concrete and suitable for producing required finishes.

1. Mold-Release Agent: Commercially produced liquid-release agent that will not bond with, stain or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.

2.03 REINFORCING MATERIALS

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

B. Supports: Suspend reinforcement from back of mold or use bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place according to PCI MNL 116.

2.04 PRESTRESSING TENDONS

A. Pretensioning Strand: ASTM A 416, Grade 250 or Grade 270, uncoated, 7-wire or ASTM A 886, Grade 270, indented, 7-wire, low-relaxation strand.

B. Unbonded Post-Tensioning Strand: ASTM A 416, Grade 270, uncoated, 7-wire, low-relaxation strand.

C. Post-Tensioning Bars: ASTM A 722, uncoated high-strength steel bar.

2.05 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type III, gray, unless otherwise indicated.

B. Supplementary Cementitious Materials:

1. Fly Ash: ASTM C 618, Class C or F, with maximum loss on ignition of 3 percent.
2. Metakaolin Admixture: ASTM C 618, Class N.
3. Silica Fume Admixture: ASTM C 1240, with optional chemical and physical requirement.
4. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

C. Normal-Weight Aggregates: Except as modified by PCI MNL 116, ASTM C 33, with coarse aggregates complying with Class 5M or 4M. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.

D. Lightweight Aggregates: Except as modified by PCI MNL 116, ASTM C 330, with absorption less than 11 percent.

E. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 116.

F. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.

G. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.15 percent chloride ions or other salts by weight of admixture.

1. Water-Reducing Admixtures: ASTM C 494, Type A.
2. Retarding Admixture: ASTM C 494, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
4. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
5. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.

6. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
7. Plasticizing and Retarding Admixture: ASTM C 1017.

H. Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

2.06 STEEL CONNECTION MATERIALS

A. Carbon-Steel Shapes and Plates: ASTM A 36.

B. Carbon-Steel-Headed Studs: ASTM A 108, AISI 1018 through AISI 1020, cold finished, AWS D1.1, Type A or B, with arc shields and with minimum mechanical properties of PCI MNL 116.

C. Carbon-Steel Plate: ASTM A 283.

D. Malleable-Iron Castings: ASTM A 47.

E. Carbon-Steel Castings: ASTM A 27, Grade 60-30.

F. High-Strength, Low-Alloy Structural Steel: ASTM A 572.

G. Carbon-Steel Structural Tubing: ASTM A 500, Grade B.

H. Wrought Carbon-Steel Bars: ASTM A 675, Grade 65.

I. Deformed-Steel Wire or Bar Anchors: ASTM A 496 or ASTM A 706.

J. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A; carbon-steel, hex-head bolts and studs; carbon-steel nuts, ASTM A 563; and flat, unhardened steel washers, ASTM F 844.

K. High-Strength Bolts and Nuts: ASTM A 325 or ASTM A 490, Type 1, heavy hex steel structural bolts; heavy hex carbon-steel nuts, ASTM A 563; and hardened carbon-steel washers, ASTM F 436.

1. Do not zinc coat ASTM A 490 bolts.

L. Shop-Primed Finish: Prepare surfaces of nongalvanized-steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3, and shop apply lead- and chromate-free, rust-inhibitive primer, complying with performance requirements in MPI 79 according to SSPC-PA 1.

M. Welding Electrodes: Comply with AWS standards.

N. Precast Accessories: Provide clips, hangers, plastic or steel shims, and other accessories required to install precast structural concrete units.

2.07 STAINLESS-STEEL CONNECTION MATERIALS

A. Stainless-Steel Plate: ASTM A 666, Type 304, of grade suitable for application.

B. Stainless-Steel Bolts and Studs: ASTM F 593, Alloy 304 or 316, hex-head bolts and studs; stainless-steel nuts; and flat, stainless-steel washers. Lubricate threaded parts of stainless-steel bolts with an antiseize thread lubricant during assembly.

C. Stainless-Steel-Headed Studs: ASTM A 276, with minimum mechanical properties of PCI MNL 116.

2.08 BEARING PADS

A. Provide one of the following bearing pads for precast structural concrete units as recommended by precast fabricator for application:

1. Elastomeric Pads: AASHTO M 251, plain, vulcanized, 100 percent polychloroprene (neoprene) elastomer, molded to size or cut from a molded sheet, 50 to 70 Shore, Type A durometer hardness, ASTM D 2240; minimum tensile strength 2250 psi, ASTM D 412.
2. Random-Oriented, Fiber-Reinforced Elastomeric Pads: Preformed, randomly oriented synthetic fibers set in elastomer. 70 to 90 Shore, Type A durometer hardness, ASTM D 2240; capable of supporting a compressive stress of 3000 psi with no cracking, splitting, or delaminating in the internal portions of pad. Test 1 specimen for every 200 pads used in Project.
3. Cotton-Duck-Fabric-Reinforced Elastomeric Pads: Preformed, horizontally layered cotton-duck fabric bonded to an elastomer; 80 to 100 Shore, Type A durometer hardness, ASTM D 2240; complying with AASHTO's "AASHTO Load and Resistance Factor Design (LRFD) Bridge Specifications," Division II, Section 18.10.2; or with MIL-C-882E.
4. Frictionless Pads: Tetrafluoroethylene, glass-fiber reinforced, bonded to stainless- or mild-steel plate, of type required for in-service stress.
5. High-Density Plastic: Multimonomer, nonleaching, plastic strip.

2.09 GROUT MATERIALS

A. Sand-Cement Grout: Portland cement, ASTM C 150, Type I, and clean, natural sand, ASTM C 144 or ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.

B. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time.

C. Epoxy-Resin Grout: Two-component, mineral-filled epoxy resin; ASTM C 881, of type, grade, and class to suit requirements.

2.10 CONCRETE MIXTURES

A. Prepare design mixtures for each type of precast concrete required.
   1. Limit use of fly ash to 25 percent replacement of portland cement by weight and granulated blast-furnace slag to 40 percent of portland cement by weight; metakaolin and silica fume to 10 percent of portland cement by weight.

B. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at precast structural concrete fabricator's option.

C. Limit water-soluble chloride ions to maximum percentage by weight of cement permitted by ACI 318 or PCI MNL 116 when tested according to ASTM C 1218.

D. Normal-Weight Concrete Mixtures: Proportion mixtures by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:

   1. Compressive Strength (28 Days): 5000 psi.
   2. Maximum Water-Cementitious Materials Ratio: 0.45.

E. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to PCI MNL 116.

F. Lightweight Concrete Backup Mixtures: Proportion mixtures by either laboratory trial batch or field test data methods according to ACI 211.2, with materials to be used on Project, to provide lightweight concrete with the following properties:

   1. Compressive Strength (28 Days): 5000 psi.
   2. Unit Weight: Calculated equilibrium unit weight of 115 lb/cu. ft., plus or minus 3 lb/cu. ft., according to ASTM C 567.

G. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 116.

H. When included in design mixtures, add other admixtures to concrete mixtures according to manufacturer's written instructions.

I. Concrete Mix Adjustments: Concrete mix design adjustments may be proposed if characteristics of materials, Project conditions, weather, test results, or other circumstances warrant.

2.11 MOLD FABRICATION

A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for prestressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and prestressing tendons by release agent.

B. Maintain molds to provide completed precast structural concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.
   1. Edge and Corner Treatment: Uniformly chamfered.

2.12 FABRICATION

A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.

   1. Weld-headed studs and deformed bar anchors used for anchorage according to AWS D1.1 and AWS C5.4, "Recommended Practices for Stud Welding."

B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing precast structural concrete units to supporting and adjacent construction.

C. Cast-in reglets, slots, holes, and other accessories in precast structural concrete units as indicated on the Contract Drawings.

D. Reinforcement: Comply with recommendations in PCI MNL 116 for fabricating, placing, and supporting reinforcement.

1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy-coated reinforcement exceeds limits specified, repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.
3. Place reinforcement to maintain at least 3/4-inch minimum coverage. Increase cover requirements according to ACI 318 when units are exposed to corrosive environment or severe exposure conditions. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
4. Place reinforcing steel and prestressing strand to maintain at least 3/4-inch minimum concrete cover. Increase cover requirements for reinforcing steel to 1-1/2 inches when units are exposed to corrosive environment or severe exposure conditions. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
5. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh spacing and wire tie laps, where required by design. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Reinforce precast structural concrete units to resist handling, transportation, and erection stresses.

F. If required, prestress tendons for precast structural concrete units by either pretensioning or post-tensioning methods. Comply with PCI MNL 116.

1. Delay detensioning or post-tensioning of precast, prestressed structural concrete units until concrete has reached its indicated minimum design release compressive strength as established by test cylinders cured under same conditions as concrete.
2. Detension pretensioned tendons either by gradually releasing tensioning jacks or by heat cutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.
3. If concrete has been heat cured, detension while concrete is still warm and moist to avoid dimensional changes that may cause cracking or undesirable stresses.
4. Protect strand ends and anchorages with bituminous, zinc-rich, or epoxy paint to avoid corrosion and possible rust spots.

G. Comply with requirements in PCI MNL 116 and in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.

H. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units.

I. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 116.

J. Comply with ACI 306.1 procedures for cold-weather concrete placement.

K. Comply with PCI MNL 116 procedures for hot-weather concrete placement.

L. Identify pickup points of precast structural concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each precast structural concrete unit on a surface that will not show in finished structure.

M. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.

N. Discard and replace precast structural concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 116 and meet Engineer's approval.

2.13 FABRICATION TOLERANCES

A. Fabricate precast structural concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished unit complies with PCI MNL 116 product dimension tolerances.

2.14 COMMERCIAL FINISHES

A. Surface holes smaller than 1/2 inch caused by air bubbles, normal color variations, form joint marks, and minor chips and spalls are permitted. Fill air holes greater than 1/4 inch in width that occur more than once per 2 sq. in. Major or unsightly imperfections, honeycombs, or structural defects are not permitted. Limit joint offsets to 1/8 inch.

B. Screed or float finish unformed surfaces. Strike off and consolidate concrete with vibrating screeds to a uniform finish. Hand screed at projections. Normal color variations, minor indentations, minor chips, and spalls are permitted. Major imperfections, honeycombing, or defects are not permitted.

2.15 SOURCE QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to evaluate precast structural concrete fabricator's quality-control and testing methods.

1. Allow testing agency access to material storage areas, concrete production equipment, concrete placement, and curing facilities. Cooperate with testing agency and provide samples of materials and concrete mixtures as may be requested for additional testing and evaluation.

B. Testing: Test and inspect precast structural concrete according to PCI MNL 116 requirements.

C. Strength of precast structural concrete units will be considered deficient if units fail to comply with ACI 318 requirements for concrete strength.

D. If there is evidence that strength of precast concrete units may be deficient or may not comply with ACI 318 requirements, employ a qualified testing agency to obtain, prepare, and test cores drilled from hardened concrete to determine compressive strength according to ASTM C 42.

1. A minimum of three representative cores will be taken from units of suspect strength, from locations directed by Engineer.
2. Cores will be tested in an air-dry condition or, if units will be wet under service conditions, test cores after immersion in water in a wet condition.
3. Strength of concrete for each series of 3 cores will be considered satisfactory if average compressive strength is equal to at least 85 percent of 28-day design compressive strength and no single core is less than 75 percent of 28-day design compressive strength.
4. Test results will be made in writing on same day that tests are performed, with copies to Engineer, Contractor, and precast concrete fabricator. Test reports will include the following:

    a. Project identification name and number.
    b. Date when tests were performed.
    c. Name of precast concrete fabricator.
    d. Name of concrete testing agency.
    e. Identification letter, name, and type of precast concrete unit(s) represented by core tests; design compressive strength; type of break; compressive strength at breaks, corrected for length-diameter ratio; and direction of applied load to core in relation to horizontal plane of concrete as placed.

E. Patching: If core test results are satisfactory and precast structural concrete units comply with requirements, clean and dampen core holes and solidly fill with same precast concrete mixture that has no coarse aggregate, and finish to match adjacent precast concrete surfaces.

F. Defective Units: Discard and replace precast structural concrete units that do not comply with requirements, including strength, manufacturing tolerances, and color and texture range. Chipped, spalled, or cracked units may be repaired, subject to Engineer's approval. Engineer reserves the right to reject precast units that do not match approved samples, sample panels, and mockups.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine supporting structural frame or foundation and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Do not install precast concrete units until supporting, cast-in-place, building structural framing has attained minimum allowable design compressive strength or until supporting steel or other structure is complete.

3.02 INSTALLATION

A. Install clips, hangers, bearing pads, and other accessories required for connecting precast structural concrete units to supporting members and backup materials.

B. Erect precast structural concrete level, plumb, and square within specified allowable tolerances. Provide temporary structural framing, supports, and bracing as required to maintain position, stability, and alignment of units until permanent connection.

1. Install temporary steel or plastic spacing shims or bearing pads as precast structural concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.
2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
3. Remove projecting lifting devices and grout fill voids within recessed lifting devices flush with surface of adjacent precast surfaces when recess is exposed.

C. Connect precast structural concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.

1. Do not permit connections to disrupt continuity of roof flashing.

D. Field cutting of precast units is not permitted without approval of the Engineer.

E. Fasteners: Do not use drilled or powder-actuated fasteners for attaching accessory items to precast, prestressed concrete units.

F. Welding: Comply with applicable AWS D1.1/D1.1M and AWS D1.4 for welding, welding electrodes, appearance, quality of welds, and methods used in correcting welding work.

1. Protect precast structural concrete units and bearing pads from damage by field welding or cutting operations, and provide noncombustible shields as required.
2. Clean weld-affected steel surfaces with chipping hammer followed by brushing, and reprime damaged painted surfaces.
3. Remove, reweld, or repair incomplete and defective welds.

G. At bolted connections, use lock washers, tack welding, or other approved means to prevent loosening of nuts after final adjustment.

1. Where slotted connections are used, verify bolt position and tightness. For sliding connections, properly secure bolt but allow bolt to move within connection slot. For friction connections, apply specified bolt torque and check 25 percent of bolts at random by calibrated torque wrench.

H. Grouting: Grout connections and joints and open spaces at keyways, connections, and joints where required or indicated on Shop Drawings. Retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are completely filled.

1. Place grout to finish smooth, level, and plumb with adjacent concrete surfaces.
2. Fill joints completely without seepage to other surfaces.
3. Trowel top of grout joints on roofs smooth and uniform. Finish transitions between different surface levels not steeper than 1 to 12.
4. Promptly remove grout material from exposed surfaces before it affects finishes or hardens.
5. Keep grouted joints damp for not less than 24 hours after initial set.

3.03 ERECTION TOLERANCES

A. Erect precast structural concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 135.

B. Minimize variations between adjacent slab members by jacking, loading, or other method recommended by fabricator and approved by Engineer.

3.04 FIELD QUALITY CONTROL

A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:

1. Erection of precast structural concrete members.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Field welds will be visually inspected and nondestructive tested according to ASTM E 165 or ASTM E 709. High-strength bolted connections will be subject to inspections.

D. Testing agency will report test results promptly and in writing to Contractor and Engineer.

E. Repair or remove and replace work where tests and inspections indicate that it does not comply with specified requirements.

F. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

G. Prepare test and inspection reports.

3.05 REPAIRS

A. Repair precast structural concrete units if permitted by Engineer.

1. Repairs may be permitted if structural adequacy, serviceability, durability, and appearance of units has not been impaired.

B. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet.

C. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.

D. Remove and replace damaged precast structural concrete units that cannot be repaired or when repairs do not comply with requirements as determined by Engineer.

3.06 CLEANING

A. Clean mortar, plaster, fireproofing, weld slag, and other deleterious material from concrete surfaces and adjacent materials immediately.

B. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.

1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's written recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.
2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

3.07 MEASUREMENT AND PAYMENT

A. Measurement and payment for precast concrete will be made at the contract prices for the following bid items:

1. Bridge super structure and substructure (24' clear roadway, 90 degree crossing). (Precast): Square Foot (SQ. FT.)

B. All incidental precast concrete not specified elsewhere shall be included in the bid price of the item to which it is incidental.

C. Price and payment shall include the cost of all labor, materials, and the use of all equipment and tools required to complete the precast concrete work, including reinforcing steel, formwork, expansion joint filler, and other components incidental thereto.

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

Section 10

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND LAYOUT MAP
2	TYPICAL ROADWAY SECTION
3	SUMMARY OF ESTIMATED QUANTITIES
4–8	PLAN AND PROFILE
9	SUGGESTED TEMPORARY EROSION CONTROL
10	SUGGESTED MINIMUM CONSTRUCTION SIGNING
11	PROPOSED RIGHT OF WAY PLAN
101	GENERAL BRIDGE PLAN
102	APPROACH SLAB DETAILS
103	PILE DATA TABLE
104	GUARD RAIL DETAILS
110	CS–216
111	YP–01
112	FR–01
200	SOIL BORING LOG

DOTD STANDARD PLANS

	STANDARD PLAN	REVISION DATE
301–302	EC–01 (2 SHTS.)	10–01–08
303	HS–03	04–07–14
304	GR–MASH–OFF	01–03–19
305–315	GR–MASH–ON	01–03–19
316–319	TTC–00 (A–D)(4 SHTS.)	07–02–18
320–322	TTC–02 THRU TTC–04	07–02–18
323	TTC–16	07–02–18
324–334	PSS–90–24–20SL	05–17–17
335–336	BD.2.6.1.3	08–20–18
337	GUARD RAIL DETAILS	03–01–17
338–347	APPROACH SLAB COMMON	06–19–17
401–403	CROSS SECTIONS	

TOTAL SHEETS = 69

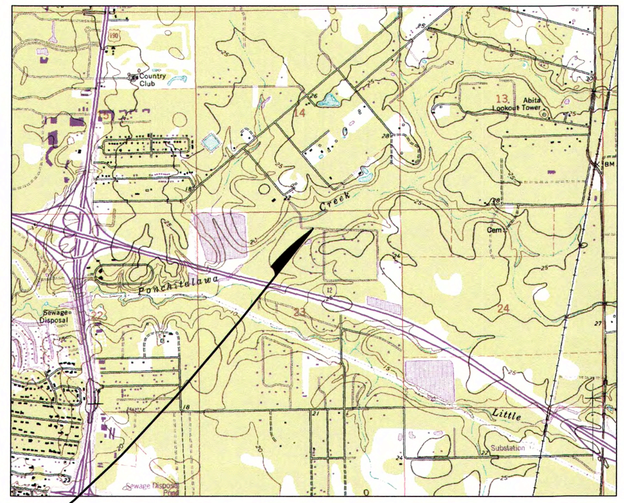
ST. TAMMANY PARISH

DEPARTMENT OF ENGINEERING

PLANS OF
PROPOSED TRANSPORTATION
FACILITIES IMPROVEMENT

THIRD AVENUE BRIDGE REPLACEMENT AT PONCHITOLAWA CREEK

STP PROJECT NO. EN15000018
PEC PROJECT NO. 11428



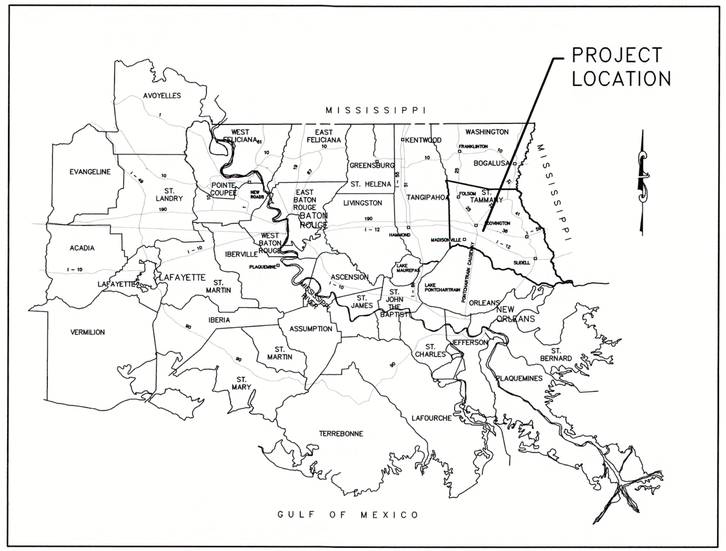
PROJECT SITE
STA. 43+00.00 BEGIN PROJECT
STA. 55+00.00 END PROJECT
BRIDGE SITE
STA. 48+49.58 BEGIN BRIDGE
STA. 50+49.58 END BRIDGE

LAYOUT MAP

GRAPHIC SCALE

-2000 0 1000 2000 4000 6000

(IN FEET)
1 inch = 2000ft.



VICINITY MAP
N.T.S.

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2022

PLANS PREPARED BY
AND RECOMMENDED
FOR APPROVAL _____

PROFESSIONAL ENGINEERING
CONSULTANTS, INC.

RECOMMENDED
FOR APPROVAL _____

DIRECTOR OF ENGINEERING

ROADWAY CLASS = RURAL LOCAL RL–1
DESIGN SPEED = 35 mph
POSTED SPEED = 25 mph

SCHEDULE OF REVISIONS

DATE	REVISION	DATE	RECOMMENDED	DATE	APPROVED

TYPE OF CONSTRUCTION:
CLEARING AND GRUBBING, GRADING, EMBANKMENT, EARTHWORK, AND CONCRETE SLAB SPAN BRIDGE.

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

THE SURVEY SHOWN HEREON IS REFERENCED TO THE LOUISIANA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83. DISTANCES ARE U.S. SURVEY FEET.

ELEVATIONS AND TBM'S WERE DERIVED FROM THE LEICA NETWORK SYSTEM USING TRIMBLE R8 DUAL FREQUENCY GPS UNITS. NAVD 1988 DATUM, GEOID 12B.

LENGTH OF PROJECT

SITE	STATION		GROSS LENGTH	BRIDGE LENGTH		ROADWAY LENGTH	
				FEET	MILES	FEET	MILES
1	43+50.00	55+00.00	1150.00'	100.00	0.0189	1050.00	0.1989

SET NO. _____
THIRD AVE. BRIDGE

DRAWING NUMBER

GENERAL NOTES:

THE SECTION TO BE USED AT ANY PARTICULAR LOCATION SHALL BE AS SHOWN ON THE CROSS SECTIONS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER.

ALL DIMENSIONS SHOWN ARE DESIGN DIMENSIONS, TO BE FOLLOWED TO THE NEAREST PRACTICAL LIMITS IN THE FIELD, AS DETERMINED BY THE PROJECT ENGINEER, UNLESS TOLERANCES ARE SPECIFIED OTHERWISE.

ALL DIMENSIONS SHOWN ON TYPICAL SECTIONS ARE COMPACTED DIMENSIONS.

FOR EMBANKMENT WIDENING DETAILS, SEE THE APPROPRIATE LADOTD STANDARD PLAN FOR OFF-SYSTEM HIGHWAY GUARD RAILS. THE FINISHED SLOPE OF THE EMBANKMENT WIDENING SHALL BE 0.10 FT/FT, OR FLATTER.

CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING STREAM FLOW DURING CONSTRUCTION AS DIRECTED BY THE PROJECT ENGINEER.

WHEN STONE OR RPCC BASE IS USED, GEOTEXTILE FABRIC IS REQUIRED AND IS INCLUDED IN THE BASE COURSE ITEM.

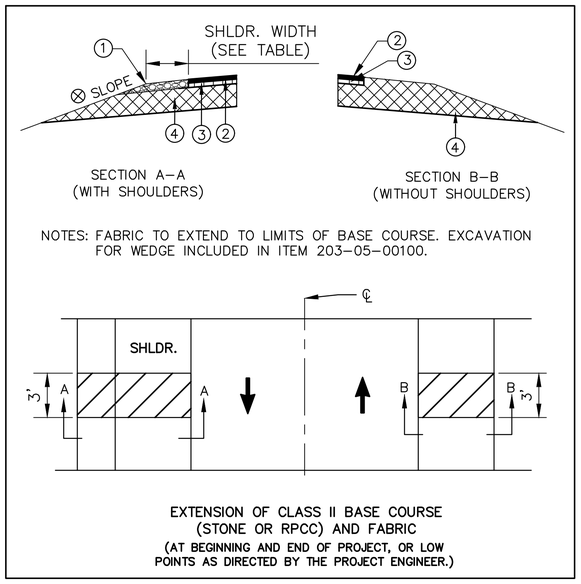
STATION	STATION	WIDTH "A" (FEET)	WIDTH"B" (FEET)	WIDTH "C" (FEET)
43+50.00	43+70.00	10-EXIST.	10-EXIST.	0-2
43+81.69	44+61.69	10-16	10	2
44+41.69	45+74.15	16	10	2
45+47.65	46+27.65	10-16	10	2
45+94.15	48+34.58	10	10	2
48+34.58	48+74.58	10-12	10-12	0-2
48+74.58	49+29.58	12	12	0
49+29.58	50+69.58	BRIDGE & APPROACH SLAB		
50.69.58	51+24.58	12	12	0
51+24.58	51+64.58	10-12	10-12	0-2
51+64.58	54+80.00	10	10	2
54+80.00	55+00.00	10-EXIST.	10-EXIST.	0-2

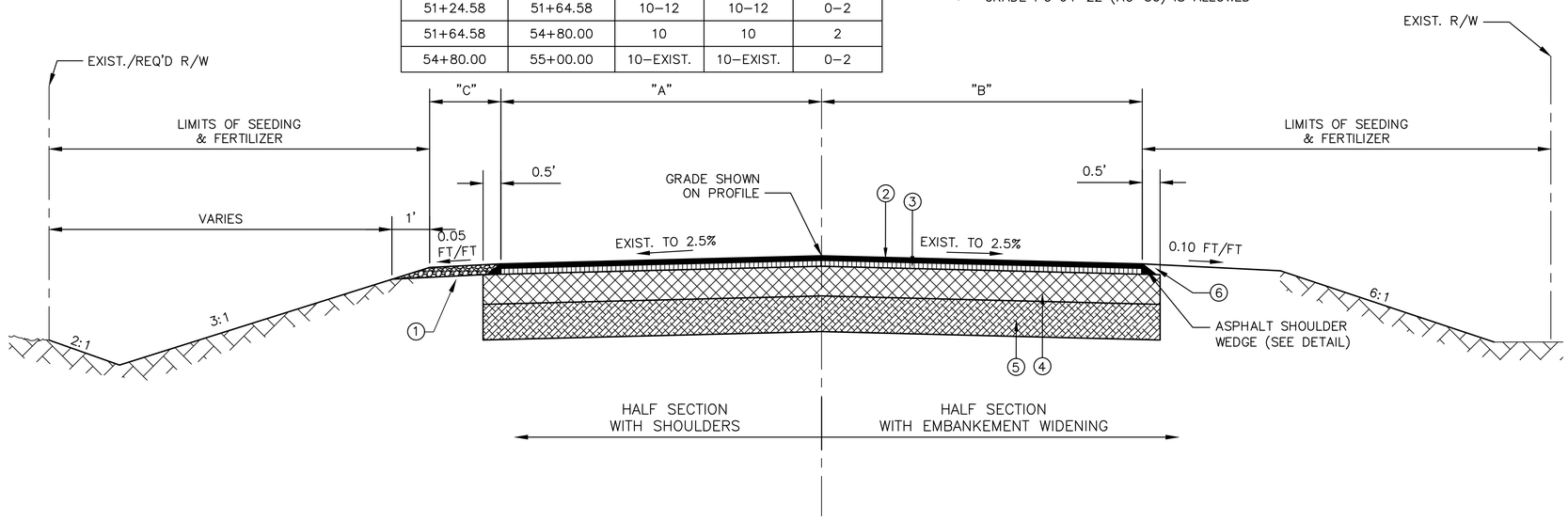
LEGEND

1. 4" AGGREGATE SURFACE COURSE (SHOULDERS)
2. ASPHALT CONCRETE WEARING COURSE (2" THICKNESS) (LEVEL 1) *
3. ASPHALT CONCRETE BINDER COURSE (2" THICKNESS) (LEVEL 1) *
4. CLASS II BASE COURSE (10" THICK) (RECYCLED PORTLAND CEMENT CONCRETE)
5. 12" LIME TREATMENT (TYPE E) NOTE: TO BE USED AS REQUIRED BY PROJECT ENGINEER
6. EMBANKMENT (NO DIRECT PAY)

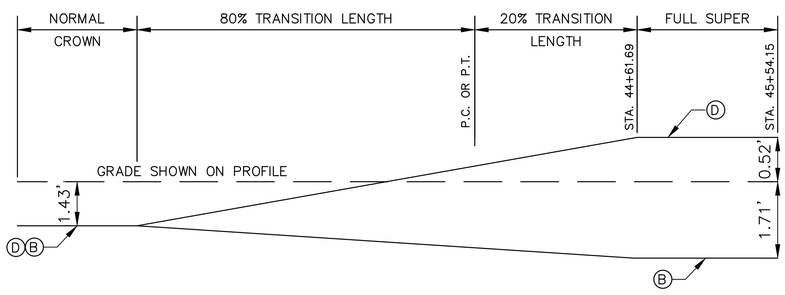
☒ SEE GUARD RAIL DETAILS FOR SLOPE

* GRADE PG 64-22 (AC-30) IS ALLOWED

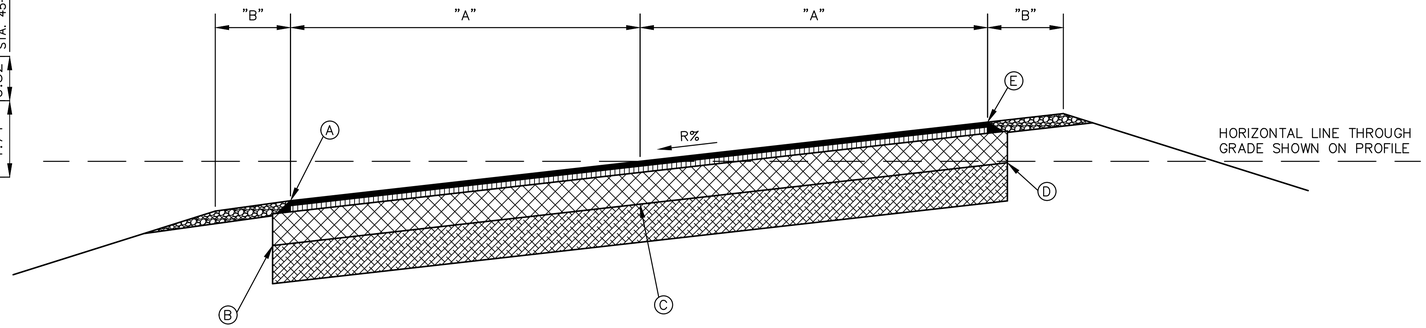




TYPICAL SECTION
NTS



SUPERELEVATION DIAGRAM



SUPERELEVATED SECTION
NTS

STATION RANGE	RADIUS	R	A	B	C	D	E	TRANSITION LENGTH
NORMAL CROWN	N/A	N.C.	-0.25	-1.43	-1.17	-1.43	-0.25	N/A
44+61.69 -45+54.15	80'	4%	-0.52	-1.71	-1.17	-0.63	0.52	100'

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2022

PEC PROFESSIONAL ENGINEERING CONSULTANTS, LLC

SHEET NUMBER 2

COVINGTON | CITY | ST. TAMMANY | PARISH

DESIGNED JHS DAC | CHECKED
DETAILED JAC DAC | CHECKED
SERIES NUMBER

THIRD AVE. BRIDGE

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

G:\11428 Third Ave Bridge\PLANS\02 TYPICAL SECTIONS.dwg [22X34] Oct 21, 2021 - 4:54pm by dcotten

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
201-01-00100	CLEARING AND GRUBBING	LUMP	1
202-01-00100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP	1
202-02-04000	REMOVAL OF BRIDGE	EACH	1
202-02-38500	REMOVAL OF SURFACING AND STABILIZED BASE	SQYD	2,900.0
202-02-38240	REMOVAL OF SIGNS & SUPPORTS	EACH	2
203-05-00100	EXCAVATION AND EMBANKMENT	LUMP	1
203-11-00100	SETTLEMENT PLATE INSTALLATION AND MONITORING	EACH	4
204-02-00100	TEMPORARY HAY BALES	EACH	50
204-03-00100	TEMPORARY SLOPE DRAINS	LNFT	40
204-06-00100	TEMPORARY SILT FENCING	LNFT	2,490
302-02-10040	CLASS II BASE COURSE (10" THICK) (RECYCLED PORTLAND CEMENT CONCRETE)	SQYD	3,000.0
304-01-00100	LIME	TONS	28.0
304-05-00100	LIME TREATEMENT (TYPE E)	SQYD	1,800
401-01-00100	AGGREGATE SURFACE COURSE (NET SECTION)	CUYD	42.3
402-01-00100	TRAFFIC MAINTENANCE AGGREGATE (VEHICULAR MEASUREMENT)	CUYD	60.0
502-01-00100	ASPHALT CONCRETE	TON	650.0
701-03-01020	STORM DRAIN PIPE (18" RCP)	LNFT	50.0
701-05-01020	SIDE DRAIN PIPE (15" RCP/PP/CMP)	LNFT	22.0
701-10-01040	REINFORCED CONCRETE PIPE (EXTENSION) (18")	LNFT	20.0
701-10-01100	REINFORCED CONCRETE PIPE (EXTENSION) (36")	LNFT	40.0
704-03-00200	BLOCKED OUT GUARD RAIL - 31" (6'-3" POST SPACING)	LNFT	50.0
704-05-00300	GUARD RAIL ANCHOR SECTIONS - 31" (TRAILING END)	LNFT	6.3
704-07-00200	GUARDRAIL TRANSITIONS (DOUBLE THRIE BEAM)	LN FT	84.0
704-10-00310	GUARD RAIL END TREATMENT, MASH (TL-3 FLARED)	EACH	3.0
708-01-00100	RIGHT-OF-WAY MONUMENT	EACH	11.0
712-04-00100	FLEXIBLE REVETMENT	SQYD	480
713-01-00100	TEMPORARY SIGNS AND BARRICADES	LUMP	1
716-01-00100	MULCH (VEGETATIVE)	TON	3.0
717-01-00100	SEEDING	LB	45
718-01-00100	FERTILIZER	LB	1,500
727-01-00100	MOBILIZATION	LUMP	1
729-16-00100	OBJECT MARKER ASSEMBLY (TYPE 3)	EACH	4
740-01-00100	CONSTRUCTION LAYOUT	LUMP	1
804-01-00200	PRECAST CONCRETE PILES (16")	LNFT	2,760
804-14-00100	DYNAMIC MONITORING ASSISTANCE	EACH	4
805-12-00100	BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE (24' CLEAR ROADWAY, 90 DEGREE CROSSING)(PRECAST)	SQFT	2,400
813-03-00100	CONCRETE APPROACH SLABS (CAST-IN-PLACE)	SQFT	1,000
S-1	SAW CUTTING ASPHALTIC CONCRETE PAVEMENT	IN-LF	200
S-2	SURCHARGE (PLACEMENT AND REMOVAL)(3 MONTH DURATION)	CUYD	350

NOTE: THE ESTIMATED TOTAL VOLUMES FOR EMBANKMENT AND EXCAVATION ARE AS FOLLOWS AND ARE LISTED FOR INFORMATIONAL PURPOSES ONLY:

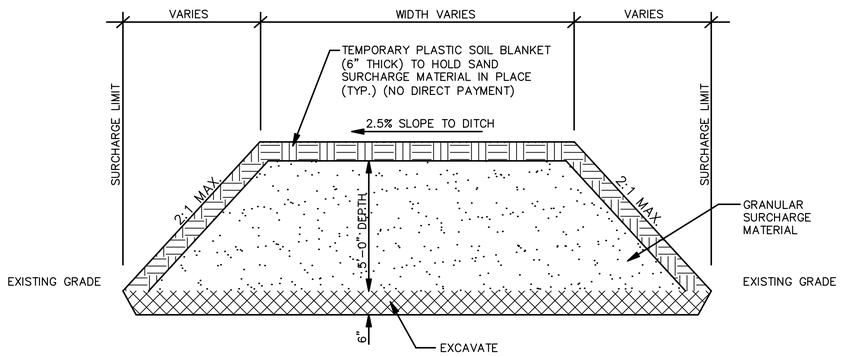
EMB.: 7890.4 CY EXC.: 2694.0 CY

SETTLEMENT PLATE INSTALLATION AND MONITORING

1. THE CONTRACTOR SHALL FURNISH AND INSTALL AND REMOVE UPON COMPLETION A SETTLEMENT PLATE MONITORING PROGRAM INCLUDING SURCHARGE EMBANKMENT MATERIAL AND SETTLING PLATES IN THE VICINITY OF THE BRIDGE APPROACHES FROM STA. 49+00 TO STA 51+00, EXCLUDING THE CHANNEL. THE EXACT NUMBER AND LOCATION OF SETTLING PLATES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER AND PAYMENT SHALL BE AS INDICATED IN THE SPECIFICATIONS.
2. SETTLEMENT PLATES SHALL BE PLACED ON TOP OF THE NON PLASTIC EMBANKMENT LAYER AND BEFORE THE SURCHARGE MATERIAL IS PLACED IN ORDER TO MONITOR EXISTING GROUND CONSOLIDATION. ELEVATION SHALL BE MONITORED DAILY (TO THE NEAREST 100TH FOOT) DURING SURCHARGE FILL PLACEMENT, TWICE WEEKLY FOR FOUR WEEKS FOLLOWING COMPLETION OF SURCHARGE FILL PLACEMENT, AND WEEKLY AFTER FOUR WEEKS FOLLOWING COMPLETION OF SURCHARGE FILL PLACEMENT. THE SURCHARGE MATERIAL SHALL BE LEFT IN PLACE FOR A PERIOD OF THREE (3) MONTHS.
3. UPON COMPLETION OF THE THREE (3) MONTHS SURCHARGE, THE CONTRACTOR SHALL EXCAVATE TO THE BOTTOM OF THE PROPOSED SUBGRADE.
4. TYPICAL SETTLEMENT PLATE SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
5. THE SETTLEMENT PLATES SHALL BE INSTALLED AND MONITORED AS PER ASTM D6598–19.
6. THE CONTRACTOR SHOULD TAKE PROPER CARE SO AS NOT TO DISTURB THE SETTLEMENT PLATE AND RISERS.

GENERAL NOTES:

1. ALL WORK IN THIS CONTRACT SHALL CONFORM TO THE PROJECT PLANS AND SPECIFICATIONS.
2. ALL DIMENSIONS SHOWN HEREON ARE DESIGN DIMENSIONS AND SHOULD BE FOLLOWED TO THE NEAREST PRACTICAL LIMITS IN THE FIELD AS DETERMINED BY THE PROJECT ENGINEER, IF TOLERANCES ARE NOT OTHERWISE STATED.
3. ANY MATERIALS REMOVED DURING CONSTRUCTION AND DEEMED UNUSABLE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND HAULED OFF BEYOND THE LIMITS OF THE PROJECT AT THE CONTRACTOR'S EXPENSE.
4. THE LOCATION OF ALL EXISTING ON SITE ITEMS IS APPROXIMATE AND AS KNOWN AT THE TIME OF SURVEY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING ELEMENTS AND SHALL REPORT NOTICEABLE DISCREPANCIES TO THE PROJECT ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
5. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE VARIOUS UTILITY COMPANIES AND THE PARISH (985)898–2552 AND SHALL VERIFY THE EXACT LOCATION, DEPTH, OR HEIGHT OF ALL UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR LIABILITY DUE TO HIS FAILURE TO COMPLY WITH THESE INSTRUCTIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TRAFFIC DURING CONSTRUCTION AND SHALL COMPLY WITH ALL REGULATIONS TO INSURE SAFETY OF THE WORKMEN AND THE PUBLIC DURING CONSTRUCTION. MINIMUM REQUIREMENTS ARE SHOWN IN THE STANDARD DRAWINGS AND SECTION 6 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ADDITIONAL TRAFFIC CONTROL REQUIRED BY THE PROJECT ENGINEER OR PROVIDED BY THE CONTRACTOR SHALL BE AT NO ADDITIONAL PAY.
7. ALL EXISTING STORM DRAINAGE PIPE AND DRAINAGE STRUCTURES WITHIN THE PROJECT LIMITS SHALL REMAIN UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE PROJECT ENGINEER. ALL COST FOR REMOVING EXISTING DRAINAGE PIPES, BOXES, ETC. SHALL BE INCLUDED IN THE ITEM BID FOR REMOVAL OF STRUCTURES AND OBSTRUCTIONS (ITEM NO. 202–01–00100). COST FOR BACKFILL SAND SHALL BE AT NO DIRECT PAY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE FLOW OF WATER IN WRIGHTS CREEK AND ASSURING THERE WILL BE NO BACK UP OF WATER DUE TO CONSTRUCTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE SEDIMENT/EROSION CONTROL MEASURES THAT ENSURE THAT NO SEDIMENTS OR OTHER CONSTRUCTION RELATED DEBRIS/MATERIALS ARE ALLOWED TO ENTER PONCHITOLAWA CREEK.
10. ALL SAW CUTS TO BE FULL DEPTH AND ARE REQUIRED AT EDGES OF EXISTING PAVEMENT AND OTHER LOCATIONS AS DIRECTED BY PROJECT ENGINEER.
11. ITEM 402–01–00100 TRAFFIC MAINTENANCE AGGREGATE TO REMAIN IN PLACE AT THE END OF CONSTRUCTION.



TYPICAL SECTION FOR SURCHARGE

NO DIRECT PAY

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
AT
CIVIL ENGINEERING
2022

SHEET NUMBER 3

CITY: COVINGTON | PARISH: ST. TAMMANY

DESIGNED JHS | DETAILED JAC | CHECKED DAC | SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

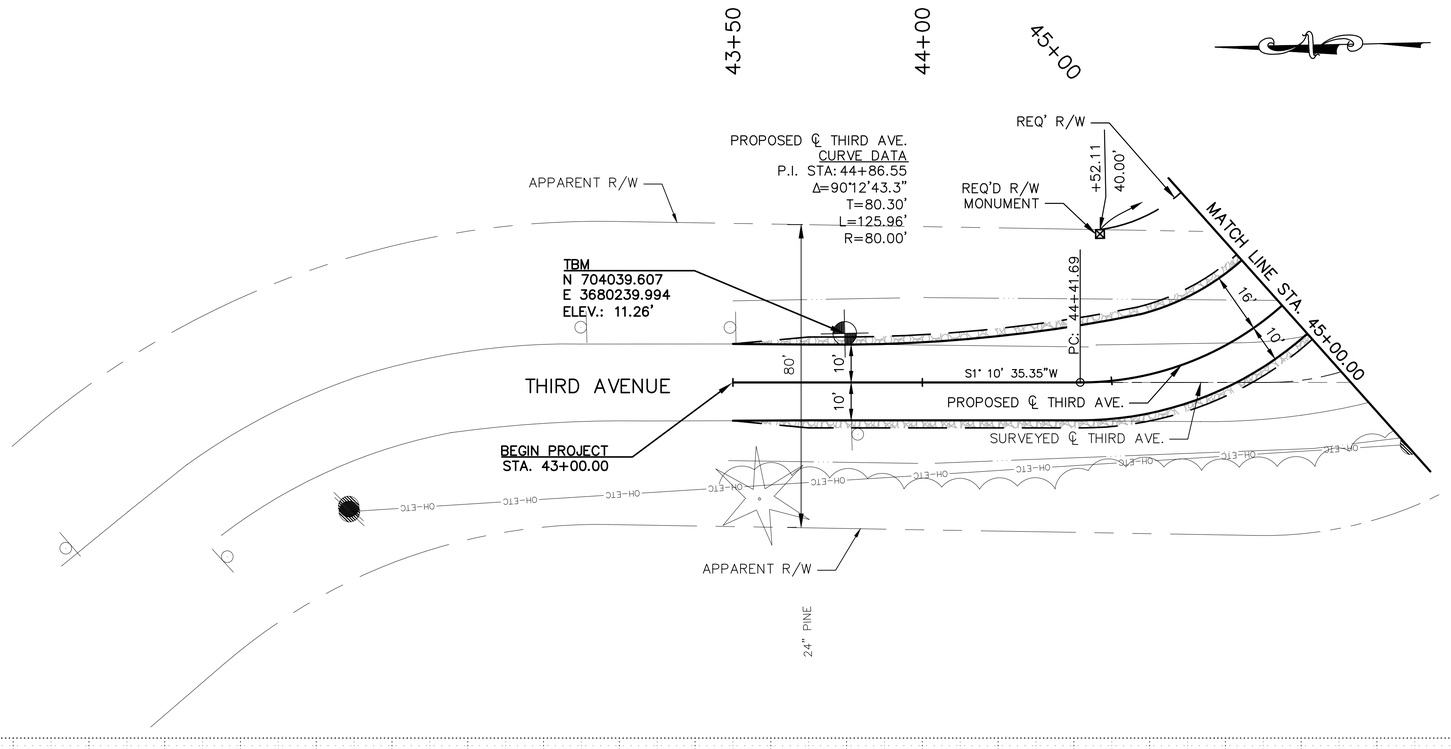
SUMMARY OF ESTIMATED QUANTITIES

THIRD AVE. BRIDGE

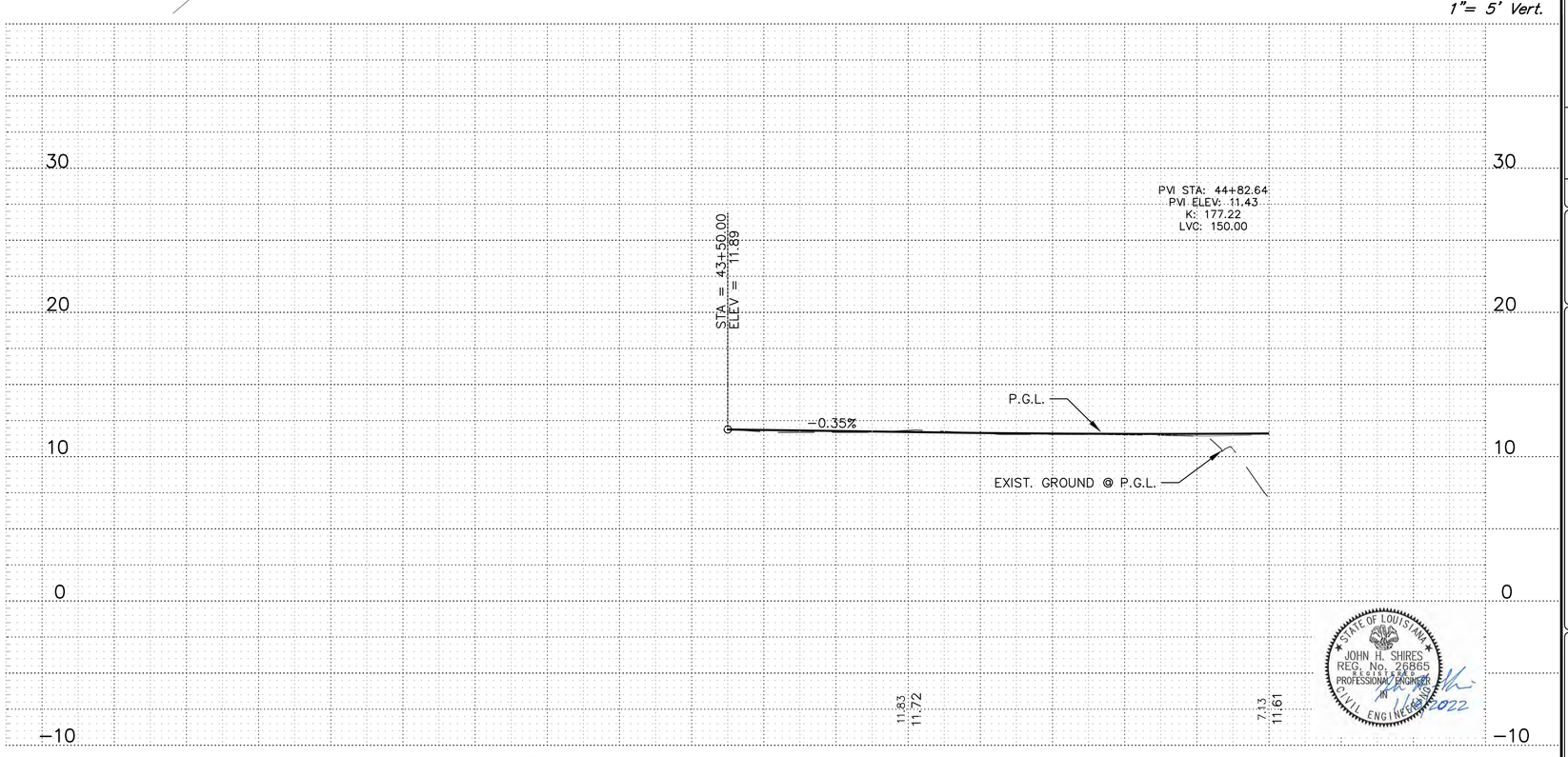
PEC PROFESSIONAL ENGINEERING CONSULTANTS

LEGEND EXIST. TOPOGRAPHY

—OH—ETC—	Overhead Elec., Tele. & Cable
—OH—EC—	Overhead Electric & Cable
	Vegetation Line
	Underground Drain Line
	Ditch Line
	Guard Rail
	Found Iron Pipe/Rod
	Control: 1/2" Iron Rod with Cap
	Control: 60D Nail
	PK Nail with Shiner
	Spot Elevation
	Pole Mounted Transformer
T	Telephone Pedestal
	Drain Inlet
	Sign
	Street Light
	Mail Box
RCP	Reinforced Concrete Pipe
CMP	Corrugated Metal Pipe
CLF	Chain Link Fence
WDF	Wood Fence
	Temporary Bench Mark
	New Roadway Shoulder
	New Flexible Revetment



Scale:
1"=20' Horiz.
1"= 5' Vert.



GENERAL NOTES:

1. ALL SALVAGEABLE MATERIAL, AS DETERMINED BY THE PROJECT ENGINEER, TO BE LOADED ONTO PARISH TRUCKS BY THE CONTRACTOR (INCLUDED IN ITEM 202-02-04000).
2. UNSALVAGEABLE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF BEYOND THE LIMITS OF THE R/W.
3. FOR ADDITIONAL GUARD RAIL INFORMATION, SEE GUARD RAIL STANDARDS.
4. ALL AREAS OF BRIDGE EMBANKMENT SLOPE AND DISTURBED SOIL NOT RECEIVING REVETMENT ARE TO BE SEEDED AND FERTILIZED.
5. ALL EXCAVATION AND FILL TO BE IN PLACE BEFORE DRIVING AFFECTED PILES.
6. DATE OF CONSTRUCTION REQUIRED EACH END OF BRIDGE. SEE STANDARD DETAIL YP-01.
7. UTILITIES TO BE RELOCATED BY OTHERS.
8. EXISTING PILES ARE TO BE CUT OFF 1 FOOT BELOW THE GROUND LINE. CONTRACTOR IS TO REMOVE ANY PILES INTERFERING WITH THE INSTALLATION OF NEW PILES (INCLUDED IN ITEM 202-02-04000).
9. ANY DISTURBED FENCE SHALL BE REPLACED AS DIRECTED BY THE PROJECT ENGINEER.

JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1/19/2022

SHEET NUMBER 4

COVINGTON | CITY | ST. TAMMANY | PARISH

DESIGNED JHS | CHECKED DAC
DETAILED JAC | CHECKED DAC
SERIES NUMBER

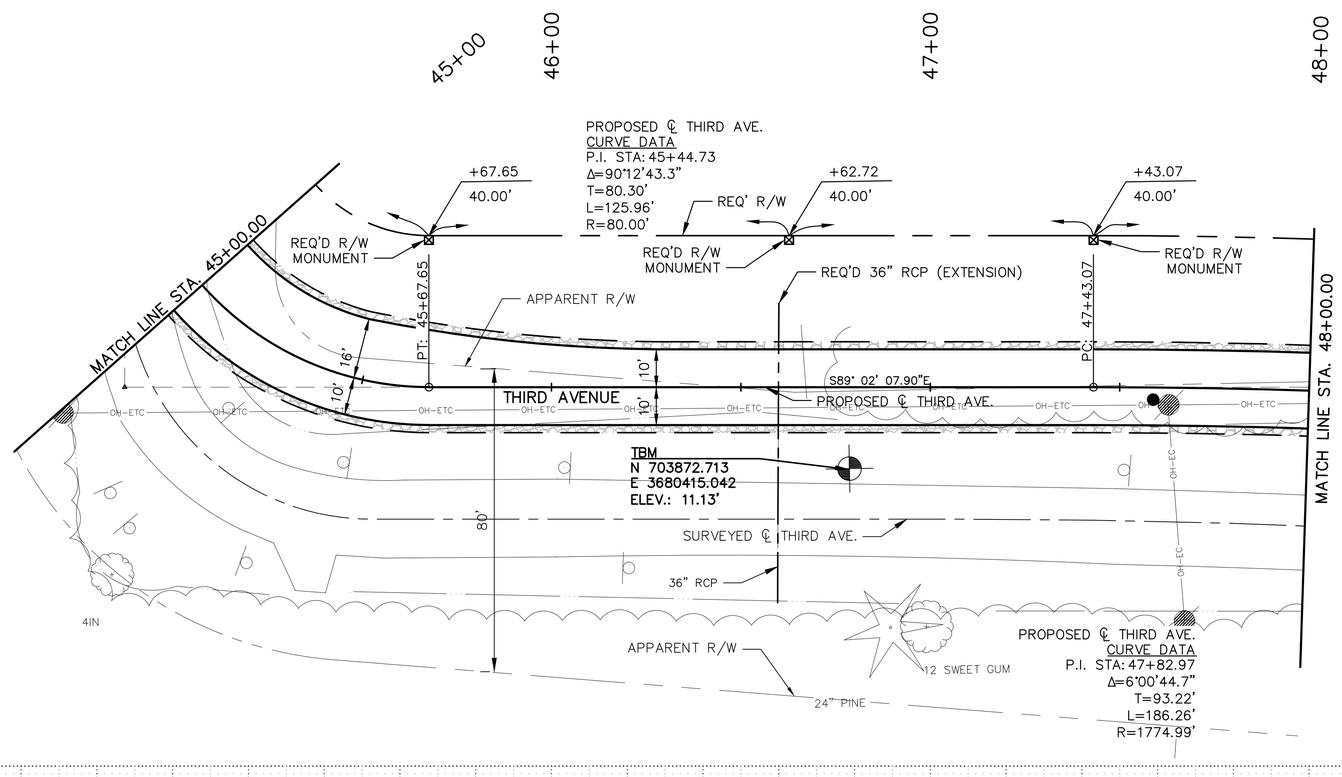
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

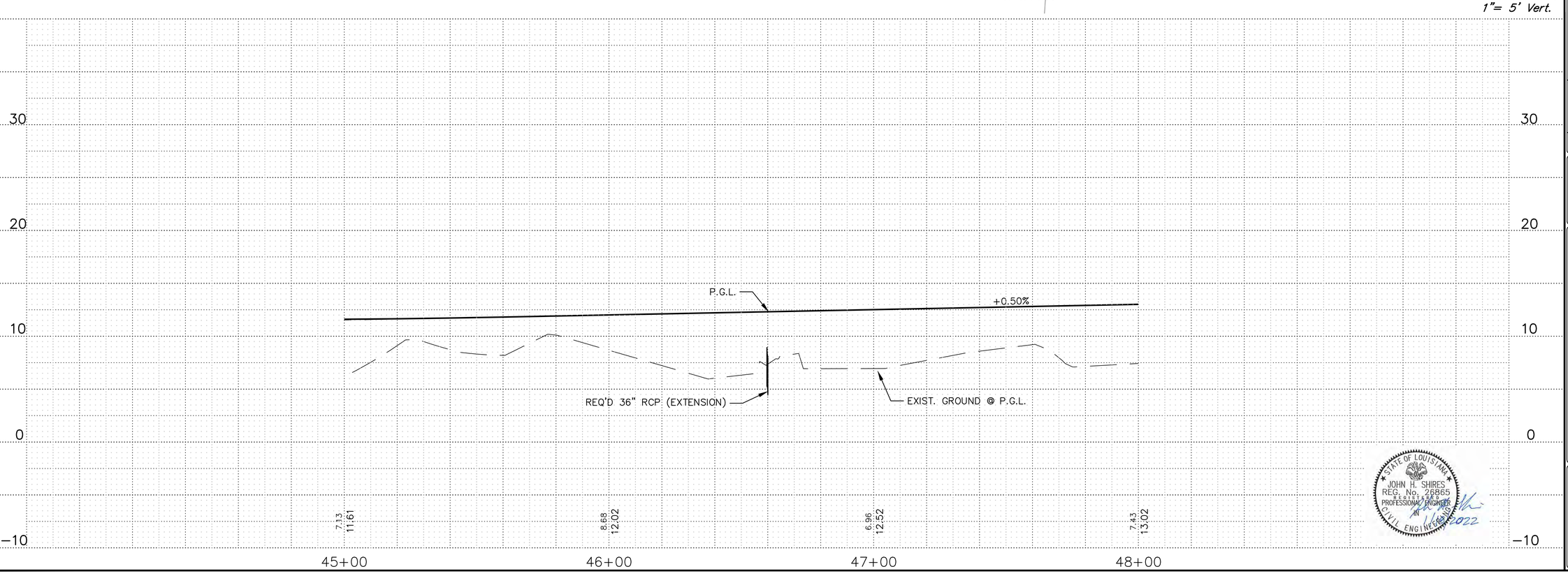
PLAN AND PROFILE SHEETS
THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\PLAN & PROFILE SHEETS.dwg [PP04] Jan 19, 2022 - 11:38am by dcotten



Scale:
1"=20' Horiz.
1"= 5' Vert.



STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26665
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2022

SHEET NUMBER 5

CITY: COVINGTON
PARISH: ST. TAMMANY

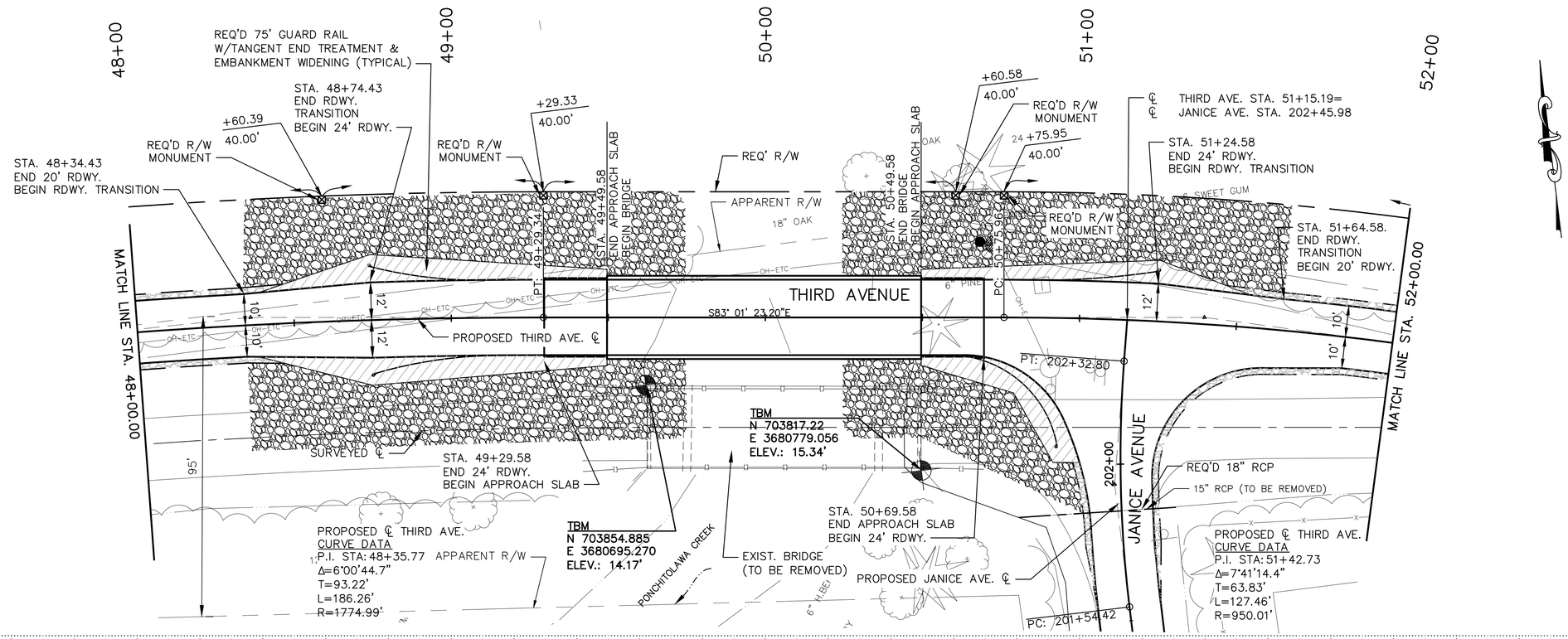
DESIGNED JHS
CHECKED DAC
DETAILED JAC
CHECKED DAC
SERIES NUMBER

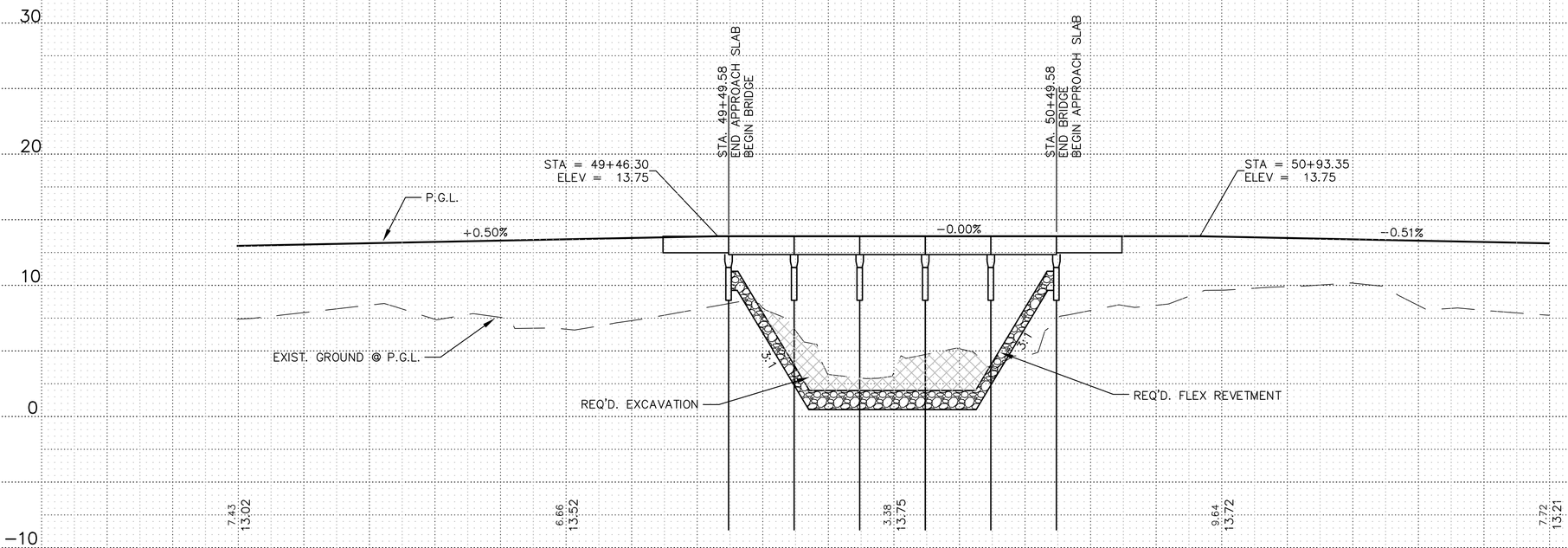
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PLAN AND PROFILE SHEETS
THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\PLAN & PROFILE SHEETS.dwg [PP05] Jan 19, 2022 – 11:38am by dcotten





JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1/19/2022

SHEET NUMBER	6
CITY	COVINGTON
PARISH	ST. TAMMANY
DESIGNED / CHECKED	JHS / DAC
DETAILED / CHECKED	JAC / DAC
SERIES NUMBER	

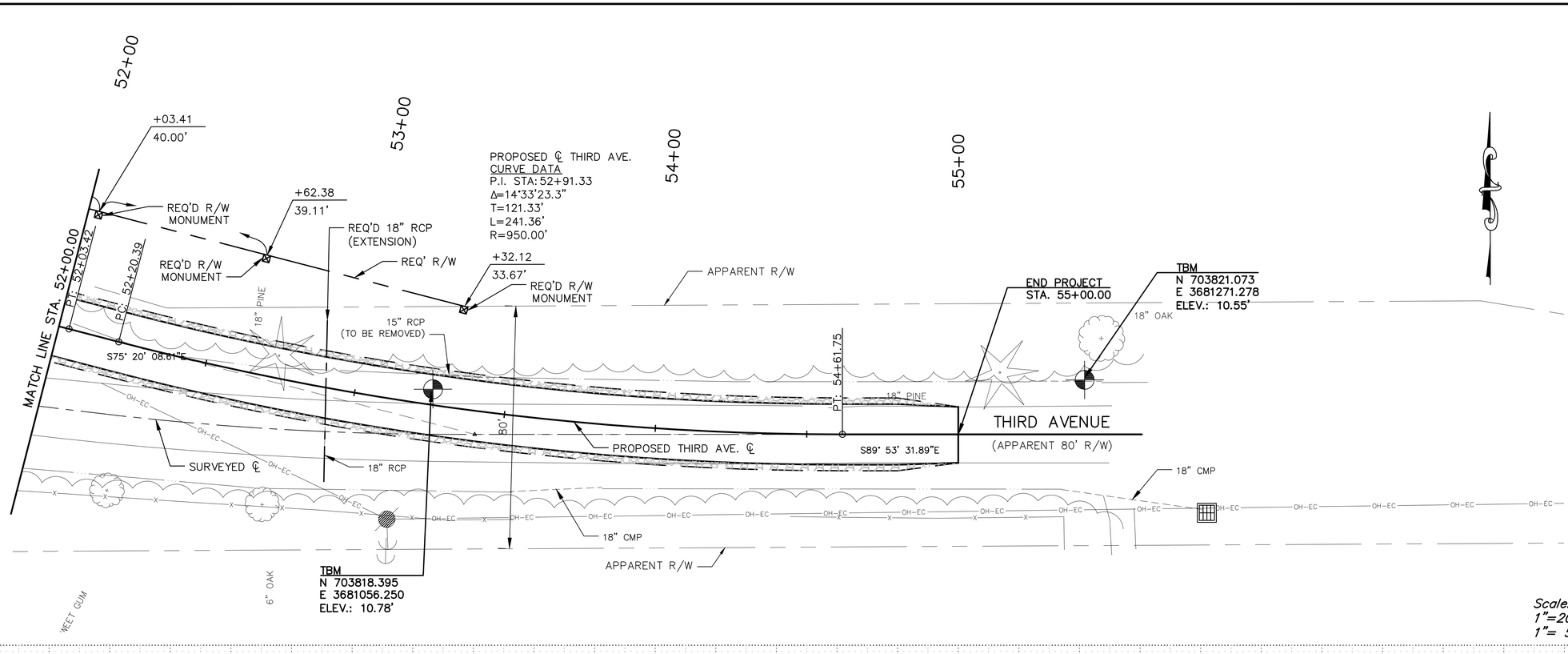
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PLAN AND PROFILE SHEETS

THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\PLAN & PROFILE SHEETS.dwg [PP06] Jan 19, 2022 – 11:38am by dcotten



SHEET NUMBER 7

COVINGTON | CITY | ST. TAMMANY | PARISH

DESIGNED JHS CHECKED DAC | DETAILED JAC CHECKED DAC | SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

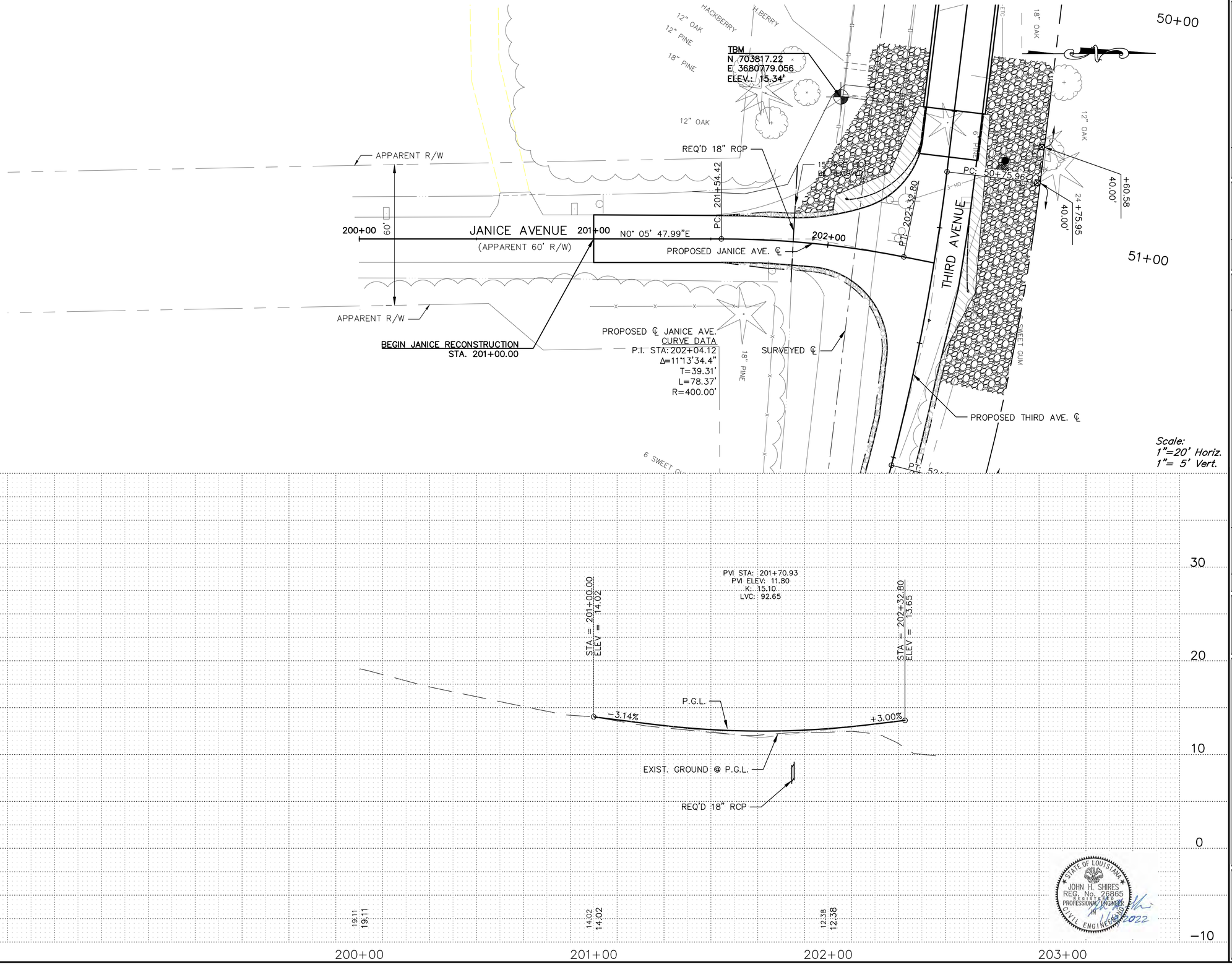
STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
1/19/2022

PEC PROFESSIONAL ENGINEERING CONSULTANTS

PLAN AND PROFILE SHEETS

THIRD AVE. BRIDGE

G:\11428 Third Ave Bridge\PLANS\PLAN & PROFILE SHEETS.dwg [PP07] Jan 19, 2022 – 11:38am by dcotten



G:\11428 Third Ave Bridge\PLANS\PLAN & PROFILE SHEETS.dwg [PP08] Jan 19, 2022 – 11:38am by dcotten

SHEET NUMBER 8

COVINGTON | CITY | ST. TAMMANY | PARISH

DESIGNED JHS | CHECKED DAC | DETAILED JAC | CHECKED DAC | SERIES NUMBER

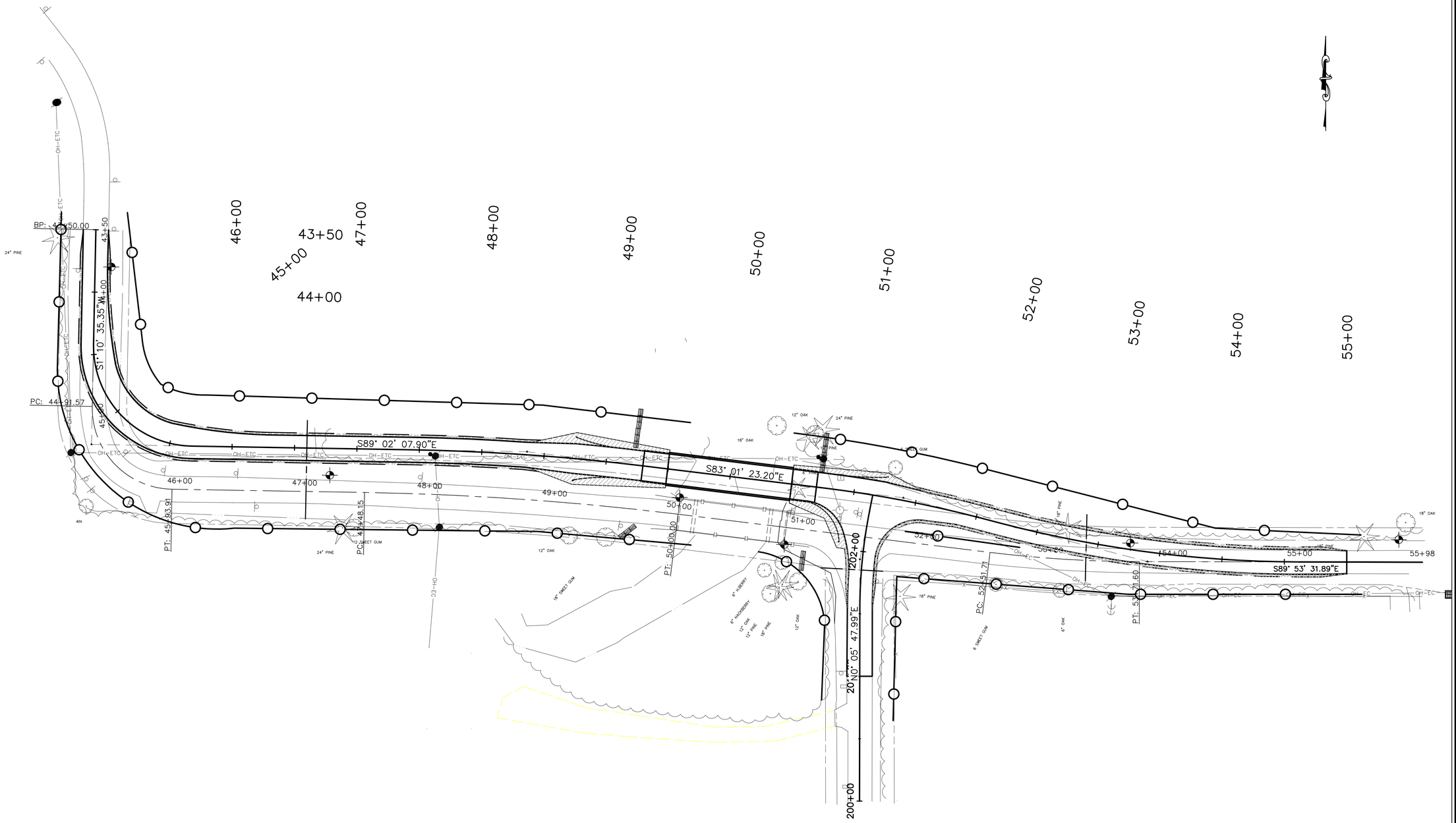
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1/19/2022

PLAN AND PROFILE SHEETS

THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS



LEGEND:

- REQ'D CHECK DAM (HAY)
- REQ'D SILT FENCING

GENERAL NOTES:

1. APPLICABLE EROSION CONTROL MEASURES ARE TO BE PLACED PRIOR TO BEGINNING CONSTRUCTION.
2. CONTRACTOR TO ADJUST EROSION CONTROL AS NEEDED DURING DIFFERENT PHASES OF CONSTRUCTION AT NO ADDITIONAL PAYMENT.
3. OPENINGS SHALL BE PLACED IN THE SILT FENCING AT ALL EXISTING DRIVEWAYS AND STREETS.
4. CONTRACTOR SHALL PROVIDE TEMPORARY STONE CONSTRUCTION ENTRANCE LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE. (SEE LADOTD STANDARD PLAN EC-01)

EROSION CONTROL PLAN

SCALE: 1" = 40'

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
2022

SHEET NUMBER 9

CITY: COVINGTON
PARISH: ST. TAMMANY

DESIGNED JHS
CHECKED DAC
DETAILED JAC
CHECKED DAC
SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

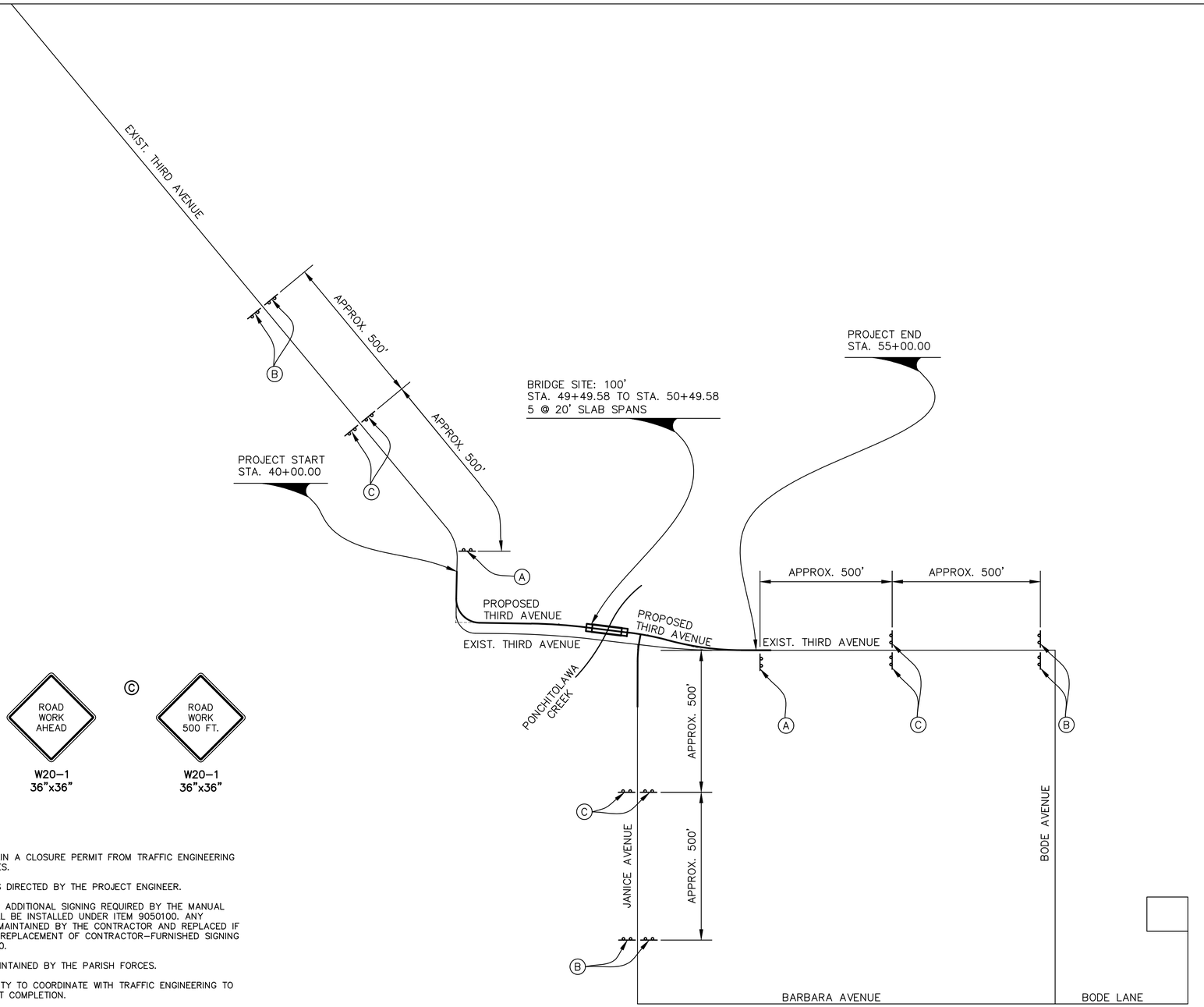
STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SUGGESTED TEMPORARY EROSION CONTROL PLAN

THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS CORPORATION

G:\11428 Third Ave Bridge\PLANS\EROSION CONTROL.dwg [PP04] Oct 08, 2021 - 12:03pm by dcotten



SIGNING LEGEND:

Ⓐ END ROAD WORK — G20-2, 60"x24"

Ⓑ ROAD WORK AHEAD — W20-1, 36"x36"

Ⓒ ROAD WORK 500 FT. — W20-1, 36"x36"

NOTES:

1. THE CONTRACTOR SHALL OBTAIN AND MAINTAIN A CLOSURE PERMIT FROM TRAFFIC ENGINEERING DIVISION FOR THE DURATION OF ALL CLOSURES.
2. CONTRACTOR TO MAINTAIN LOCAL TRAFFIC AS DIRECTED BY THE PROJECT ENGINEER.
3. MINIMUM CONSTRUCTION SIGNING SHOWN. ANY ADDITIONAL SIGNING REQUIRED BY THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL BE INSTALLED UNDER ITEM 9050100. ANY CONTRACTOR-FURNISHED SIGNING SHALL BE MAINTAINED BY THE CONTRACTOR AND REPLACED IF DAMAGED. ANY REQUIRED MAINTENANCE OR REPLACEMENT OF CONTRACTOR-FURNISHED SIGNING WILL BE PAID FOR UNDER ITEM 713-01-00100.
4. DETOUR SIGNING WILL BE FURNISHED AND MAINTAINED BY THE PARISH FORCES.
5. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH TRAFFIC ENGINEERING TO RETURN ANY EXISTING SIGNING UPON PROJECT COMPLETION.

MINIMUM CONSTRUCTION SIGNING
SCALE: 1" = 200'

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
1/19/2022

SHEET NUMBER 10

CITY: COVINGTON
PARISH: ST. TAMMANY

DESIGNED JHS
CHECKED DAC
DETAILED JAC
CHECKED DAC
SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

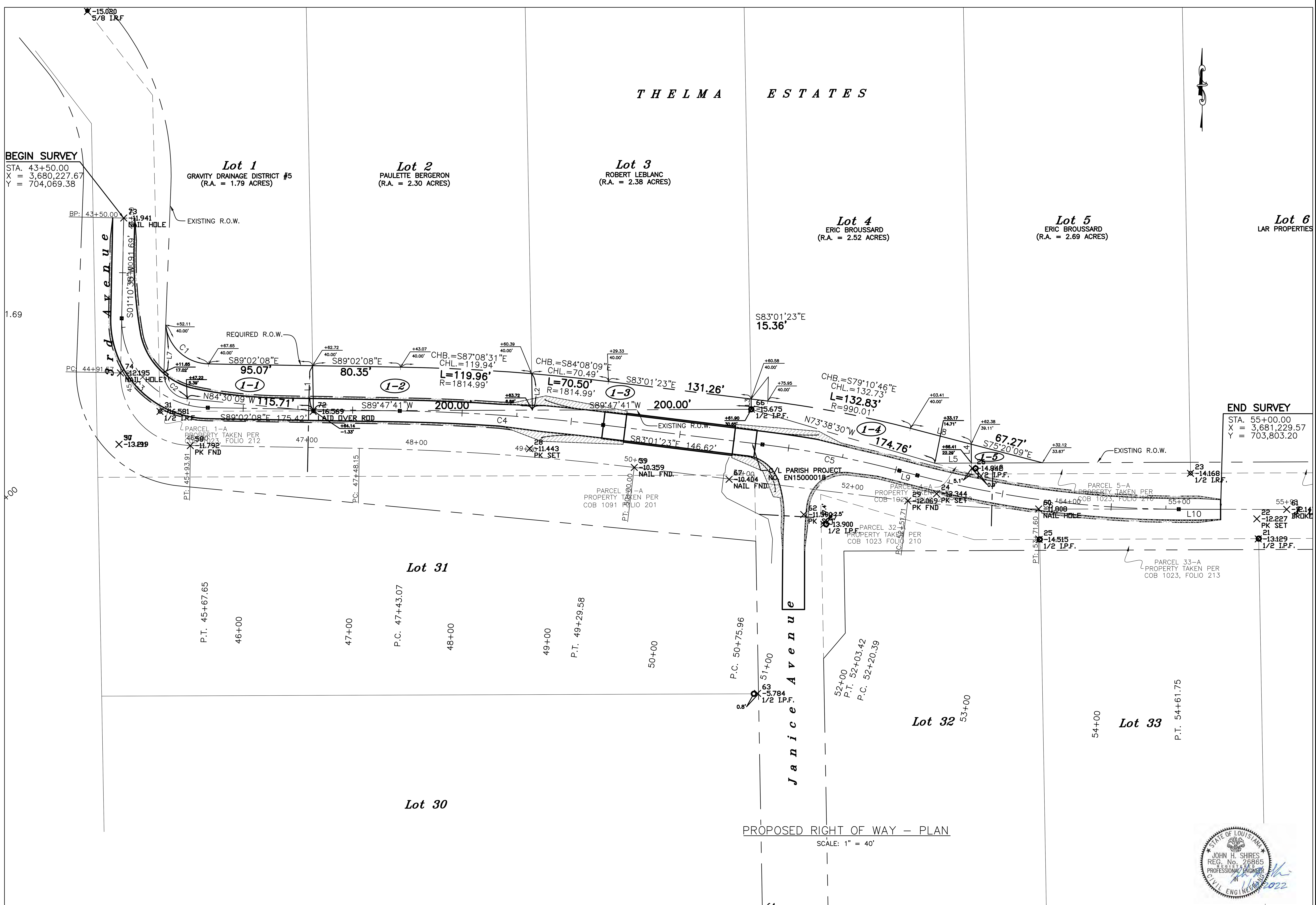
STATE OF LOUISIANA

MINIMUM CONSTRUCTION SIGNING

THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\TEMP. CONSTRUCTION SIGNING.dwg [PP04] Jan 19, 2022 - 11:47am by dcotten



PROPOSED RIGHT OF WAY PLAN

THIRD AVE. BRIDGE

CITY: COVINGTON
PARISH: ST. TAMMANY

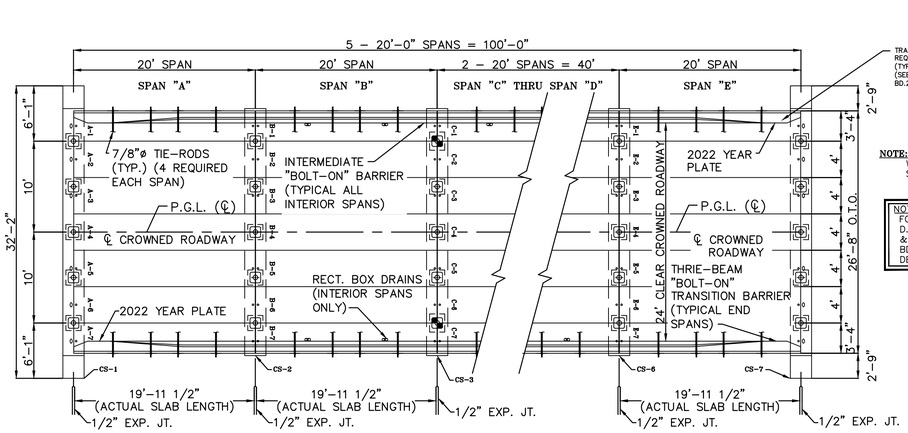
DESIGNED JHS CHECKED DAC
DETAILED JAC CHECKED DAC

SHEET NUMBER 11

JOHN H. SHIRES
REG. No. 26865
PROFESSIONAL ENGINEER

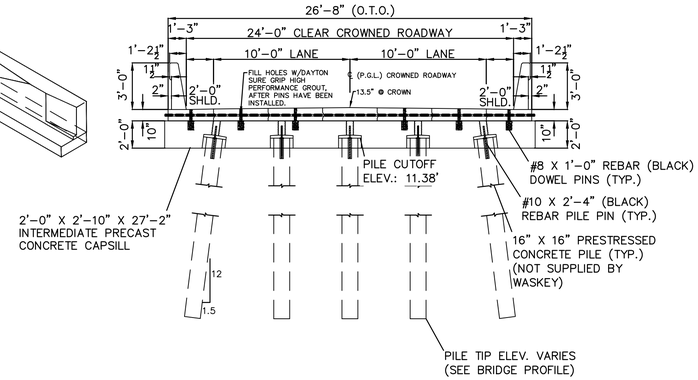
PEC PROFESSIONAL ENGINEERING CONSULTANTS CORPORATION

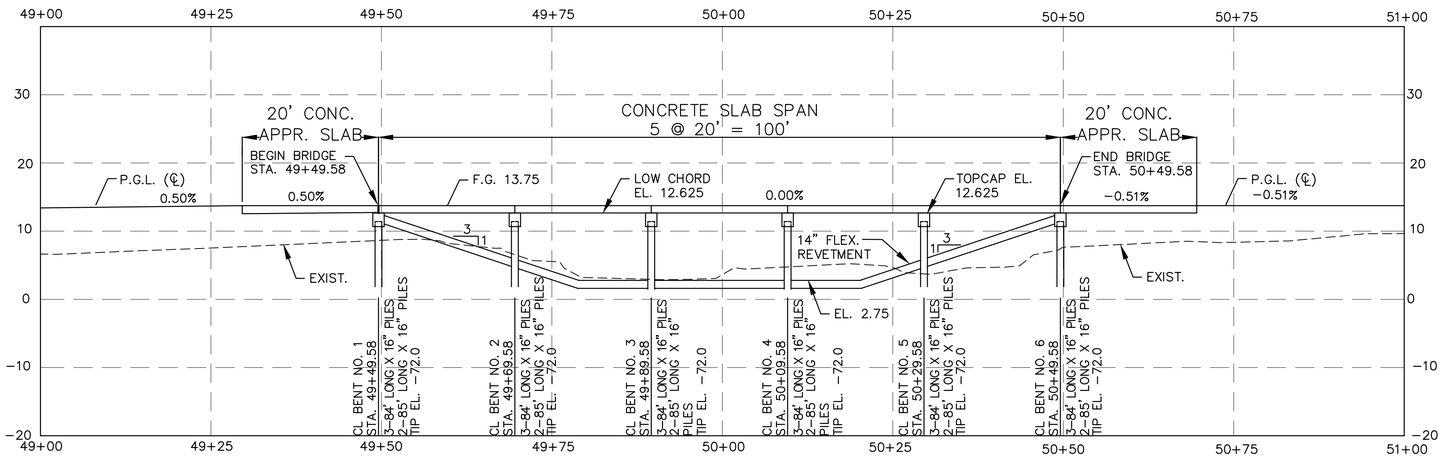
G:\11428 Third Ave Bridge\PLANS\ROW MONUMENT.dwg [PP04] Jan 19, 2022 - 11:44am by dcotten



NOTE: YEAR PLATE TO SHOW 2020 UNLESS WASKEY IS NOTIFIED IN WRITING TO SHOW A DIFFERENT YEAR.

NOTE:
FOR SPAN FABRICATION DETAILS, SEE LA. D.O.T.D. STANDARD PLANS PSS–90–24–20SL & STANDARD PLANS BD.2.6.1.3.01 & BD.2.6.1.3.02 FOR BARRIER FABRICATION DETAILS





REQUIRED STRUCTURE

CAST–IN PLACE 100' CONCRETE SLAB SPAN BRIDGE (5–20' SPANS)
26'–6 WIDE
24' CLEAR ROADWAY (2–10' TRAVEL LANES AND 2–2' SHOULDERS)

IN PLACE STRUCTURE TO BE REMOVED

STRUCTURE NO. P523025890038 1
STATION 50+00.55 TO STATION 50+87.49
TIMBER PILES, STIFFENED BOX CAR AND CONC. DECK
STRUCTURE LENGTH 86.94'

EXISTING 3RD. AVE. BENT DATA TABLE

BENT	BENT SIZE	BENT TYPE	PILE SIZE	PILE TYPE	PILE COUNT	LOW CHORD (N)	LOW CHORD (S)
B1	12" X 12"	WOOD	10"	ROUND WOOD	3	–	–
B2	2.5' X 2.0'	CONCRETE	15"	ROUND WOOD	8	11.89'	11.89'
B3	2.5' X 2.0'	CONCRETE	15"	ROUND WOOD	8	11.90'	11.90'
B4	12" X 12"	WOOD	10"	ROUND WOOD	3	–	–

GENERAL NOTES:

1. UNSALVAGEABLE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND LEGALLY DISPOSED OF BEYOND THE LIMITS OF THE R/W.
2. FOR ADDITIONAL GUARD RAIL INFORMATION, SEE GUARD RAIL STANDARDS.
3. ALL AREAS OF BRIDGE EMBANKMENT SLOPE AND DISTURBED SOIL NOT RECEIVING REVETMENT ARE TO BE SEEDED AND FERTILIZED.
4. ALL EXCAVATION AND FILL TO BE IN PLACE BEFORE DRIVING AFFECTED PILES.
5. DATE OF CONSTRUCTION REQUIRED EACH END OF BRIDGE. SEE STANDARD DETAIL YP–01.
6. UTILITIES TO BE RELOCATED BY OTHERS.
7. EXISTING PILES ARE TO BE CUT OFF 1 FOOT BELOW THE GROUND LINE.
8. ANY DISTURBED FENCE SHALL BE REPLACED AS DIRECTED BY THE PROJECT ENGINEER.

Hydraulic Data Table					
Drainage Area (mi^2)	17.2			**Predicted Scour**	
Basin Slope (ft/mi)	2.8				
Flood Frequency (Years)	**Design Year** 10	**Design Year** 25	**Design Year** 100	**Flood Frequency (Years)**	500
Discharge (ft^3/s)	1560	1953	2505	**Discharge (ft^3/s)**	3000
Structure	Bridge	Bridge	Bridge	**Contraction Scour Depth (ft)**	7.02
Size and Type	5 20' Span Concrete; 3:1 Sloping Abutments	5 20' Span Concrete; 3:1 Sloping Abutments	5 20' Span Concrete; 3:1 Sloping Abutments		
Design Water Surf. Elev. (ft/NAVD88)	10.57	11.02	11.58	**Max. Local (Pier) Scour Depth (ft)**	3.0
Area of Opening (ft^2)	610.89	610.89	610.89	**Abutment Scour Depth (ft)**	Assume abutments armored
Backwater (ft)	N/A	N/A	N/A	**Bridge Scour Elev. (ft/NAVD88)**	-7.27
Remarks:					
Scour: Assume 3:1 sloping abutments will be armored. Size and type of armoring shall be determined.					

THIRD AVE. BRIDGE PLAN
SCALE: N.T.S.

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/02/2021

SHEET NUMBER 101

CITY: COVINGTON
PARISH: ST. TAMMANY

DESIGNED	JHS	DATE	OCTOBER 2021
CHECKED	DAC		
DETAILED	JAC		
CHECKED	DAC		

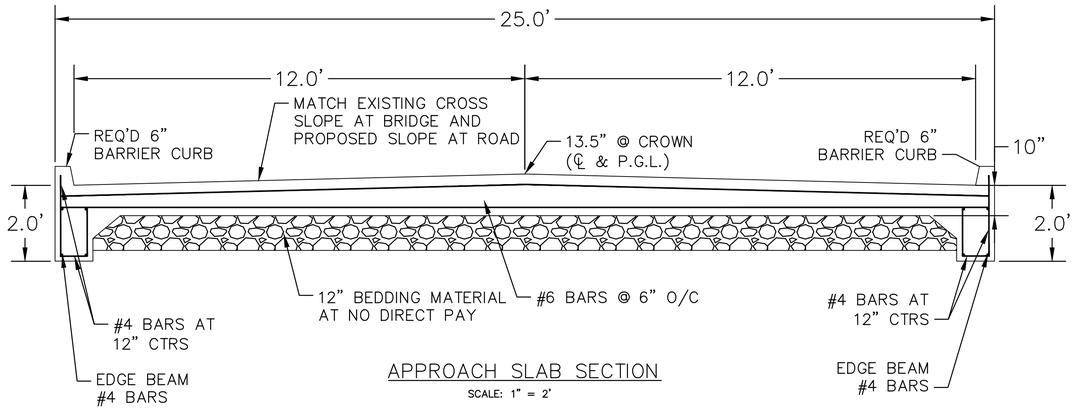
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

GENERAL BRIDGE PLAN AND SECTION

THIRD AVE. BRIDGE

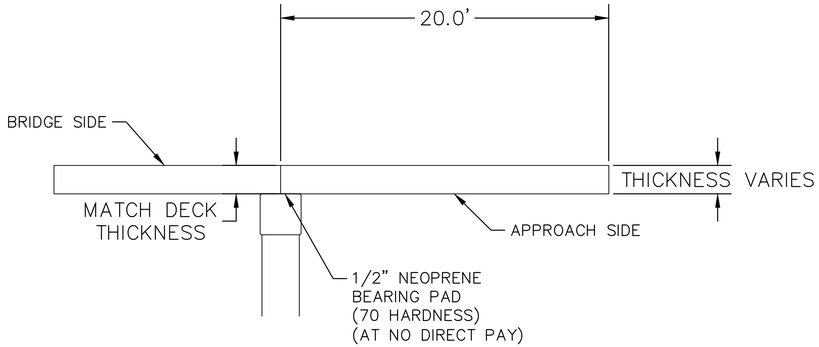
PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\STRUCTURAL PLANS\11428_NEW Bridge Plan.dwg [NEW NEW BRIDGE PLAN] Dec 02, 2021 - 8:23am by dcotten



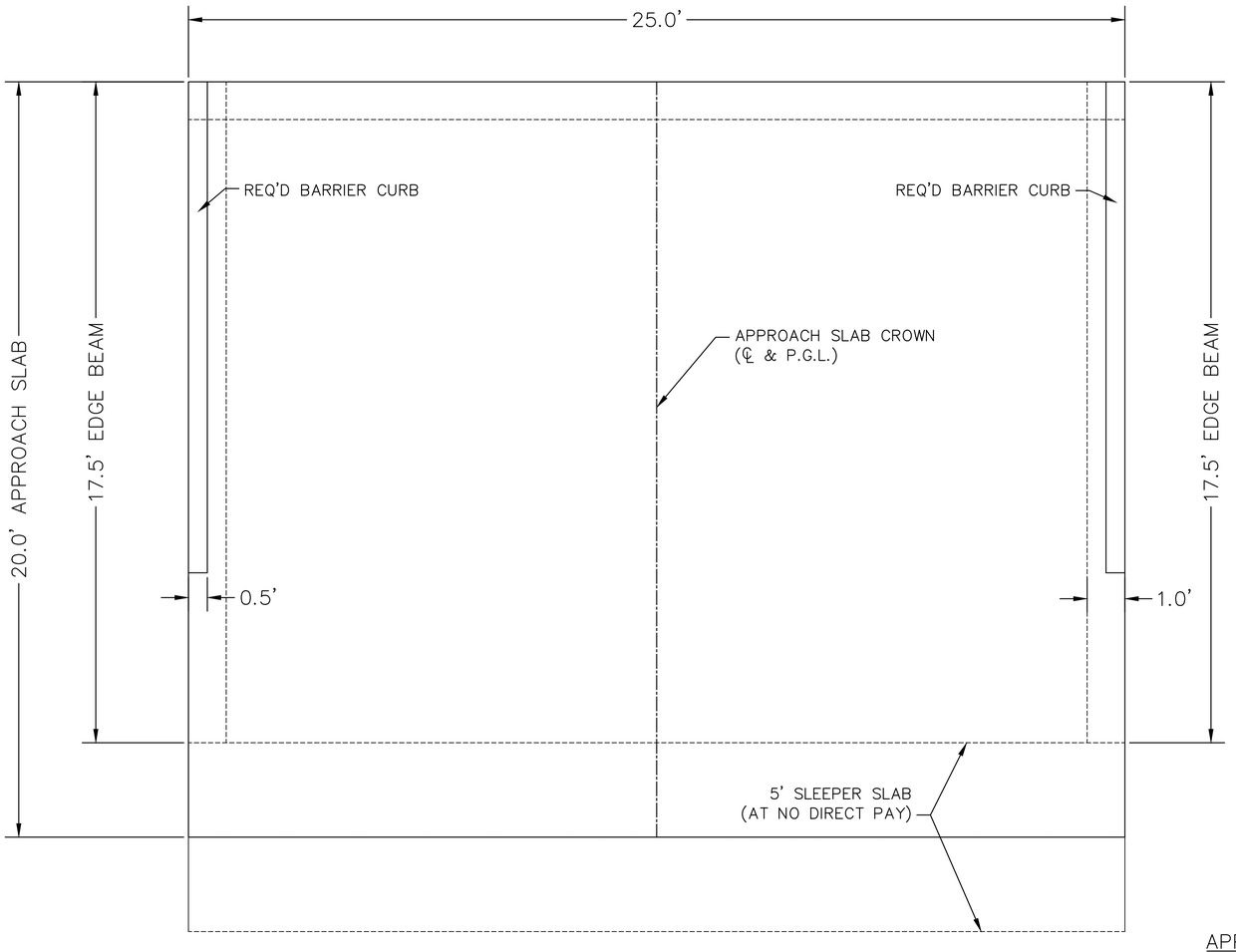
APPROACH SLAB SECTION

SCALE: 1" = 2'



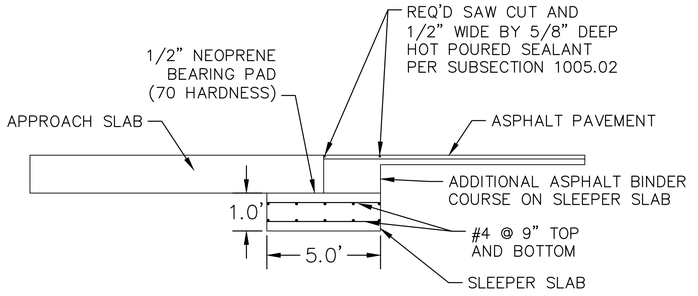
APPROACH SLAB ELEVATION

SCALE: N.T.S.



APPROACH SLAB PLAN

SCALE: 1" = 2'



SLEEPER SLAB DETAIL

SCALE: N.T.S.

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

12/02/21

SHEET NUMBER 102

COVINGTON | CITY
ST. TAMMANY | PARISH

DESIGNED JHS	DETAILED JAC	OCTOBER 2021
CHECKED DAC	CHECKED DAC	DATE

REVISION OR CHANGE ORDER DESCRIPTION | BY | DATE | NO.

APPROACH SLAB DETAIL

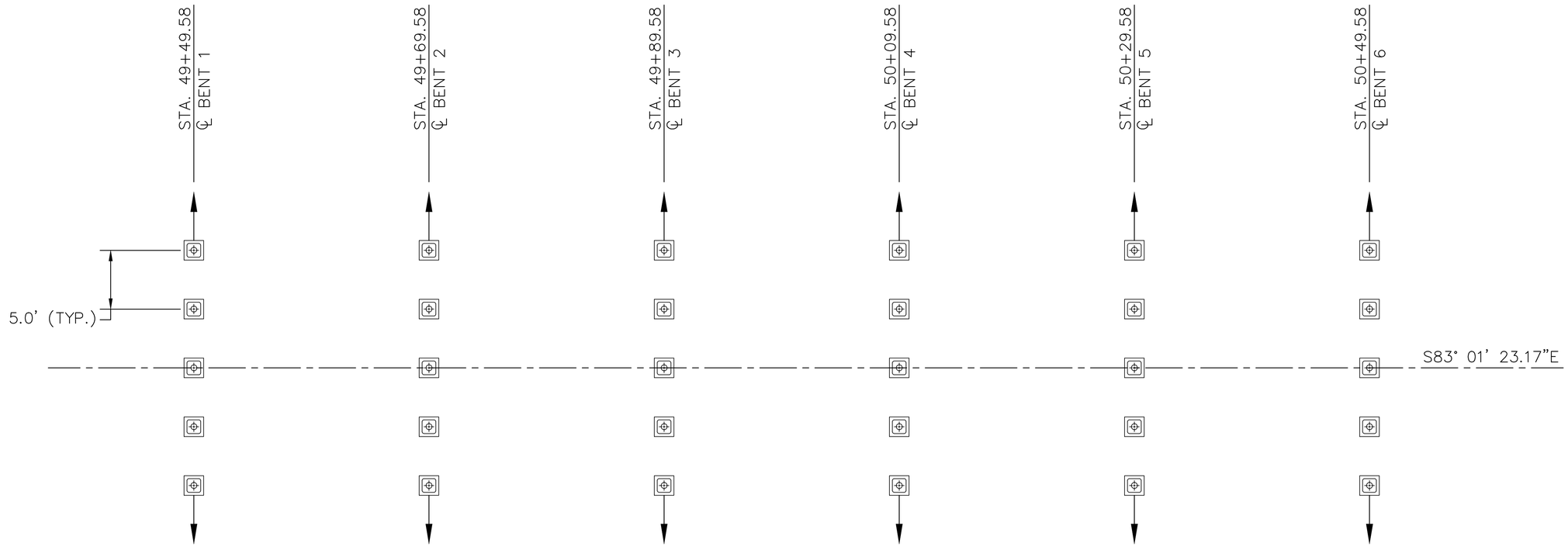
THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\STRUCTURAL PLANS\11428_NEW Bridge Plan.dwg [APPROACH SLAB DETAIL] Dec 02, 2021 - 4:14pm by dcotten

PILE DATA TABLE																		
BENT NO.	STATION	NO. OF PILES	TYPE & SIZE (IN)	MONITOR PILE REQUIRED (Y OR N)	SERVICE LOAD (TONS)		STRENGTH LOAD (TONS)	RESISITANCE FACTOR	REQUIRED NOMINAL RESISTANCE		MAX CUT-OFF ELEV. (FT)	AVG. PLAN TIP ELEV. (FT)	VERTICAL PILE PLAN LENGTH (FT)	BATTERED PILE PLAN LENGTH (FT)	ORDER LENGTH (FT)	AS-BUILT TIP ELEV. (FT)		
					DL (DC + DW+ DD)	LL			WITHOUT PREBORING	PREBORING TO SCOUR DEPTH						MAX. ELEV.	MIN ELEV.	AVG. ELEV.
1	49+49.58	5	16" SQUARE - SOLID PPC	Y	42.4	27.1	89.5	0.65	149.6	137.6	11.38	-72.0	84.0	84.0				
2	49+69.58	5	16" SQUARE - SOLID PPC	N	22.5	27.1	64.7	0.65	111.5	99.5	11.38	-72.0	84.0	84.0				
3	49+89.58	5	16" SQUARE - SOLID PPC	Y	22.5	27.1	64.7	0.65	111.5	99.5	11.38	-72.0	84.0	84.0				
4	50+09.58	5	16" SQUARE - SOLID PPC	N	22.5	27.1	64.7	0.65	111.5	99.5	11.38	-72.0	84.0	84.0				
5	50+29.58	5	16" SQUARE - SOLID PPC	N	31.8	27.1	76.3	0.65	129.3	117.3	11.38	-72.0	84.0	84.0				
6	50+49.58	5	16" SQUARE - SOLID PPC	N	52.7	27.1	102.3	0.65	169.4	157.4	11.38	-72.0	84.0	84.0				

*A RESISTANCE FACTOR OF 0.65 REQUIRES DRIVING CRITERIA BE ESTABLISHED BY DYNAMIC TESTING (QUALITY CONTROL BY DYNAMIC TESTING) OF AT LEAST TWO PILES PER SITE CONDITION, BUT NO LESS THAN 2% OF THE PRODUCTION PILES.



REQUIRED PILE RESISITANCE:

IF PREBORING TO SCOUR ELEVATION IS NOT PERFORMED, THE REQUIRED RESISTANCE SHALL BE DETERMINED AS FOLLOWS:

$$\text{RESISTANCE} = \frac{\text{FACTORED LOAD}}{\text{RESISTANCE FACTOR}} + \text{SCOUR ZONE RESISTANCE (INCLUDING FRICTION AND OVERBURDEN)}$$

IF PREBORING TO SCOUR ELEVATION IS PERFORMED THE REQUIRED RESISTANCE SHALL BE DETERMINED AS FOLLOWS:

$$\text{RESISTANCE} = \frac{\text{FACTORED LOAD}}{\text{RESISTANCE FACTOR}} + \text{RESISTANCE DUE TO OVERBURDEN ONLY}$$

DETERMINATION OF PILE BEARING CAPACITY: THE PILE BEARING CAPACITY VERIFICATION SHALL BE MADE BY USE OF PILE DRIVING ANALYZER (PDA) SOFTWARE ANALYSIS AT EACH MONITOR PILE.

MONITOR PILES: THE FIRST PLUMB PILE DRIVEN AT EACH BENT INDICATED ON THE PRODUCTION PILE DATA TABLE SHALL BE MONITORED WITH THE PILE DRIVING ANALYZER (PDA). AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER, A ONE DAY RESTRIKE AND SEVEN DAY RESTRIKE MAY BE REQUIRED AT EACH MONITOR PILE.

PILE DRIVING EQUIPMENT APPROVAL: ALL PILE DRIVING EQUIPMENT SHALL BE APPROVED USING THE WAVE EQUATION HAMMER APPROVAL METHOD IN ACCORDANCE WITH SECTION 804.05 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

DYNAMIC MONITORING: PILE DRIVING ANALYZER (PDA) MONITORING WILL BE REQUIRED AT MONITOR PILES AND AS DIRECTED BY THE ENGINEER. ALL COSTS AND DELAYS ASSOCIATED WITH PDA MONITORING SHALL BE INCLUDED UNDER ITEM NO. 804-17-00100, DYNAMIC MONITORING ASSISTANCE.

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

12/02/2021

SHEET NUMBER 103

CITY: COVINGTON
PARISH: ST. TAMMANY

DESIGNED JHS
CHECKED DAC
DETAILED JAC
CHECKED DAC
DATE OCTOBER 2021

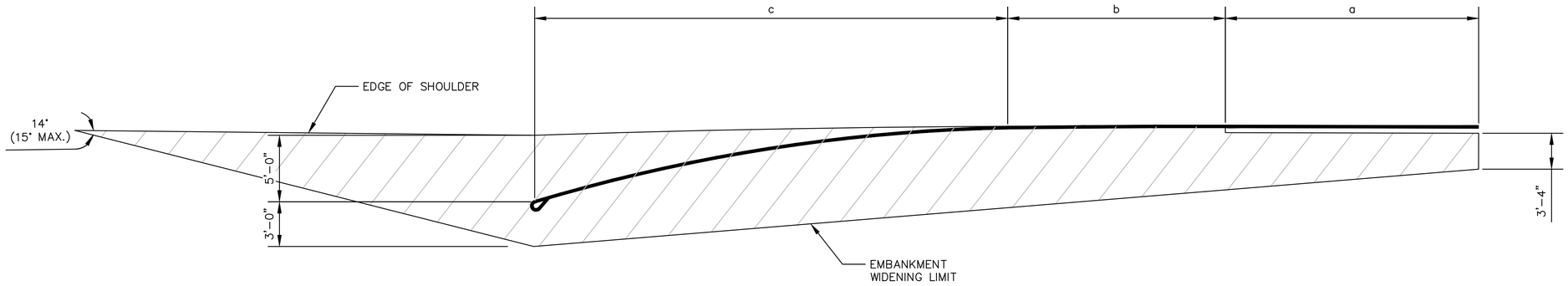
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PILE PLAN

THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\STRUCTURAL PLANS\11428_NEW Bridge Plan.dwg [PILE DATA TABLE] Dec 02, 2021 - 8:23am by dcotten



GUARD RAIL DETAILS

N.T.S.

GUARD RAIL ITEM LENGTHS		
SECTION	DOTD PAY ITEM	LENGTH
a	704-07-00200	25'-0"
b	704-03-00200	12'-6"
c	704-10-00310	37'-6"

GUARD RAIL DESIGN DATA								
HIGHWAY CLASS		GUARD RAIL DESIGN SPEED (MPH)		2020 ADT		LC (FT)		
RURAL LOCAL		35		>1000		14		
GUARD RAIL LAYOUT REQUIREMENTS (FT)								
LOCATION	LR	LA	L2	CZc	A:B	X	Y	Z
NW, SW, & NE RAILS	80	14	2	N/A	10:1	57.2	4	7

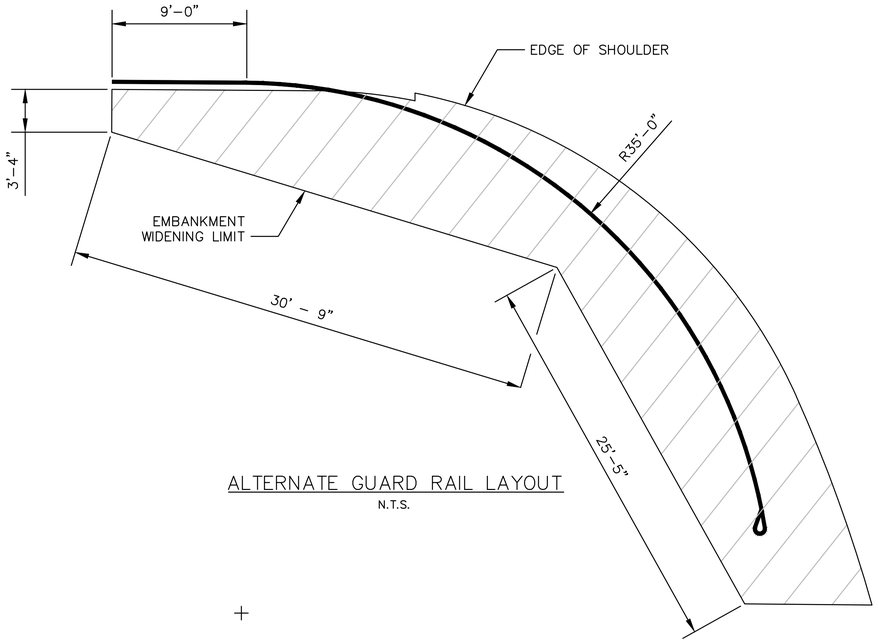
GENERAL NOTES:

1. ALL BRIDGE GUARD RAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ABOVE "GUARD RAIL DESIGN DATA" TABLE WITH THE EXCEPTION OF THE SOUTHEAST GUARD RAIL. THE SOUTHEAST GUARDRAIL SHALL BE CONSTRUCTED AS SHOWN ON THE "ALTERNATE GUARD RAIL LAYOUT" ON THIS SHEET AND AS DESCRIBED BELOW.

2. THE ALTERNATE GUARD RAIL SHALL CONSIST OF 9'-0" OF TANGENT GUARD RAIL TRANSITION AS WELL AS 12'-6" OF BLOCKED OUT GUARD RAIL AND 38'-6" OF GUARD RAIL END TREATMENT CONSTRUCTED ON A RADIUS OF 35'-0". THE ALTERNATE GUARD RAIL SHALL ALLOW FOR VEHICLES TO MANEUVER ONTO JANICE AVE. WITH ADEQUATE CLEARANCE WHILE PROTECTING APPROACHING VEHICLES FROM LEAVING THE ROADWAY/BRIDGE AREA.

3. ALL EMBANKMENT WIDENING'S FOR ALL BRIDGE GUARD RAILS SHALL NOT EXCEED A SURFACE SLOPE OF 10:1 WITHIN THE EMBANKMENT WIDENING LIMIT.

4. ALL BRIDGE GUARD RAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INFORMATION SHOWN ON THIS SHEET, THE LADOTD BRIDGE GUARD RAIL STANDARD PLANS WITHIN THIS PLAN SET, AND THE MOST RECENT EDITION OF THE LADOTD BRIDGE DESIGN AND EVALUATION MANUAL.



ALTERNATE GUARD RAIL LAYOUT

N.T.S.

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
2022

SHEET NUMBER 104

CITY COVINGTON | PARISH ST. TAMMANY

DESIGNED JHS | CHECKED DAC | DETAILED JAC | CHECKED DAC | SERIES NUMBER

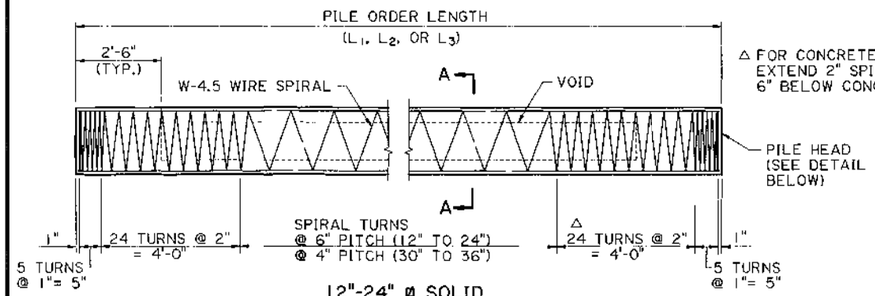
NO. | DATE | BY | REVISION OR CHANGE ORDER DESCRIPTION

GUARD RAIL DETAILS

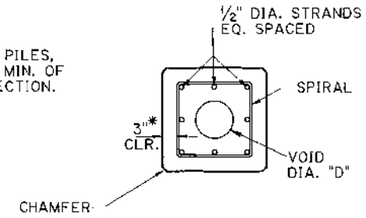
THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

G:\11428 Third Ave Bridge\PLANS\GUARD RAIL DETAILS.dwg [GUARD RAIL] Jan 19, 2022 - 11:45am by dcotten

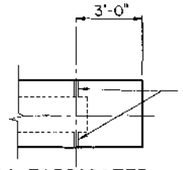


12"-24" ø SOLID
24", 30", 36" ø VOIDED
PRECAST-PRESTRESSED CONCRETE PILES



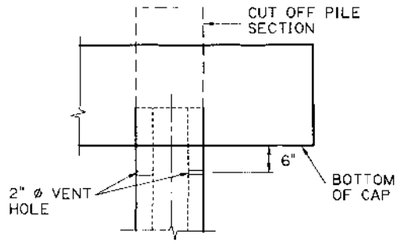
SECTION A-A

* 2" FOR 12" & 14" PILE SIZE.
CLEARANCES MEASURED AT CENTER LINE OF PILE.



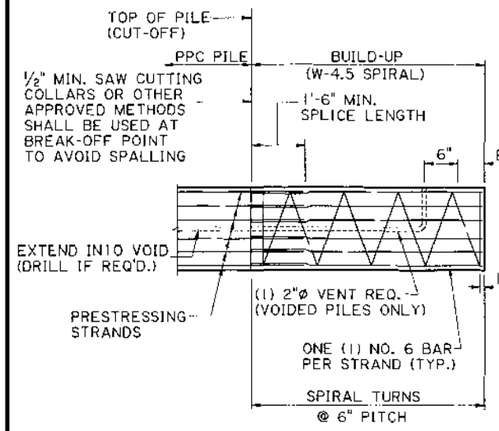
AS FABRICATED PILE HEAD DETAIL

NOTE: VENTS REQUIRED AT PILE HEAD ONLY



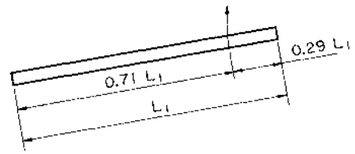
CUT OFF PILE HEAD DETAIL

(VOIDED PILES ONLY)

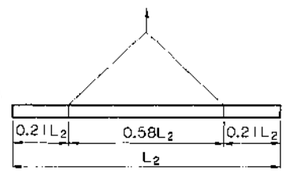


TYP. BUILD-UP WHERE REDRIVING IS NOT REQUIRED

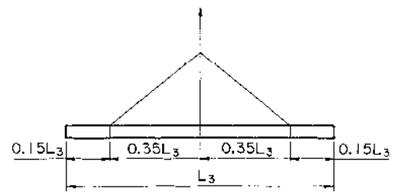
(WHERE REDRIVING IS REQUIRED PILE BUILD-UP IS NOT ALLOWED)



1-POINT PICK-UP



2-POINT PICK-UP



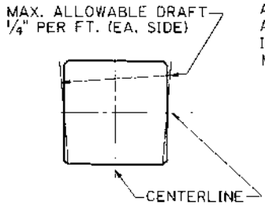
3-POINT PICK-UP

PICK-UP DETAILS

2 POINT PICK-UP SHALL TAKE PRECEDENCE OVER 3 POINT PICK-UP WHERE APPLICABLE.

"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."

01/19/2022



DRAFT DETAIL

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

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 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.

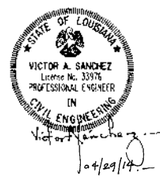
ALL EMBEDDED LIFTING LOOPS SHALL BE PROVIDED WITH 2" DEEP FOAM BLOCK-OUTS. PRIOR TO TRANSPORT, LIFTING LOOPS SHALL BE REMOVED TO PROVIDE 2" MINIMUM CLEAR COVER. THE REMAINING CAVITIES SHALL BE CLEAR OF ALL SLAG AND LOOSE MATERIAL, AND THEN FILLED WITH A PATCHING MATERIAL FROM QPL NO. 49. THE PATCHING 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.

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



ALL DETAILS NOT TO SCALE

SHEET NUMBER	110

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED	V. SANCHEZ A.LANCASTER
CHECKED	
DETAILED	D. HYMEL
CHECKED	V. SANCHEZ
REVIEWED	Z.Z. FU
SERIES #	1 OF 1

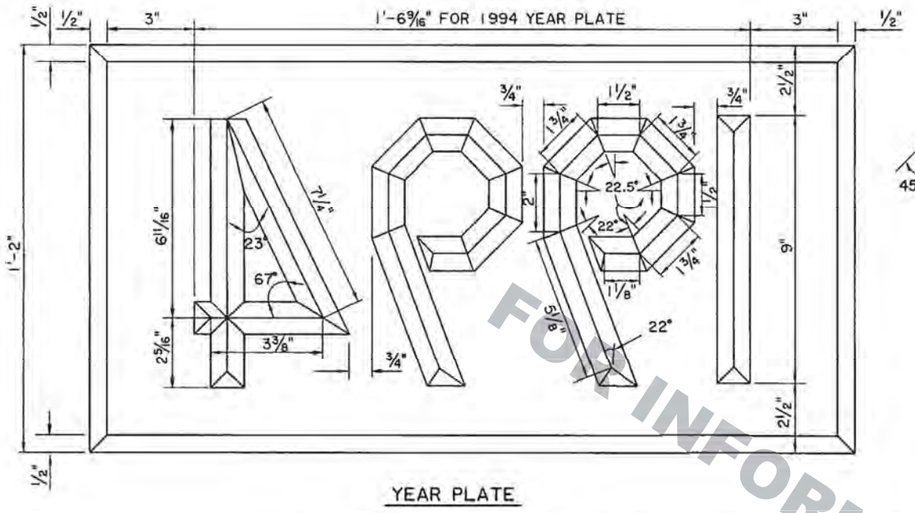
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PRE-CAST PRESTRESSED CONCRETE PILES

BD.2.5.1.0.01 - P.P.C. PILES (CS-216)

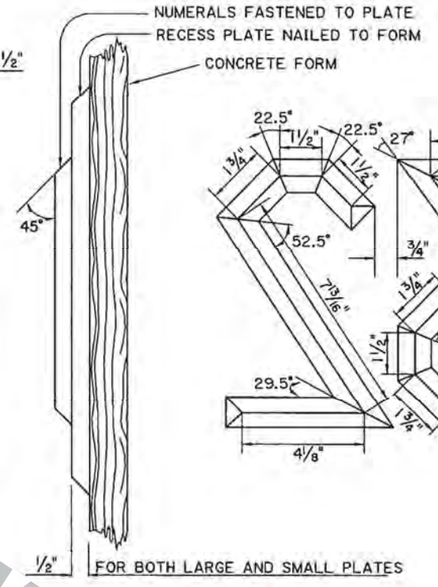
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT dotd

BRIDGE & STRUCTURAL DESIGN

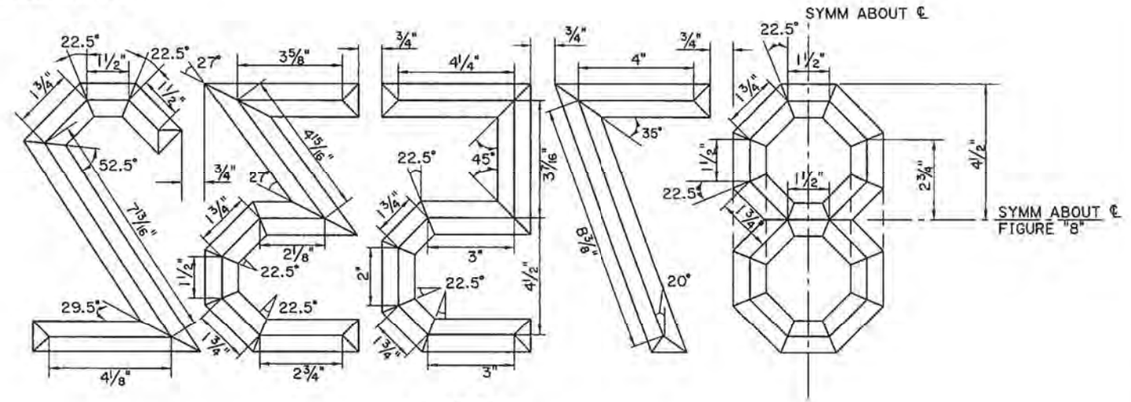


YEAR PLATE

DIMENSIONS SHOWN ARE FOR LARGE YEAR PLATE.
USE ONE HALF (1/2) ABOVE DIMENSIONS FOR SMALL YEAR PLATE.
YEAR PLATE TO CORRESPOND TO YEAR IN WHICH STRUCTURE IS COMPLETED.

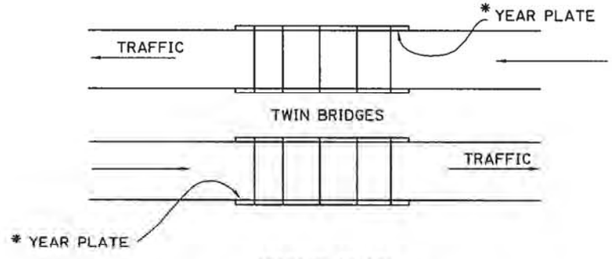


FOR BOTH LARGE AND SMALL PLATES



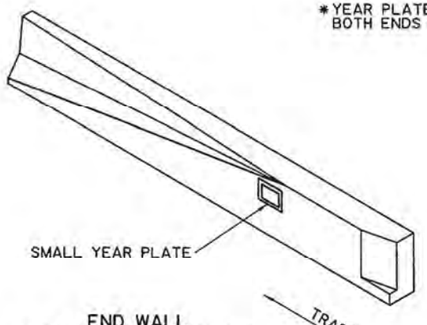
NUMERALS

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 (1/2) ABOVE DIMENSIONS FOR SMALL YEAR PLATE.

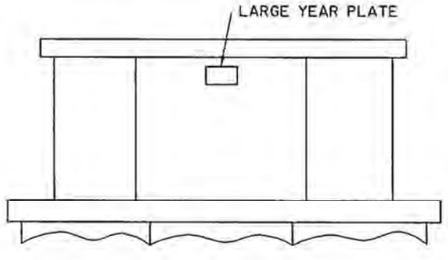


BRIDGE PLAN

*YEAR PLATE ON THE APPROACH SIDE OF
BOTH ENDS ON TWO-WAY TRAFFIC BRIDGES.

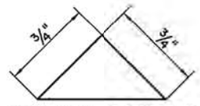


END WALL
BARRIER TYPE RAILING



PIER ELEVATION

SKETCHES SHOWING LOCATION OF YEAR PLATE ON VARIOUS CONCRETE STRUCTURES



FULL SIZE CROSS-SECTION OF 3/4" CHAMFER STRIP TO BE USED IN CONSTRUCTION OF ALL NUMERALS.

CHAMFER STRIP FOR
LARGE YEAR PLATE

FULL SIZE CROSS SECTION OF 3/8" CHAMFER STRIP TO BE USED IN CONSTRUCTION OF ALL NUMERALS.

CHAMFER STRIP FOR
SMALL YEAR PLATE

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

01/19/2022

"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 B. FOSSIER, JR.
REG. No. 21028
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

8/23/00

SHEET NUMBER 111

PARISH | FEDERAL PROJECT | STATE PROJECT

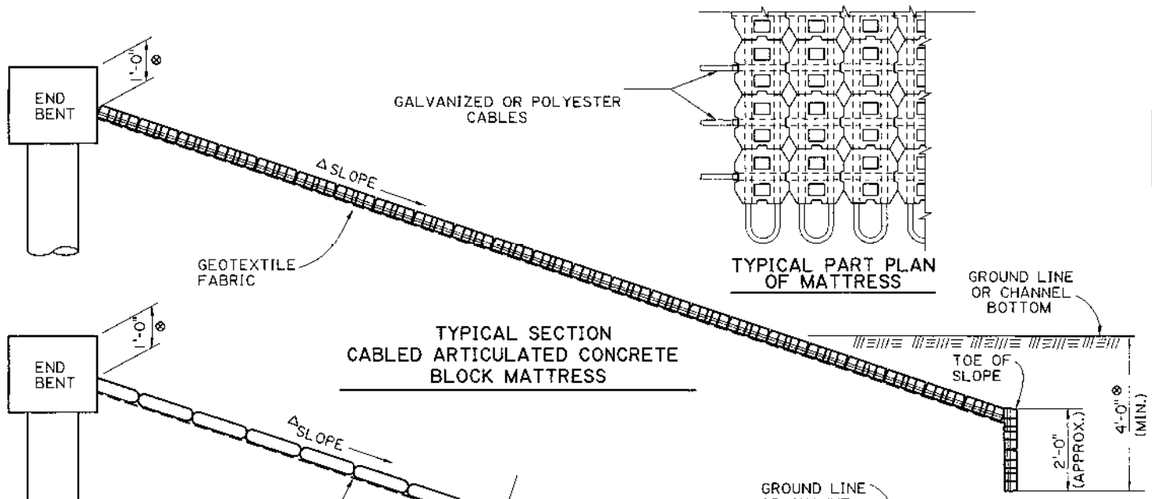
DESIGNED
CHECKED
DETAILED G. GRASS
CHECKED P. FOSSIER
DATE JULY, 2000
SHEET

REVISION DESCRIPTION | DATE | NO. | BY

YEAR PLATE
FOR CONCRETE STRUCTURES

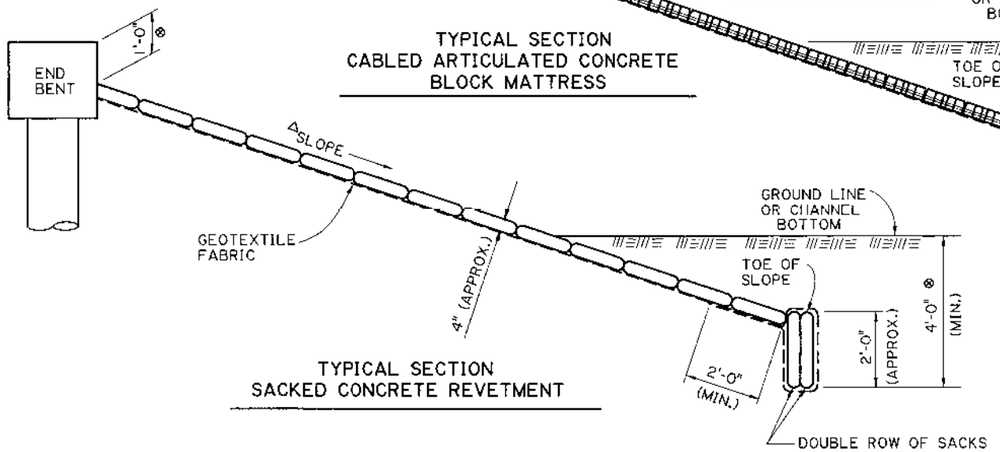
STANDARD DETAIL YP-01

BRIDGE AND STRUCTURAL DESIGN

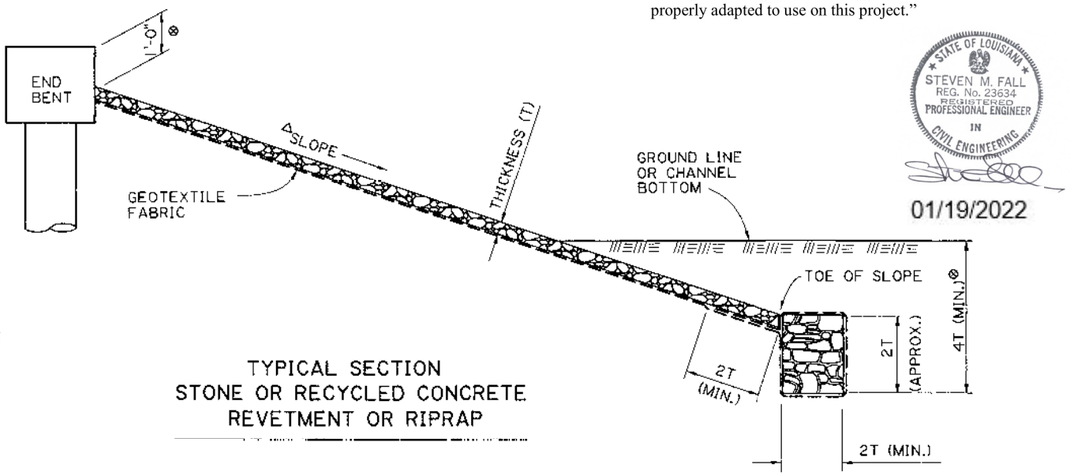


TYPICAL PART PLAN OF MATTRESS

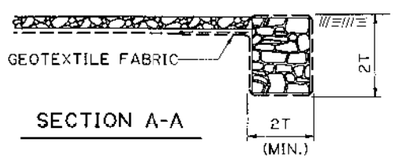
TYPICAL SECTION
CABLED ARTICULATED CONCRETE
BLOCK MATTRESS



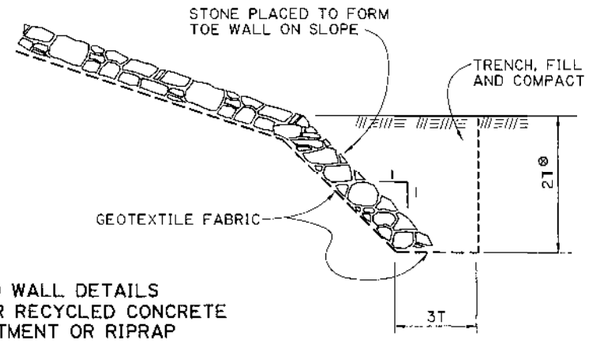
TYPICAL SECTION
SACKED CONCRETE REVETMENT



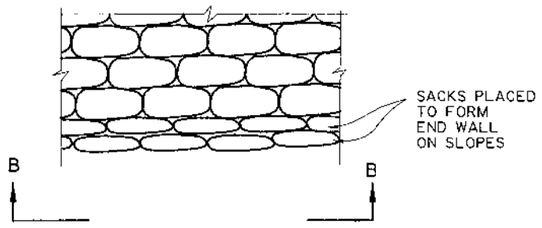
TYPICAL SECTION
STONE OR RECYCLED CONCRETE
REVETMENT OR RIPRAP



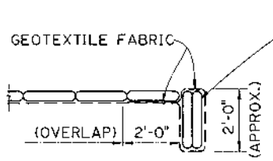
SECTION A-A



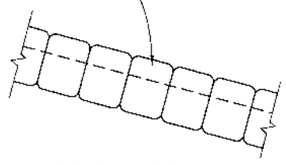
END WALL DETAILS
STONE OR RECYCLED CONCRETE
REVETMENT OR RIPRAP



TYPICAL PART PLAN

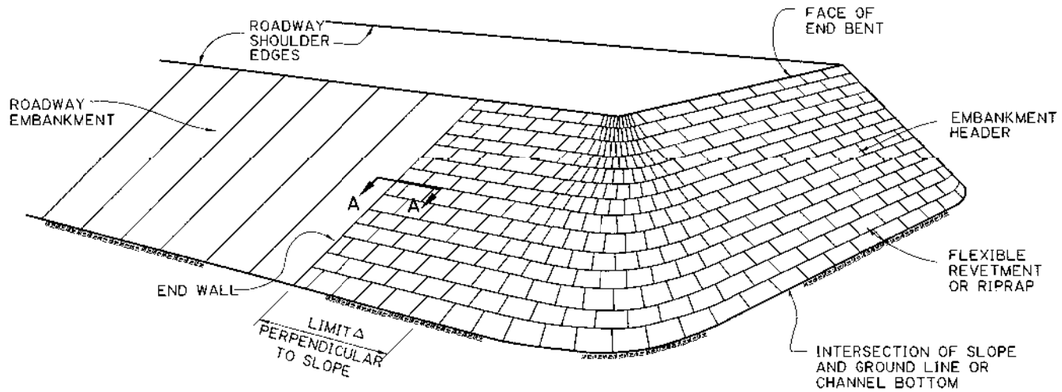


SECTION A-A



SECTION B-B

END WALL DETAILS
FOR SACKED REVETMENT



GENERAL VIEW OF
EMBANKMENT SLOPE PROTECTION

"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
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING

01/19/2022

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
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
5/30/17

ALL DETAILS NTS

SHEET NUMBER 111

DESIGNED A. ALLEN
CHECKED
PARISH

DETAILED G.GRASS
CHECKED P. FOSSIER
FEDERAL PROJECT

DATE MAY, 2000
SHEET
STATE PROJECT

P.B.F.
ST

CONCRETE MATTRESS
REVISION DESCRIPTION

1 12-18-09 ARTICULATED CONCRETE
NO. DATE

FLEXIBLE REVETMENT
AND RIPRAP

STANDARD DETAIL BD.2.11.3.2.01 (FR-01)

BRIDGE AND STRUCTURAL DESIGN

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		Two (2) Inches of Topsoil									13.0
		Two (2) Feet of Fill Material									
		Stiff, grayish tan, SILTY CLAY WITH SAND, (CL-ML)	128	17	25	7	74.3	1.78@2.00	SL	C-1	
10		Tan, SANDY SILT, (ML)	131	19			64.5			C-2	3.0
		Stiff, tan, FAT CLAY, (CH)	129	23	52	35	87.5	1.09@6.00	SL	C-3	
20		- w. fine sand	126	18			78.8			C-4	-7.0
			124	30	58	34		1.34@10.00	SL	C-5	
30			123	24						C-6	-17.0
		Stiff, reddish tan, LEAN CLAY, (CL) - w. traces of sand	126	27	47	31		1.28@14.00	SL	C-7	
40			112	40						C-8	-27.0
		Medium stiff, grayish tan, LEAN CLAY (CL) - w. traces of sand	123	26	45	25		0.78@18.00	SL	C-9	
50			131	24						C-10	-37.0
			129	24	28	14		0.68@22.00	SL	C-11	
60				38						D-12	-47.0
		Medium stiff, gray, FAT CLAY, (CH)	104	61	92	65		0.69@26.00	60 S	C-13	
70		Stiff, gray, FAT CLAY, (CH)	102	63	88	55		1.07@28.00	60 S	C-14	-57.0
		Stiff, grayish black, ORGANIC CLAY, (OH) - ORG: 11.3% - w. sand	106	42	159	82		1.65@30.00	60 S	C-15	
80		Hard, gray, SILTY CLAY WITH SAND, (CL-ML)	127	22	26	6	72.3	6.98@32.00	60 S	C-16	-67.0
		Dense, gray, POORLY GRADED SAND WITH SILT, (SP-SM)		20			10.3	8-16-26 (42)		D-17	
90				21			6.3	12-15-21 (36)		D-18	-77.0
				17			9.0	9-15-25 (40)		D-19	
100				19				13-17-23 (40)		D-20	-87.0
		Bottom of hole at 100 feet. Backfilled with grout upon completion.									

DRILL RIG AND EQUIPMENT

DRILL RIG MODEL: BIMCO
DRILLING METHOD: AUGER
HOLE DIAMETER: 4 Inches
SPT HAMMER / ETR: AUTO

BORING NO.: B-1	STA.:	WATER LEVEL: SWITCHED TO WET ROTARY @ 10FT. ATD
LATITUDE: 30.42837	OFFSET:	
LONGITUDE: -90.06470	DATE TAKEN: 2/28/2019	BACKFILL METHOD: GROUT
LRS ID:	STRUCTURE NO.:	SQD. LDR.: VG

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		Two (2) Inches of Topsoil									12.0
		Two (2) Feet of Fill Material									
		Tan, SANDY SILT, (ML)	120	16			58.6			C-1	
10		Stiff, tan, SANDY FAT CLAY, (CH)	128	19	59	42	64.7	1.40@4.00	SL	C-2	2.0
		Stiff, tan, FAT CLAY WITH SAND, (CH)	125	24			75.8			C-3	
20			126	25	52	32		1.20@8.00	60 S	C-4	-8.0
			124	24						C-5	
30		Stiff, grayish tan, LEAN CLAY, (CL) - w. traces of sand	129	20	29	16		1.20@12.00	SL	C-6	-18.0
			115	32						C-7	
40		Gray, SILT WITH SAND, (ML)	132	21	NP	NP	72.7	3.40@16.00	SL	C-8	-28.0
			125	23						C-9	
50		Stiff, tannish gray, LEAN CLAY, (CL) - w. traces of sand	122	23	35	21		1.56@20.00	60 S	C-10	-38.0
		Very stiff, gray, SANDY LEAN CLAY, (CL)	128	22	27	13	51.2	2.26@22.00	SL	C-11	
60		Stiff, gray, LEAN CLAY, (CL) - w. traces of sand	127	27	36	19		1.64@24.00	60 S	C-12	-48.0
		Stiff, gray, FAT CLAY, (CH) - w. fine sand	110	50						C-13	
70			105	54	82	53		1.65@28.00	60 S	C-14	-58.0
				28	50	30				D-15	
80		Very dense, gray, SILTY SAND, (SM)		24			23.2	23-35-25 (60)		D-16	-68.0
		Medium dense, gray, SILTY SAND, (SM)		20			15.7	11-11-14 (25)		D-17	
90				19			14.6	9-12-15 (27)		D-18	-78.0
		Very dense, gray, SILTY SAND, (SM)		18			12.2	25-45-50 (95)		D-19	
100				18			14.3	26-42-50 (92)		D-20	-88.0
		Bottom of hole at 100 feet. Backfilled with grout upon completion.									

DRILL RIG AND EQUIPMENT

DRILL RIG MODEL: BIMCO
DRILLING METHOD: AUGER
HOLE DIAMETER: 4 Inches
SPT HAMMER / ETR: AUTO

BORING NO.: B-2	STA.:	WATER LEVEL: SWITCHED TO WET ROTARY @ 10FT. ATD
LATITUDE: 30.42929	OFFSET:	
LONGITUDE: -90.06423	DATE TAKEN: 3/4/2019	BACKFILL METHOD: GROUT
LRS ID:	STRUCTURE NO.:	SQD. LDR.: VG

STANDARD ABBREVIATIONS & DEFINITIONS

TOPSOIL, FILL, CL-ML, ML, CH, CL, OH, MH-OH

N.P. = Non-Plastic
ORG = Organic

FAILURE MODE
M.S. = Multiple Shear SL. = Slump
S/S = Slickensides Y.D. = 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

SOIL PROPERTIES

⊗ = SOIL TYPE nomenclature is based on ASTM D 2487
WET DENSITY = Wet density of in-place soil, (pounds per cu. ft.) determined by AASHTO T 206.
MOISTURE CONTENT = Moisture Content of in-place soil, expressed as a percentage of the dry weight of the soil, (%), determined by DOTD TR 403, Method B.
LIQUID LIMIT & PLASTICITY INDEX = Atterberg limits and indices, DOTD TR 428
SPT = Standard Penetration Test, AASHTO T 206, number of blows per each 6 inch increment, unless amount of penetration is shown.
UU = Unconsolidated Undrained triaxial test, AASHTO T 296, compressive strength (tons per sq. ft.), of one specimen confined at noted pressure (pounds per sq. in.)
C = Soil cohesion (tons per sq. ft.)
ϕ = Soil angle of internal friction (degrees)
Δ = Unconsolidated Undrained triaxial test, AASHTO T 296, three specimens, (c - ϕ).
+ = Consolidated drained direct shear test, AASHTO T 236, (c - ϕ).
• = Hydrometer test performed

MISCELLANEOUS:

D-3 = Location and identification of thin-walled tube sample, AASHTO T 207
D-3 = Location and identification of thin-walled tube sample, AASHTO T 207 with a portion of the sample saved for consolidation testing
D-3 = Location and identification of SPT sample, AASHTO T 206
NO RECV. = No Recovery, unable to recover sample for testing or classification.
▽ = Disturbed sample recovered with split-spoon sampler.
24 HRS = Water Table depth below ground surface recorded at noted time after completion of bore hole.
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

STATE OF LOUISIANA
SAIRAM EDDANAPUDI
License No. 35129
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/11/21

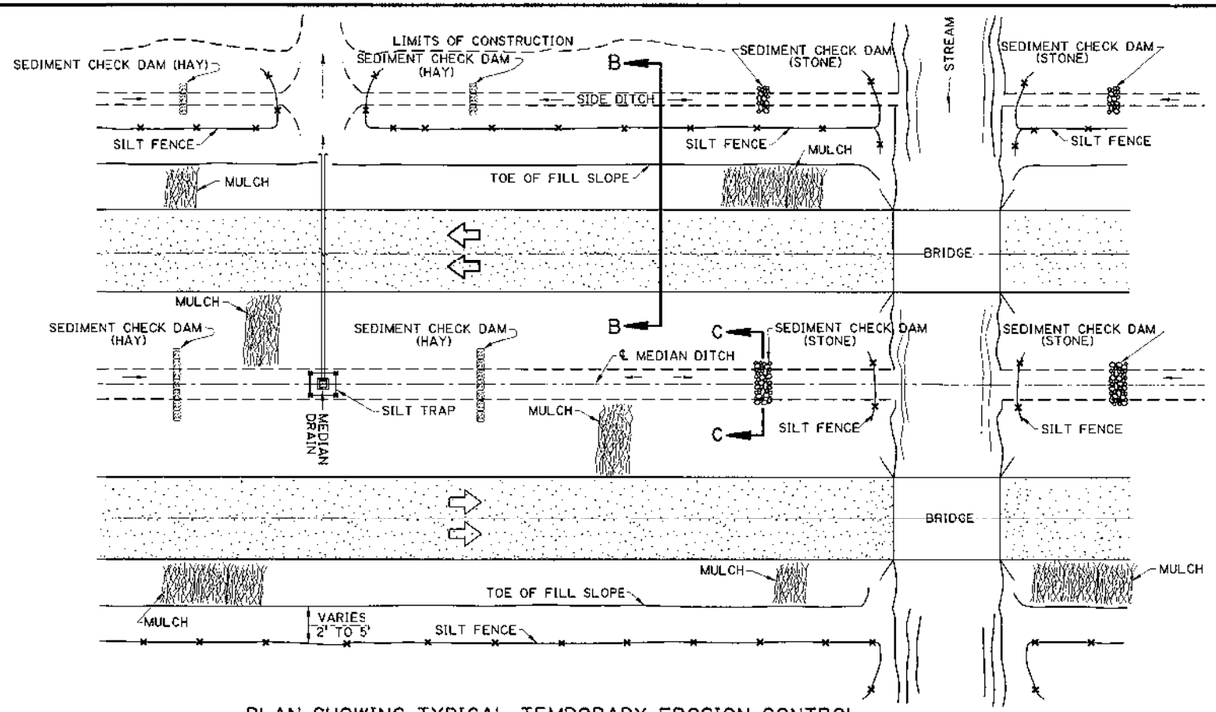
SHEET NUMBER: 110
CITY: COVINGTON
PARISH: ST. TAMMANY
DESIGNED: K SMITH
CHECKED: J RAUSER
DETAILED: BE
CHECKED: SA
DATE: 1/28/2020
SHEET: 1 OF 1
NO. | DATE | REVISION DESCRIPTION | BY

STATE OF LOUISIANA

GEOTECHNICAL EXPLORATION LOGS

Third Avenue Bridge (PPSL 18-10)

DOTD

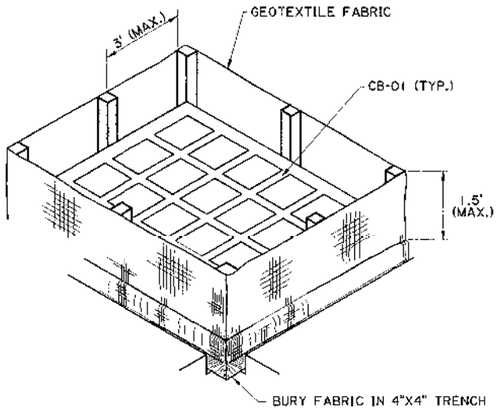


PLAN SHOWING TYPICAL TEMPORARY EROSION CONTROL

MULCHES

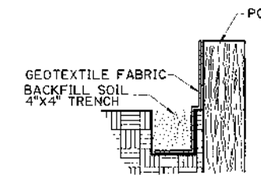
MULCHES ARE THE APPLICATION OF MATS OF MATERIAL PLACED ON THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND TO REDUCE THE VELOCITY OF OVERLAND FLOW. MULCHES CAN BE ORGANIC OR SYNTHETIC. MULCHES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY 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

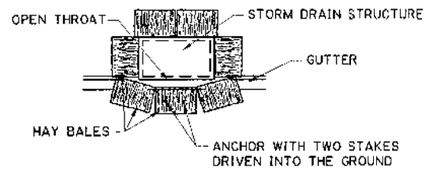


ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC

(BACKFILL SOIL NOT SHOWN)



SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC



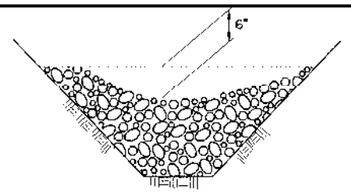
PLAN SHOWING HAY BALES

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.



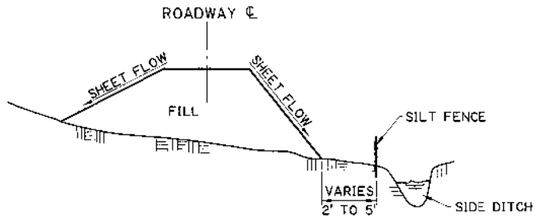
SECTION C-C

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)

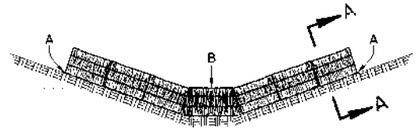


SECTION B-B

TEMPORARY SILT FENCE APPLICATION

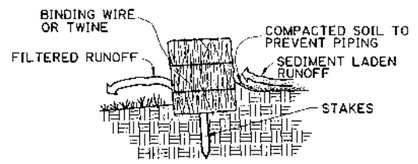
(FOR CONSTRUCTION DETAILS AND SPECIFICATIONS SEE SHEET 2 OF 2.)

"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

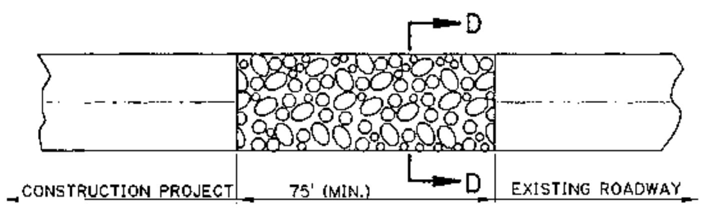
DESIGNED: JCM	DETAILED: KAJ	CHECKED: JCM	DATE: 1-14-94
QUANTITIES:	REVISED: 10-1-08 REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS MH		SHEET: 1 OF 2

TEMPORARY EROSION CONTROL DETAILS

DOTD

HYDRAULICS SECTION

EC-01



PLAN

SECTION D-D

TEMPORARY STONE CONSTRUCTION ENTRANCE

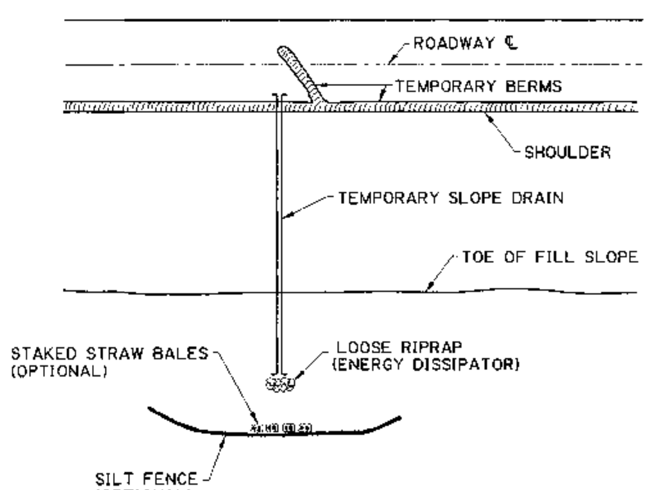
PAY ITEM: TEMPORARY STONE CONSTRUCTION ENTRANCE

NOTES:

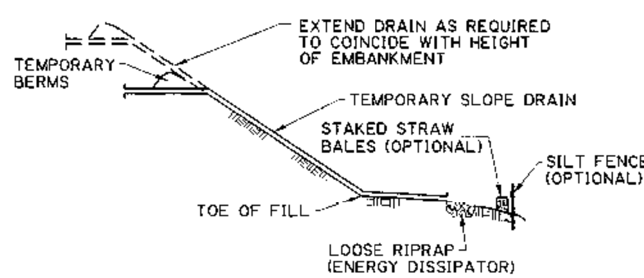
TEMPORARY STONE CONSTRUCTION ENTRANCE AND/OR WASH RACK

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



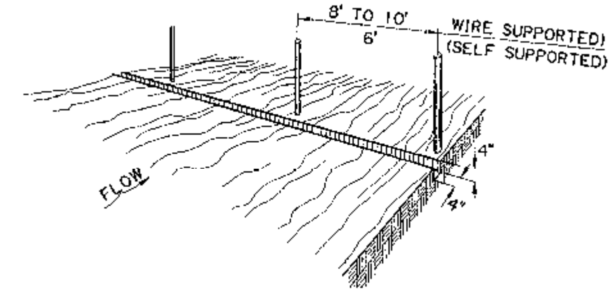
ELEVATION

TEMPORARY SLOPE DRAIN

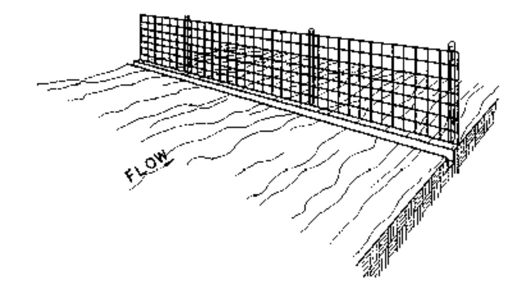
A TEMPORARY SLOPE DRAIN IS A DEVICE USED TO CARRY WATER FROM THE CONSTRUCTION WORK AREA TO A LOWER ELEVATION. SLOPE DRAINS MAY BE PLASTIC SHEET, METAL OR PLASTIC PIPE, STONE GUTTERS, FIBER MATS, OR CONCRETE OR ASPHALT DITCHES. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A TEMPORARY SLOPE DRAIN ARE:

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.

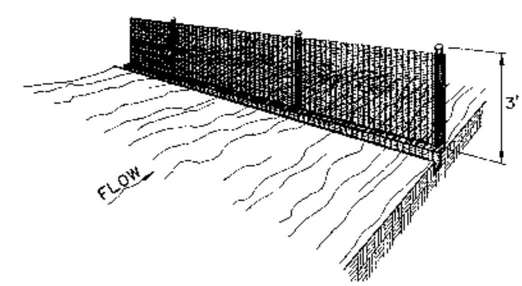
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



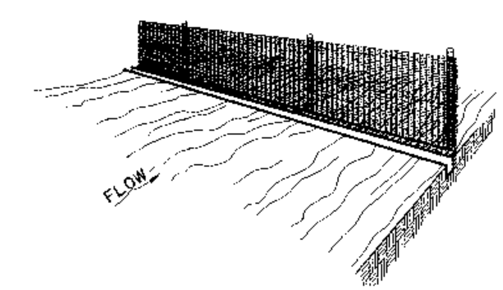
2. STAPLE WIRE FENCING TO THE POSTS.



3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

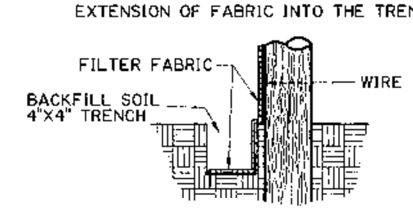


4. BACKFILL AND COMPACT EXCAVATED SOIL.



"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."

EXTENSION OF FABRIC INTO THE TRENCH.



STATE OF LOUISIANA JOHN H. SHIRES REG. No. 26865 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING 2022

CONSTRUCTION OF TEMPORARY SILT FENCING

(WIRE SUPPORTED SILT FENCE IS SHOWN. SELF SUPPORTED SILT FENCE WILL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.)

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 302

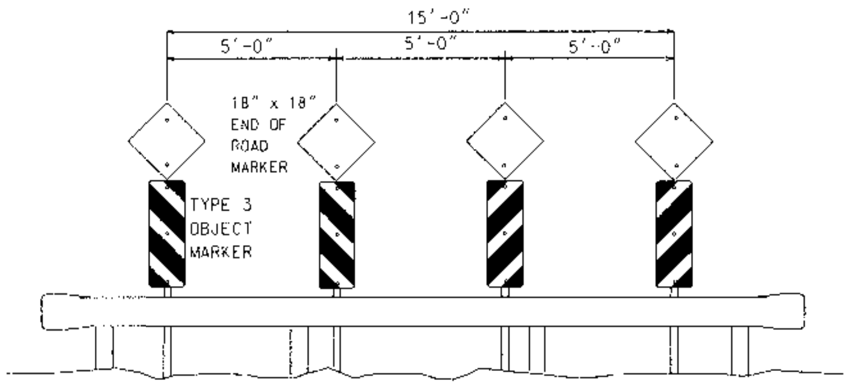
DESIGNED JCM / DETAILED KAJ / CHECKED JCM / DATE 1-14-94 / SHEET 2 OF 2

10-1-08 REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS NH DATE 10-1-08

TEMPORARY EROSION CONTROL DETAILS

STANDARD PLAN EC-01

HYDRAULICS SECTION



END-OF-ROADWAY INSTALLATION

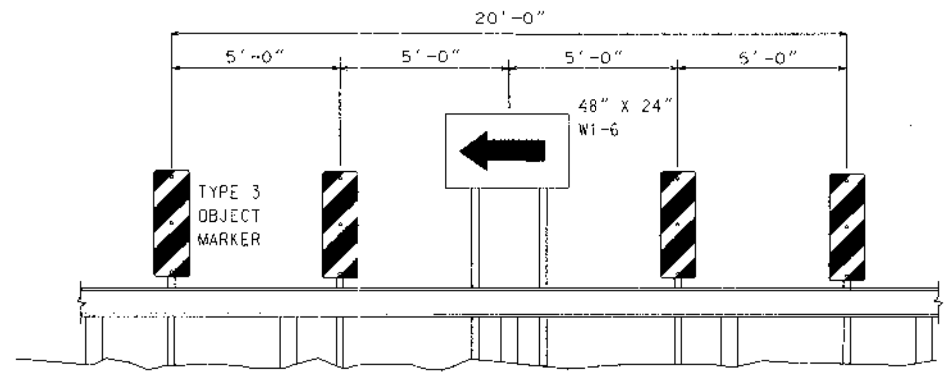
DEAD END ROAD INSTALLATION

(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

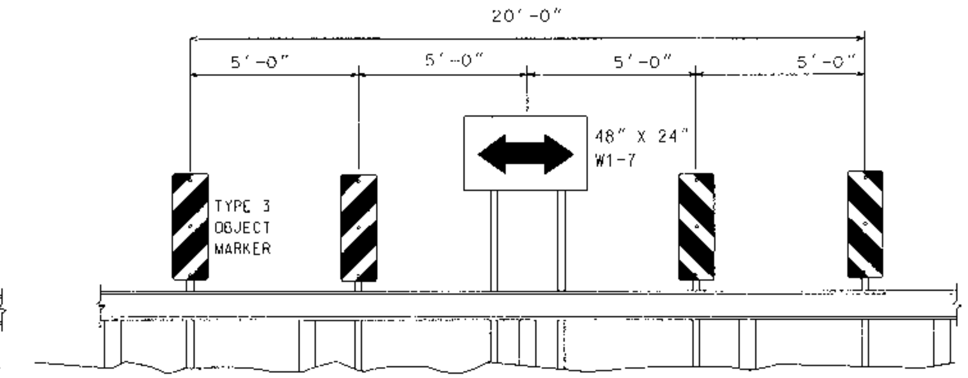
DEAD END ROAD INSTALLATION

(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

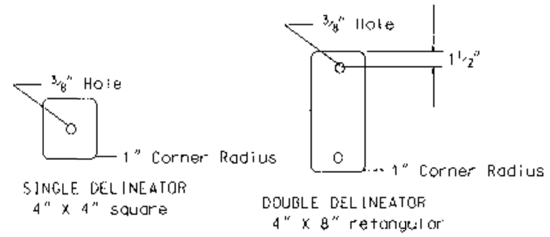
DEAD END ROAD INSTALLATION

(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.



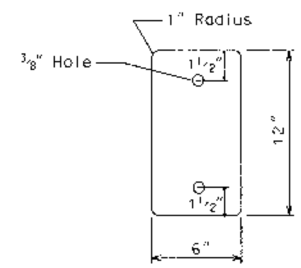
DETAIL OF DELINEATORS

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.

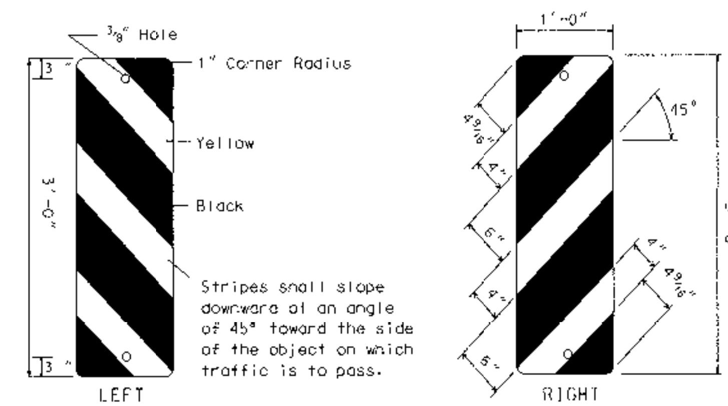


DETAIL OF TYPE 2 OBJECT MARKER

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.



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.

DETAIL OF TYPE 3 OBJECT MARKER

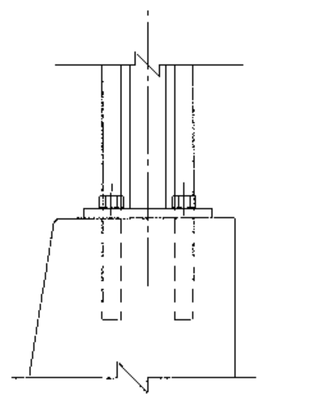
The markings on the Object Markers shall be diagonal, black and yellow stripes. The sheeting shall be in accordance with DOTD Standard Specifications.

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).

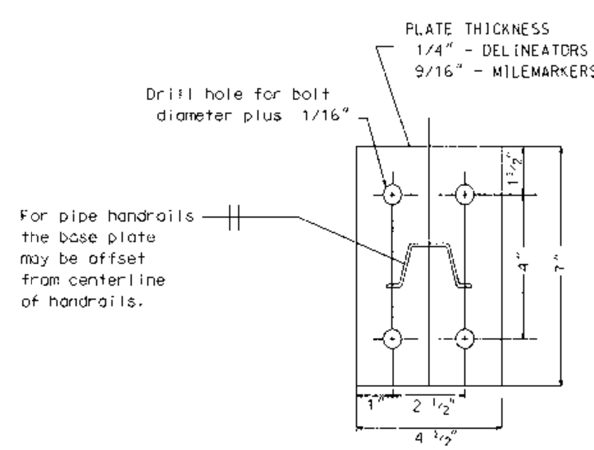
When used for marking objects in the roadway or objects that are 8 ft. or less from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft. above the surface of the nearest traffic lane.

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.



SECTION

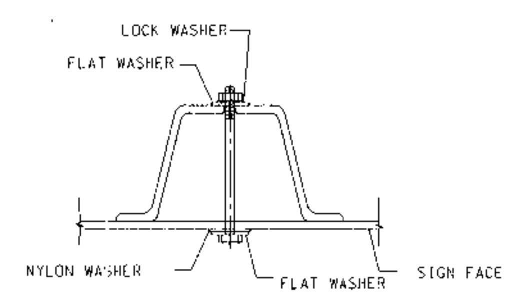
Anchor Bolts
1/4 in. plate - 5/16 in. x 4 in. bolt
9/16 in. plate - 1/2 in. x 5 in. bolt
For bolt anchors see DOTD Approved Materials List.



PLAN

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.

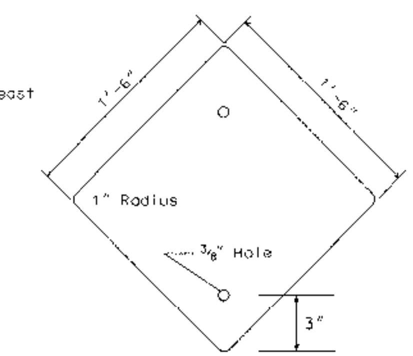
Bolts shall be 5/16 in. diameter electroplated steel hex head bolts with one nylon washer, two flat washers, one lock washer, and one vandal resistant hex nut.

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

"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
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
2022



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 303

DESIGNED J. COLVIN
CHECKED P. ALLAIN
DETAILED M.D.ORDOGNE
CHECKED J. COLVIN
DATE 02/13/2013

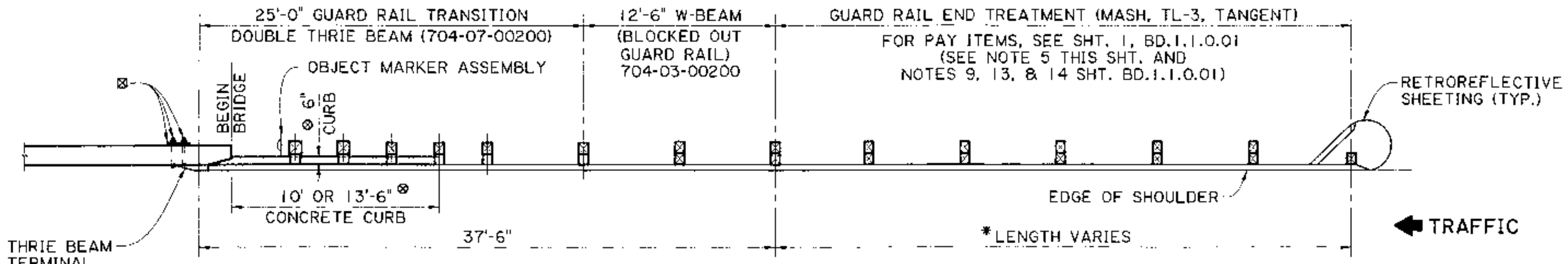
PARISH | FEDERAL PROJECT | STATE PROJECT

REVISION DESCRIPTION | BY | DATE
APPROVED BY CHIEF ENGINEER: [signature] DATE: 4-7-2022

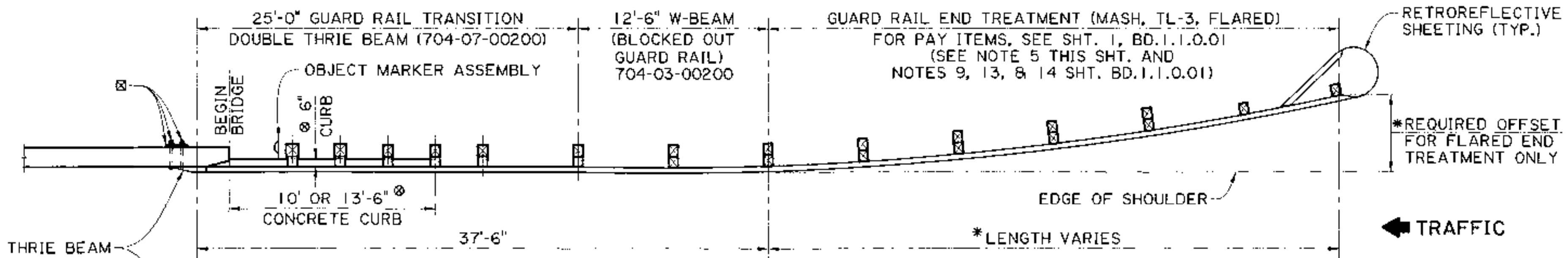
OBJECT MARKERS AND DEAD END ROAD INSTALLATION

STANDARD PLAN THS-03

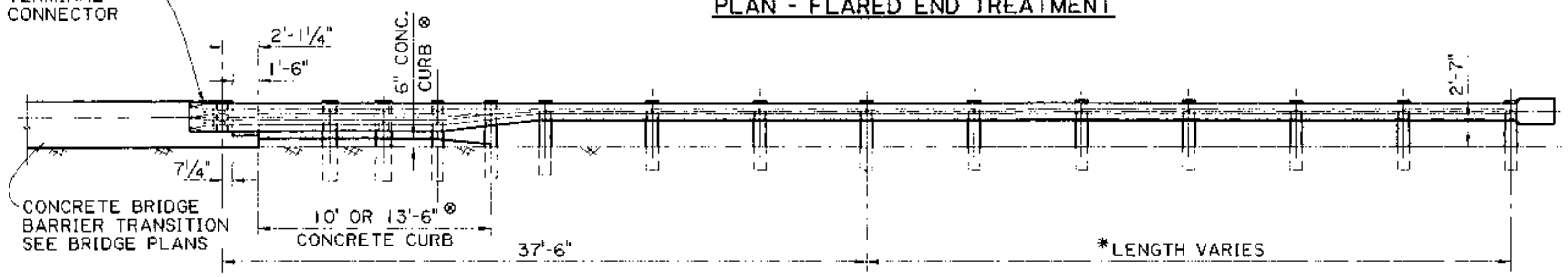
TRAFFIC ENGINEERING



PLAN - TANGENT END TREATMENT



PLAN - FLARED END TREATMENT



⊠ ⅞" ⌀ 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.

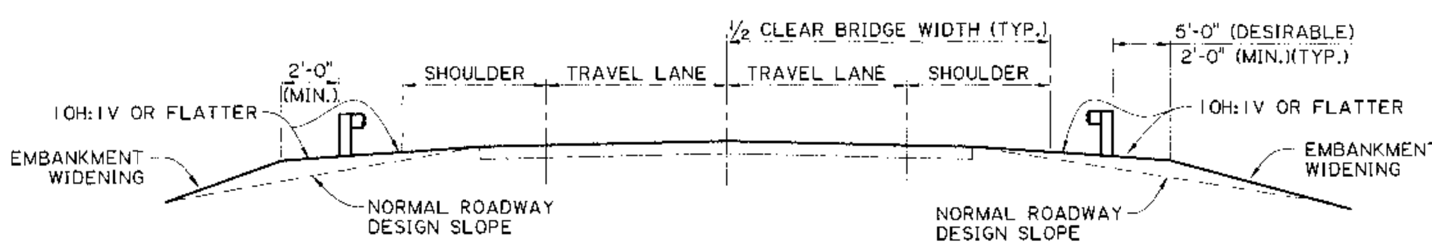
* 5) USE REQUIRED OFFSET AS PER GUARD RAIL FLARED END TREATMENT REQUIREMENTS. SEE DOTD APPROVED MATERIALS LIST (AML) FOR GUARD RAIL END TREATMENTS (MASH). LENGTH VARIES BASED ON END TREATMENT TYPE USED.

⊗ 6) USE 10'-0" LONG CONCRETE CURB AND 6" CURB HEIGHT FOR 10' APPROACH SLAB, SEE APPROACH SLAB DETAILS FOR FURTHER INFORMATION.

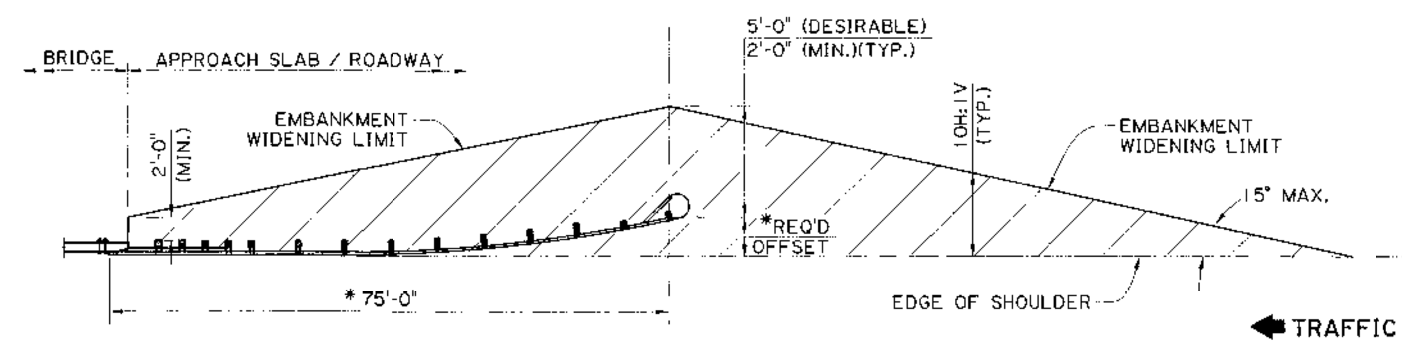
USE 13'-6" LONG CONCRETE CURB FOR ≥ 20' APPROACH SLAB. CURB HEIGHT VARIES FROM 6" TO 2". SEE APPROACH SLAB DETAILS FOR FURTHER INFORMATION.

STATE OF LOUISIANA JOHN H. SHIRES REG. No. 26865 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING 1/2022

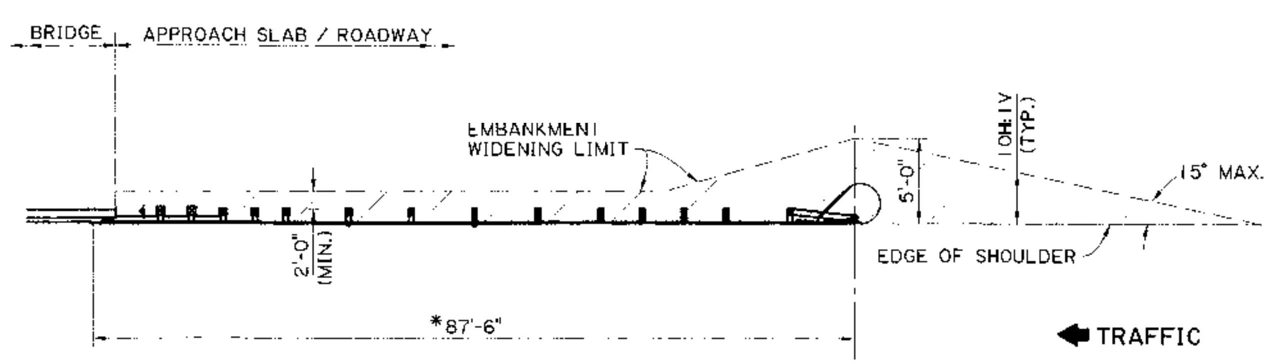
"These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project."



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)

SHEET NUMBER 304

DESIGN P. FOSSIER | CHECK K. BRAUNER | DETAIL J. DOUCET | CHECK K. BRAUNER | REVISED C. GUIDRY | SHEET 1 OF 1

STATE OF LOUISIANA KURT M. BRAUNER License No. 30667 PROFESSIONAL ENGINEER IN CIVIL ENGINEERING 12/18/18

APPROVED BY CHIEF ENGINEER 1/3/19

HIGHWAY GUARD RAIL (MASH) OFF-SYSTEM BRIDGE APPLICATION

GR-MASH-OFF

BD.1.2.0.01

DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

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 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 FOR BRIDGE APPLICATIONS, UNLESS OTHERWISE APPROVED BY THE BRIDGE DESIGN ADMINISTRATOR.

    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. IF SHOWN IN DETAILS, STEEL POSTS MAY BE USED AS AN ALTERNATE TO WOOD POSTS.
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)
704-03-00300 BLOCKED OUT GUARD RAIL - 31", (3'-1½" POST SPACING), (LN FT)
704-04-00200 BLOCKED OUT GUARD RAIL - 31", (DOUBLE FACED, 6'-3" POST SPACING), (LN FT)
704-04-00300 BLOCKED OUT GUARD RAIL - 31", (DOUBLE FACED, 3'-1½" 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.)
⊙704-10-00205 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

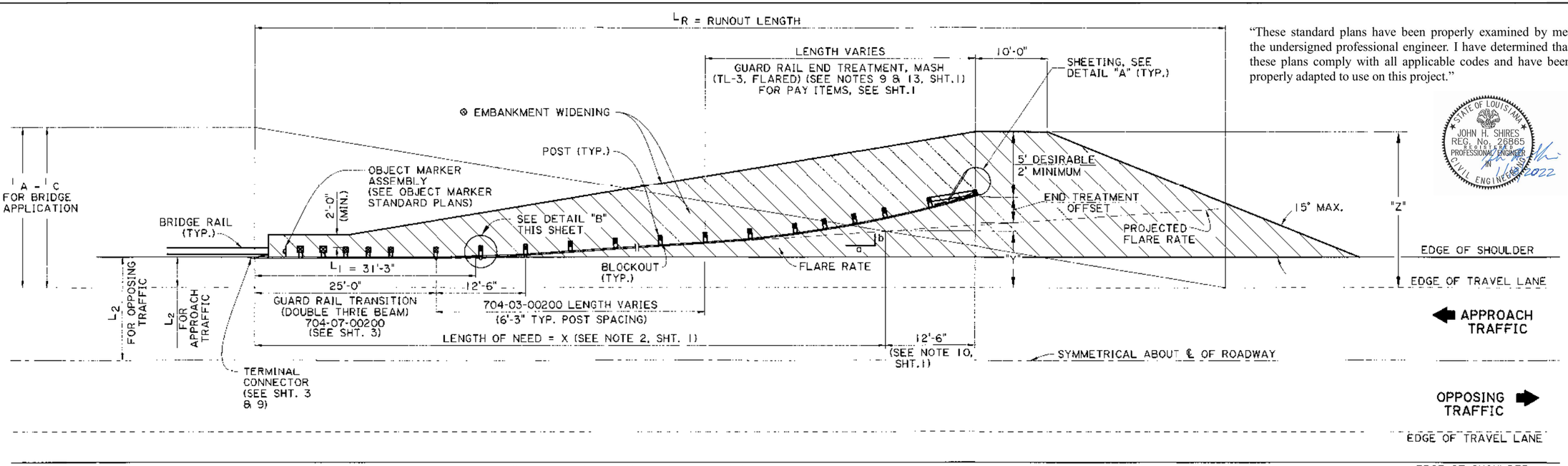
	BRIDGE STANDARD INDEX NO.	SERIES	DESCRIPTION
COMMON DETAILS	BD.1.1.0.01	1 OF 11	GENERAL NOTES, PAY ITEMS, STANDARD PLAN INDEX
DRIDGE END AND NON-BRIDGE APPLICATIONS	BD.1.1.0.02	2 OF 11	BRIDGE APPLICATION, TYPICAL LAYOUT
	BD.1.1.0.03	3 OF 11	THRIE BEAM GUARD RAIL TRANSITION TO BRIDGE RAIL
	BD.1.1.0.04	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

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 28865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/16/2022

"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."

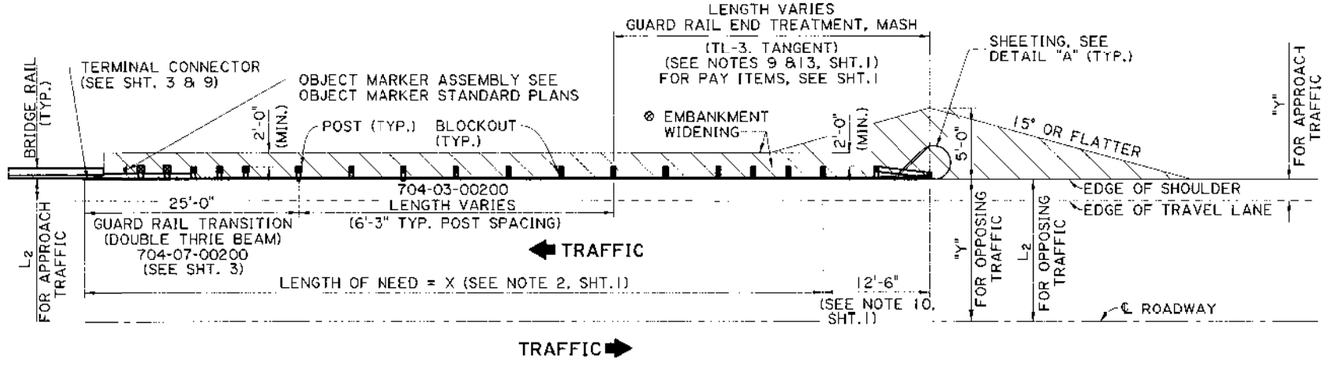
SHEET NUMBER 305
DESIGN P. FOSSIER | CHECK K. BRAUNER | DETAIL J. DOUCET | CHECK K. BRAUNER | REVIEW C. GUIDRY | SERIES 1 OF 11
STATE OF LOUISIANA
KURT M. BRAUNER
LICENSE NO. 30787
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/16/18
APPROVED BY CHIEF ENGINEER
1/3/19
HIGHWAY GUARD RAIL (MASH) GENERAL NOTES, PAY ITEMS AND STANDARD PLAN INDEX
BD.1.1.0.0
GR-MASH-ON
STANDARD
DOTD
BRIDGE AND STRUCTURAL DESIGN

08:03
8/29/2019
IP_PWP:d0841055\BD.1.1.0.01 - Highway Guard Rail (MASH)_raster.dgn



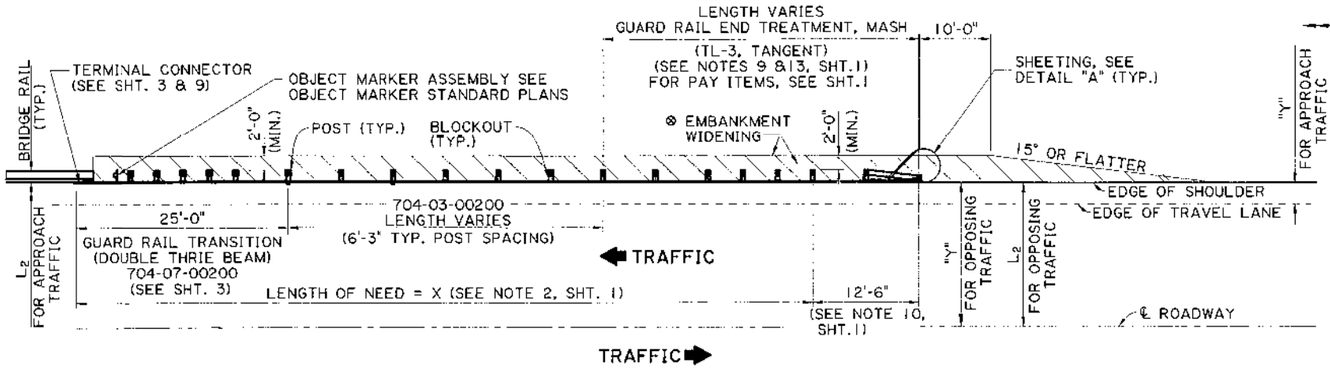
TYPICAL BRIDGE GUARD RAIL LAYOUT WITH FLARED END TREATMENT - PLAN

NOTE: LAYOUT SIMILAR FOR OTHER QUADRANTS OF BRIDGE END
⊗ SEE NOTES 5, 8, AND 12, SHT. 1.



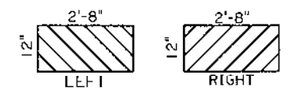
TYPICAL BRIDGE GUARD RAIL LAYOUT WITH TANGENT END TREATMENT - PREFERRED GRADING - PLAN

⊗ SEE NOTES 5, 8, AND 12, SHT. 1.



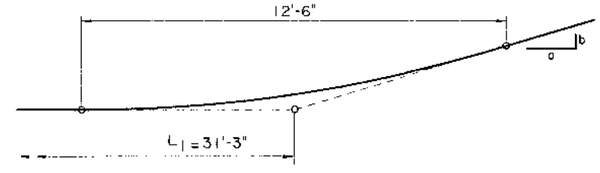
TYPICAL BRIDGE GUARD RAIL LAYOUT WITH TANGENT END TREATMENT - ALTERNATIVE GRADING - PLAN

⊗ SEE NOTES 5, 8, AND 12, SHT. 1.

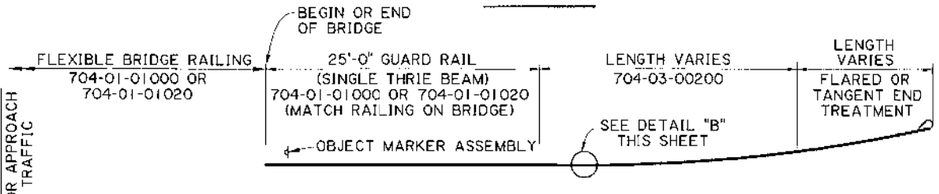


DETAIL "A"

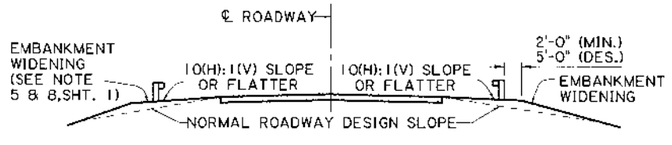
RETROREFLECTIVE SHEETING (SEE SHT. 1 NOTE 11)



DETAIL "B"



BEAM TRANSITION FOR FLEXIBLE BRIDGE RAILING - PLAN



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
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1/14/2022

STATE PROJECT NUMBER 306

DESIGN P. FOSSIER
CHECK K. BRAUNER
DETAIL J. DOUCET
CHECK K. BRAUNER
QUANTITIES C. GUIDRY
SERIES NO. 2 OF 11

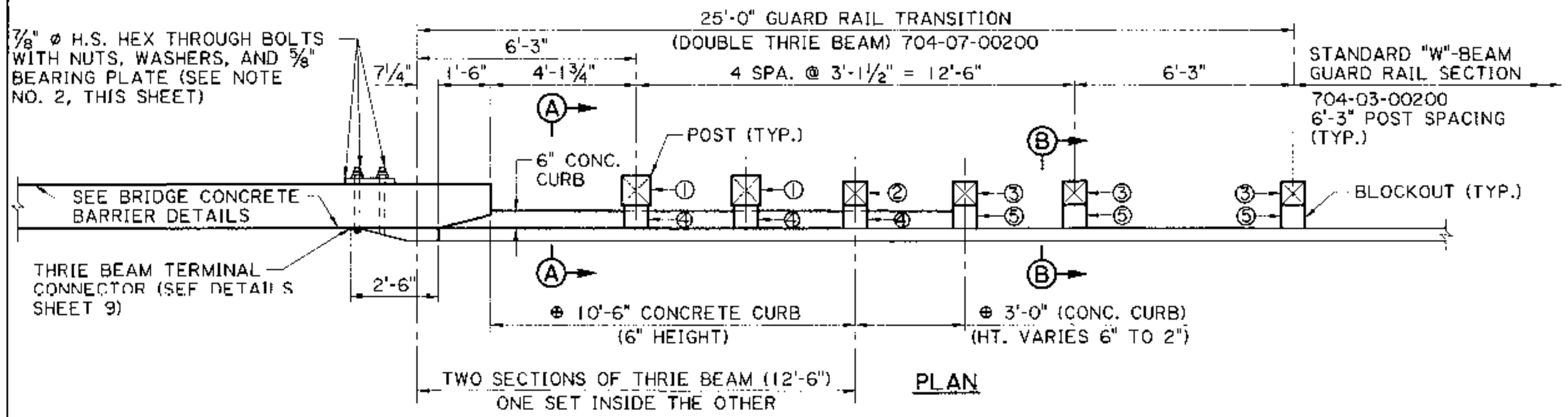
STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30667
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/14/18

APPROVED BY CHIEF ENGINEER
1/3/19

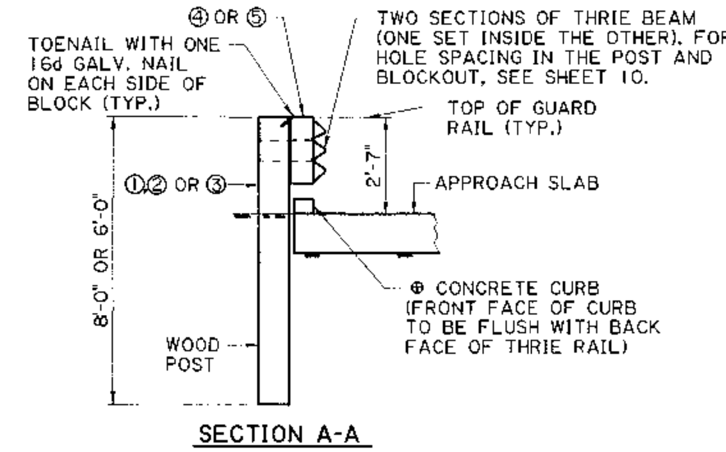
HIGHWAY GUARD RAIL (MASH)
BRIDGE APPLICATION
(TYPICAL LAYOUT)

GR-MASH-ON

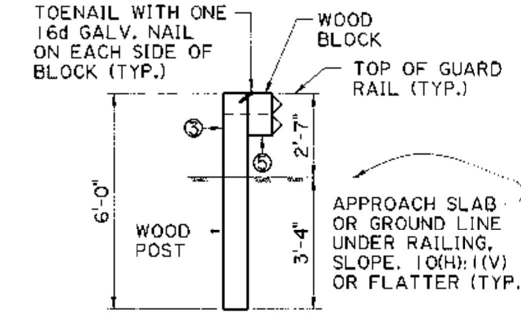
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN



PLAN



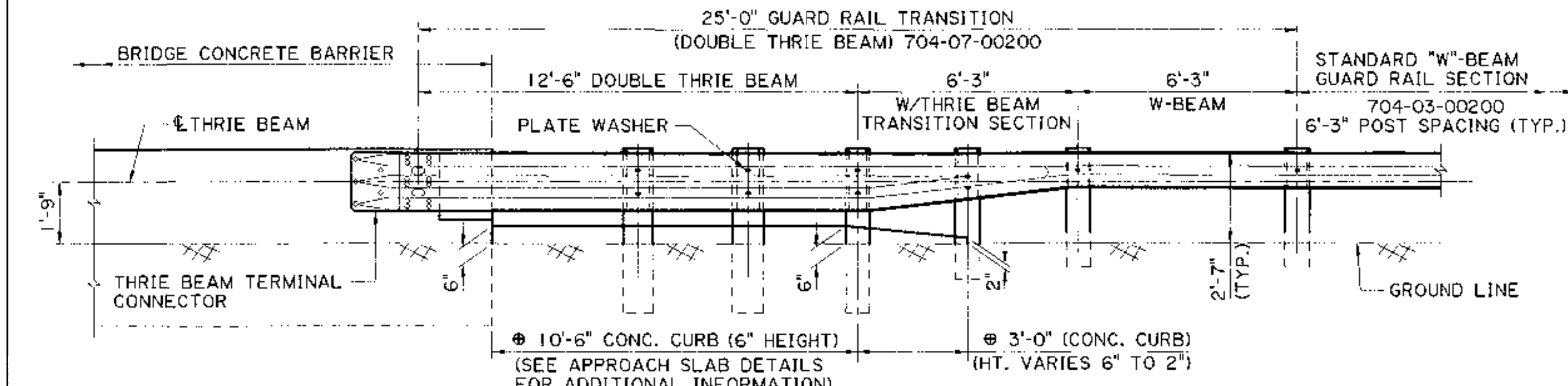
SECTION A-A



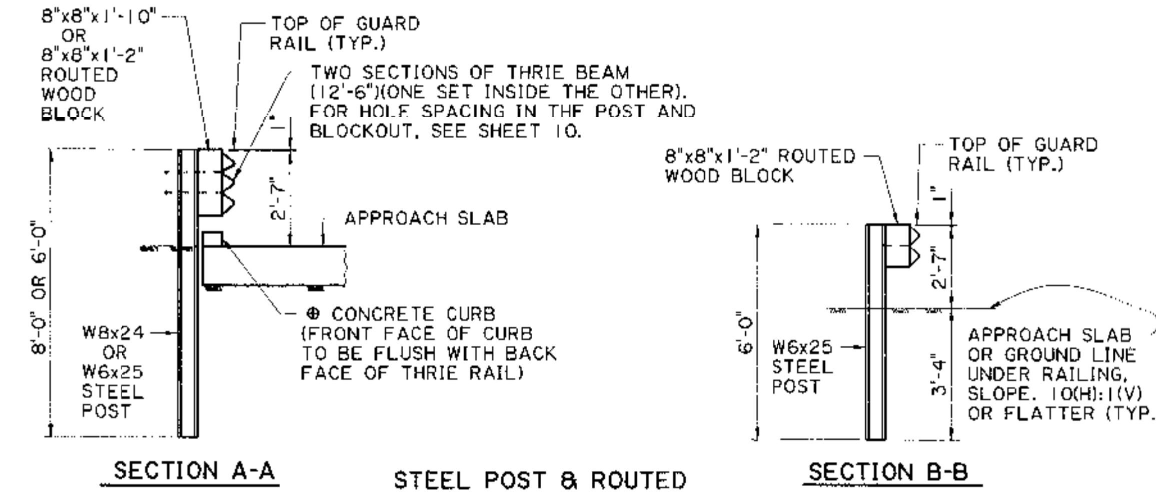
SECTION B-B

WOOD POST & WOOD BLOCKOUT

(POST & BLOCKOUT SIZE VARY IN TRANSITION, SEE PLAN VIEW)



ELEVATION



STEEL POST & ROUTED WOOD BLOCKOUT ALTERNATE

(POST & BLOCKOUT SIZE VARY IN TRANSITION, SEE PLAN VIEW)

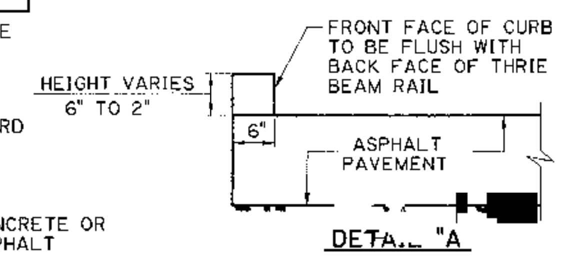
NOTES

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.

***WOOD POST & WOOD BLOCKOUT FOR GUARD RAIL TRANSITION**

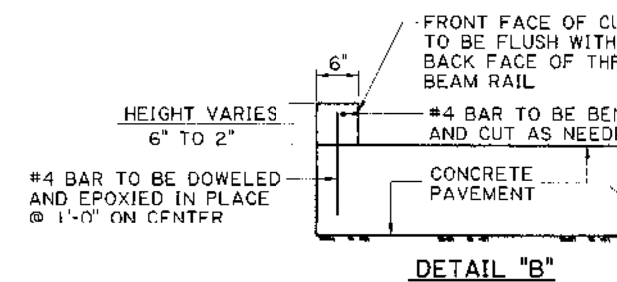
NO.	SIZE (WIDTHxDEPTHxLENGTH)
①	10" x 10" x 8'-0" POST
②	8" x 8" x 8'-0" POST
③	8" x 8" x 6'-0" POST
④	8" x 8" x 1'-10" BLOCKOUT
⑤	8" x 8" x 1'-2" BLOCKOUT

*SEE NOTE FOR STEEL POST ALTERNATE



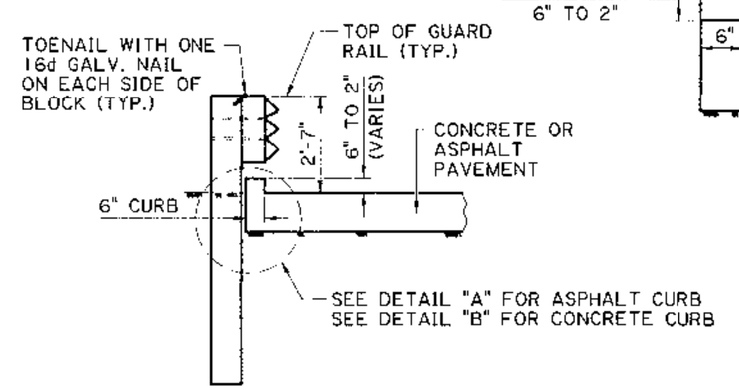
DETAIL "A"

N.T.S.



DETAIL "B"

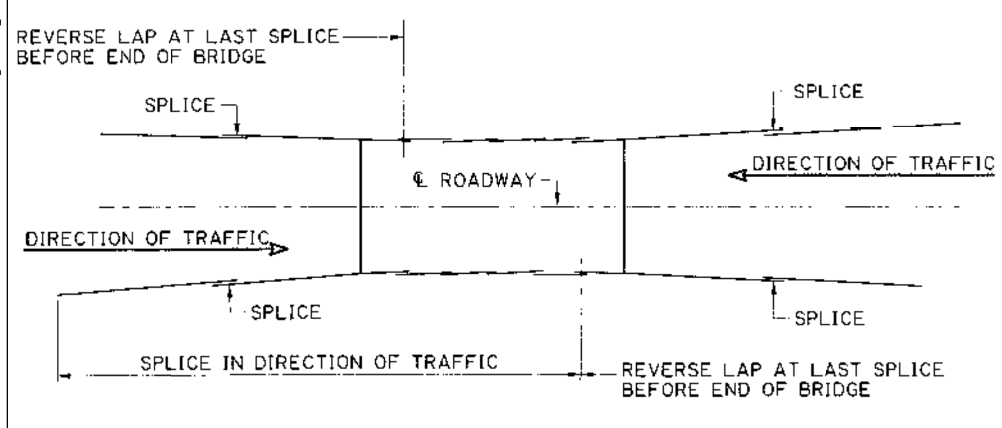
N.T.S.



⊕CURB ALTERNATE FOR EXISTING PAVEMENTS - SECTION A-A

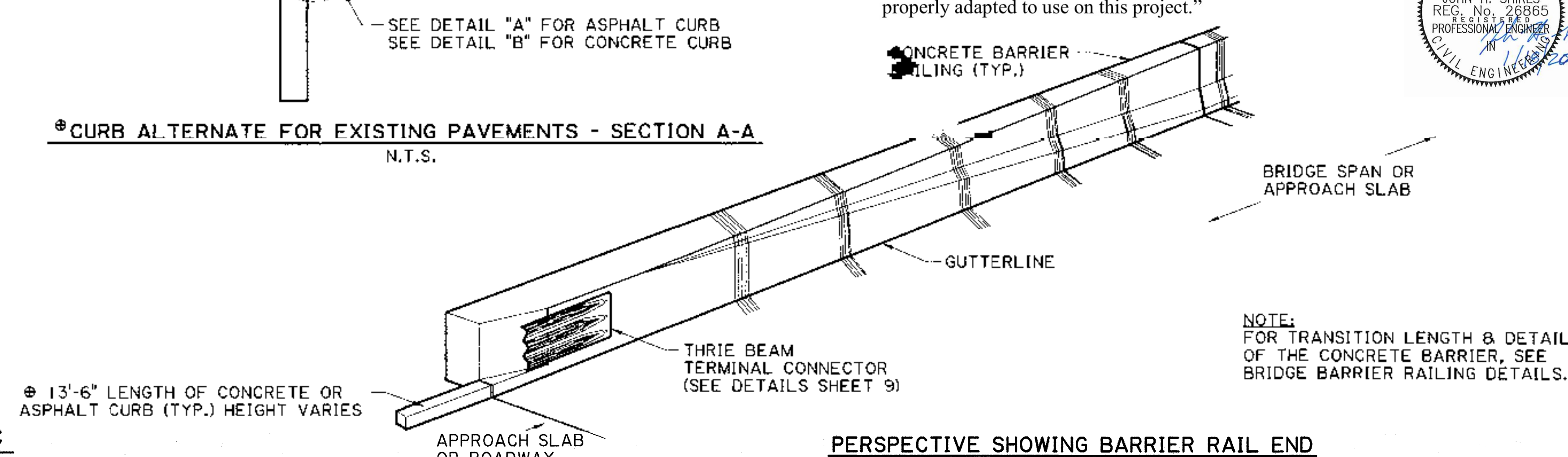
N.T.S.

"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."



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.

JOHN H. SHIRES
REG. No. 26865
PROFESSIONAL ENGINEER

KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER

12/18/18

1/3/19

DESIGN: P. FOSSIER
CHECK: K. BRAUNER
DETAIL: J. DOUCET
CHECK: K. BRAUNER
REVISED: C. GUIDRY
SERIES: 3 OF 11

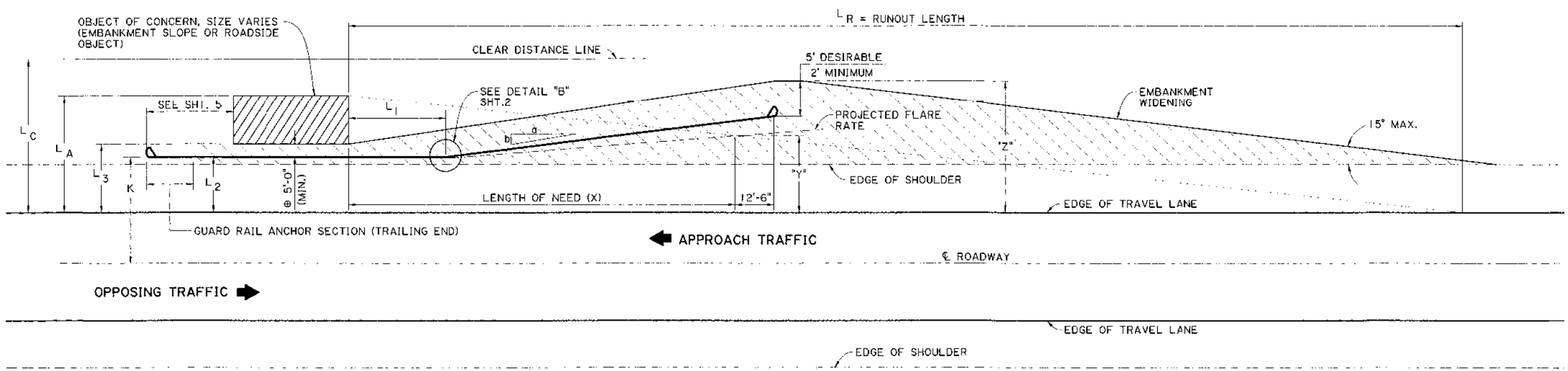
SHEET NUMBER 307

HIGHWAY GUARD RAIL (MASH)
THRIE BEAM GUARD RAIL
TRANSITION TO BRIDGE RAIL

GR-MASH-ON

DOTD

BRIDGE AND STRUCTURAL DESIGN



GUARD RAIL LAYOUT FOR SHOULDER APPLICATIONS - APPROACH VARIABLES

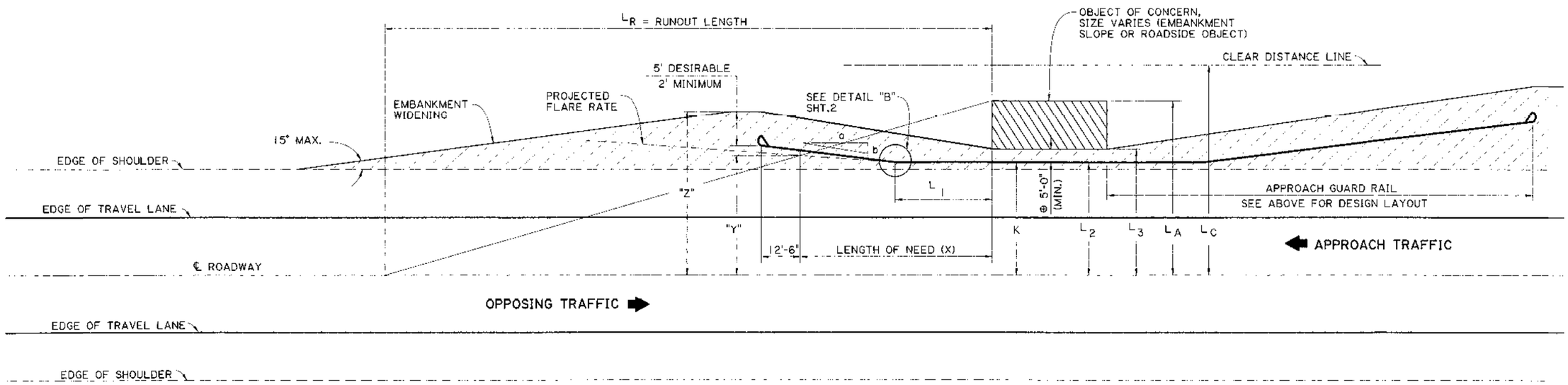
(GUARD RAIL OUTSIDE OF OPPOSING TRAFFIC'S CLEAR ZONE ; K > Lc)
N.T.S.

⊕ 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.

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
11/2022

"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."



GUARD RAIL LAYOUT FOR SHOULDER APPLICATIONS - OPPOSING VARIABLES

(GUARD RAIL INSIDE OF OPPOSING TRAFFIC'S CLEAR ZONE ; K < Lc)
N.T.S.

SHEET NUMBER 308

DESIGN P. FOSSIER CHECK K. BRAUNER
DETAIL J. DOUCET CHECK K. BRAUNER
QUANTITIES C. GUIDRY
SHEETS 4 OF 11

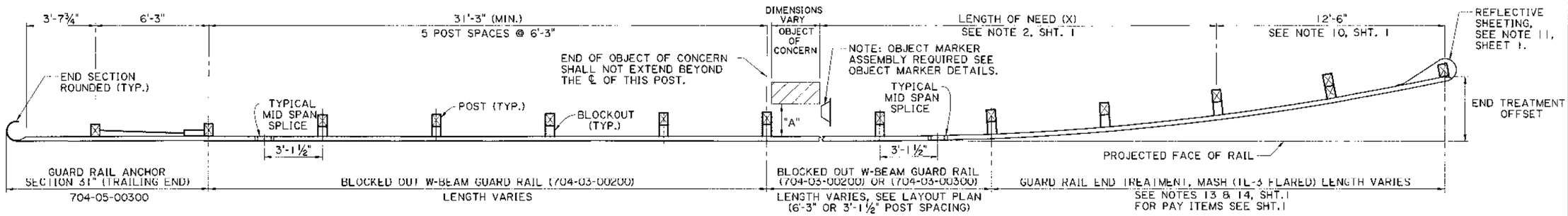
STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30687
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
12/18/18

APPROVED BY CHIEF ENGINEER
DATE 1/3/19

HIGHWAY GUARD RAIL (MASH) NON-BRIDGE APPLICATION (TYPICAL LAYOUT)

STD. NO. GR-MASH-ON

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

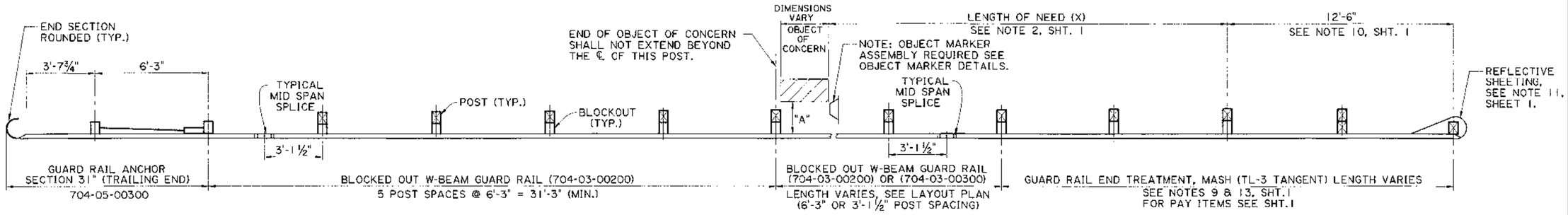


FOR TRAILING END TERMINAL DETAILS AND NOTES, SEE SHTS. 7 & 8.

BACK FACE OF GUARD RAIL TO FRONT FACE OF OBJECT = "A" = 5'-0" MIN.

PLAN - NON-BRIDGE END APPLICATION - FLARED

N.T.S.

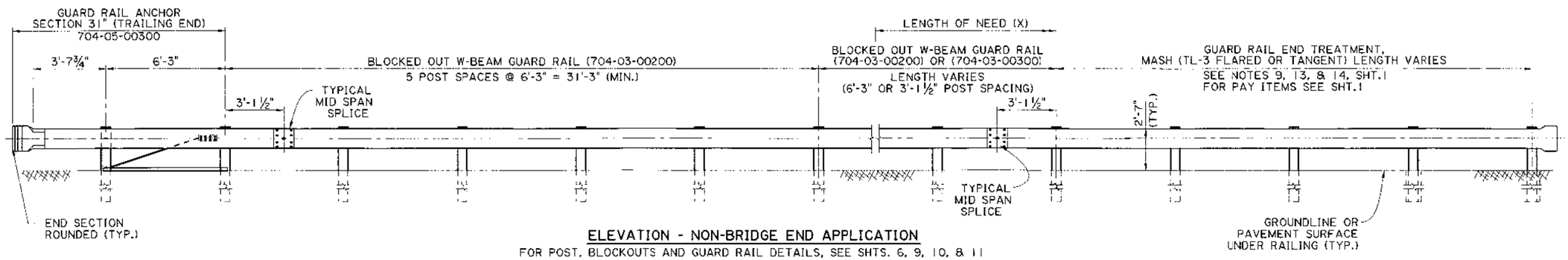


FOR TRAILING END TERMINAL DETAILS AND NOTES, SEE SHTS. 7 & 8.

BACK FACE OF GUARD RAIL TO FRONT FACE OF OBJECT = "A" = 5'-0" MIN.

PLAN - NON-BRIDGE END APPLICATION - TANGENT

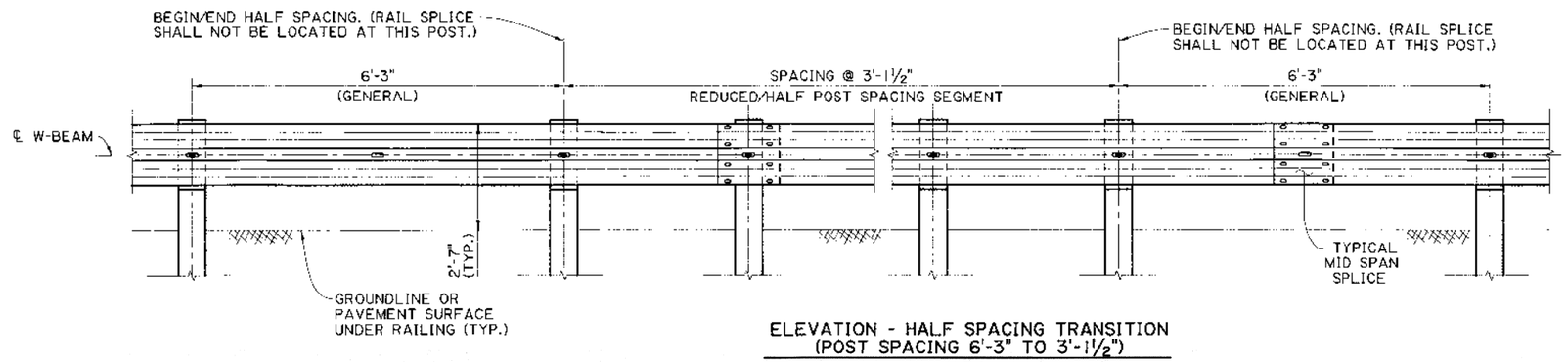
N.T.S.



ELEVATION - NON-BRIDGE END APPLICATION

FOR POST, BLOCKOUTS AND GUARD RAIL DETAILS, SEE SHTS. 6, 9, 10, & 11

N.T.S.



ELEVATION - HALF SPACING TRANSITION (POST SPACING 6'-3" TO 3'-1½")

N.T.S.

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
1/3/2022

"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."

PANEL SPLICES, FOR HALF POST SPACING TRANSITIONS

MIDSPAN PANEL SPLICES ARE NOT REQUIRED IN TRANSITION AND REDUCED POST SPACING SEGMENTS, HOWEVER THEY ARE REQUIRED FOR GENERAL SEGMENTS. TO PLACE MIDSPAN SPLICES IN GENERAL SEGMENTS NEAR A TRANSITION, USE ONE NON-GENERAL PANEL LENGTH (9'-4½" or 15'-7½") OR ADD AN ADDITIONAL TRANSITION SPACED POST WHERE REQUIRED.

DESIGN P. FOSSIER
CHECK K. BRAUNER
DETAIL J. DOUCET
CHECK K. BRAUNER
REVISED C. GUIDRY
STATE PROJECT SERIES • 5 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
EXPIRES NO. 30580
PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
12/19/18

APPROVED BY CHIEF ENGINEER
1/3/19
DATE

STATE OF LOUISIANA ENGINEER

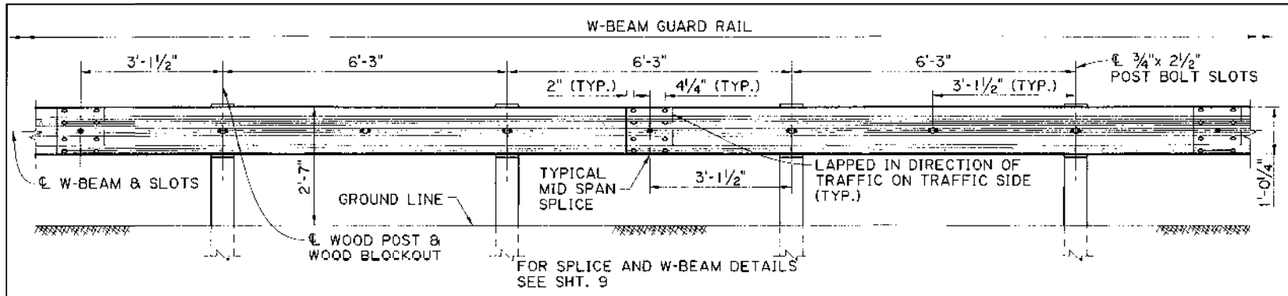
HIGHWAY GUARD RAIL (MASH) NON-BRIDGE APPLICATION (TYPICAL LAYOUT)

GR-MASH-0N

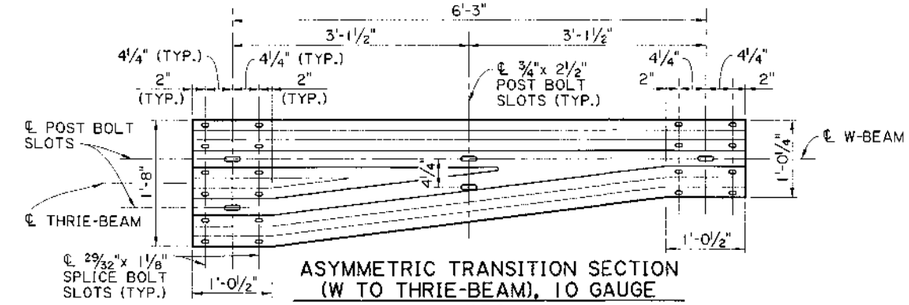
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

8/29/2019 08:04

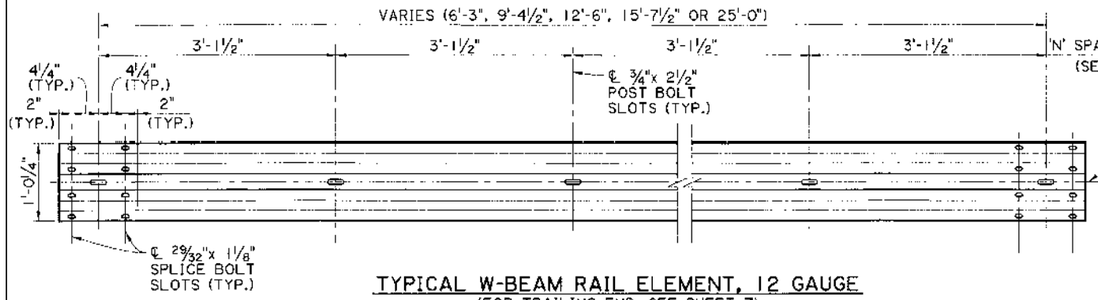
IP_PWP:d0841055\BD.1.1.0.05 - Highway Guard Rail (MASH)_raster.dgn



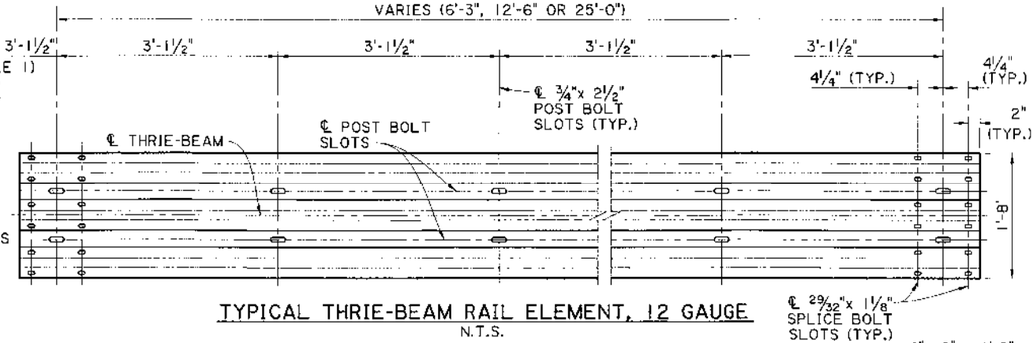
TYPICAL W-BEAM RAIL ELEMENT, 12 GAUGE
N.T.S.



ASYMMETRIC TRANSITION SECTION (W TO THRIE-BEAM), 10 GAUGE
N.T.S.



TYPICAL W-BEAM RAIL ELEMENT, 12 GAUGE
(FOR TRAILING END, SEE SHEET 7)
N.T.S.



TYPICAL THRIE-BEAM RAIL ELEMENT, 12 GAUGE
N.T.S.

* W6x8.5 MAY BE USED AS AN ALTERNATE.

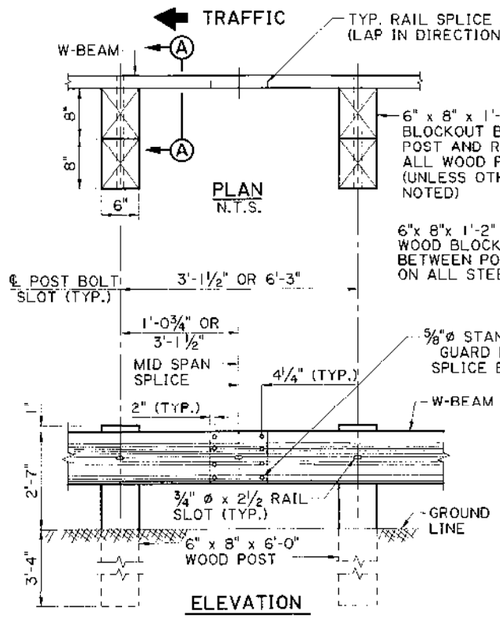
TABLE 1: ELEMENT SUMMARY TABLE:

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

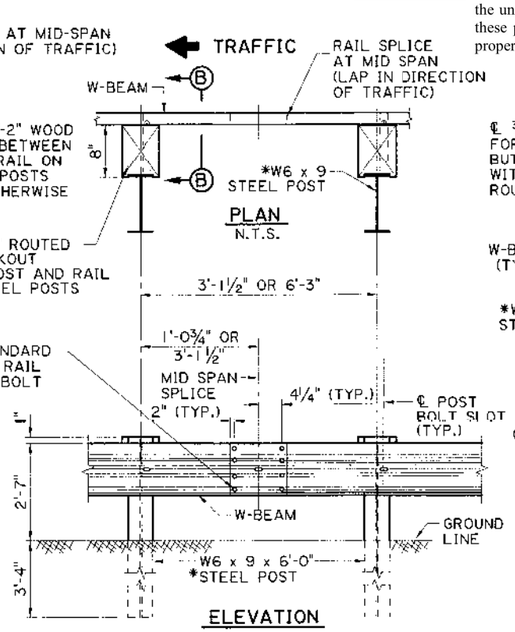
PANEL TYPE	NUMBER OF SPACES 'N'	GAUGE
6'-3" THRIE-BEAM	2	12
12'-6" THRIE-BEAM	4	12
25'-0" THRIE-BEAM	8	12
THRIE-BEAM TRANSITION	2	10

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 29865
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/4/2022

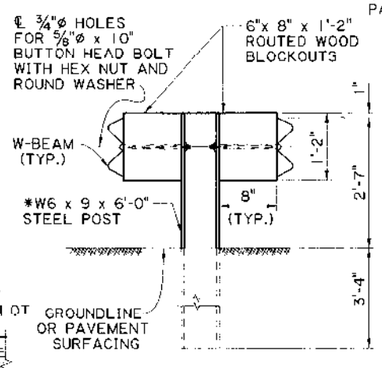
"These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project."



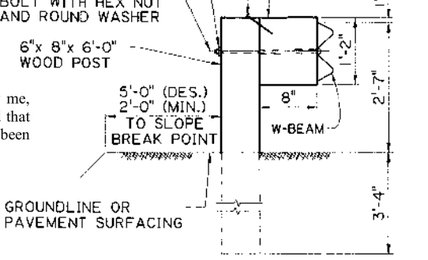
DETAIL OF 6" x 8" x 6'-0" WOOD POSTS AND WOOD BLOCKS-STD. GUARD RAIL
N.T.S.



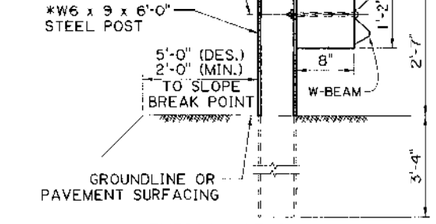
*DETAIL OF W6 x 9 STEEL POSTS AND WOOD BLOCKS-STD. GUARD RAIL
N.T.S.



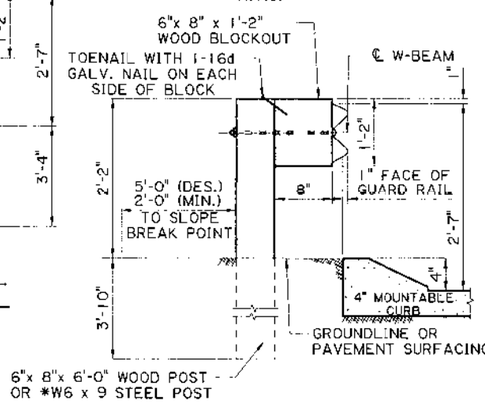
TYPICAL W-BEAM MEDIAN BARRIER DETAIL STEEL POST ONLY
N.T.S.



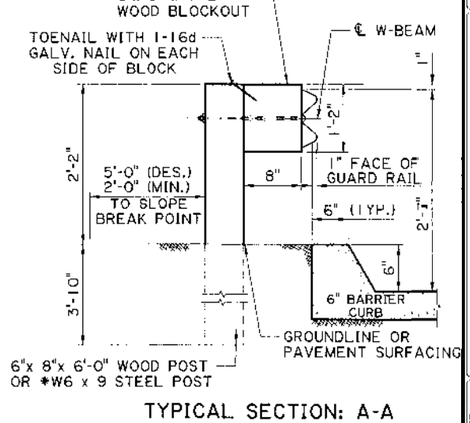
TYPICAL SECTION: A-A WOOD POST & WOOD BLOCKOUT (W-BEAM)
N.T.S.



TYPICAL SECTION: B-B STEEL POST & WOOD BLOCKOUT (W-BEAM)
N.T.S.



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.

TYPICAL SECTION: B-B STEEL POST & WOOD BLOCKOUT (W-BEAM)
N.T.S.

DESIGN: P. FOSSIER
DRAWN: K. BRAUNER
TRACED: J. DOUCET
CHECKED: K. BRAUNER
GENERAL ELECTRICAL
QUANTITIES: C. GUIDRY
STATE PROJECT
SERIES • 6 OF 11

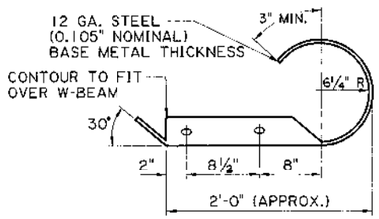
STATE OF LOUISIANA
KURT M. BRAUNER
License No. 32067
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/4/18

APPROVED BY CHIEF ENGINEER
11/3/19

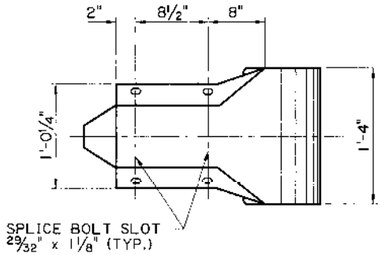
HIGHWAY GUARD RAIL (MASH)
TYPICAL DETAILS AND SECTIONS

SEC. 606
GR-MASH-DN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

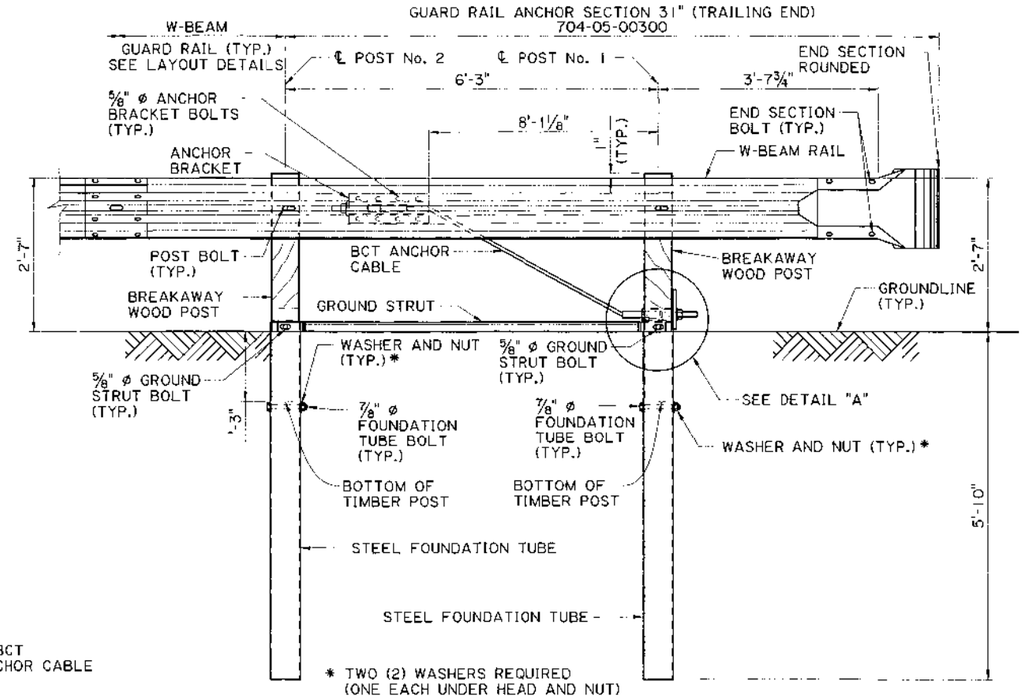


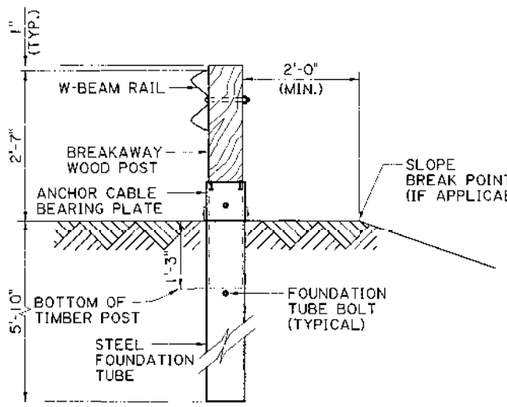
PLAN VIEW



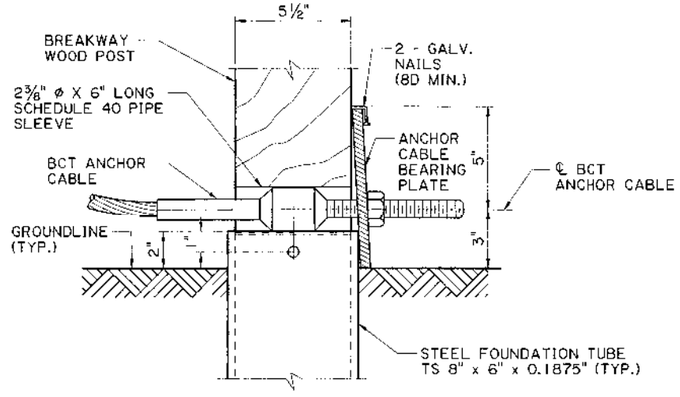
FRONT VIEW

W BEAM END SECTION ROUNDED
N.T.S.





SECTION A-A - POST No. 1
N.T.S.

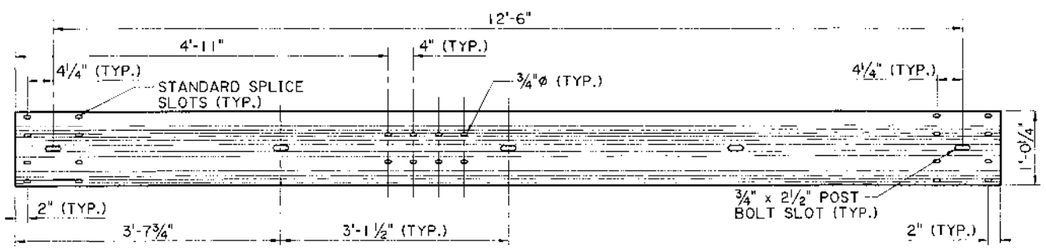


DETAIL "A" - POST No. 1
POST #1 GROUND STRUT NOT SHOWN FOR CLARITY.
POST #2 SIMILAR W/O BCT ANCHOR CABLE AND BEARING PLATE.
N.T.S.

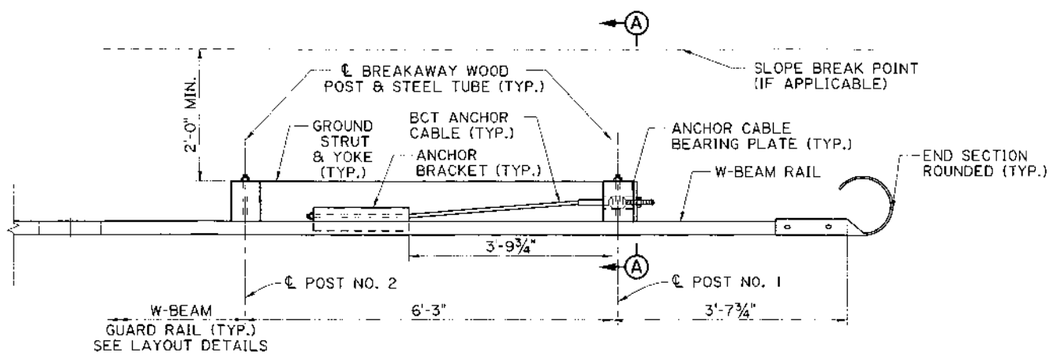
TRAILING END RAIL DETAIL - ELEVATION
NOTE: FOR OTHER TRAILING END TERMINAL DETAILS, SEE SHT. 8 OF 11.
N.T.S.

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 28865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2022

"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."



TYPICAL 12'-6" W-BEAM SECTION, 12 GAUGE, TRAILING END SECTION
N.T.S.



TRAILING END RAIL DETAIL - PLAN
N.T.S.

DESIGN P. FOSSIER 24-HR.
DETAIL K. BRAUNER
DETAIL J. DOUCET
CHECK K. BRAUNER
REVISION C. GUIDRY
STATE PROJECT

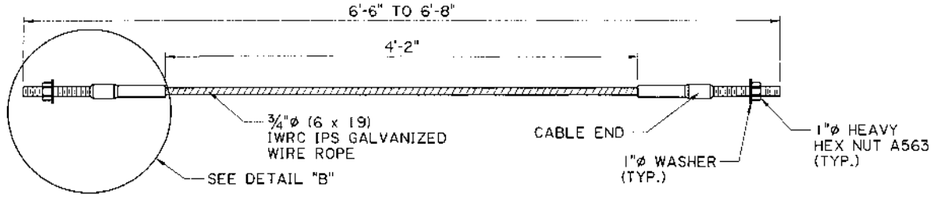
STATE OF LOUISIANA
KURT M. BRAUNER
License No. 32767
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/18/19

APPROVED CHIEF ENGINEER 1/3/19
DATE

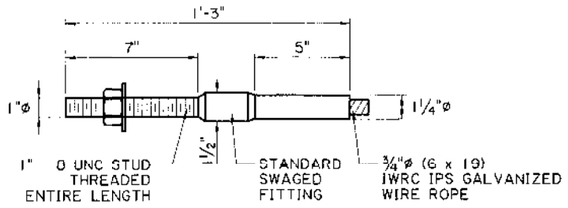
HIGHWAY GUARD RAIL (MASH)
TRAILING END DETAILS

SHEET NO. 311
GR-MASH-ON
STANDARD

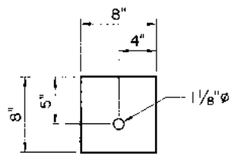
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN



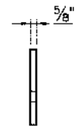
BCT ANCHOR CABLE
N.T.S.



DETAIL "B"

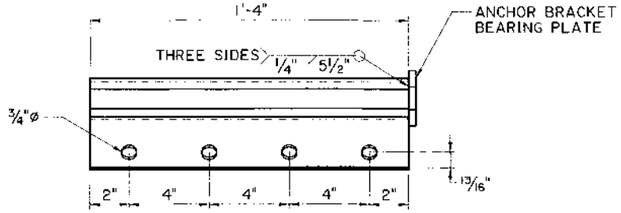


SIDE VIEW

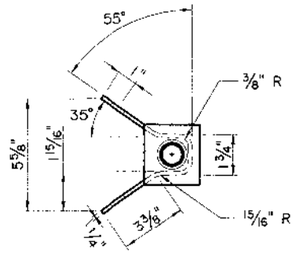


FRONT VIEW

ANCHOR CABLE BEARING PLATE
N.T.S.



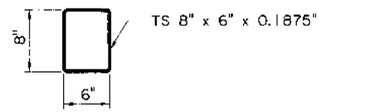
STEEL ANCHOR BRACKET
N.T.S.



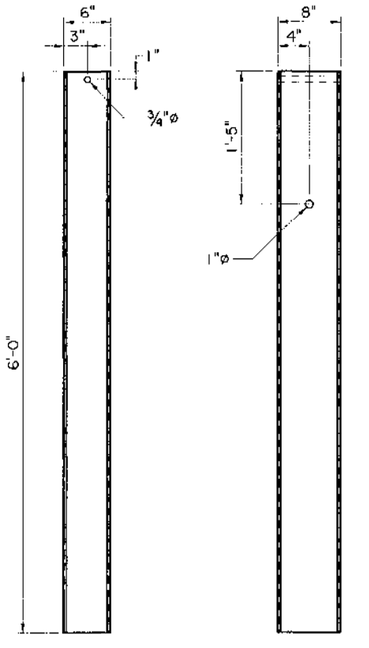
NOTES:

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.

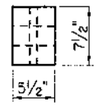


PLAN VIEW

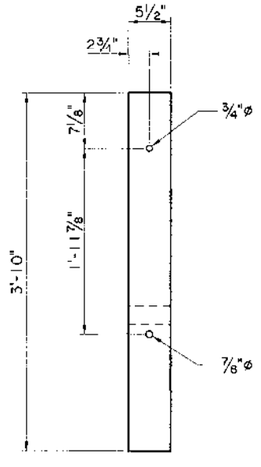


FRONT VIEW SIDE VIEW

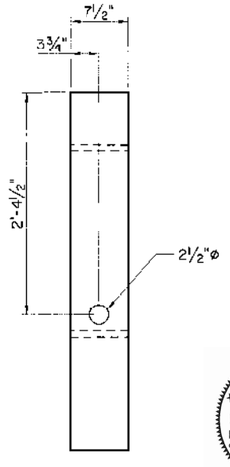
FOUNDATION TUBE
N.T.S.



PLAN VIEW

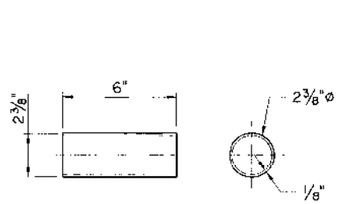


FRONT VIEW

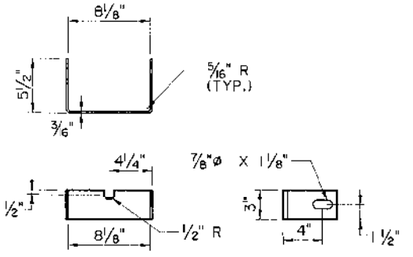


SIDE VIEW

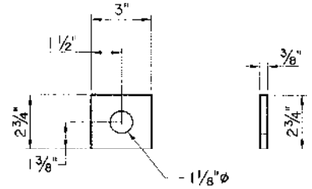
BREAKAWAY WOOD POST
N.T.S.



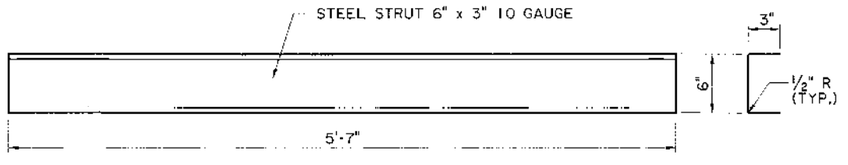
2⅜"ø POST SLEEVE
N.T.S.



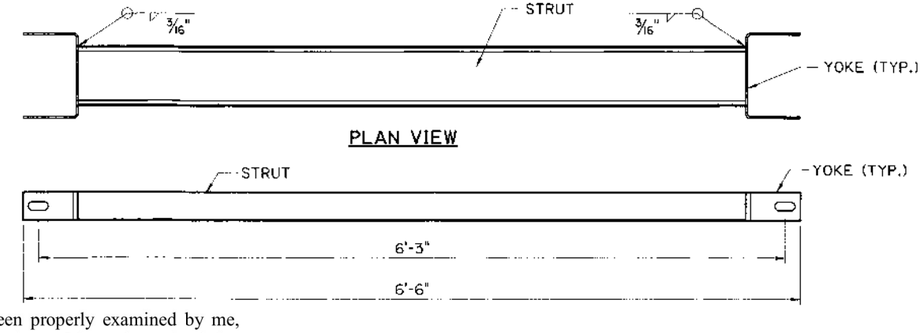
YOKE DETAIL
N.T.S.



ANCHOR BRACKET BEARING PLATE
N.T.S.



STRUT - PLAN VIEW
N.T.S.



FRONT VIEW
GROUND STRUT DETAIL
N.T.S.

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
1/3/2022

"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 312

DESIGN P. FOSSIER
CHECK K. BRAUNER
DETAIL J. DOUCET
CHECK K. BRAUNER
RELEASE C. GUIDRY
SERIES * 8 OF 11

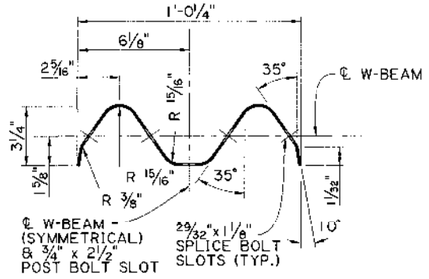
STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30761
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
12/18/18

APPROVED BY CHIEF ENGINEER
11/3/19

HIGHWAY GUARD RAIL (MASH) TRAILING END DETAILS

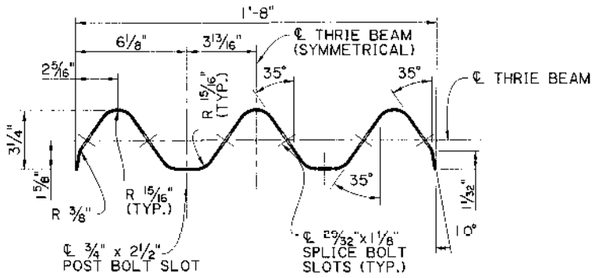
GR-MASH-ON

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN



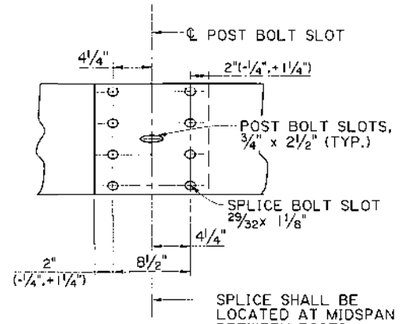
TYPICAL W BEAM

N.T.S.



TYPICAL THRIE BEAM

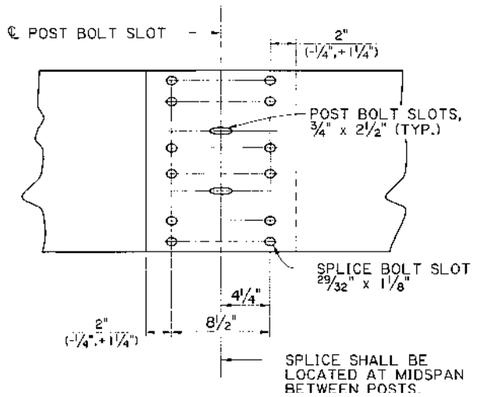
N.T.S.



TYPICAL W-BEAM SPLICE DETAIL - ELEVATION

5/8"ø x 1 1/4" BUTTON HEAD OVAL SHOULDER BOLTS WITH 5/8"ø RECESSED HEX NUTS-TOTAL 8 PER SPLICE. LAP IN DIRECTION OF TRAFFIC.

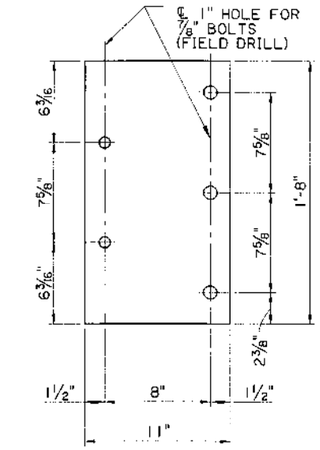
N.T.S.



TYPICAL THRIE BEAM SPLICE DETAIL - ELEVATION

5/8"ø x 1 1/4" BUTTON HEAD OVAL SHOULDER BOLTS WITH 5/8"ø RECESSED HEX NUTS-TOTAL 12 PER SPLICE. LAP IN DIRECTION OF TRAFFIC.

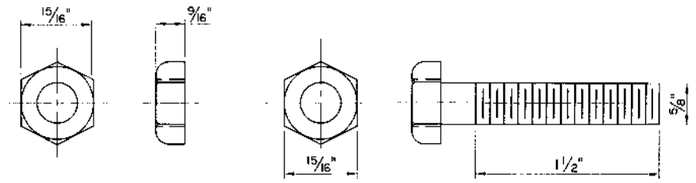
N.T.S.



5/8"ø BEARING PLATE

(FOR ANCHORING THRIE BEAM TO CONCRETE BARRIER RAIL)

N.T.S.

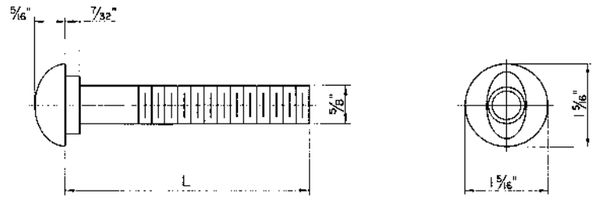


NUT BOLT

5/8"ø HEX BOLT & HEX NUT

(FOR FASTENING THE ANCHOR BRACKET TO RAIL IN TRAILING END)

N.T.S.

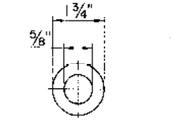


5/8"ø BUTTON HEAD BOLT

N.T.S.

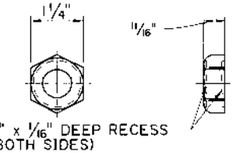
"These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project."

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
2022



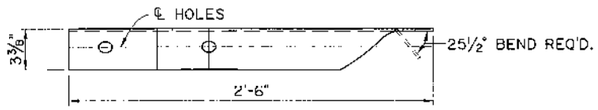
5/8"ø POST BOLT WASHERS

N.T.S.

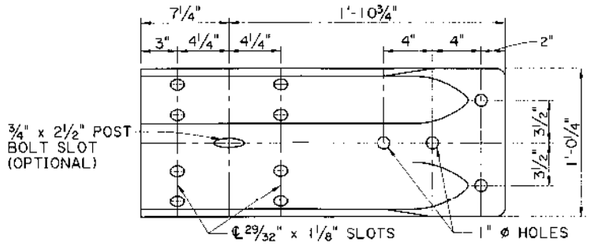


5/8"ø RECESS NUT

N.T.S.



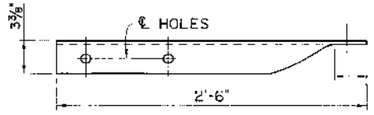
PLAN



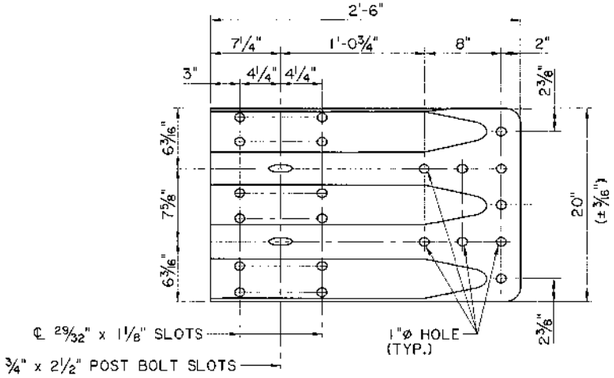
ELEVATION

TYPICAL W BEAM TERMINAL CONNECTOR, 10 GAUGE

N.T.S.



PLAN



ELEVATION

TYPICAL THRIE BEAM TERMINAL CONNECTOR, 10 GAUGE

N.T.S.

5/8"ø BUTTON HEAD NUT	
L	THREAD LENGTH
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
1'-6"	4"
1'-8"	4"

NOTES:

5/8"ø BUTTON HEAD BOLTS:

(1 1/4" 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.

5/8" 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.

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.

SHEET NUMBER 313

DESIGN - P. FOSSIER; DETAILS - J. DOUCET; DRAWN - K. BRAUNER; CHECKED - K. BRAUNER; REVIEW - C. GUIDRY; STATE PROJECT - ; SERIES • 9 OF 11

STATE OF LOUISIANA
KURT W. BRAUNER
License No. 30561
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
12/18/18

APPROVED BY CHIEF ENGINEER
1/3/19

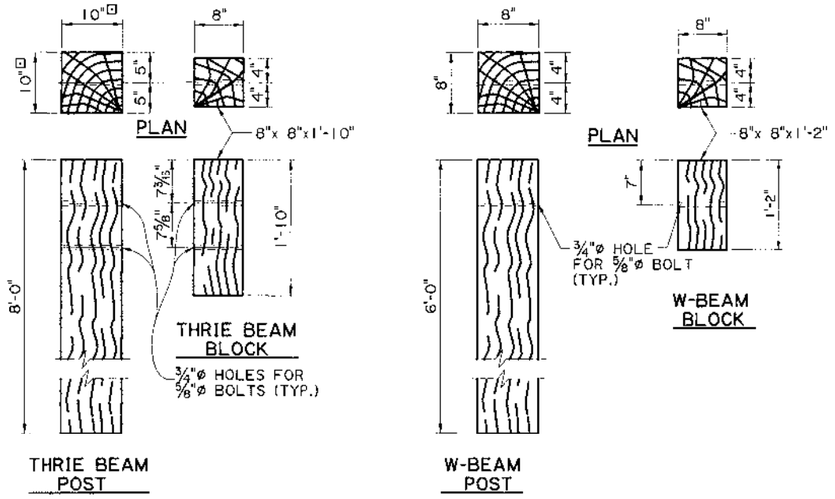
STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

30.1.1.0.09

HIGHWAY GUARD RAIL (MASH)
RAIL STRUCTURAL DETAILS

GR-MASH-ON

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

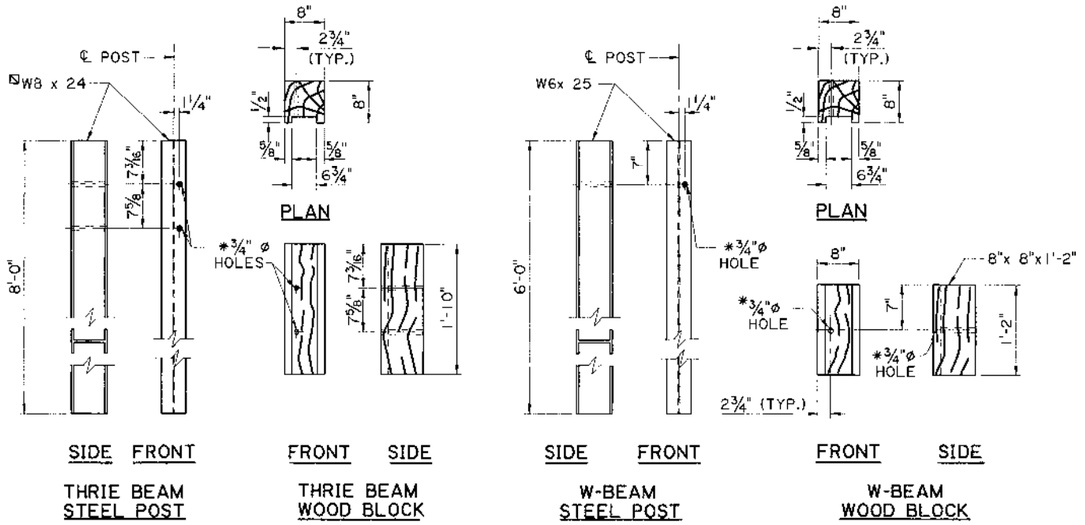


□ THRIE BEAM POST IS 8"x 8"x 8'-0"
FOR TRANSITION POST No. 3.

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.

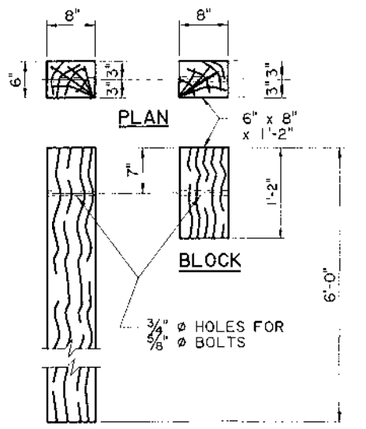


☒ THRIE BEAM POST IS W6 x 25 (8'-0")
FOR TRANSITION POST No. 3.

STEEL POST AND ROUTED WOOD BLOCK FOR THRIE BEAM TRANSITION TO BRIDGE RAIL

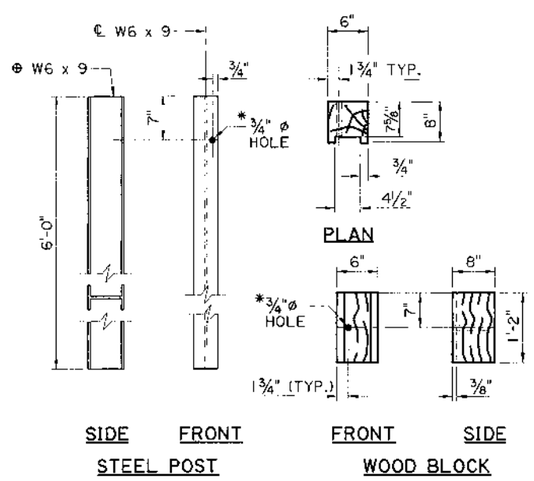
(POST SIZE, BLOCK SIZE AND HOLE LOCATIONS VARY WITH LOCATION IN TRANSITION, SEE SHT.3)

N.T.S.



WOOD POST AND WOOD BLOCK FOR STANDARD W-BEAM GUARD RAIL

N.T.S.



STEEL POST AND ROUTED WOOD BLOCK FOR STANDARD W-BEAM GUARD RAIL

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."

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.

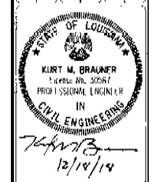
⊕ 2. A W6 x 8.5 STEEL POST MAY BE USED AS AN ALTERNATE FOR A W6 x 9 POST.

* 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)

SHEET NUMBER 314

DESIGN: P. FOSSIER
DETAILS: K. BRAUNER
CHECK: J. DOUCET
QUANTITIES: K. BRAUNER
REVIEW: C. GUIDRY
SERIES # 10 OF 11



APPROVED BY CHIEF ENGINEER: Christopher P. Knotts 1/3/19

HIGHWAY GUARD RAIL (MASH)
POST AND BLOCK DETAILS

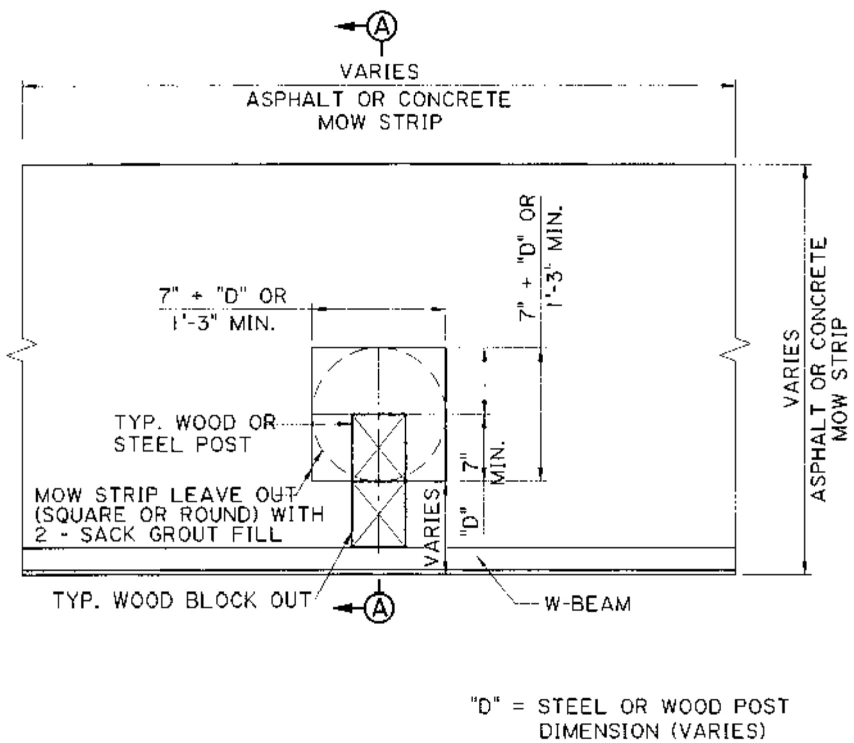
BD.1.1.0.10

GR-MASH-ON

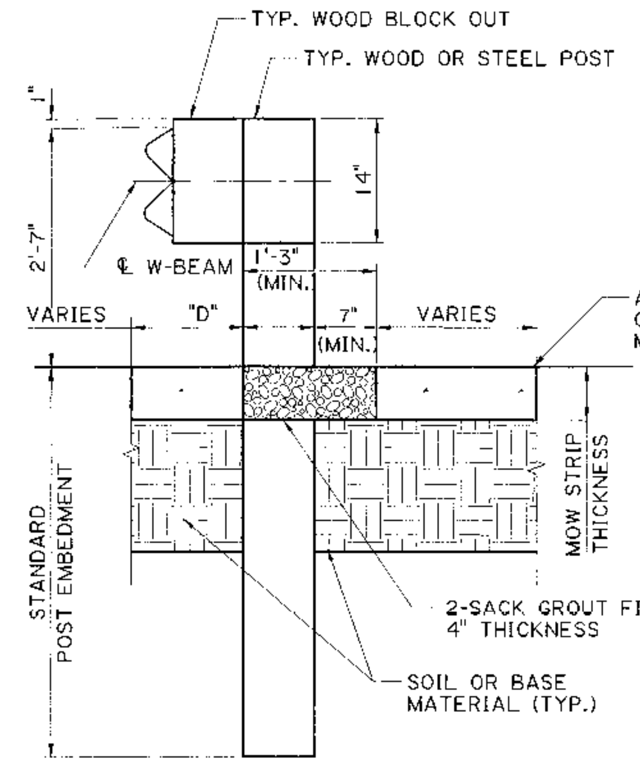
DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN

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.

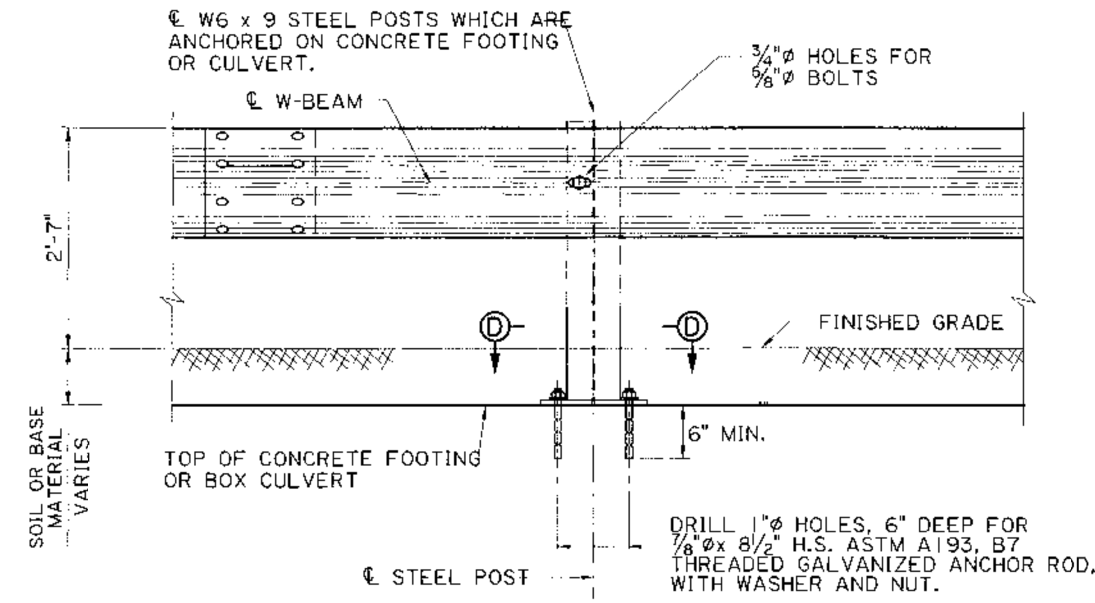


PLAN



SECTION A-A

GROUT ALTERNATE FOR ASPHALT OR CONCRETE MOW STRIPS
N.T.S.

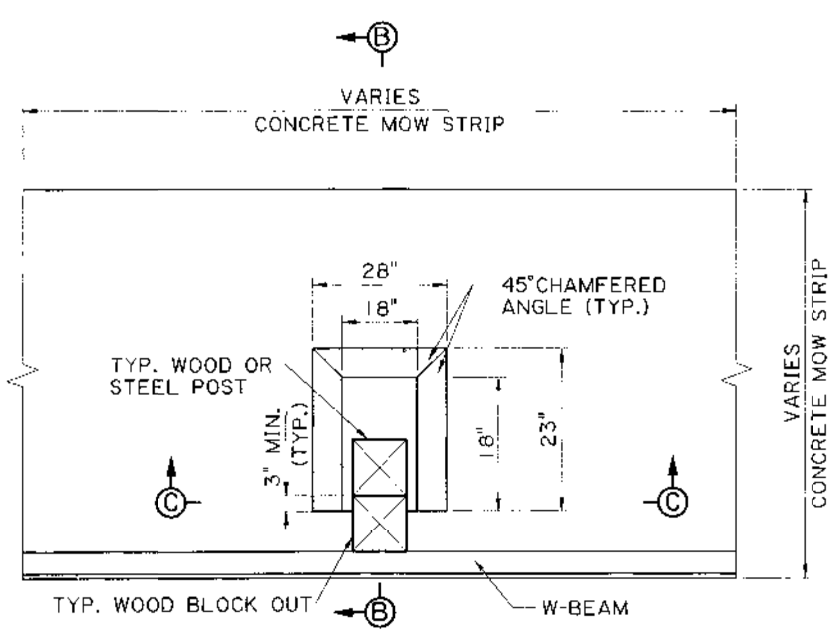


"These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project."

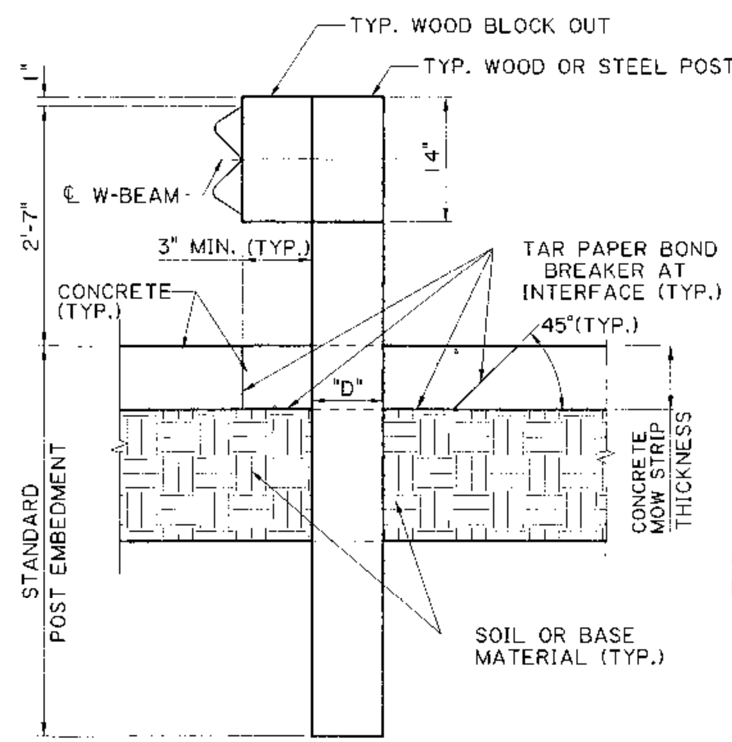
STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2022

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.

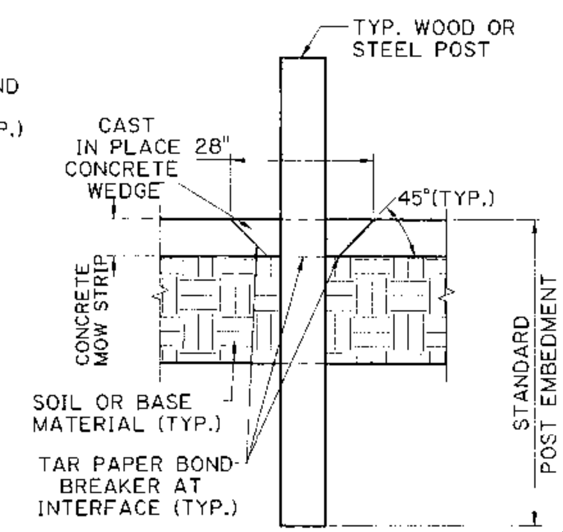


PLAN

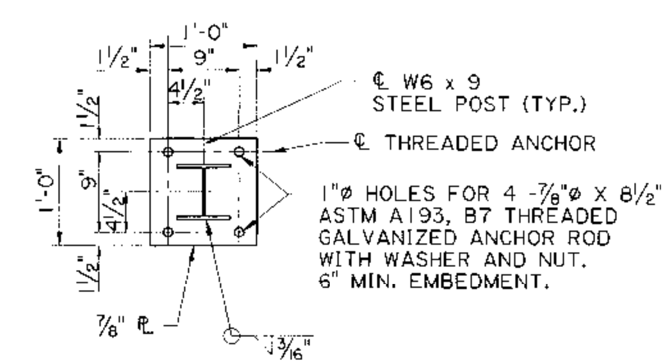


SECTION B-B

CONCRETE WEDGE ALTERNATE FOR CONCRETE MOW STRIPS ONLY
N.T.S.



SECTION C-C



SECTION D-D

MOW STRIP NOTES:

1) ALL GUARD RAIL POSTS LOCATED WITHIN CONCRETE OR ASPHALT MOW STRIPS SHALL MEET INSTALLATION REQUIREMENTS SHOWN ON THIS SHEET.

2) USE A 2-SACK NON-SHRINK GROUT FILL WITH A MAXIMUM COMPRESSIVE STRENGTH OF 120 PSI FOR GROUT ALTERNATE.

3) ALL LABOR AND MATERIALS TO PLACE 2-SACK GROUT FILL (4" THICKNESS) OR CONCRETE WEDGE SHALL BE INCLUDED IN PAYMENT FOR CONCRETE OR ASPHALT PAVING PAY ITEMS.

4) CONCRETE PAY ITEM FOR WEDGE ALTERNATE TO BE SAME AS FOR CONCRETE MOW STRIP.

SHEET NUMBER 315

DESIGN P. FOSSIER
CHECK K. BRAUNER
DETAIL J. DOUCET
CHECK K. BRAUNER
REVIEW C. GUIDRY
SHEET 11 OF 11

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 33667
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
12/18/18

APPROVED BY: CHIEF ENGINEER
1/3/19

HIGHWAY GUARD RAIL (MASH) MOW STRIP AND CONCRETE ANCHOR DETAILS

BD.1.1.0.11

GR-MASH-ON

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

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 operatians 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 105.20 of the Louisiana Standard Specifications for Raads and Bridges.)
- Parking of vehicles or unattended equipment or storage of materials, within the clear zone shall not be permitted unless protected by guardrail or barriers. If the 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 crash devices are to be included in Item 713-01-00100.
- 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.

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.
- Materials and placement of temporary pavement markings shall conform to Section 713 of the Louisiana Standard Specifications for Roads and Bridges. If no pay item exists for temporary markings, they shall be installed under item 713-01-00100.
- 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 DTOE. 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 clear zone.

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.

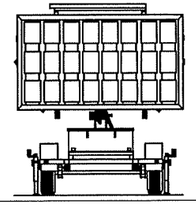
FLASHING ARROW BOARDS

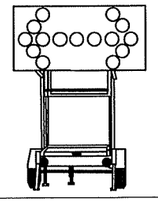
- All Flashing Arrow Boards shall be 4 feet by 8 feet and Type C.
- Flashing Arrow Boards should be placed on the shoulder. When there is no shoulder or median area, the arrow board shall be placed within the closed lane behind the channelizing devices and as close to the beginning of the taper as practical.
- Flashing arrow boards shall be delineated with retrareflective 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
AGCI	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

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-2022





STATE OF LOUISIANA
GARY N. LEBLANC
REG No 23209
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

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.

"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 316

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED G. LEBLANC
CHECKED J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROVED BY: CHIEF ENGINEER. DATE: 7/2/18

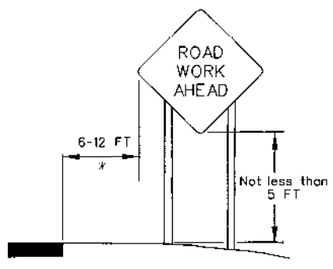
TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET

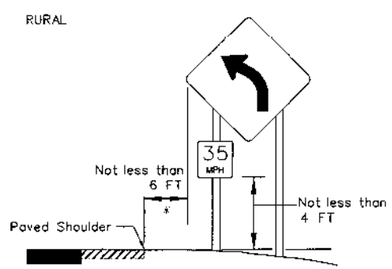
TTC-00 (A)

DOTD TRAFFIC ENGINEERING

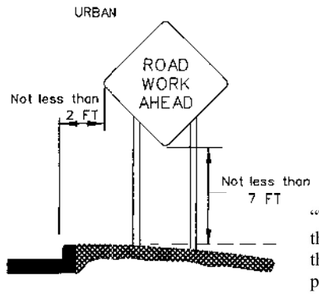
SIGNS

- 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 may be used if work zone is in place for 12 hours or less, there are no more than 2 lanes in each direction and if signs 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.
- 1 foot portable sign stands may be used if the work zone is in place for 14 hours or less and there are no more than 2 lanes in each direction.
- 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.



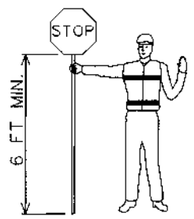
"These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project."

LANE CLOSURES

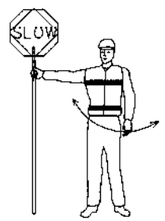
- All proposed lane, road or shoulder closures shall be reviewed by the DTOE and approved by the Engineer.
- Two lane, two-way highways shall have a maximum work area of two miles; all other roadways shall have a four mile maximum work area.
- A queue analysis shall be performed prior to approval of 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.

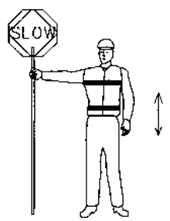


To STOP Traffic



Traffic Proceed

Use of Hand Sign



To Alert & SLOW Traffic

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.

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/highways/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_Lcb/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

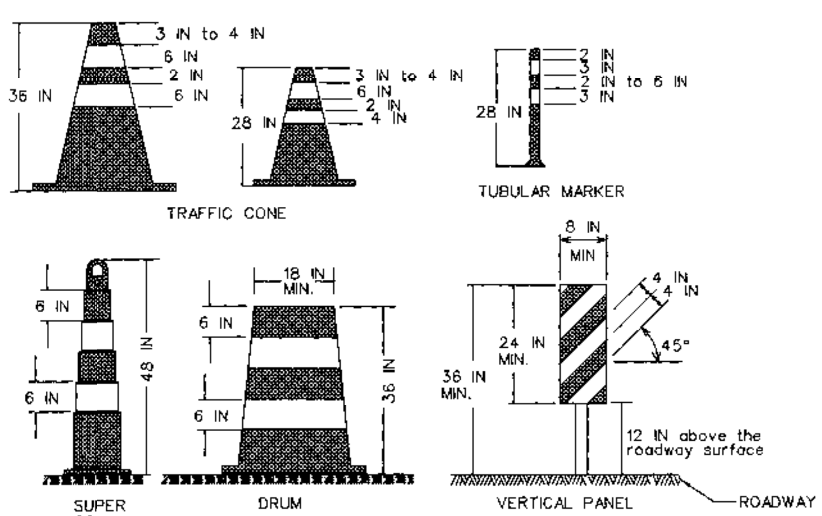
ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

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.

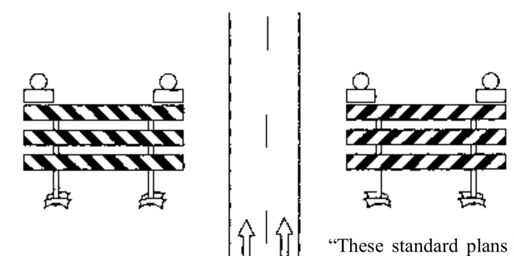
- Taper Areas:
  A) Standard Spacing: See Standard Device Spacing and Buffer Space table.
  B) Daylight Operations: Drums are spaced at standard spacing. All other devices are ½ standard spacing.
  C) Nighttime Operations: Drums (at standard spacing) are the only devices allowed.
- Type C steady burn 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.



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.

TYPE III BARRICADES

- Only Type III Barricades shall be used.
- 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.



"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."

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

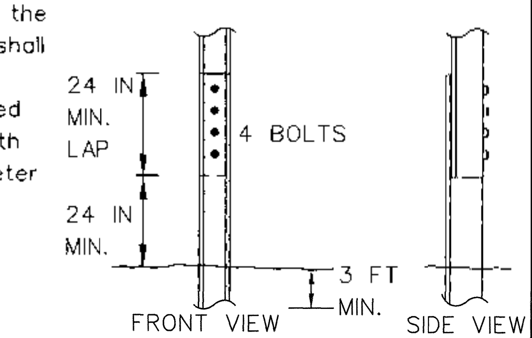
SPEED LIMIT (prior to construction)	SHIFTING TAPER LENGTH (1/2)(L) Lane Shift (FT)						STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
MPH	2	4	6	8	10	12	Along Taper	Along Tangent	FT
25	11	21	32	42	52	63	20	40	155
30	15	30	45	60	75	90	30	60	200
35	21	41	62	82	102	123	35	70	250
40	27	54	80	107	134	160	40	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

- All termination and flagger tapers are 100 feet. (MIN. 6 channelizing devices per lane equally spaced 20 feet apart.)
- See TTC Standards for flagger taper.
- See MUTCD for taper formulas.

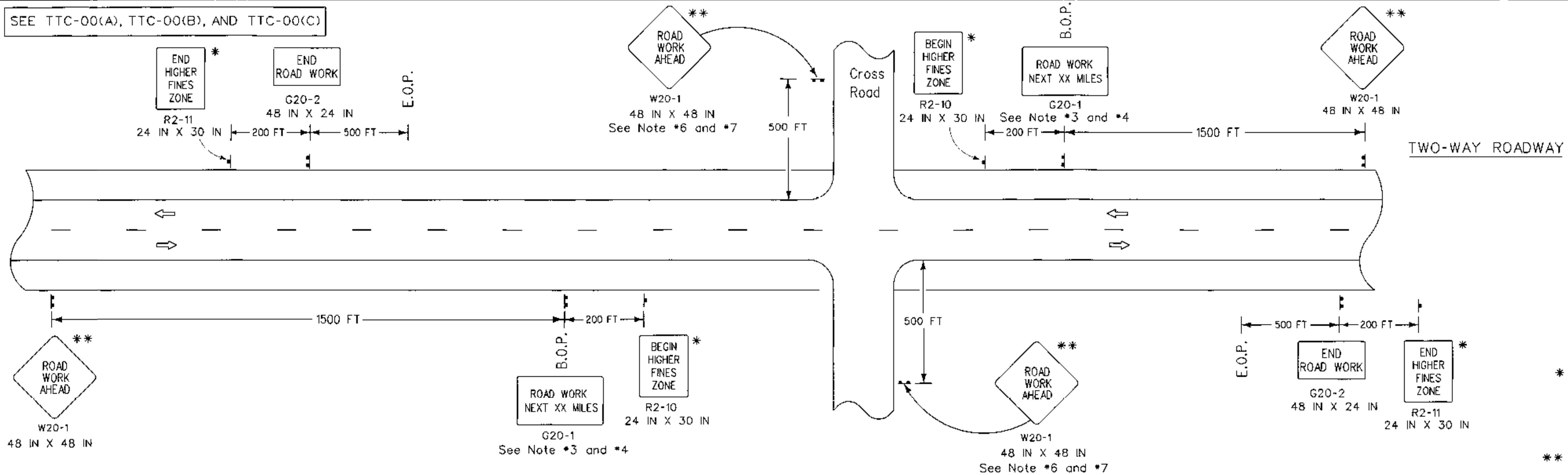
- ALLOWABLE LAP SPLICE FOR U-CHANNEL POST

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.



TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
TTC-00 (C)

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.

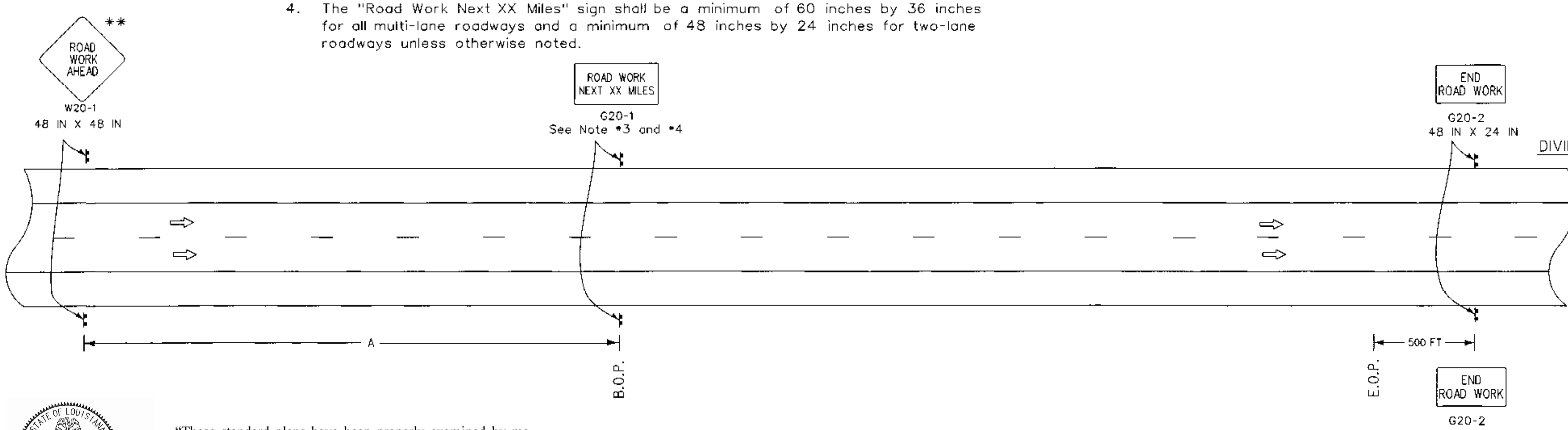
LEGEND

- Traffic Sign
- ⇨ Direction of Travel

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 stated 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.



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.

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 JOHN H. SHIRES REG. No. 26865 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING 2022

"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."

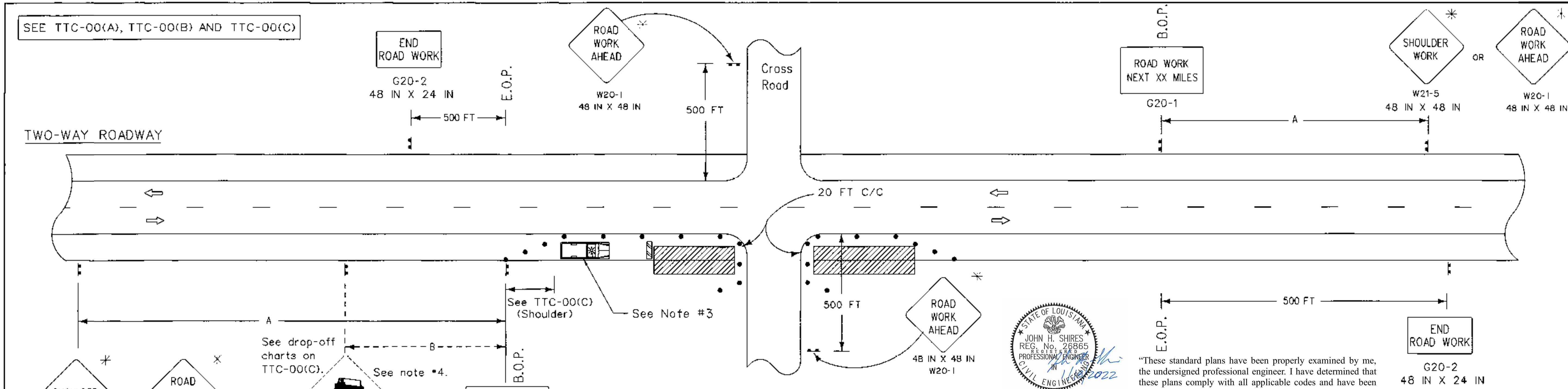
GARY L. DESTRAND REG. No. 25332 6-27-18

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR PLACEMENT OF ROAD WORK NEXT XX MILES AND END ROAD WORK SIGNS

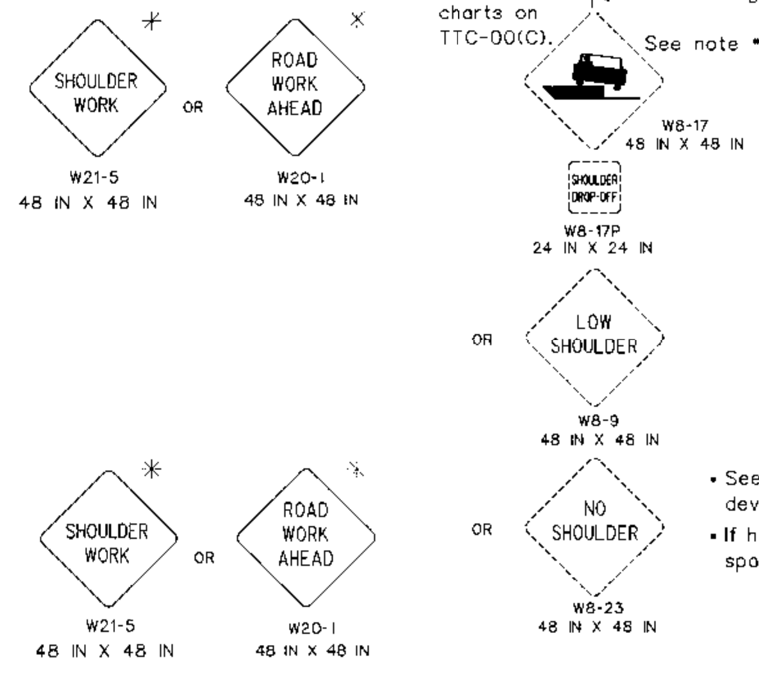
TTC-00 (D)

DOTD TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B) AND TTC-00(C)



"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."



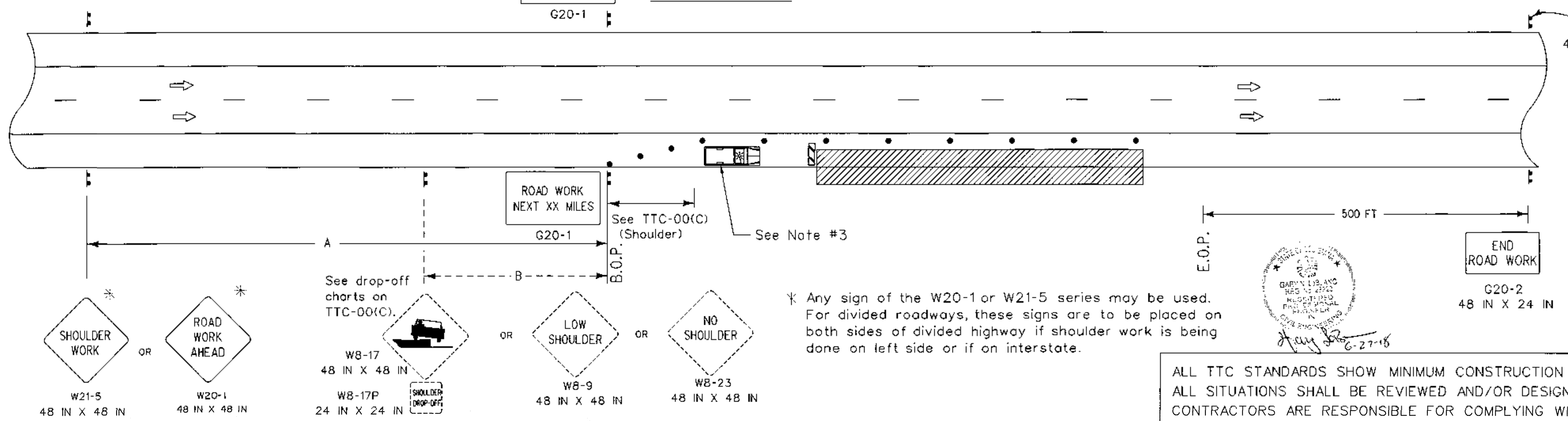
SPEED LIMIT (prior to construction)	SPACING	
	'A'	'B'
≤ 40 mph	500 FT	250 FT
45-50 mph	1000 FT	350 FT
≥ 55 mph	1500 FT	500 FT
Expressway/Interstate	2500 FT	1000 FT

- 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.

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 an 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 stated 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 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.



* 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 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.

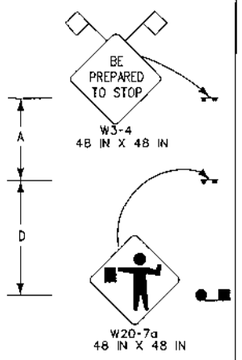
TEMPORARY TRAFFIC CONTROL
LAYOUT FOR WORK LESS THAN 15 FEET FROM THE TRAVELED WAY

TTC-02

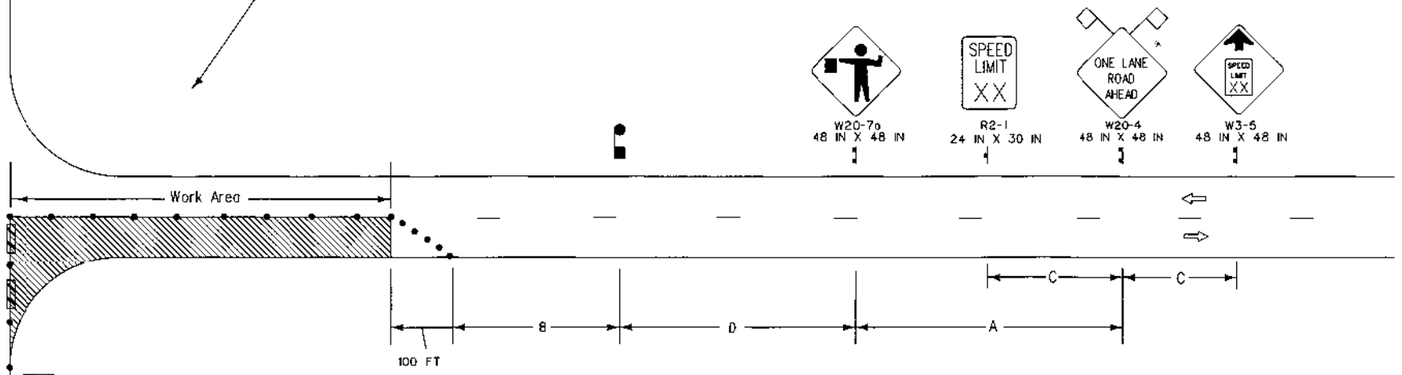
320

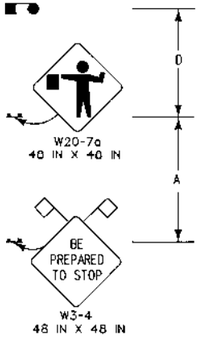
SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)

"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."



For use when work area is less than or equal to 500 feet from nearest crossroad travellane, but work area does not encroach crossroad travel lanes.

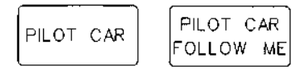




SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
> 50 mph	1500 FT	500 FT	800 FT	500 FT

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 amber beacon light.
- The sign mounted on the vehicle shall be two-sided.



LEGEND

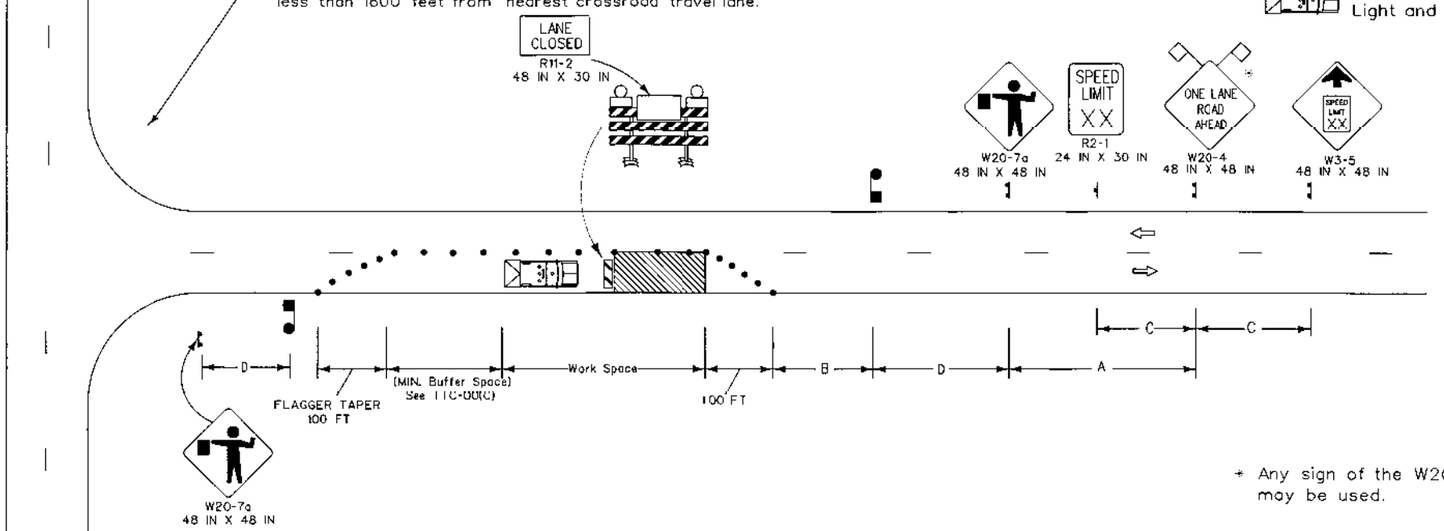
- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Work Area
- Flagger
- Type B Light
- Direction of Travel
- Truck with Amber Light and TMA

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. A vehicle with a flashing 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.

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.

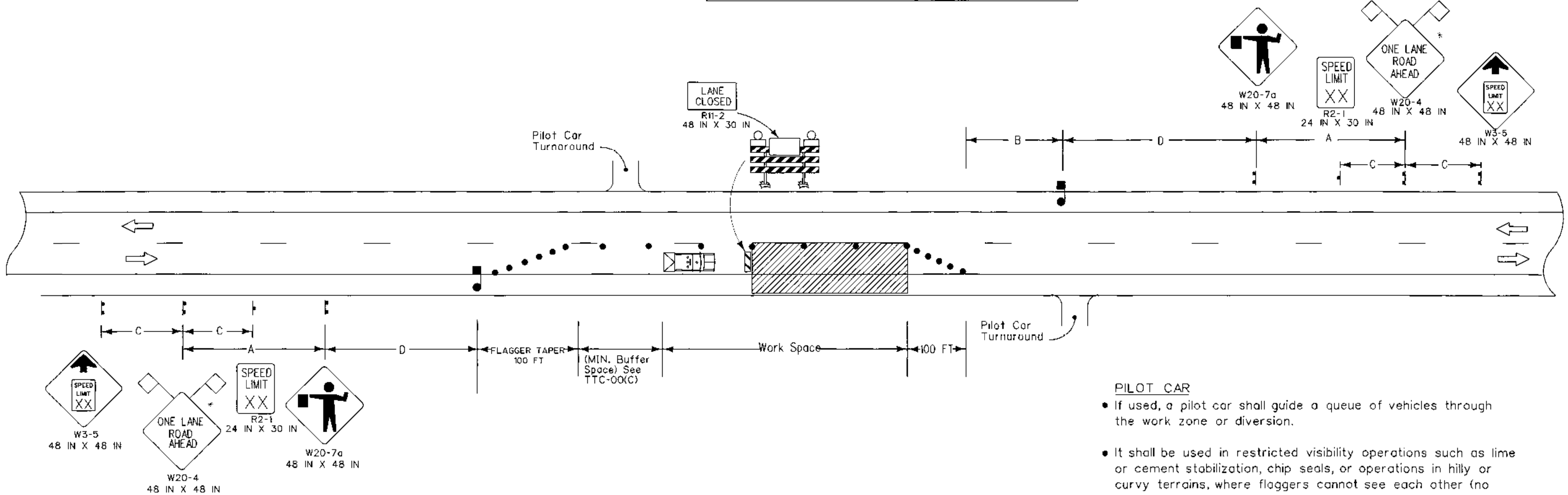
ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS WITH TWO-WAY TRAFFIC NEAR INTERSECTIONS (FLAGGING OPERATIONS)

TTC-03

DOTD

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)



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 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.

STATE OF LOUISIANA JOHN H. SHIRES REG. No. 26865 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING 2022

"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
≥ 55 mph	1500 FT	500 FT	800 FT	500 FT

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.

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 amber beacon light.
- The sign mounted on the vehicle shall be two-sided.

PILOT CAR	PILOT CAR FOLLOW ME
G20-4 36 IN X 18 IN (FRONT OF SIGN)	G20-4 36 IN X 18 IN (BACK OF SIGN)

* Any sign of the W20-4 series may be used.

6-27-18

LEGEND

- Traffic Sign
- Flagger
- Channelizing Devices
- Type III Barricades
- Work Area
- Type B Light
- Direction of Travel
- Truck with Amber Light and TMA

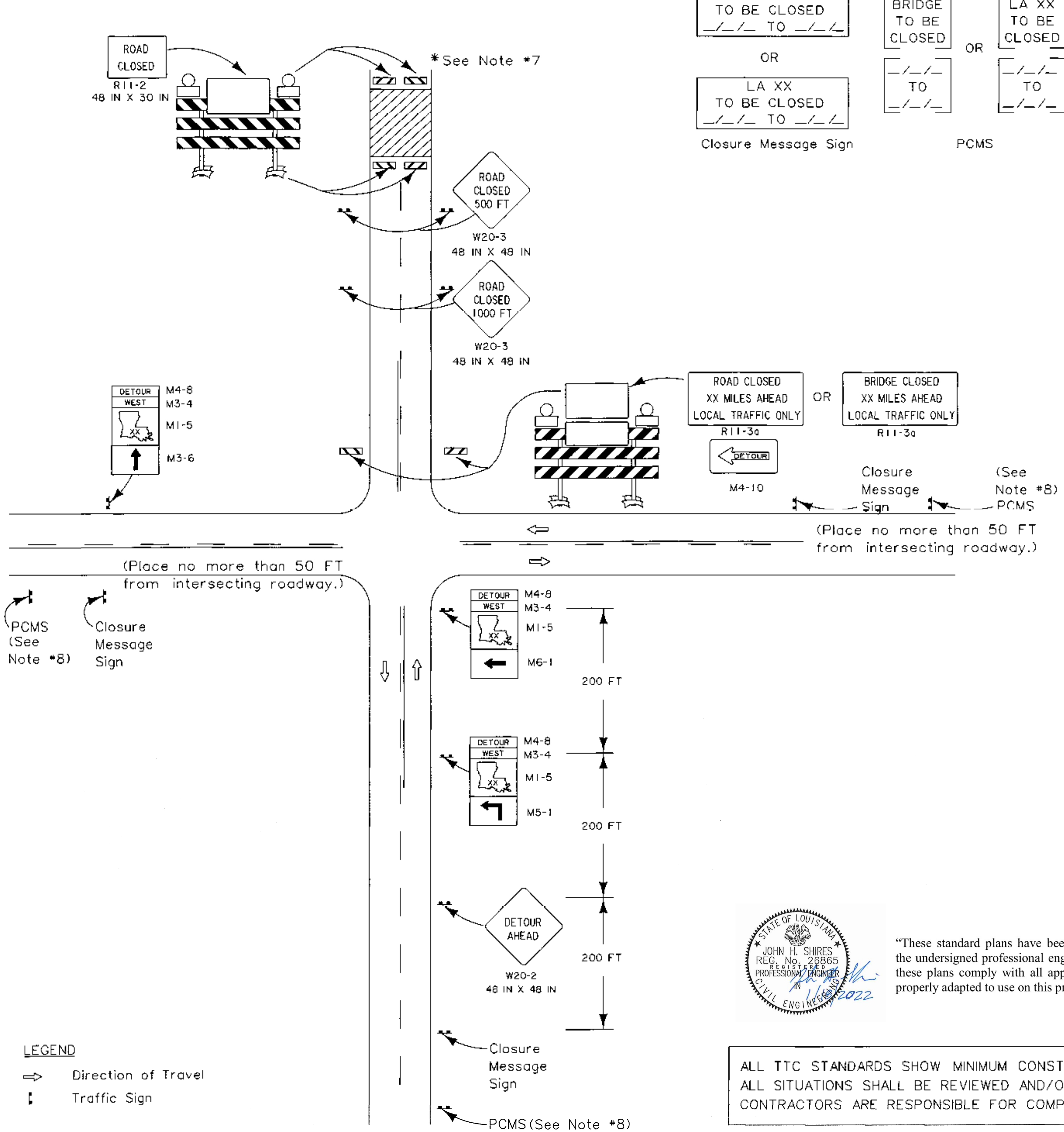
TEMPORARY TRAFFIC CONTROL LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS WITH TWO-WAY TRAFFIC (FLAGGING OPERATIONS)

TTC-04

DOTD

SEE TTC-00(A), TTC-00(B) AND TTC-00(C)

ADVANCE WARNING SIGN DURING ROAD CLOSURE



7 DAYS PRIOR TO ROAD CLOSURE

See Note #4 and #8

DURATION OF ROAD CLOSURE

See Note #4 and #8

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 generic traffic controls required for road closure on a two-lane roadway. A specific detour plan with all required signs and routes is required for all detours.

2. Any signs in conflict with detour signing shall be removed or covered.

3. Closure Message Sign or PCMS shall be placed 7 days prior to road closure on all approaches to the closure. This sign shall be placed no farther than 50 FT from the work area to be closed.

4. Closure Message Sign or PCMS shall be placed on all approaches to the closure for the duration of the road closure. Minimum letter size on static signs shall be 8 inches.

5. Detour routes shall only be state-maintained routes, unless the project manager has made an agreement with the road owner.

6. Not all detour signs are shown. The DTOE shall approve all detours. The contractor shall be responsible for placing and maintaining all detour signs. There should be a sign at every decision point.

7. The signing is to be mirrored in the opposite direction.

8. PCMS shall be used in addition to the closure message sign on all highways with an ADT greater than 20,000. Place at a location approved by the Engineer.

9. A complete detour map shall be included with the set of plans. If there are changes in the routing, then the contractor will need to submit to the Engineer for approval.

STATE OF LOUISIANA JOHN H. SHIRES REG. No. 26865 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING 2022

"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."

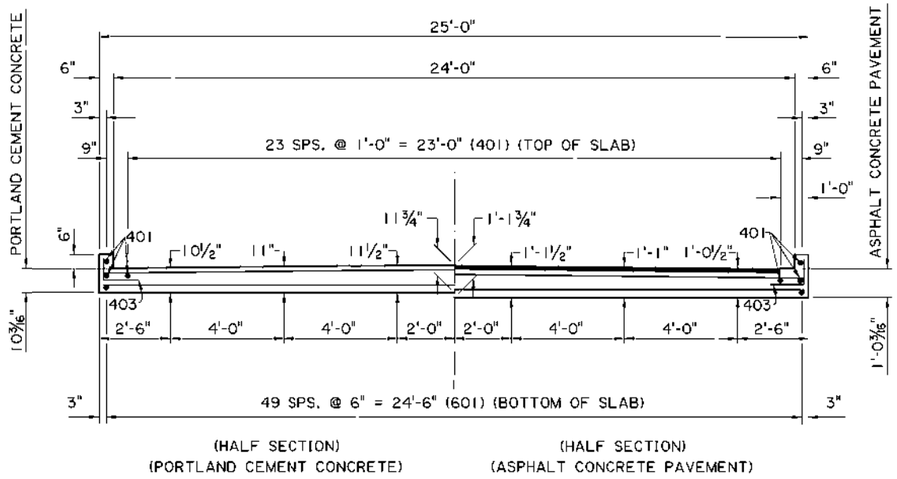
ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

323

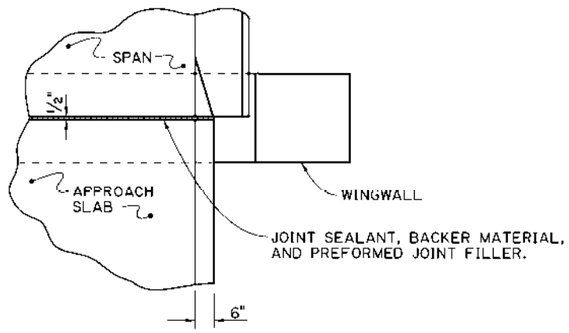
TEMPORARY TRAFFIC CONTROL FOR ROAD CLOSURES

TTC-16

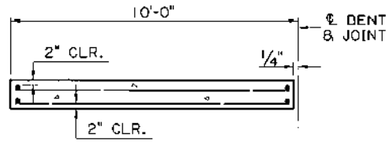
DOTD



SECTION A-A
SCALE ⅜" = 1'-0"



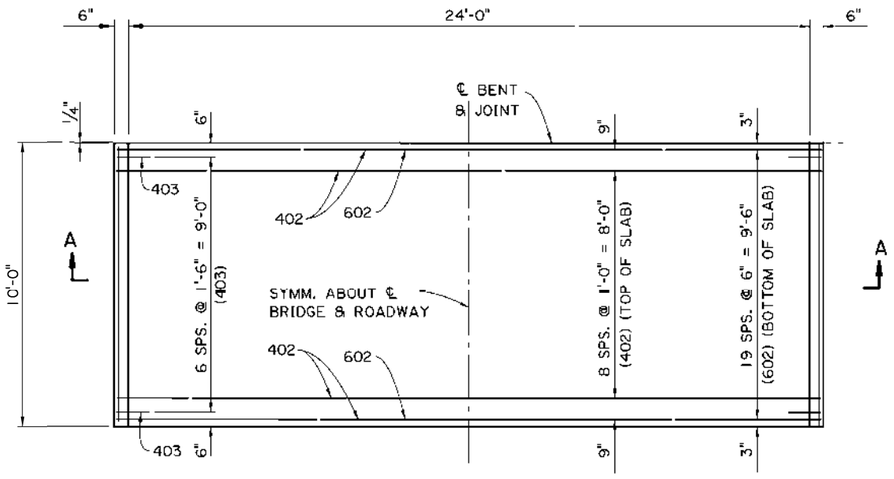
JOINT DETAIL
N.T.S.



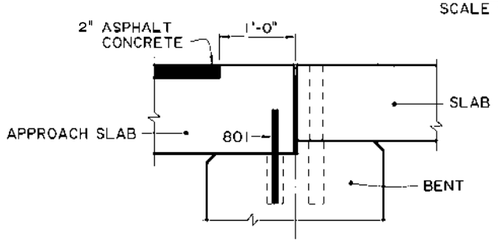
(FOR PORTLAND CEMENT CONCRETE ROADWAY PAVEMENT)

(FOR ASPHALT CONCRETE ROADWAY PAVEMENT)

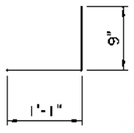
SECTION ALONG ℄ ROADWAY
SCALE : ¼" = 1'-0"



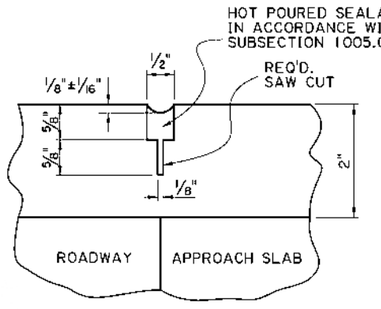
PLAN
SCALE ⅜" = 1'-0"



DETAIL A
SCALE : 1" = 1'-0"
(ASPHALT CONCRETE PAVEMENT OPTION)



403
2" ø PIN



SAWING & SEALING JOINT DETAIL
N.T.S.

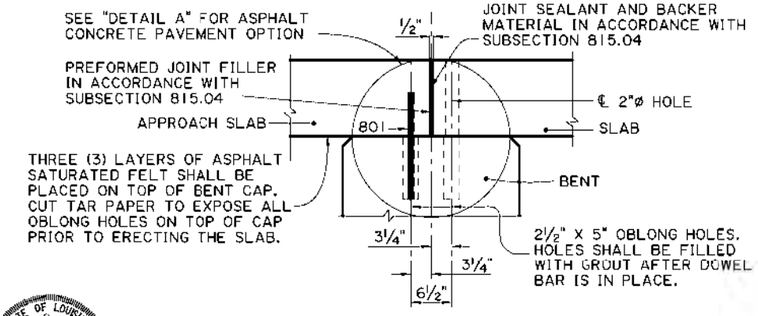
ESTIMATED QUANTITIES (ONE SLAB)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	6	1'-0"	6'-0"	DOWELS
TOTAL NO. 8 BARS = 6'-0" = 16 LBS.				
601	50	9'-7"	479'-2"	LONGIT. BOT. OF SLAB
602	20	24'-8"	493'-4"	TRANSV. BOT. OF SLAB
TOTAL NO. 6 BARS = 972'-6" = 1,461 LBS.				
401	28	9'-7"	268'-4"	LONGIT. TOP OF SLAB & CURB
402	11	24'-8"	271'-4"	TRANSV. TOP OF SLAB
403	14	1'-10"	25'-8"	DOWELS IN CURB
TOTAL NO. 4 BARS = 565'-4" = 378 LBS.				
⊙ TOTAL DEFORMED REINFORCING STEEL= 1,855 LBS.				
CONCRETE APPROACH SLAB = 27.78 SQ. YDS.				
⊙Ø ASPHALT CONCRETE = 2.5 TONS				
⊙Ø SAW CUT & SEAL = 23 LIN. FT.				

⊙ TO BE PAID FOR UNDER ITEM CONCRETE APPROACH SLABS.

Ø REQUIRED WHEN APPROACH SLAB IS ADJACENT TO ASPHALT CONCRETE PAVEMENT.

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 4th EDITION, WITH 2008 & 2009 INTERIMS.
STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A ¾" CHAMFER, UNLESS OTHERWISE NOTED.
ASPHALT CONCRETE: TO BE THE SAME TYPE AS THE ASPHALT CONCRETE USED FOR THE APPROACH ROADWAY PAVEMENT OR OVERLAY.
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.
BEDDING MATERIAL: FOR DETAILS OF BEDDING MATERIAL AND UNDERDRAINS. SEE STANDARD DETAIL BD.2.10.1.0.07.
SAWING & SEALING: THE ASPHALT CONCRETE SHALL BE SAW CUT AT THE END OF THE CONCRETE APPROACH SLAB THE ENTIRE ROADWAY WIDTH AND SEALED. COST TO BE INCLUDED WITH CONCRETE APPROACH SLABS.
BASIS OF PAYMENT: ALL MATERIAL SHALL BE PAID FOR UNDER 'CONCRETE APPROACH SLABS' ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET.



TYPICAL JOINT DETAIL
SCALE : 1" = 1'-0"

NOTE: FOR ADDITIONAL JOINT DETAILS SEE SHEET 2 OF 11

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

01/19/2022

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 33916
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

05/17/17

"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 324

DESIGNED B. DELATTE
CHECKED J. NAKHLEH
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REVISED 05/17/17
STATE PROJECT
SERIES 11 OF 11

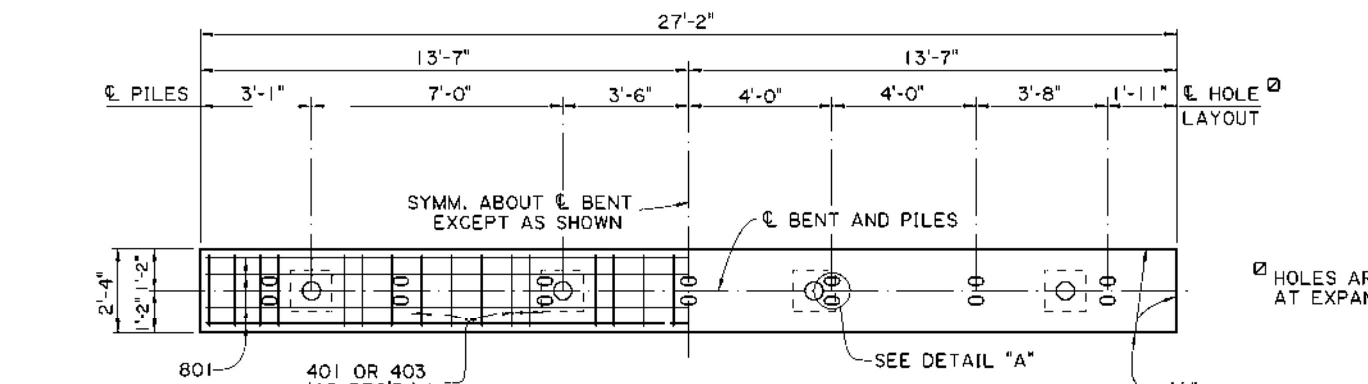
ALTERNATE APPROACH SLAB
10'-0" CAST-IN-PLACE APPROACH SLAB
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

STANDARD DETAIL PSS-90-24-20SL

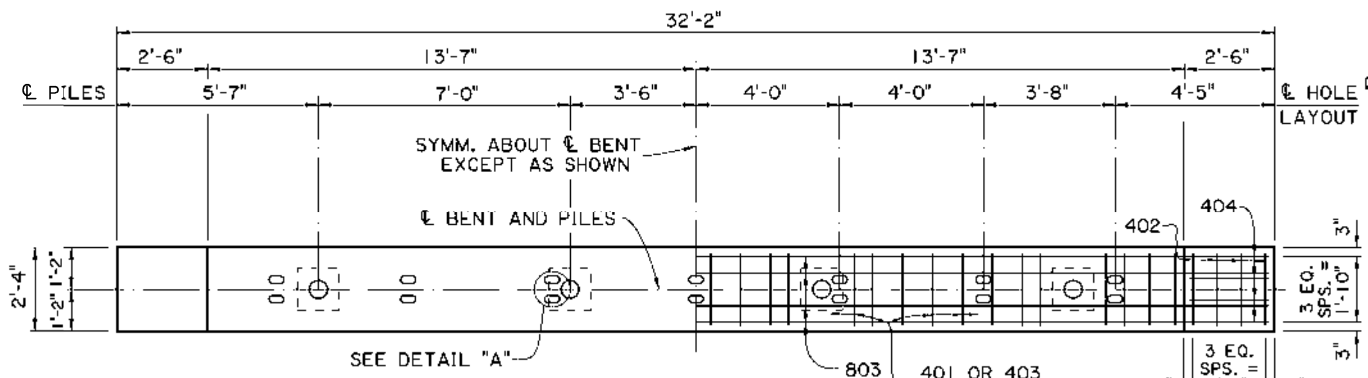
DOTD BRIDGE DESIGN

11/12/2019 09:26

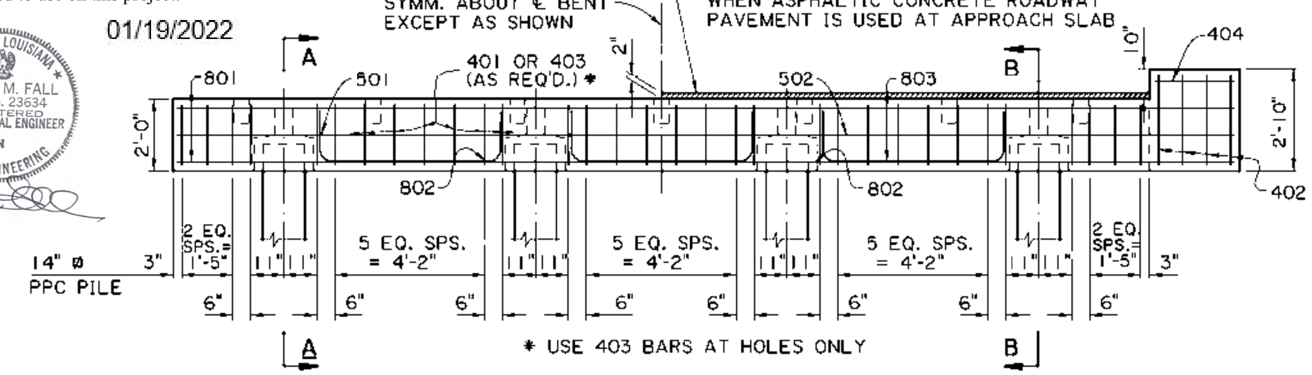
IP_PWP:d0767272\SS9024altaprslab.dgn



PLAN - INTERMEDIATE BENT
SCALE 3/8" = 1'-0"



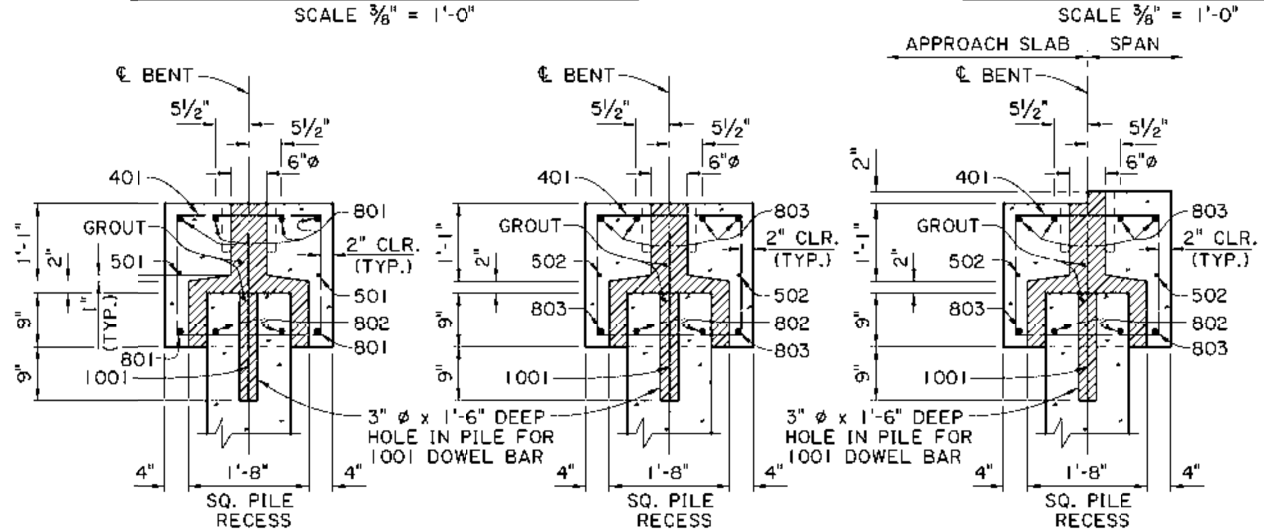
PLAN - END BENT
SCALE 3/8" = 1'-0"



HALF ELEVATION - INTERMEDIATE BENT
SCALE 3/8" = 1'-0"

HALF ELEVATION - END BENT
SCALE 3/8" = 1'-0"

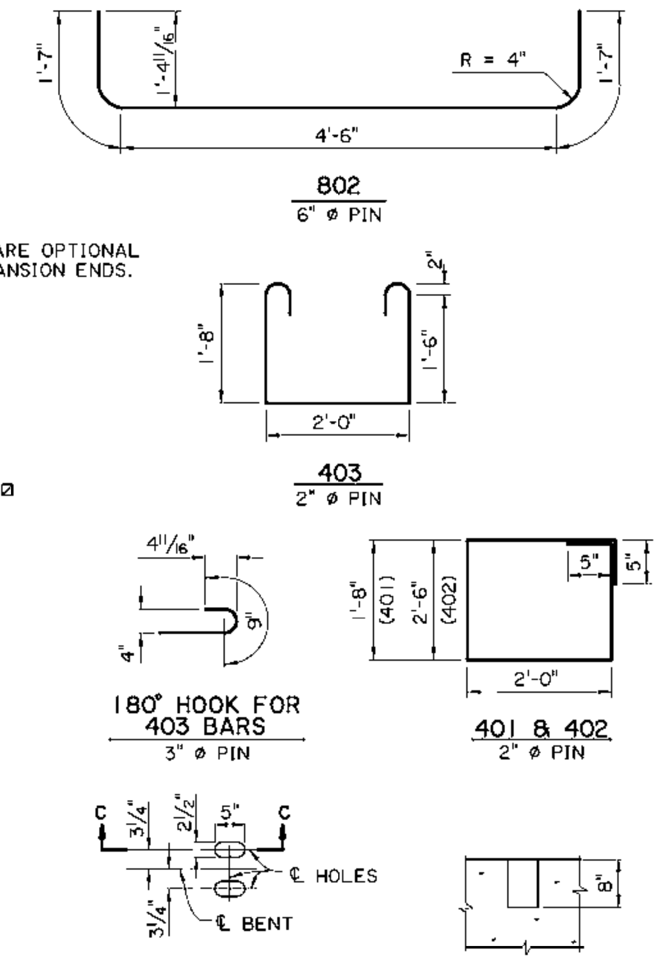
* USE 403 BARS AT HOLES ONLY



SECTION A-A
SCALE: 3/4" = 1'-0"

SECTION B-B
SCALE: 3/4" = 1'-0"
(WHEN PORTLAND CEMENT CONCRETE ROADWAY PAVEMENT IS USED AT APPROACH SLAB)

SECTION B-B
SCALE: 3/4" = 1'-0"
(WHEN ASPHALTIC CONCRETE ROADWAY PAVEMENT IS USED AT APPROACH SLAB)



802
6" ⌀ PIN

403
2" ⌀ PIN

180° HOOK FOR 403 BARS
3" ⌀ PIN

401 & 402
2" ⌀ PIN

DETAIL A
SCALE 3/4" = 1'-0"

SECTION C-C
SCALE 3/4" = 1'-0"

"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."

01/19/2022

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 33876
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

05/17/17

ESTIMATED QUANTITIES (ONE INTER. BENT)

BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
1001	4	2'-4"	9'-4"	DOWELS IN PILES
TOTAL NO. 10 BARS = 9'-4" = 40 LBS.				
801	6	26'-10"	161'-0"	LONGIT. IN CAP
802	6	7'-8"	46'-0"	LONGIT. IN CAP BTW. PILES
TOTAL NO. 8 BARS = 207'-0" = 553 LBS.				
501	2	26'-10"	53'-8"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 53'-8" = 56 LBS.				
401	26	8'-2"	212'-4"	STIRRUPS IN CAP
403	6	6'-6"	39'-0"	STIRRUPS IN CAP
TOTAL NO. 4 BARS = 251'-4" = 168 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 817 LBS.				
TOTAL CLASS P1 CONCRETE = 4.38 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 17 TONS; SERVICE LIVE LOAD = 34 TONS; FACTORED TOTAL LOAD = 71 TONS				
TOTAL GROUT FOR PILE RECESSES = 0.28 CU. YDS.				

ESTIMATED QUANTITIES (ONE END BENT)

BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
1001	4	2'-4"	9'-4"	DOWELS IN PILES
TOTAL NO. 10 BARS = 9'-4" = 40 LBS.				
802	6	7'-8"	46'-0"	LONGIT. IN CAP BTW. PILES
803	6	31'-10"	191'-0"	LONGIT. IN CAP
TOTAL NO. 8 BARS = 237'-0" = 633 LBS.				
502	2	31'-10"	63'-8"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 63'-8" = 66 LBS.				
401	26	8'-2"	212'-4"	STIRRUPS IN CAP
402	8	9'-10"	78'-8"	STIRRUPS IN WINGWALL
403	6	6'-6"	39'-0"	STIRRUPS IN CAP
404	8	2'-2"	17'-4"	LONGIT. IN WINGWALL
TOTAL NO. 4 BARS = 347'-4" = 232 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 971 LBS.				
⊗ TOTAL CLASS P1 CONCRETE = 5.60 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 17 TONS; SERVICE LIVE LOAD = 34 TONS; FACTORED TOTAL LOAD = 71 TONS				
TOTAL GROUT FOR PILE RECESSES = 0.28 CU. YDS.				

⊗ ADD 0.20 CU. YDS. OF CLASS P1 CONCRETE PER BENT WHEN ASPHALTIC CONCRETE ROADWAY PAVEMENT IS USED AT APPROACH SLAB.

AS-DESIGNED RATING

VEHICLE	RATING FACTOR	NOTES
HL-93 (INV)	2.373	—
HL-93 (OPR)	3.076	—
LADV-11 (INV)	1.825	MAGNIFICATION FACTOR = 1.3

ALTERNATE BENT NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION, WITH 2008 & 2009 INTERIMS.

DESIGN LOAD: LIVE LOAD IS HL-93, AND LADV-11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS P1. STEEL SIDE FORMS AND STEEL OR CONCRETE BOTTOM FORMS SHALL BE USED FOR PRECAST COMPONENTS. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED. ALL SURFACES SHALL RECEIVE A CLASS 1 ORDINARY SURFACE FINISH UPON REMOVAL OF THE FORMS. ALL EXPOSED FACES OF WINGWALLS AND ENDS OF CAPS SHALL RECEIVE A CLASS 3 SPECIAL FINISH.

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.

GROUT: THE GROUT SHALL BE AN APPROVED FLOWABLE NON-SHRINK GROUT LISTED ON AML. THE GROUT SHALL BE TESTED FOR ACCEPTANCE PRIOR TO USAGE. SURFACES SHALL BE THOROUGHLY SATURATED WITH WATER BY FLOODING THE VOID FOR APPROXIMATELY 5 MINUTES IMMEDIATELY BEFORE THE GROUT IS PLACED. ONLY POTABLE WATER SHALL BE USED FOR SATURATION AND MIXING PURPOSES.

PRECAST UNITS: THE PLANS FOR AN ONGOING OPERATION OF FABRICATING FACILITIES SHALL BE APPROVED BY THE DEPARTMENT. EACH UNIT SHALL HAVE THE FABRICATOR'S MARK AND UNIQUE NUMBER, MEETING THE APPROVAL OF THE ENGINEER, STAMPED OR SCRIBED IN THE PLASTIC CONCRETE. ALL UNITS SHALL BE HELD AT THE PLANT FOR A MINIMUM OF 10 DAYS AFTER CASTING. THE CONCRETE SHALL REACH A MINIMUM STRENGTH OF 3,000 PSI BEFORE HANDLING IS PERMITTED. THE LIFTING INSERTS SHALL BE 1" TYPE S INSERTS AS MANUFACTURED BY DAYTON-SUPERIOR CORPORATION OR AN APPROVED EQUAL. EACH INSERT SHALL HAVE A MINIMUM LOAD CAPACITY OF 10,000 POUNDS. FOUR INSERTS WITH 1" ⌀ x 5" LONG COIL BOLTS SHALL BE PLACED IN THE TOP OF THE UNITS AND LOCATED AT A DISTANCE 21% OF ITS LENGTH (+/- 6") FROM EACH END AND 6" FROM THE EDGES. INSERT HOLES SHALL BE GROUT FILLED AFTER PLACEMENT OF THE UNIT. AT THE CONTRACTOR'S OPTION, A SLING OF SUFFICIENT CAPACITY MAY BE USED FOR LIFTING, PROVIDED THE SAME PICKUP LOCATIONS FROM THE ENDS ARE USED.

PRECAST CONCRETE PILES: PILES SHALL BE FABRICATED ACCORDING TO STANDARD DETAIL BD.2.5.1.0.01(CS-216).CENTROID OF THE PILE AT CUTOFF ELEVATION SHALL NOT VARY FROM THE PLAN LOCATION BY MORE THAN 3" MEASURED EITHER PERPENDICULAR OR PARALLEL TO THE CENTERLINE OF BENT. IF THE CENTROID OF A PILE IS OUTSIDE THESE LIMITS BUT WITHIN THE ACCURACY OF DRIVING REQUIRED BY THE SPECIFICATIONS, A BENT CAP SHALL BE PROVIDED ACCORDING TO THE CAST-IN-PLACE ALTERNATE. EXTERIOR PILES ARE TO BE BATTERED OUTWARD A 1 1/2 ON 12 IN THE LONGITUDINAL DIRECTION OF THE BENT, WHEN NOTED ON THE GENERAL PLAN.

BASIS OF PAYMENT: ALL MATERIALS SHALL BE PAID FOR UNDER "BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE" ACCORDING TO THE SPECIFICATIONS.

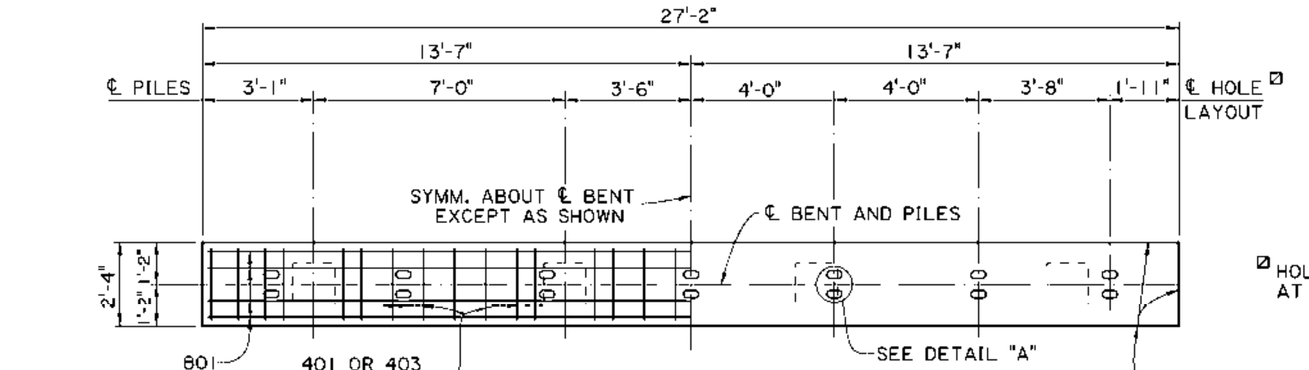
SHEET NUMBER 325

DESIGNED J. PAINE
CHECKED J. NAKHLEH
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REVISED 05/17/17
SERIES 5 OF 11

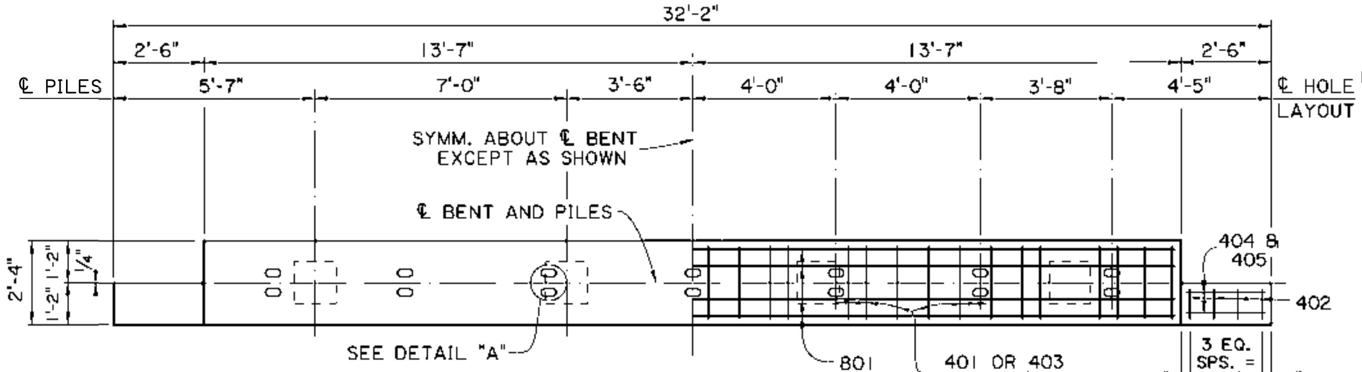
ALTERNATE BENTS
PRECAST CONCRETE BENT
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

STANDARD DETAIL PSS-90-24-20SL

DOTD BRIDGE DESIGN



PLAN - INTERMEDIATE BENT
SCALE 3/8" = 1'-0"

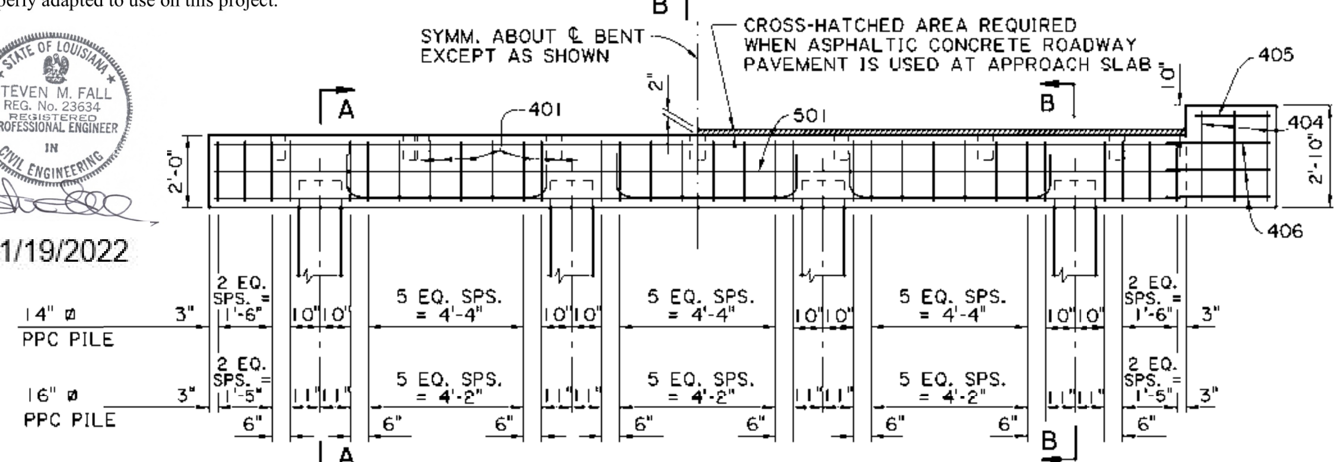


PLAN - END BENT
SCALE: 3/8" = 1'-0"

"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 STEVEN M. FALL REG. No. 23634 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

01/19/2022

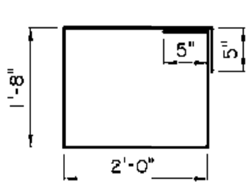


HALF ELEVATION - INTERMEDIATE BENT
SCALE 3/8" = 1'-0"

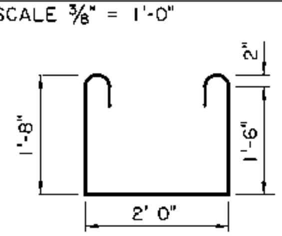
HALF ELEVATION - END BENT
SCALE 3/8" = 1'-0"

STATE OF LOUISIANA VICTOR A. SANCHEZ License No. 33976 PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

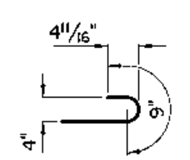
05/17/17



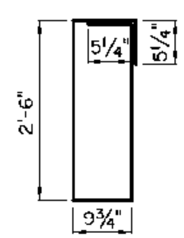
401
2" ø PIN



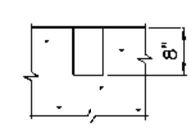
403
2" ø PIN



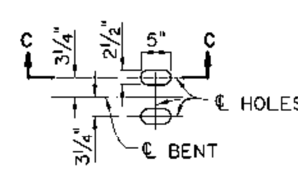
180° HOOK FOR 403 BARS
3" ø PIN



402
2" ø PIN

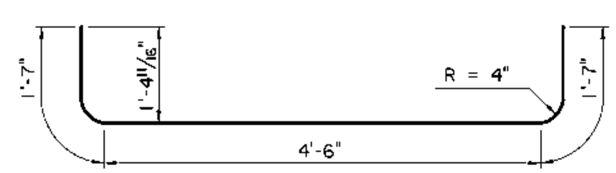


SECTION C-C
SCALE: 3/4" = 1'-0"

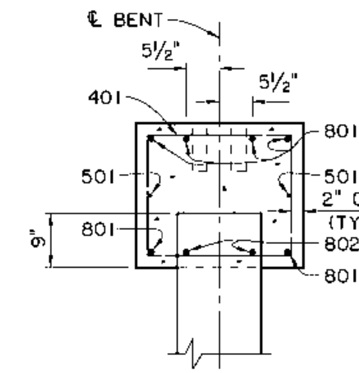


DETAIL A
SCALE: 3/4" = 1'-0"

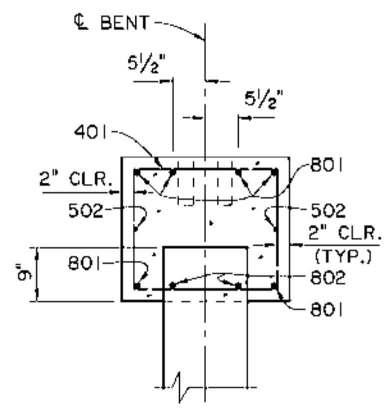
AS-DESIGNED RATING		
VEHICLE	RATING FACTOR	NOTES
HL-93 (INV)	2.328	—
HL-93 (OPR)	3.018	—
LADV-11 (INV)	1.791	MAGNIFICATION FACTOR = 1.3



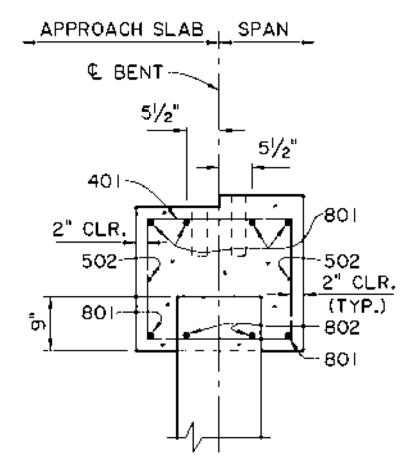
802
6" ø PIN



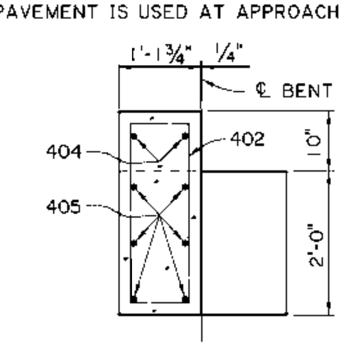
SECTION A-A
SCALE: 3/4" = 1'-0"



SECTION B-B
SCALE : 3/4" = 1'-0"
(WHEN PORTLAND CEMENT CONCRETE ROADWAY PAVEMENT IS USED AT APPROACH SLAB)



SECTION B-B
SCALE : 3/4" = 1'-0"
(WHEN ASPHALTIC CONCRETE ROADWAY PAVEMENT IS USED AT APPROACH SLAB)



END ELEVATION
SCALE: 3/4" = 1'-0"

ESTIMATED QUANTITIES (ONE INTER. BENT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	6	26'-10"	161'-0"	LONGIT. IN CAP
802	6	7'-8"	46'-0"	LONGIT. IN CAP BTW. PILES
TOTAL NO. 8 BARS = 207'-0" = 553 LBS.				
501	2	26'-10"	53'-8"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 53'-8" = 56 LBS.				
401	26	8'-2"	212'-4"	STIRRUPS IN CAP
403	6	6'-6"	39'-0"	STIRRUPS IN CAP
TOTAL NO. 4 BARS = 251'-4" = 168 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 777 LBS.				
⊠ TOTAL CLASS A1 CONCRETE = 4.50 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 17 TONS; SERVICE LIVE LOAD = 34 TONS; FACTORED TOTAL LOAD = 71 TONS				

⊠ 16" ø PPC PILES USED FOR ESTIMATING PURPOSES ONLY. (ADD 0.05 CU. YDS. OF CLASS A1 CONCRETE PER BENT WHEN 14" ø PPC PILES ARE USED.)

ESTIMATED QUANTITIES (ONE END BENT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	6	26'-10"	161'-0"	LONGIT. IN CAP
802	6	7'-8"	46'-0"	LONGIT. IN CAP BTW. PILES
TOTAL NO. 8 BARS = 207'-0" = 553 LBS.				
501	2	26'-10"	53'-8"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 53'-8" = 56 LBS.				
401	26	8'-2"	212'-4"	STIRRUPS IN CAP
402	8	7'-6"	60'-0"	STIRRUPS IN WINGWALL
403	6	6'-6"	39'-0"	STIRRUPS IN CAP
404	4	2'-2"	8'-8"	LONGIT. IN WINGWALL
405	12	4'-0"	48'-0"	LONGIT. IN WINGWALL
TOTAL NO. 4 BARS = 368'-0" = 246 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 855 LBS.				
⊗ TOTAL CLASS A1 CONCRETE = 5.10 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 17 TONS; SERVICE LIVE LOAD = 34 TONS; FACTORED TOTAL LOAD = 71 TONS				

⊗ 16" ø PPC PILES USED FOR ESTIMATING PURPOSES ONLY. (ADD 0.05 CU. YDS. OF CLASS A1 CONCRETE PER BENT WHEN 14" ø PPC PILES ARE USED.) ADD 0.20 CU. YDS. OF CLASS A1 CONCRETE PER BENT WHEN ASPHALTIC CONCRETE ROADWAY PAVEMENT IS USED AT APPROACH SLAB.

ALTERNATE BENT NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION, WITH 2008 & 2009 INTERIMS.

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. ALL EXPOSED FACES OF WINGWALLS AND ENDS OF CAPS SHALL RECEIVE A SURFACE FINISH AS PER SUBSECTION 805.08 OF THE STANDARD SPECIFICATIONS, EXCEPT WHEN SPECIFIED ELSEWHERE IN THE PLANS.

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.

PRECAST CONCRETE PILES: FOR DETAILS OF PILES SEE STANDARD DETAIL BD.2.5.1.0.01(CS-216). EXTERIOR PILES ARE TO BATTERED OUTWARD AT 1 1/2 ON 12 IN THE LONGITUDINAL DIRECTION OF THE BENT, WHEN NOTED ON THE GENERAL PLAN.

BASIS OF PAYMENT: ALL MATERIALS SHALL BE PAID FOR UNDER "BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE" ACCORDING TO THE SPECIFICATIONS.

ALTERNATE BENTS
CAST-IN-PLACE CONCRETE BENT
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

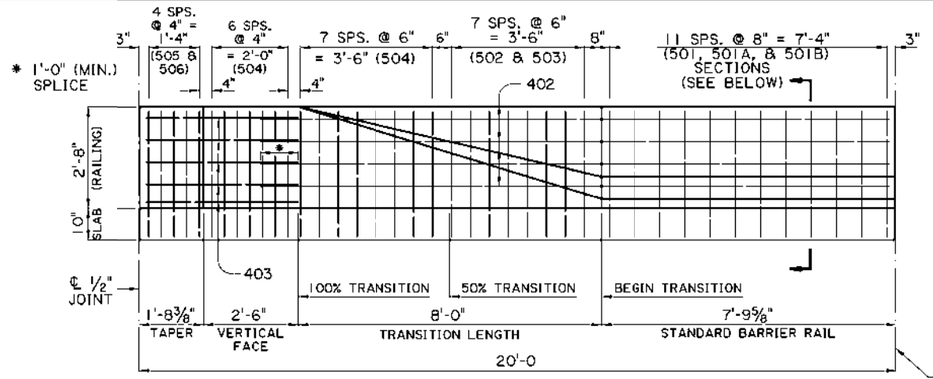
STANDARD DETAIL PSS-90-24-20SL

DOTD BRIDGE DESIGN

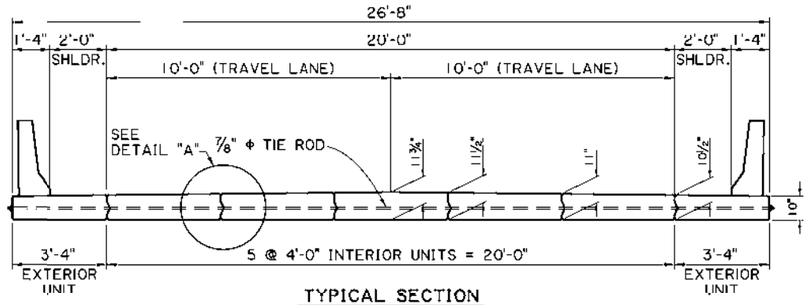
DESIGNED J. PAINE; CHECKED J. NAKHLEH; DETAILED D. HYMEL; CHECKED J. NAKHLEH; REVIEWED 05/17/17; SERIES # 6 OF 11

1 | 3-31-04 | 801 BAR DESIGNATION

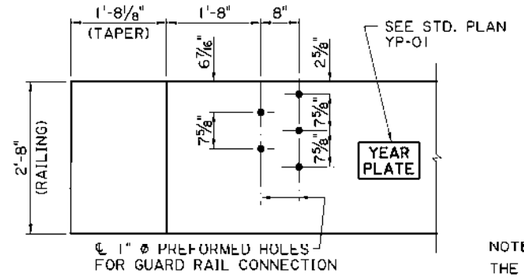
SHEET NUMBER 326



BARRIER RAILING TRANSITION ELEVATION
(SHOWING BARRIER RAILING AT END OF BRIDGE)
SCALE: ½" = 1'-0"



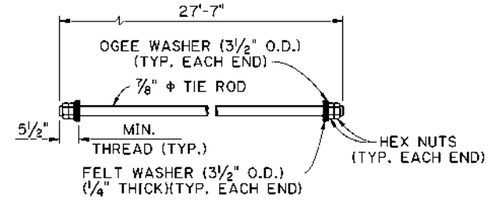
TYPICAL SECTION
SCALE : ⅜" = 1'-0"



GUARD RAIL CONNECTION DETAIL
(FOR GUARD RAIL DETAILS, SEE STANDARD PLAN BQ.1.1.1.0.01 (GR-200).
SCALE : ¾" = 1'-0"

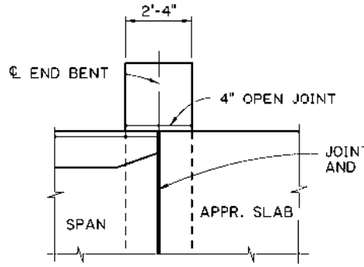
STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

01/19/2022



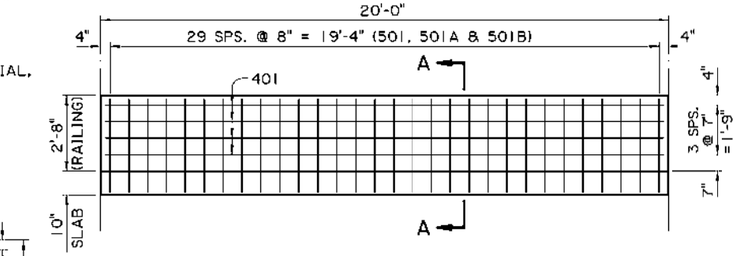
NOTE:
THE NUTS & WASHERS FOR THE TIE ROD SHALL BE ZINC COATED AND THE EXPOSED ENDS TO THE TIE RODS SHALL BE PAINTED WITH AN APPROVED COATING. AS A FINAL OPERATION THE CONTRACTOR SHALL BE REQUIRED TO TORQUE THE INSTALLED TIE ROD TO 170 FT. LBS. JUST PRIOR TO PAINTING. ALL EXPOSED ENDS SHALL BE PAINTED WITH AN APPROVED COATING AFTER STRESSING. ONE (1) MECHANICAL SPLICE MAY BE USED IN SPLICING THE ⅞" ϕ TIE ROD. THE SPLICE SHALL DEVELOP AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE TIE ROD IN TENSION. THE MECHANICAL SPLICE SHALL BE ZINC COATED OR PAINTED WITH AN APPROVED COLD GALVANIZING REPAIR COMPOUND FROM AML PRIOR TO PLACING THE TIE ROD IN THE STRUCTURE.

"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."

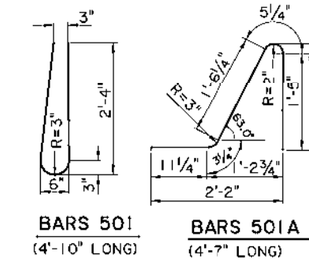


JOINT DETAIL
N.T.S.

DETAILS OF TIE ROD

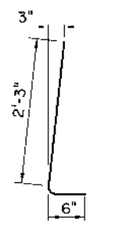


STANDARD BARRIER RAILING ELEVATION
(SHOWING BARRIER RAILING ALONG BRIDGE SLAB)
SCALE : ⅜" = 1'-0"



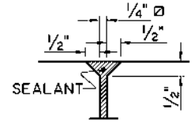
BARS 501
(4'-10" LONG)

BARS 501A
(4'-7" LONG)

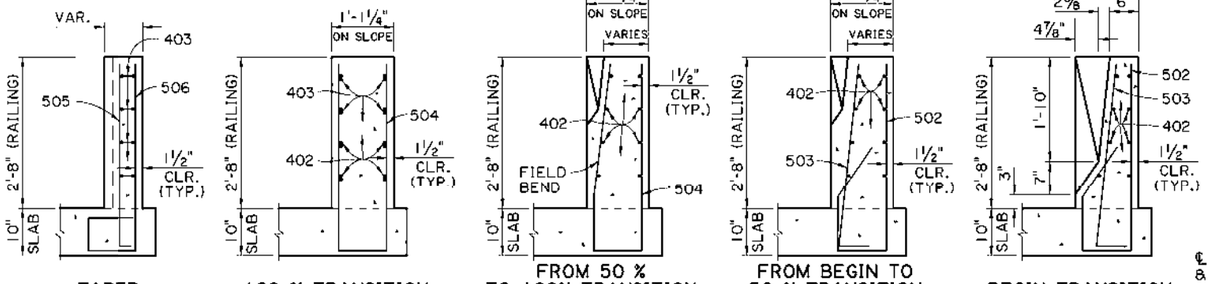


BARS 501B
(2½" ϕ PIN)
(2'-9" LONG)

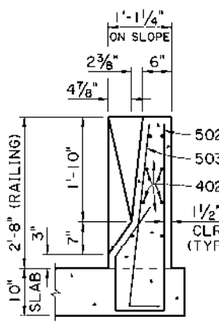
Ø MAY BE ⅛" IF ADJACENT MATCH IS USED



DETAIL "B"
SCALE: 1" = 1'-0"

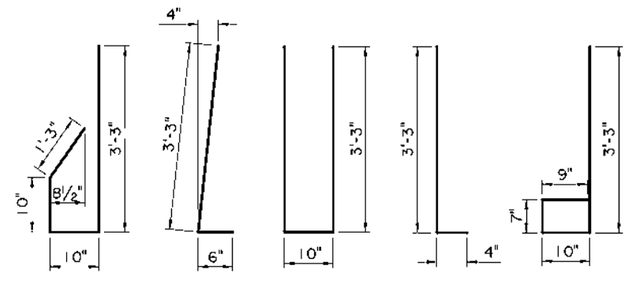


TAPER | 100 % TRANSITION | FROM 50 % TO 100% TRANSITION | FROM BEGIN TO 50 % TRANSITION

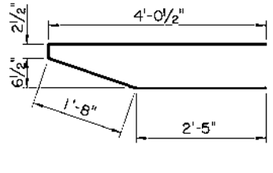


BEGIN TRANSITION

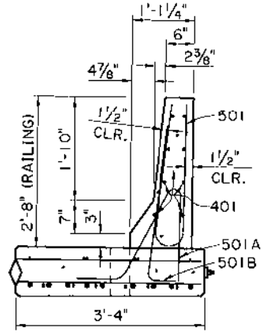
BARRIER RAILING TRANSITION SECTIONS
SCALE : ¾" = 1'-0"



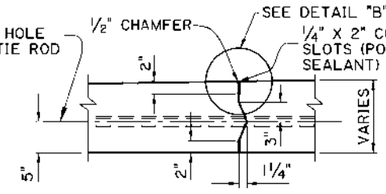
502 (2½" ϕ PIN) (6'-2" LONG)
503 (2½" ϕ PIN) (3'-9" LONG)
504 (2½" ϕ PIN) (7'-4" LONG)
505 (2½" ϕ PIN) (3'-7" LONG)
506 (2½" ϕ PIN) (5'-5" LONG)



403
(2" ϕ PIN)
(8'-4" LONG)



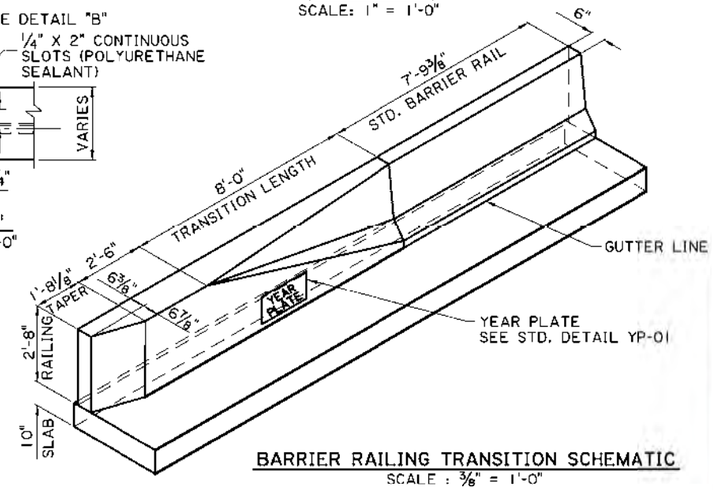
SECTION A-B
SCALE : ¾" = 1'-0"



DETAIL "A"
SCALE: 1" = 1'-0"

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 35976
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

05/17/17



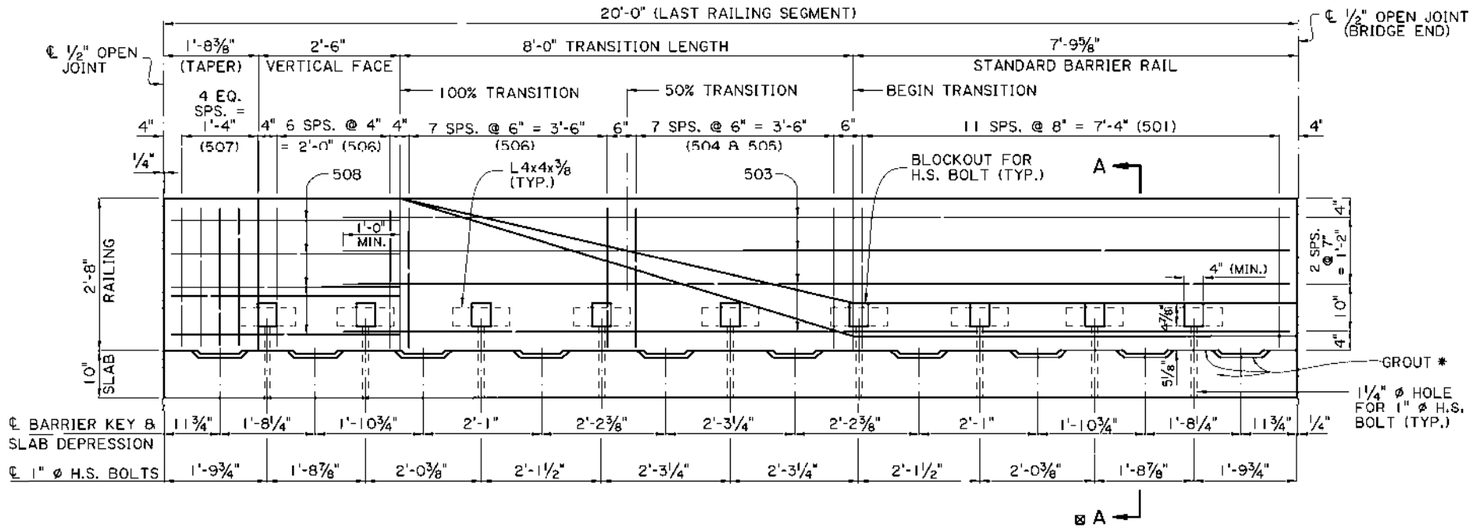
BARRIER RAILING TRANSITION SCHEMATIC
SCALE : ⅜" = 1'-0"

SHEET NUMBER 327

DESIGNED B. DELATTE
CHECKED J. NAKHLEH
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REVISED 05/17/17
SERIES NO. 7 OF 11
STATE PROJECT

ALTERNATE SPAN (1 OF 4)
20'-0" PRECAST CONCRETE SLAB SPAN
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT
STANDARD SHEET NO. PSS-90-24-20SL

DOTD BRIDGE DESIGN

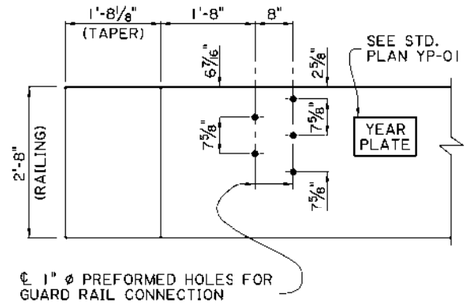


⊠ FOR SECTION A-A & TRANSITION SECTIONS SEE ALTERNATE SPAN (3 OF 4)

PRECAST BARRIER RAILING TRANSITION ELEVATION

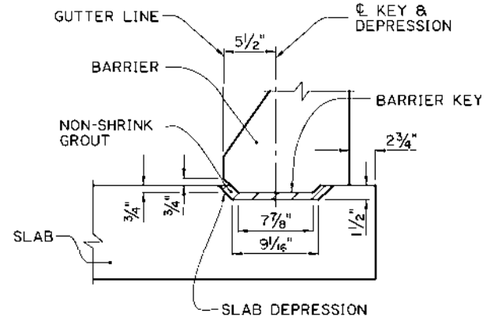
(SHOWING BARRIER RAILING AT END OF BRIDGE)
SCALE: ¾" = 1'-0"

* PLACE OR INJECT NON-SHRINK GROUT AS REQUIRED IN BETWEEN SLAB DEPRESSIONS TO FILL ALL VOIDS AND GAPS FOR FULL EVEN BEARING OF THE BARRIER ON THE SLAB. SEE NOTE 3, SHEET 9 OF 11.



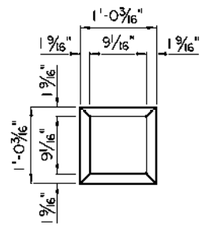
GUARD RAIL CONNECTION DETAIL

(FOR GUARD RAIL DETAILS, SEE STANDARD PLAN BD.1.1.1.0.01 (GR-200).
SCALE: ¾" = 1'-0"



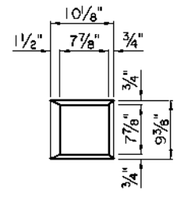
ELEVATION

SCALE: 1½" = 1'-0"



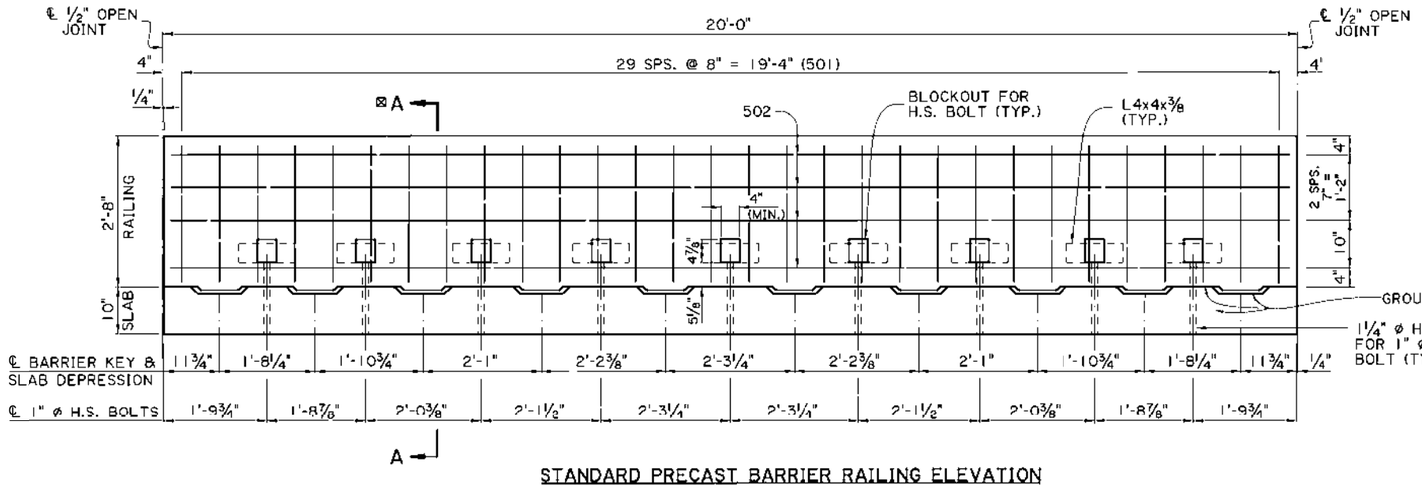
PLAN-DEPRESSION

SCALE: 1" = 1'-0"



PLAN-KEY

SCALE: 1" = 1'-0"



STANDARD PRECAST BARRIER RAILING ELEVATION

(SHOWING BARRIER RAILING ALONG BRIDGE SLAB)
SCALE: ¾" = 1'-0"

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

"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."

01/19/2022

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 31976
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

05/17/17

BARRIER KEY AND PANEL DEPRESSION DETAILS

SHEET NUMBER 328

DESIGNED B. DELATTE
CHECKED J. NAKHLEH
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REVISED 05/17/17
SHEETS 8 OF 11

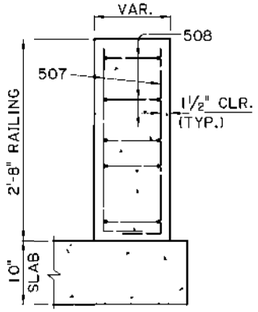
ALTERNATE SPAN (2 OF 4)
20'-0" PRECAST CONC. BARRIER
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

STANDARD SHEET PSS-90-24-20SL

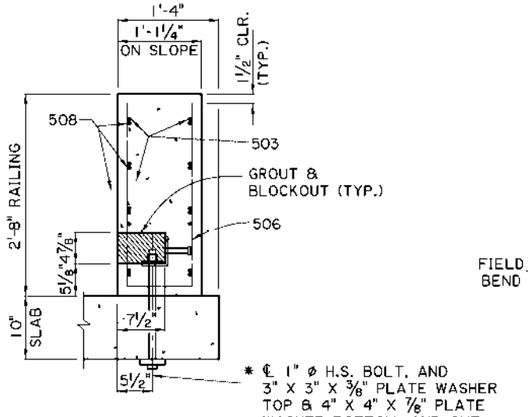
DOTD BRIDGE DESIGN

11/12/2019 09:2

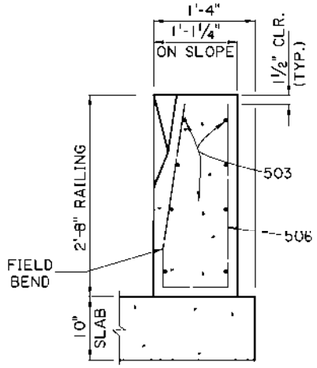
IP_PWP:d0767272\SS9024altspan2.dgn



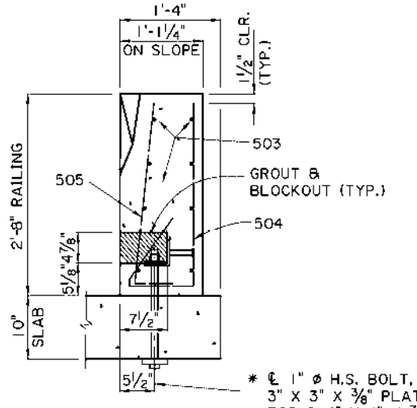
TAPER



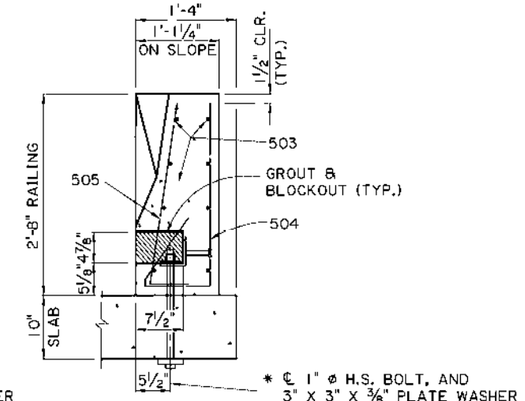
100% TRANSITION



50% TRANSITION



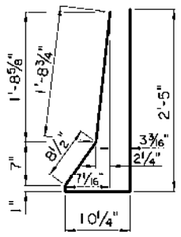
50% TRANSITION



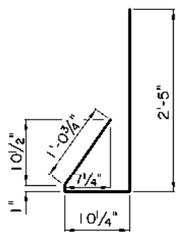
BEGIN TRANSITION

BARRIER RAILING TRANSITION SECTIONS

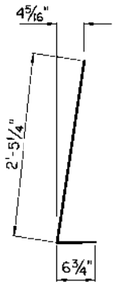
SCALE: 1" = 1'-0"



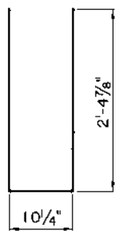
501
(2½" ø PIN)



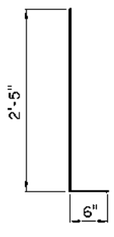
504
(2½" ø PIN)



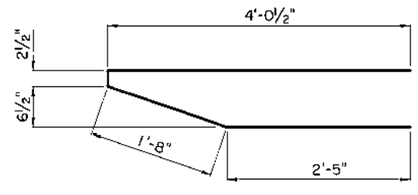
505
(2½" ø PIN)



506
(2½" ø PIN)



507
(2½" ø PIN)



508
(2½" ø PIN)

* 1" ø THREADED STUD OF EQUAL STRENGTH, WITH 2 NUTS & 2 WASHERS, MAY BE USED IN LIEU OF H.S.

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
01/19/2022

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 33976
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
05/17/17

"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."

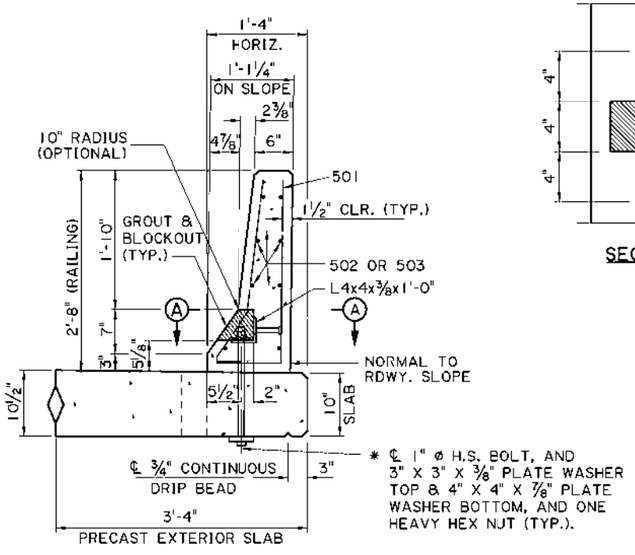
NOTES:

1) ALL BARRIER RAIL SURFACES ARE TO RECEIVE A CLASS 3 SPECIAL FINISH.

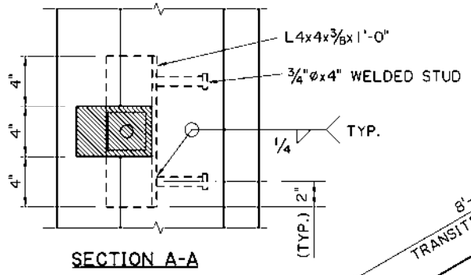
2) ALL SURFACES OF THE BLOCKOUTS EXCEPT THE BOTTOM MAY BE TAPERED AND ALL CORNERS MAY BE ROUNDED TO A RADIUS TO ALLOW FOR EASY REMOVAL OF PLUGS OR FORMS. AFTER PLACING AND TIGHTENING THE ANCHOR BOLTS, THE BLOCKOUTS SHALL BE FILLED WITH AN APPROVED NON-SHRINK GROUT FROM AML AND TROWELED TO THE REQUIRED FINISH AND TO THE SATISFACTION OF THE ENGINEER.

3) AFTER BARRIER IS PLACED AND ALIGNED, ALL GAPS UNDER BARRIER AND TOP OF SLAB SHALL BE FILLED WITH NON-SHRINK GROUT FROM AML AND ALLOWED TO SET PRIOR TO TIGHTENING OF BOLTS. IT IS IMPORTANT TO FILL ALL VOIDS AND GAPS UNDER THE BARRIER TO ENSURE EVEN BEARING ON DECK WHEN THE ANCHOR BOLTS ARE LOADED.

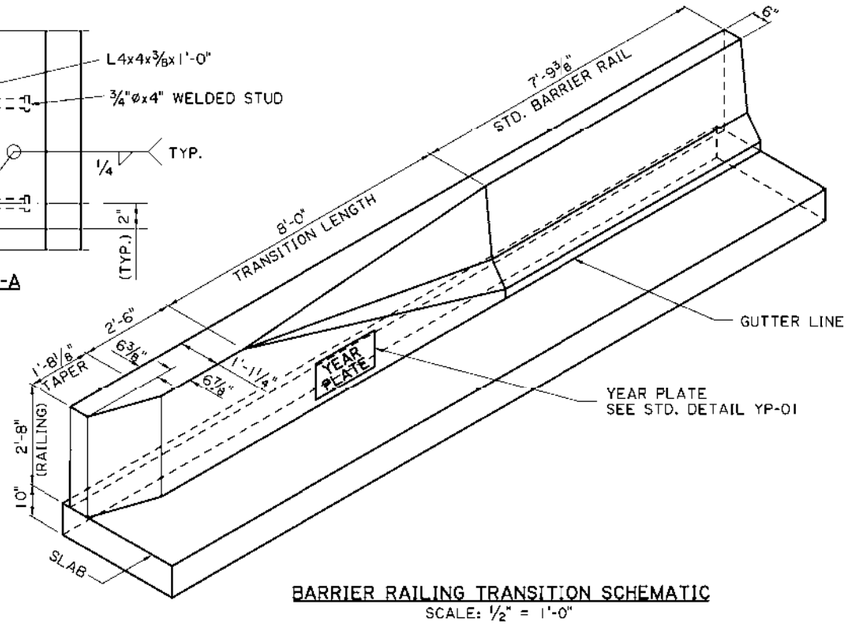
4) ALL 1" ø BOLTS SHALL BE HIGH STRENGTH A325 OR APPROVED EQUAL. BOLT, NUT & WASHER TO BE GALVANIZED AS PER ASTM A-153. BOLTS SHALL BE TENSIONED TO 36 KIPS, OR APPROXIMATELY 540 FOOT-LB. OF TORQUE (LUBRICATED CONNECTION).



SECTION A-A
SCALE: 1" = 1'-0"



SECTION A-A



BARRIER RAILING TRANSITION SCHEMATIC
SCALE: ½" = 1'-0"

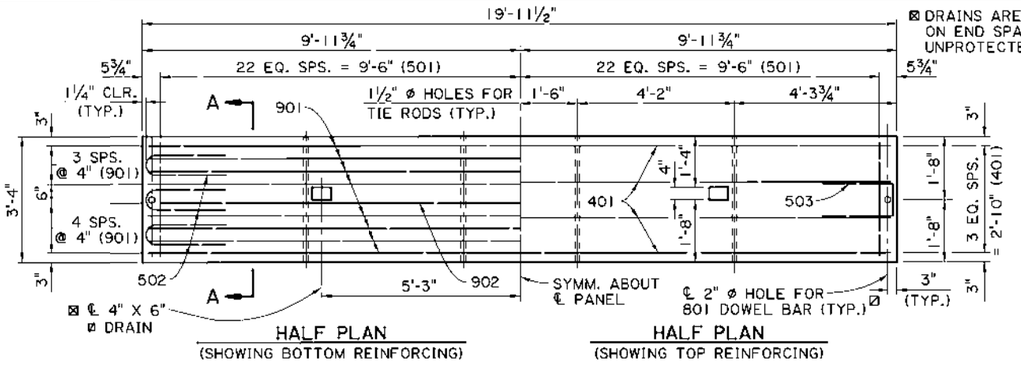
SHEET NUMBER 329

DESIGNED G. DELATTE
CHECKED J. NAKHLEH
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REV DATE 05/17/17
REVISION OR CHANGE DESCRIPTION

ALTERNATE SPAN (3 OF 4)
20'-0" PRECAST CONC. BARRIER
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

STANDARD DETAIL PSS-90-24-20SL

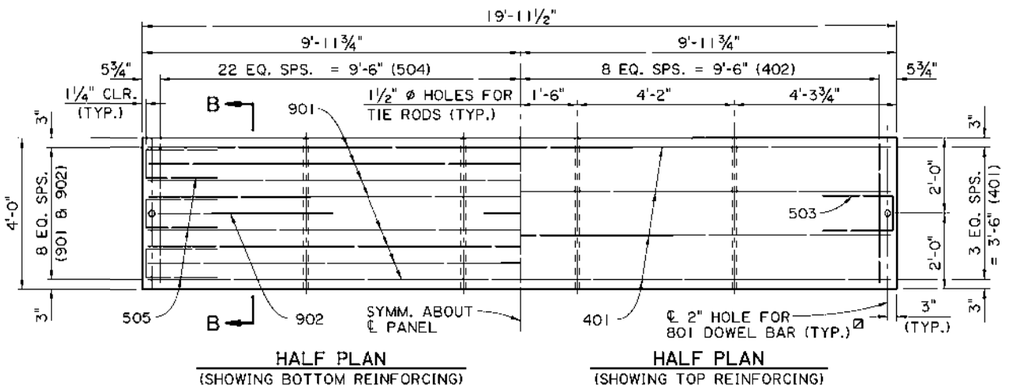
DOTD BRIDGE DESIGN



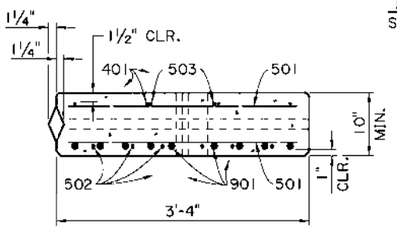
EXTERIOR UNIT
SCALE : ½" = 1'-0"

⊠ DRAINS ARE NOT REQUIRED ON END SPANS OVER UNPROTECTED SLOPES.

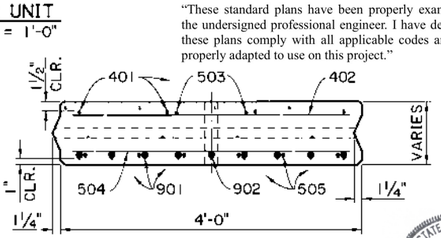
☑ HOLES ARE OPTIONAL AT EXPANSION ENDS.



INTERIOR UNIT
SCALE : ½" = 1'-0"

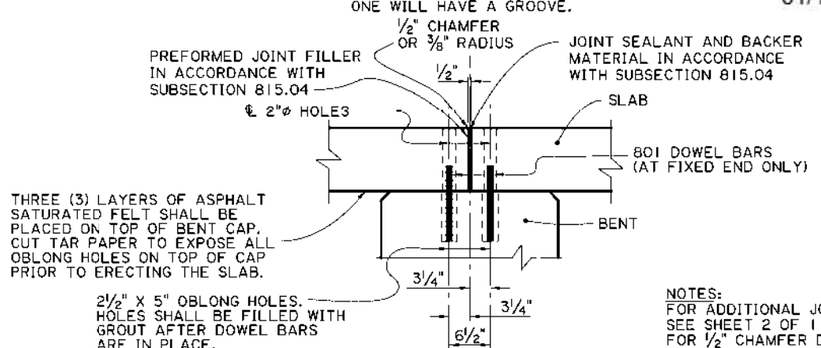


SECTION A-A
EXTERIOR UNIT
SCALE : 1" = 1'-0"



SECTION B-B
INTERIOR UNIT
SCALE : 1" = 1'-0"

NOTE:
FOR EACH SPAN, ONE EXTERIOR UNIT WILL HAVE A TONGUE AND ONE WILL HAVE A GROOVE.



TYPICAL JOINT DETAIL
SCALE : 1" = 1'-0"

"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
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

01/19/2022

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 33976
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

05/17/17

NOTES:
FOR ADDITIONAL JOINT DETAILS SEE SHEET 2 OF 11.
FOR ½" CHAMFER DETAIL, SEE DETAIL "B", ALTERNATE SPAN 1 OF 4.

ALTERNATE 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, 4th EDITION, WITH 2008 & 2009 INTERIMS.

DESIGN LOAD : THE BRIDGE DECK IS DESIGNED FOR A FUTURE WEARING COURSE OF 19 PSF. THE LIVE LOAD IS HL-93. AND LADY 11 (LOUISIANA DESIGN VEHICLE LIVE LOAD 2011).

STRUCTURAL CONCRETE : ALL CONCRETE SHALL BE CLASS P1. THE BRIDGE RAIL CONCRETE SHALL BE CLASS A1 IF RAIL IS CAST IN PLACE. STEEL SIDE FORMS AND STEEL OR CONCRETE BOTTOM FORMS SHALL BE USED FOR PRECAST COMPONENTS. EXPOSED EDGES SHALL HAVE A ¾" CHAMFER, UNLESS OTHERWISE NOTED. ALL SURFACES SHALL RECEIVE A CLASS 1 ORDINARY SURFACE FINISH UPON REMOVAL OF THE FORMS. THE FINAL FINISH SHALL BE A TINE FINISH IN ACCORDANCE WITH SUB-SECTION 805.08.5.3 OF THE LOUISIANA STANDARD SPECIFICATIONS.

REINFORCING STEEL : ALL REINFORCING STEEL 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. ALL REINFORCING BARS SHALL BE PLACED TO PROVIDE A MINIMUMUM COVER OF 1" FROM THE DRAIN HOLES. REINFORCING STEEL MAY BE TACK WELDED FOR A DISTANCE OF NOT MORE THAN 4'-0" FROM EACH END OF UNIT. NO OTHER WELDING SHALL BE PERMITTED.

MISCELLANEOUS STEEL : HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM DESIGNATION A-325. PRESTRESSING STRANDS SHALL CONFORM TO ASTM DESIGNATION A-416, GRADE 270. PLATES, TIE RODS, AND DRIFT BOLTS SHALL CONFORM TO ASTM DESIGNATION A709, GRADE 36. STEEL SPECIFIED TO BE ZINC COATED SHALL BE IN CONFORMANCE WITH ASTM DESIGNATION A-123.

GROUT : THE GROUT SHALL BE AN APPROVED FLOWABLE NON-SHRINK GROUT LISTED ON THE AML. THE GROUT SHALL BE TESTED FOR ACCEPTANCE PRIOR TO USAGE. THE GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI PRIOR TO LOADING SLABS. SURFACES SHALL BE THOROUGHLY SATURATED WITH WATER BY FLOODING THE HOLES FOR APPROXIMATELY FIVE (5) MINUTES IMMEDIATELY BEFORE THE GROUT IS PLACED. ONLY POTABLE WATER SHALL BE USED FOR SATURATION AND MIXING PURPOSES.

PATCHING MATERIAL : THE PATCHING MATERIAL SHALL BE AN APPROVED PATCHING MATERIAL FOR PRECAST OR PRESTREESED CONCRETE PRODUCTS LISTED ON AML. SURFACE PREPARATION, MIXING AND PLACMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. ONLY POTABLE WATER SHALL BE USED FOR SATURATION AND MIXING PURPOSES.

PRECAST UNITS : THE PLANS FOR AN ONGOING OPERATION OF FABRICATION FACILITIES SHALL BE APPROVED BY THE DEPARTMENT. EACH UNIT SHALL HAVE "LIVE LOAD HL-93 & LADV-11", THE FABRICATOR'S MARK, AND UNIQUE NUMBER, MEETING THE APPROVAL OF THE ENGINEER STAMPED OR INSCRIBED IN THE PLASTIC CONCRETE. PRECAST UNITS MAY BE CAST WITH OR WITHOUT CAMBER. IF CAMBER IS PROVIDED IT SHALL NOT EXCEED ¼" AT THE CENTERLINE OF SPAN. ALL UNITS SHALL BE HELD AT THE PLANT FOR A MINIMUM OF TEN(10) DAYS AFTER CASTING. THE CONCRETE SHALL REACH A MINIMUM STRENGTH OF 3,000 PSI BEFORE HANDLING IS PERMITTED. THE LIFTING INSERTS SHALL BE 1", TYPE S INSERTS AS MANUFACTURED BY DAYTON-SUPERIOR CORPORATION OR AN APPROVED EQUAL. EACH INSERT SHALL HAVE A MINIMUM LOAD CAPACITY OF 10,000 POUNDS . FOUR(4) INSERTS WITH 1" ø X 5" LONG COIL BOLTS SHALL BE PLACED IN THE TOP OF THE UNIT AND LOCATED 1'-3" FROM ITS ENDS AND 1'-0" FROM ITS EDGES. INSERT HOLES SHALL BE GROUT FILLED AFTER PLACEMENT OF UNIT. AT THE CONTRACTOR'S OPTION A SLING OF SUFFICIENT CAPACITY MAY BE USED FOR LIFTING, PROVIDED THE SAME PICKUP LOCATION FROM THE ENDS ARE USED. FABRICATION TOLERANCES SHALL BE AS FOLLOWS:

UNIT DEPTH	± 3/16"
UNIT LENGTH	+ ⅛" AND -½"
OVERALL SPAN WIDTH	± 2"

ALL PRECAST UNITS IN EACH BRIDGE SPAN SHALL BE MATCH CAST IN THE SAME CASTING BED TO ENSURE A PROPER FIT DURING INSTALLATION.

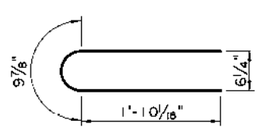
GUARDRAIL : REFER TO GENERAL PLAN FOR GUARDRAIL REQUIREMENTS. PROVIDE HOLES FOR GUARDRAIL CONNECTIONS ACCORDING TO STANDARD PLAN BD.1.1.1.0.01 (GR-200) ON ALL FOUR(4) BRIDGE ENDS.

BASIS OF PAYMENT : ALL MATERIALS SHALL BE PAID FOR UNDER "BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE" ACCORDING TO THE SPECIFICATIONS.

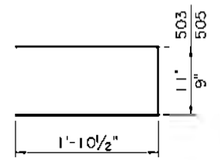
ESTIMATED QUANTITIES (ONE EXTERIOR UNIT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
901	8	19'-9"	158'-0"	LONGIT. BOT. OF SLAB
902	1	19'-1"	19'-1"	LONGIT. BOT. OF SLAB
TOTAL NO. 9 BARS = 177'-1" = 602 LBS.				
801	1	1'-0"	1'-0"	DOWELS
TOTAL NO. 8 BARS = 1'-0" = 3 LBS.				
501	90	3'-0"	270'-0"	TRANS. TOP & BOT. OF SLAB
502	6	4'-6"	27'-0"	BOT. END OF SLAB
503	2	4'-8"	9'-4"	TOP END OF SLAB
TOTAL NO. 5 BARS = 306'-4" = 320 LBS.				
401	4	19'-9"	79'-0"	LONGIT. TOP OF SLAB
TOTAL NO. 4 BARS = 79'-0" = 53 LBS.				
DEFORMED REINFORCING STEEL = 977 LBS.				
⊙ CLASS P1 CONCRETE = 2.05 CU. YDS.				
CONCRETE RAILING (PER SPAN) = 40.00 LIN. FT.				

ESTIMATED QUANTITIES (ONE INTERIOR UNIT)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
901	8	19'-9"	158'-0"	LONGIT. BOT. OF SLAB
902	1	19'-1"	19'-1"	LONGIT. BOT. OF SLAB
TOTAL NO. 9 BARS = 177'-1" = 602 LBS.				
801	1	1'-0"	1'-0"	DOWELS
TOTAL NO. 8 BARS = 1'-0" = 3 LBS.				
503	2	4'-8"	9'-4"	TOP END OF SLAB
504	44	3'-8"	161'-4"	TRANS. BOT. OF SLAB
505	6	4'-6"	27'-0"	BOT. END OF SLAB
TOTAL NO. 5 BARS = 197'-8" = 206 LBS.				
401	4	19'-9"	79'-0"	LONGIT. TOP OF SLAB
402	17	3'-8"	62'-4"	TRANS. TOP OF SLAB
TOTAL NO. 4 BARS = 141'-4" = 94 LBS.				
DEFORMED REINFORCING STEEL = 905 LBS.				
⊙ CLASS P1 CONCRETE = 2.46 CU. YDS.				

⊙ BASED ON A 10" SLAB THICKNESS



502
5 " ø PIN



503 & 505
2½" ø PIN

AS-DESIGNED RATING		
VEHICLE	RATING FACTOR	NOTES
HL-93 (INV)	1.361	——
HL-93 (OPR)	1.764	——
LADV-11 (INV)	1.047	MAGNIFICATION FACTOR = 1.3

SHEET NUMBER 330

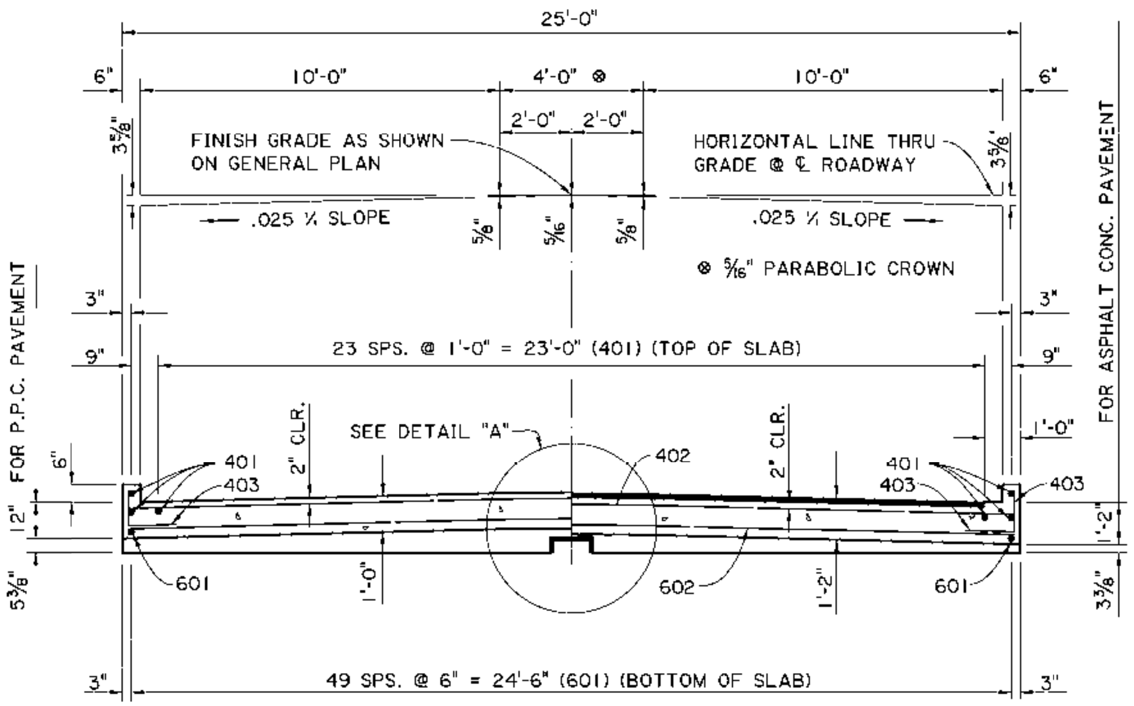
DESIGNED J. NAKHLEH
CHECKED B. DELATTE
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REVIEWED 05/17/17
SERIES # 10 OF 11

REVISION OR CHANGE IN SCOPE DESCRIPTION | BY

ALTERNATE SPAN (4 OF 4)
20'-0" PRECAST CONC. SLAB UNIT
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

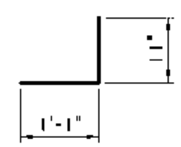
STANDARD DETAILS PSS-90-24-20SL

DOTD BRIDGE DESIGN



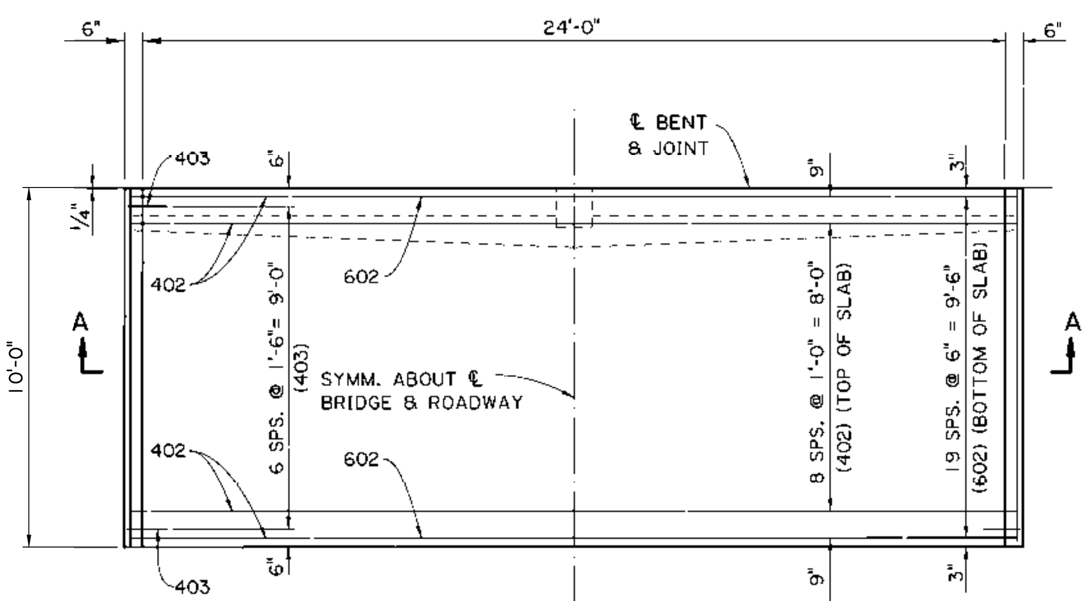
SECTION A-A

SCALE: 3/8" = 1'-0"



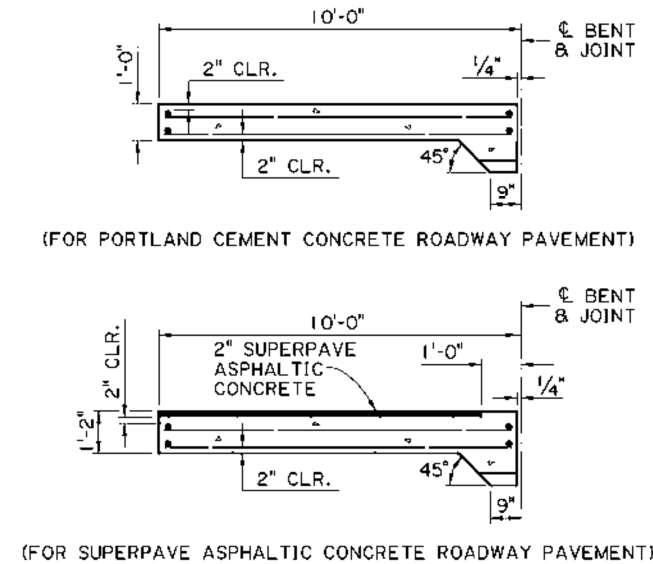
403

2" ⌀ PIN



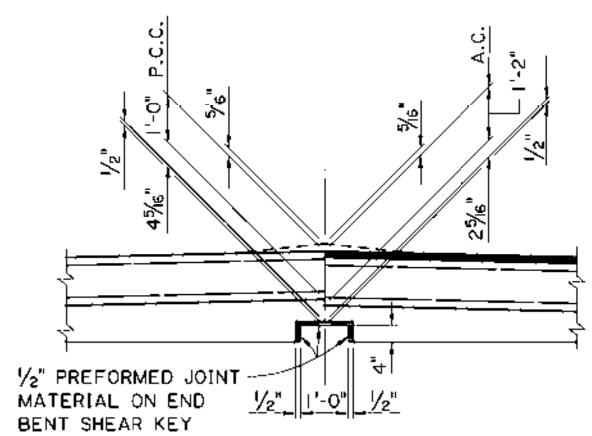
PLAN

SCALE: 3/8" = 1'-0"



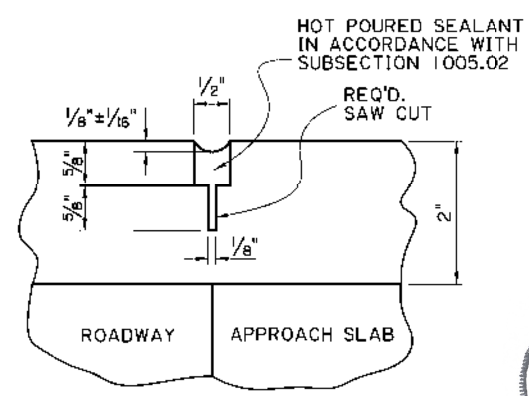
SECTION ALONG ℄ ROADWAY

SCALE: 3/8" = 1'-0"



DETAIL A

SCALE : 1/2" = 1'-0"



SAWING & SEALING JOINT DETAIL

N.T.S.

ESTIMATED QUANTITIES (ONE SLAB)

BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
601	50	9'-7"	479'-2"	LONGIT. BOT. OF SLAB
602	20	24'-8"	493'-4"	TRANSV. BOT. OF SLAB
TOTAL NO. 6 BARS = 972'-6" = 1,461 LBS.				
401	28	9'-7"	268'-4"	LONGIT. TOP OF SLAB & CURB
402	11	24'-8"	271'-4"	TRANSV. TOP OF SLAB
403	14	2'-0"	28'-0"	DOWELS IN CURB
TOTAL NO. 4 BARS = 567'-8" = 379 LBS.				
⊙ TOTAL DEFORMED REINFORCING STEEL = 1,840 LBS.				
CONCRETE APPROACH SLAB = 27.78 SQ. YDS.				
⊙☒ SUPERPAVE ASPHALTIC CONCRETE = 2.5 TONS				
⊙☒ SAW CUT & SEAL = 23 LIN. FT.				

⊙ TO BE PAID FOR UNDER ITEM CONCRETE APPROACH SLABS.

☒ REQUIRED WHEN APPROACH SLAB IS ADJACENT TO SUPERPAVE ASPHALTIC CONCRETE PAVEMENT.

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 4th EDITION, WITH 2008 & 2009 INTERIMS.

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

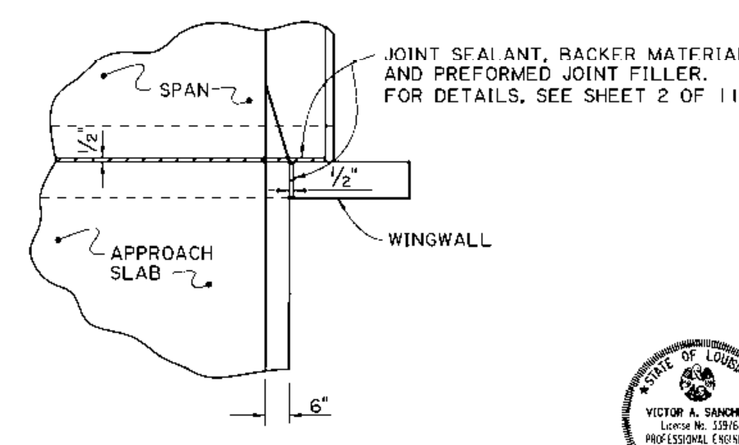
SUPERPAVE ASPHALTIC CONCRETE: TO BE THE SAME TYPE AS THE SUPERPAVE ASPHALTIC CONCRETE USED FOR THE APPROACH ROADWAY PAVEMENT OR OVERLAY.

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.

BEDDING MATERIAL: FOR DETAILS OF BEDDING MATERIAL AND UNDERDRAINS SEE STANDARD DETAIL BD.2.10.1.07.

SAWING & SEALING: THE SUPERPAVE ASPHALTIC CONCRETE SHALL BE SAW CUT AT THE END OF THE CONCRETE APPROACH SLAB THE ENTIRE ROADWAY WIDTH AND SEALED. COST TO BE INCLUDED WITH CONCRETE APPROACH SLABS.

BASIS OF PAYMENT: ALL MATERIAL SHALL BE PAID FOR UNDER 'CONCRETE APPROACH SLABS' ACCORDING TO THE SPECIFICATIONS, EXCEPT WHERE NOTED ON THIS SHEET.



JOINT DETAIL

N.T.S.

STATE OF LOUISIANA STEVEN M. FALL REG. No. 23634 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

"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."

01/19/2022

STATE OF LOUISIANA VICTOR A. SANCHEZ License No. 33516 PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

05/17/17

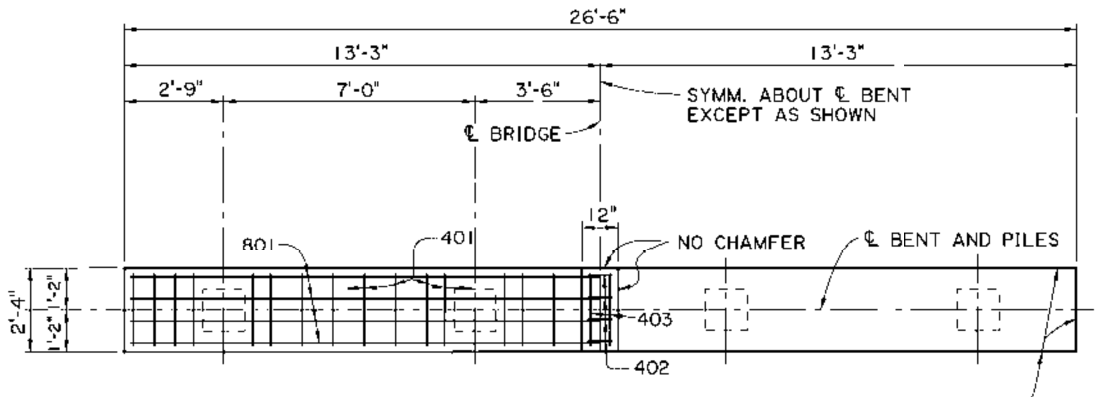
SHEET NUMBER 331

DESIGNED J. PAINE
CHECKED J. NAKHLEH
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REVISED 05/17/17
SERIES # 4 OF 11

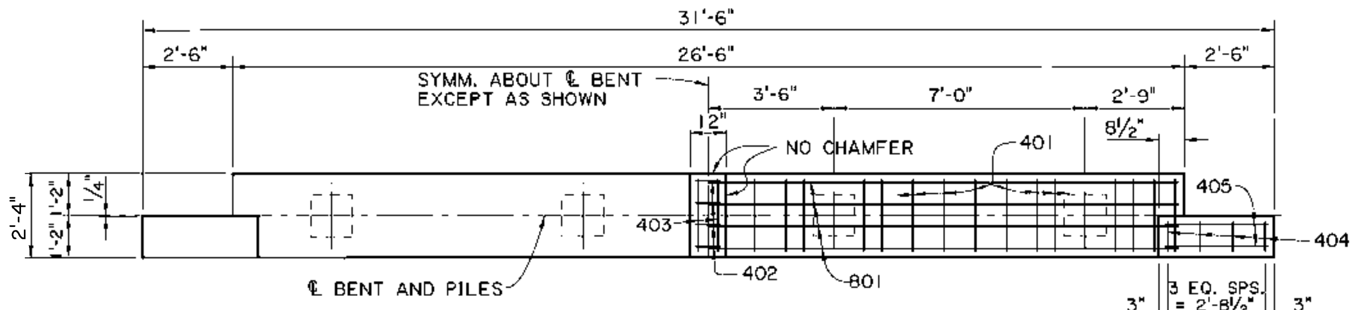
APPROACH SLAB
10'-0" CONCRETE APPROACH SLAB
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

STANDARD DETAIL PSS-90-24-20SL

DOTD BRIDGE DESIGN



PLAN - INTERMEDIATE BENT
SCALE ⅜" = 1'-0"

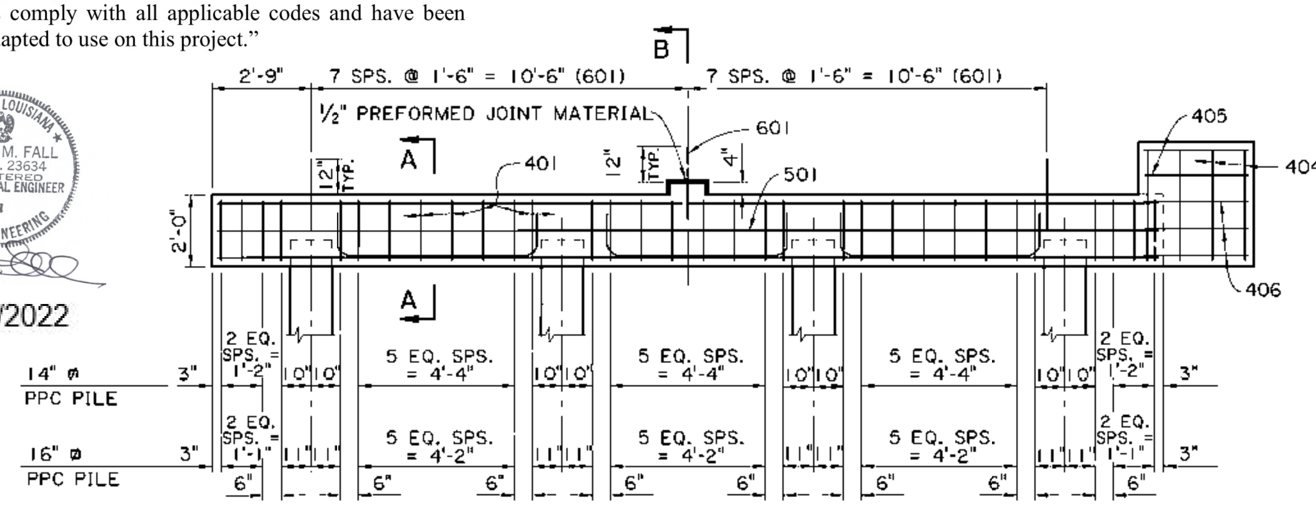


PLAN - END BENT
SCALE ⅜" = 1'-0"

"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."

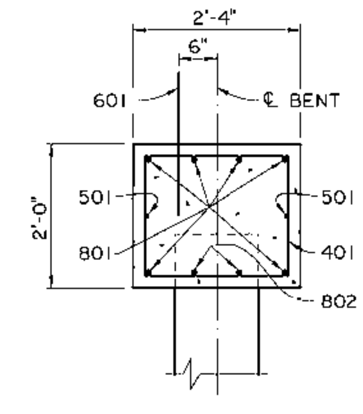
STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

01/19/2022

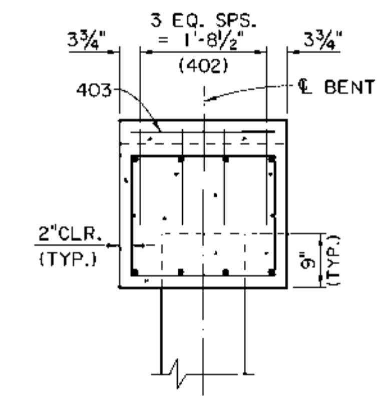


HALF ELEVATION - INTERMEDIATE BENT
SCALE ⅜" = 1'-0"

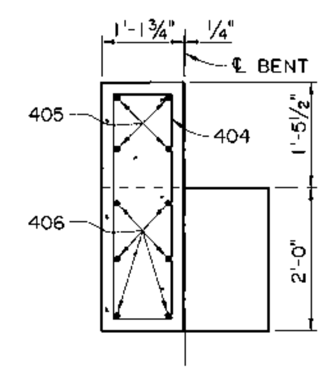
HALF ELEVATION - END BENT
SCALE ⅜" = 1'-0"



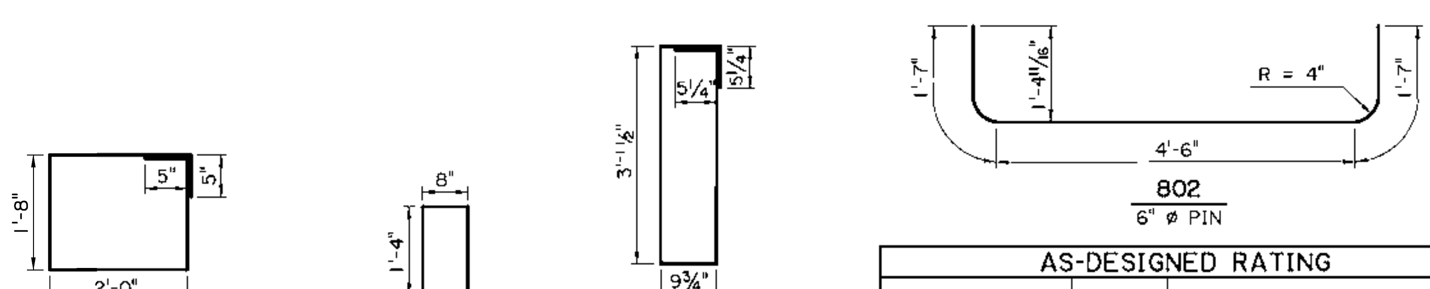
SECTION A-A
SCALE: ¾" = 1'-0"



SECTION B-B
SCALE: ¾" = 1'-0"



END ELEVATION
SCALE ¾" = 1'-0"



401 — 2" ø PIN

402 — 2" ø PIN

404 — 2" ø PIN

802 — 6" ø PIN

AS-DESIGNED RATING

VEHICLE	RATING FACTOR	NOTES
HL-93 (INV)	1.793	—
HL-93 (OPR)	2.324	—
LADV-11 (INV)	1.379	MAGNIFICATION FACTOR = 1.3

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 33976
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

05/17/17

ESTIMATED QUANTITIES (ONE INTER. BENT)

BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	6	26'-2"	157'-0"	LONGIT. IN CAP
802	6	7'-8"	46'-0"	LONGIT. IN CAP BTW. PILES
TOTAL NO. 8 BARS = 203'-0" = 542 LBS.				
601	15	2'-0"	30'-0"	DOWELS
TOTAL NO. 6 BARS = 30'-0" = 45 LBS.				
501	2	26'-2"	52'-4"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 52'-4" = 55 LBS.				
401	32	8'-2"	261'-4"	STIRRUPS IN CAP
402	4	3'-4"	13'-4"	STIRRUPS IN RISER
403	2	2'-0"	4'-0"	LONGIT. IN RISER
TOTAL NO. 4 BARS = 278'-8" = 186 LBS.				
* DEFORMED REINFORCING STEEL = 828 LBS.				
⊖ CLASS A1 CONCRETE = 4.41 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 21 TONS; SERVICE LIVE LOAD = 34 TONS; FACTORED TOTAL LOAD = 76 TONS				

* ADD 45 LBS. OF REINFORCING STEEL (15-601 DOWELS) WHEN TWO FIXED ENDS OCCUR ON THE SAME BENT.

ESTIMATED QUANTITIES (ONE END BENT)

BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	6	26'-2"	157'-0"	LONGIT. IN CAP
802	6	7'-8"	46'-0"	LONGIT. IN CAP BTW. PILES
TOTAL NO. 8 BARS = 203'-0" = 542 LBS.				
601	15	2'-0"	30'-0"	DOWELS
TOTAL NO. 6 BARS = 30'-0" = 45 LBS.				
501	2	26'-2"	52'-4"	LONGIT. IN CAP
TOTAL NO. 5 BARS = 52'-4" = 55 LBS.				
401	32	8'-2"	261'-4"	STIRRUPS IN CAP
402	4	3'-4"	13'-4"	STIRRUPS IN RISER
403	2	2'-0"	4'-0"	LONGIT. IN RISER
404	8	8'-9"	70'-0"	STIRRUPS IN WINGWALL
405	8	2'-10"	22'-8"	LONGIT. IN WINGWALL
406	12	4'-0"	48'-0"	LONGIT. IN WINGWALL
TOTAL NO. 4 BARS = 419'-4" = 280 LBS.				
DEFORMED REINFORCING STEEL = 922 LBS.				
⊖ CLASS A1 CONCRETE = 5.23 CU. YDS.				
MAX. PILE LOAD: SERVICE DEAD LOAD = 21 TONS; SERVICE LIVE LOAD = 34 TONS; FACTORED TOTAL LOAD = 76 TONS				

⊖ 16" ø PPC PILES USED FOR ESTIMATING PURPOSES ONLY. (ADD 0.05 CU. YDS. OF CLASS A1 CONCRETE PER BENT WHEN 14" ø PPC PILES ARE USED.)

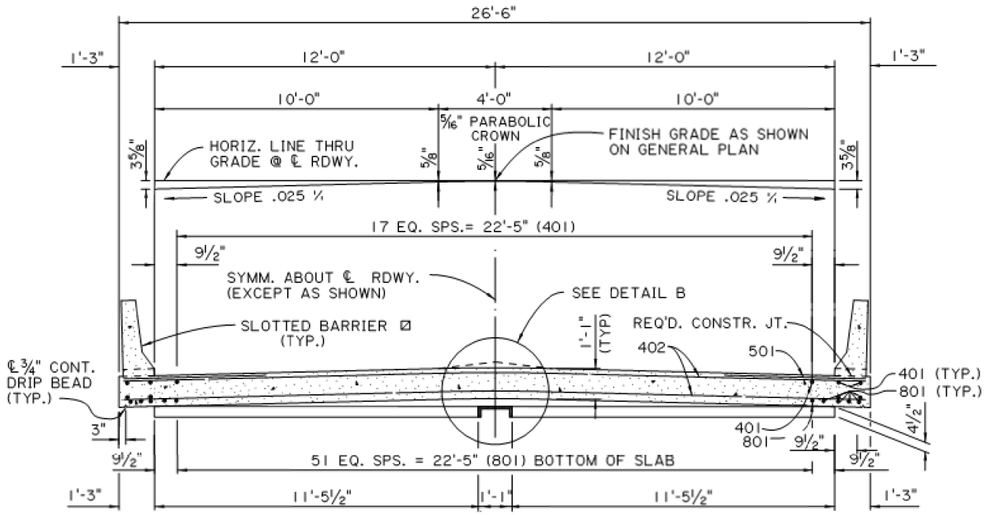
BENT NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.
DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION WITH 2008 & 2009 INTERIMS.
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 ¾" CHAMFER UNLESS OTHERWISE NOTED.
ALL EXPOSED FACES OF WINGWALLS AND ENDS OF CAPS SHALL RECEIVE A SURFACE FINISH AS PER SUB-SECTION 805.08 OF THE STANDARD SPECIFICATIONS, EXCEPT WHEN SPECIFIED ELSEWHERE IN THE PLANS.
½" PREFORMED JOINT MATERIAL AND ASPHALT SATURATED FELT SHALL BE INCLUDED IN THE PRICE BID FOR CLASS A1 CONCRETE.
REINFORCING STEEL: ALL REINFORCING STEEL 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.
PRECAST CONCRETE PILES: FOR DETAILS SEE STANDARD DETAIL BD.2.5.1.0.01 (CS-216).
EXTERIOR PILES ARE TO BE BATTERED OUTWARD AT 1½ ON 12 IN THE LONGITUDINAL DIRECTION OF THE BENT, WHEN NOTED ON THE GENERAL PLAN.
PREFORMED JOINT MATERIAL: PREFORMED JOINT MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 815.04 OF THE STANDARD SPECIFICATIONS.

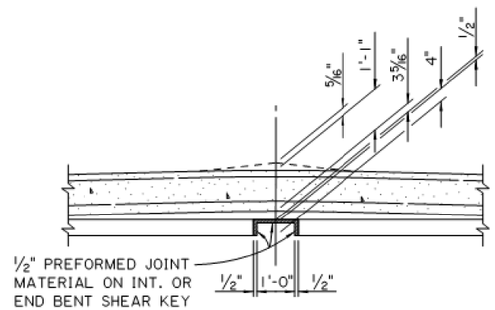
DESIGNED J. PAINE — CHECKED J. NAKHLEH — DETAILED D. HYMEL — CHECKED J. NAKHLEH — REVISED 05/17/17 — SERIES 1 OF 11

BENTS
REINFORCED CONCRETE PILE BENTS
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT
STANDARD DETAIL PSS-90-24-20SL

DOTD BRIDGE DESIGN

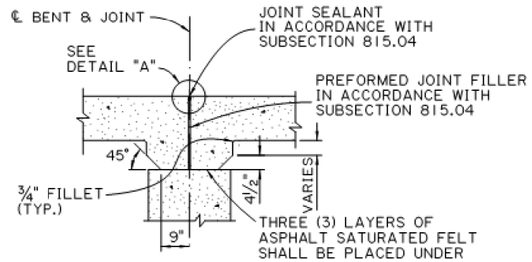


SECTION A-A
SCALE : ⅜" = 1'-0"

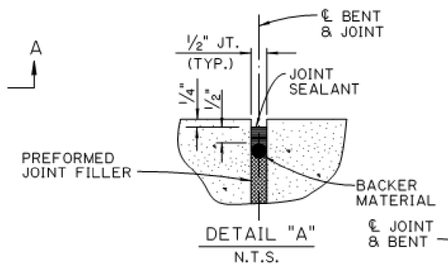


DETAIL B
SCALE : ½" = 1'-0"

ESTIMATED QUANTITIES (ONE SPAN)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
801	63	19'-7"	1233'-9"	LONGIT. BOT. OF SLAB
TOTAL NO. 8 BARS = 1233'-9" = 3294 LBS.				
501	56	5'-0"	280'-0"	TRANS. TOP OF SLAB
TOTAL NO. 5 BARS = 280'-0" = 292 LBS.				
401	22	19'-7"	430'-10"	LONGIT. TOP OF SLAB
402	56	26'-2"	1465'-4"	TRANS. TOP & BOT. OF SLAB
TOTAL NO. 4 BARS = 1896'-2" = 1267 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 4853 LBS.				
CLASS A1 CONCRETE = 22.08 CU. YDS.				
CONCRETE RAILING (BARRIER TYPE) = 40.00 LIN. FT.				



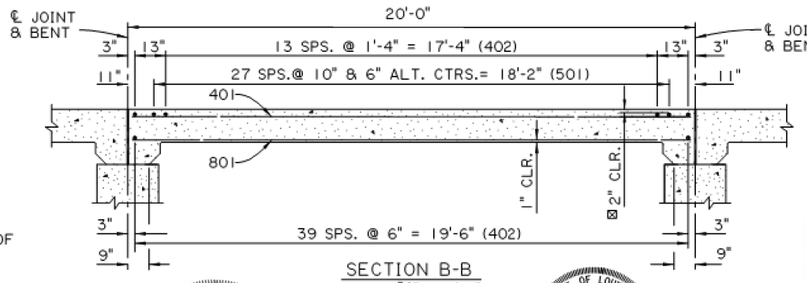
DETAIL SHOWING TYPICAL JOINT & HAUNCH
SCALE : ½" = 1'-0"



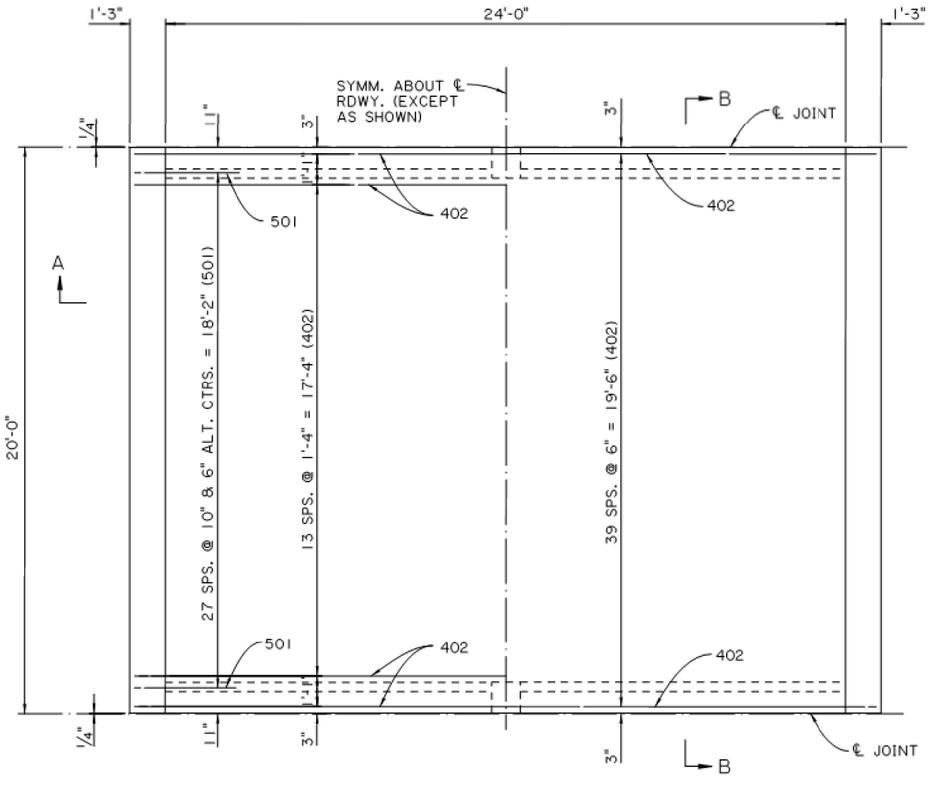
DETAIL "A"
N.T.S.

☑ STANDARD BARRIERS REQUIRED ON END SPANS.

☒ FOR BRIDGES IN DISTRICT 04 & 05, MINIMUM CONCRETE COVER IN TOP OF SLAB SHALL BE 2½".



SECTION B-B
SCALE ⅜" = 1'-0"



HALF SECTION
SHOWING SPACING OF TOP TRANS. REINF. STEEL
SCALE : ⅜" = 1'-0"

HALF SECTION
SHOWING SPACING OF BOTTOM TRANS. REINF. STEEL
SCALE : ⅜" = 1'-0"

AS-DESIGNED RATING		
VEHICLE	RATING FACTOR	NOTES
HL-93 (INV)	1.347	—
HL-93 (OPR)	1.746	—
LADV-11 (INV)	1.036	MAGNIFICATION FACTOR = 1.3

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, 4th EDITION, WITH 2008 & 2009 INTERIMS.

DESIGN LOADS:
THE BRIDGE DECK IS DESIGNED FOR A FUTURE WEARING COURSE OF 19 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 ¾" CHAMFER UNLESS OTHERWISE NOTED. ALL BARRIER RAIL SURFACES ARE TO RECEIVE A CLASS 3 SPECIAL FINISH.

REINFORCING STEEL:
ALL REINFORCING SHALL BE GRADE 60; DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS, DIMENSIONS RELATING TO FABRICATION ARE OUT TO OUT OF BARS, UNLESS OTHERWISE NOTED. ALL REINFORCING BARS SHALL BE PLACED TO PROVIDE A MINIMUM COVER OF ONE INCH FROM THE SURFACE OF THE DRAIN HOLES TO THE FACE OF THE BARS.

GUARD RAIL:
REFER TO THE GENERAL PLAN FOR GUARD RAIL REQUIREMENTS. PROVIDE HOLES FOR GUARD RAIL CONNECTIONS ACCORDING TO STANDARD PLAN BD.1.1.1.0.01 (GR-200) ON ALL FOUR BRIDGE RAIL ENDS.

BASIS OF PAYMENT:
ALL MATERIAL SHALL BE PAID FOR UNDER "BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE" ACCORDING TO THE SPECIFICATIONS.

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING

01/19/2022

STATE OF LOUISIANA
VICTOR A. SANCHEZ
License No. 33976
PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING

05/17/17

"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 333

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED J. PAINE | DETAILED D. HYMEL | REVIEWED 05/17/17
CHECKED J. NAKHLEH | CHECKED J. NAKHLEH | SERIES # 2 OF 11

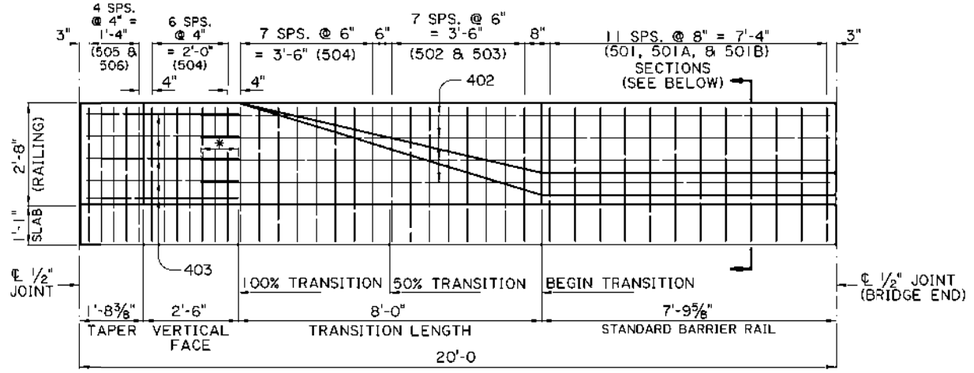
SPAN (1 OF 2)
20'-0" CONCRETE SLAB SPAN
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

STANDARD DETAIL | PSS-90-24-20SL

DOTD BRIDGE DESIGN

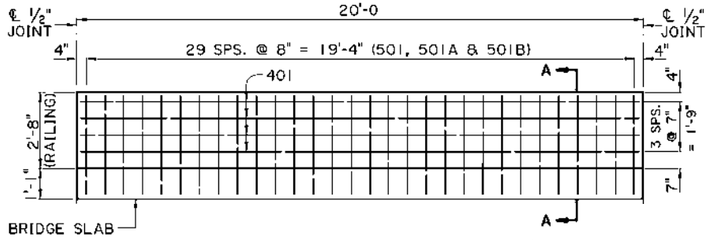
11/12/2019 09:2

IP_PWP:d0767272\SS9024span1.dgn

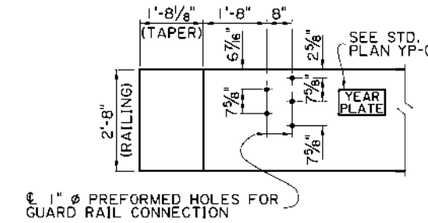


* 1'-0" (MIN.) SPLICE

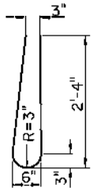
BARRIER RAILING TRANSITION ELEVATION
(SHOWING BARRIER RAILING AT END OF BRIDGE)
SCALE: ½" = 1'-0"



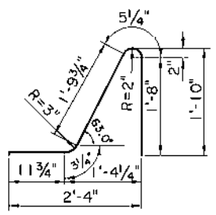
STANDARD BARRIER RAILING ELEVATION
(SHOWING BARRIER RAILING ALONG BRIDGE SLAB)
SCALE: ⅜" = 1'-0"



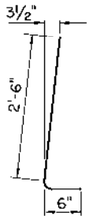
GUARD RAIL CONNECTION DETAIL
(FOR GUARD RAIL DETAILS, SEE STANDARD PLAN BD.1.1.1.0.01 (GR-200).
SCALE: ½" = 1'-0"



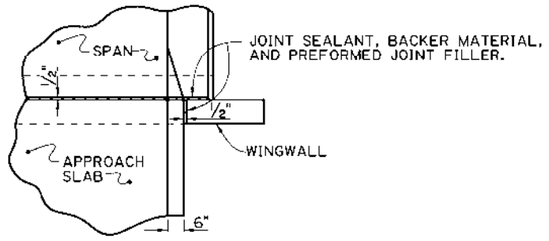
BARS 501
(4'-10" LONG)



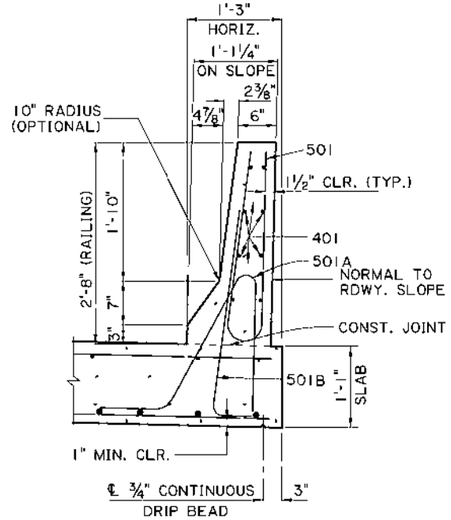
BARS 501A
(5'-2" LONG)



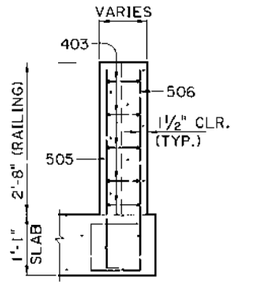
BARS 501B
(2½" ø PIN)
(3'-0" LONG)



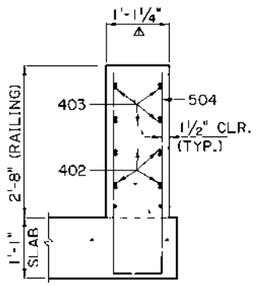
JOINT DETAIL
N.T.S.



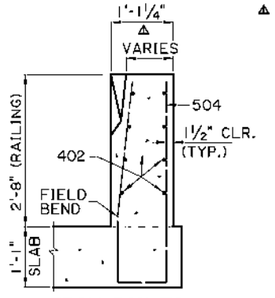
SECTION A-A
SCALE: 1" = 1'-0"



TAPER

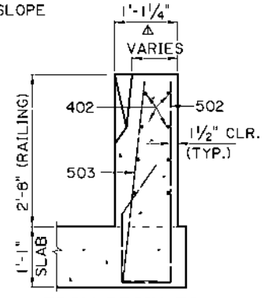


100 % TRANSITION

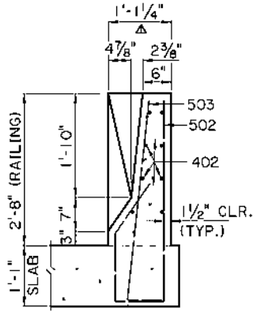


FROM 50% TO 100 % TRANSITION

▲ ON SLOPE

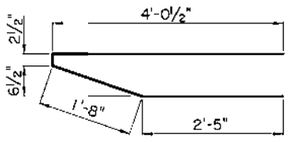


FROM BEGIN TO 50 % TRANSITION

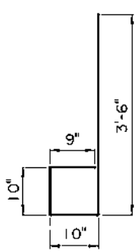


BEGIN TRANSITION

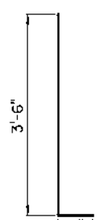
BARRIER RAILING TRANSITION SECTIONS
SCALE: ¾" = 1'-0"



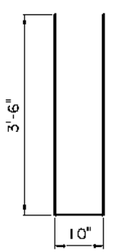
403
(2" ø PIN)



506
(2½" ø PIN)

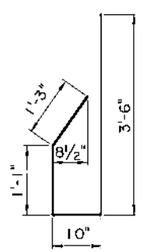


505
(2½" ø PIN)

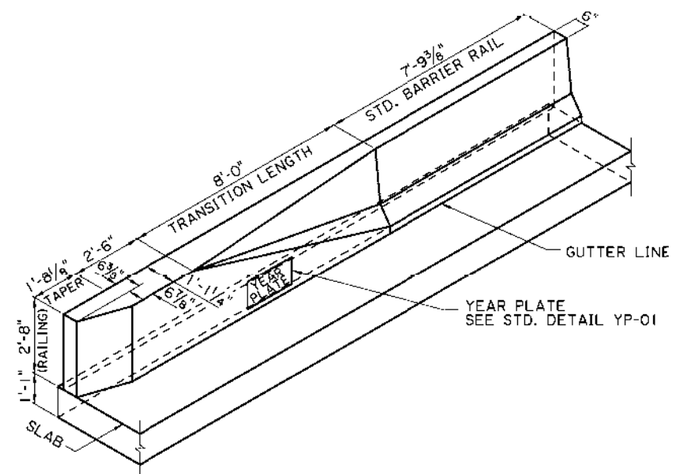


504
(2½" ø PIN)

503
(2½" ø PIN)



502
(2½" ø PIN)



BARRIER RAILING TRANSITION SCHEMATIC
SCALE: ⅜" = 1'-0"

VICTOR A. SANCHEZ
LICENSE NO. 33576
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
STATE OF LOUISIANA
05/17/17

STEVEN M. FALL
REG. No. 23634
PREVIOUSLY REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
STATE OF LOUISIANA
01/19/2022

"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 334

DESIGNED B. DELATTE
CHECKED J. NAKHLEH
DETAILED D. HYMEL
CHECKED J. NAKHLEH
REVISED 05/17/17
SERIES NO. 3 OF 11

SPAN (2 OF 2)
20'-0" CONCRETE BARRIER
24'-0" CLEAR ROADWAY
90° CROSSING TWO WAY TANGENT

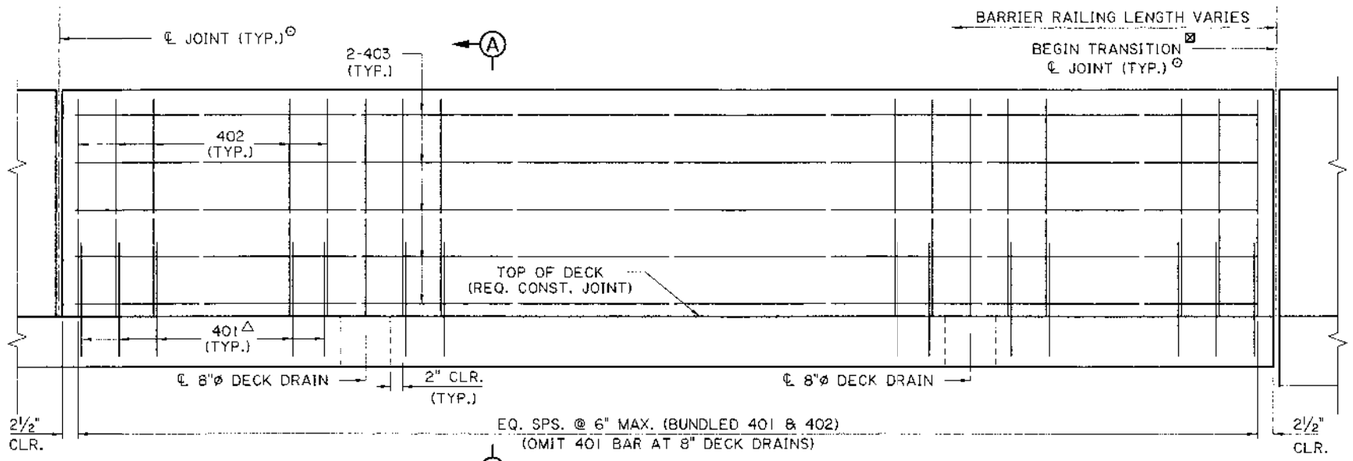
STANDARD SHEET NO. PSS-90-24-20SL

DOTD BRIDGE DESIGN

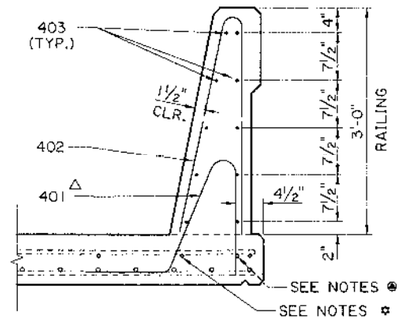
REVISION OR "AS-BUILT" DESCRIPTION

11/12/2019 09:2

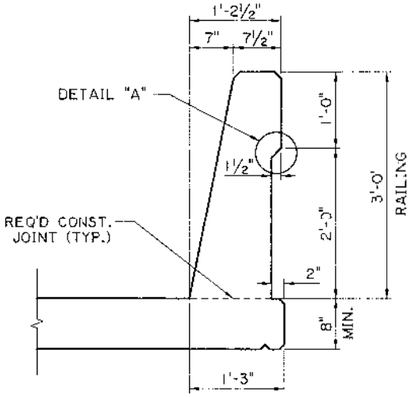
IP_PWP:d0767272\SS9024span2.dgn



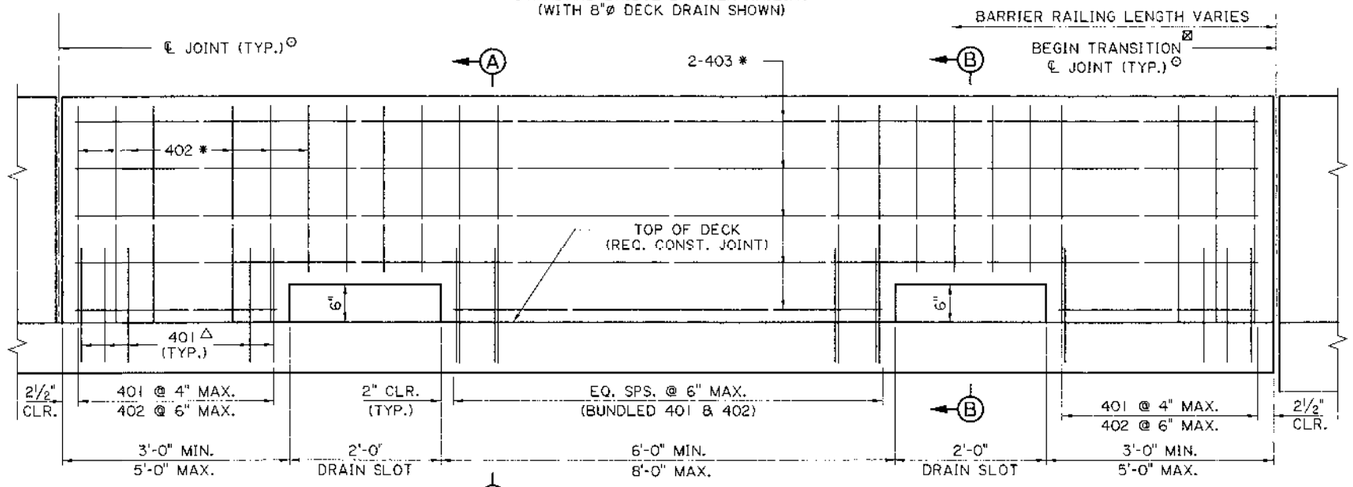
ELEVATION
STANDARD BRIDGE BARRIER RAILING
(WITH 8"ø DECK DRAIN SHOWN)



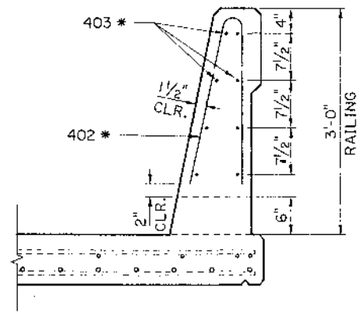
SECTION A-A



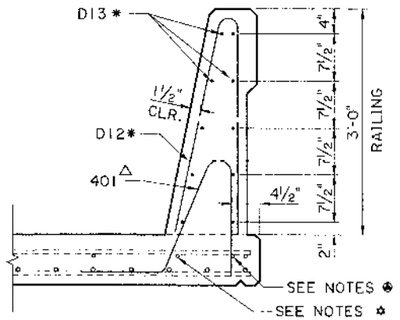
TYPICAL SECTION
SHOWING BARRIER DIMENSIONS
(SURFACE AREA = 6.72 SQFT/FT)



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.

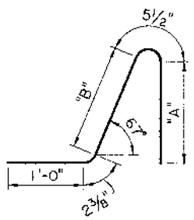
✪ 9. AT THE CONTRACTOR'S OPTION, AN ADDITIONAL BAR CAN BE PLACED IN THE DECK TO AID REBAR PLACEMENT.

✲ 10. TOP LONGITUDINAL SLAB BAR MAY BE ADJUSTED LATERALLY ±3" TO TIE REINFORCING.

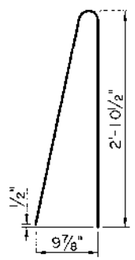
401 BAR DIMENSIONS		
DIMENSION	A	B
8" DECK	1'-4¼"	1'-5¼"
8½" DECK	1'-4¾"	1'-5⅞"
9" DECK	1'-5¼"	1'-6⅜"
9½" DECK	1'-5¾"	1'-7"
13" SLAB SPAN	1'-8¾"	1'-10¼"
14½" SLAB SPAN	1'-9⅝"	1'-11¼"

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
01/19/2022

"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."

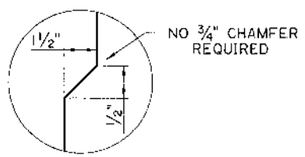


401
(3" ø PIN)



402
(2" ø PIN)

STATE OF LOUISIANA
CARL M. GAUDRY
License No. 37365
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
8/30/2019



DETAIL "A"

SHEET NUMBER 335

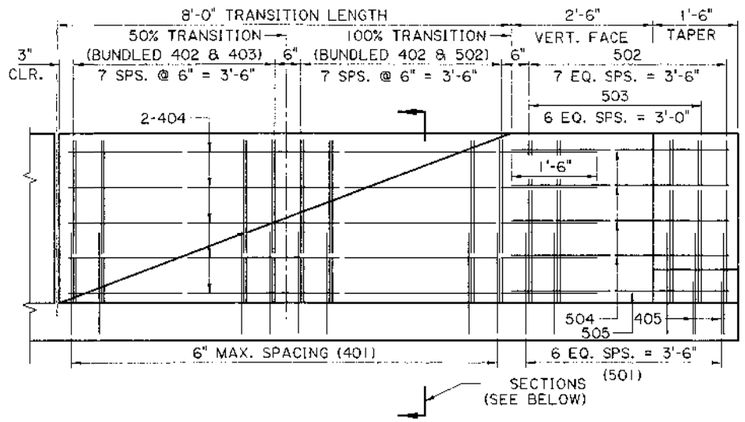
DESIGNED S. MAZUR
DETAILED S. MAZUR
CHECKED C. GAUDRY
CHECKED K. BRAUNER
DATE
CONTROL SECTION
STATE PROJECT
SHEETS 1 OF 1

BRIDGE BARRIER DETAILS
36" SINGLE SLOPE
36SS

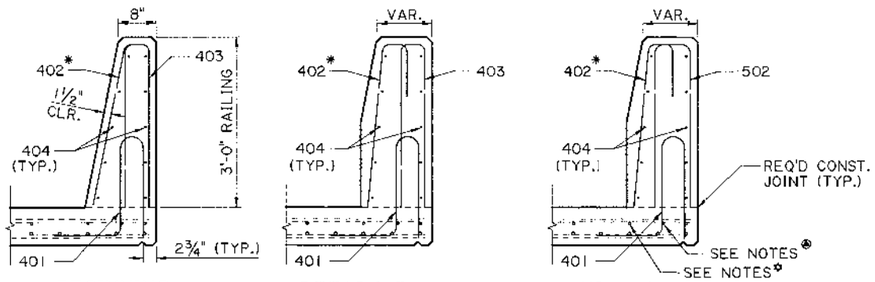
BD.2.6.1.3.01

DOTD BRIDGE DESIGN

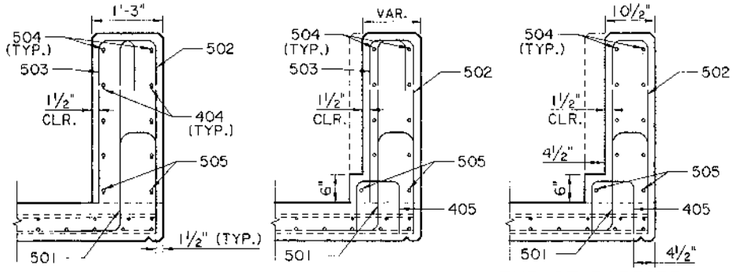
REVISED OR CHANGED DESCRIPTION



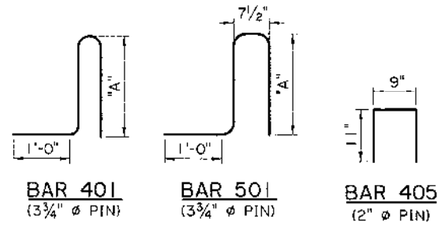
BARRIER RAILING TRANSITION ELEVATION



BEGINNING OF TRANSITION | BEFORE 50% TRANSITION | AFTER 50% TRANSITION



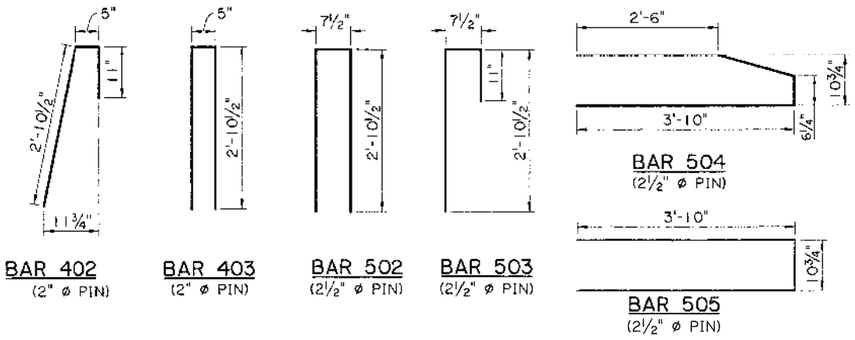
VERTICAL FACE | TAPER | END OF BARRIER



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. 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)

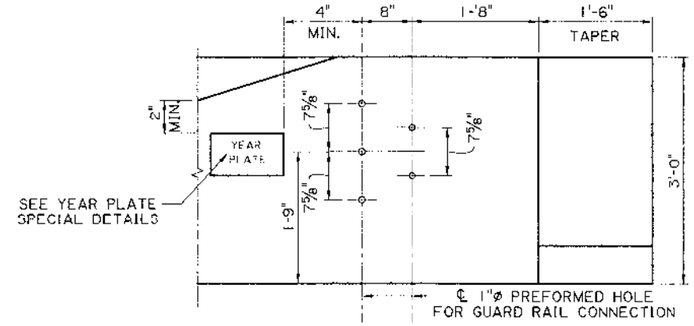
BAR 505 (2½" ø PIN)

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."

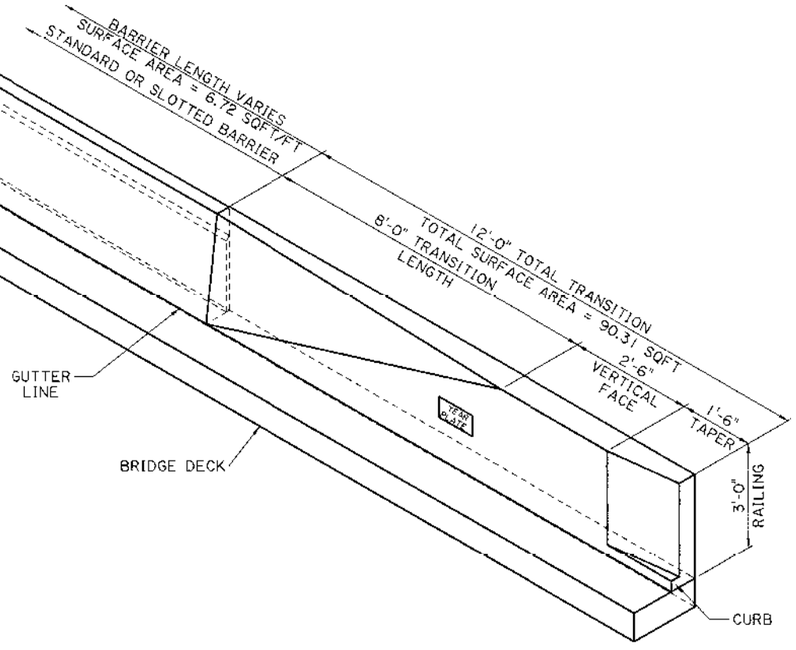
STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

01/19/2022



GUARD RAIL CONNECTION DETAIL

SEE HIGHWAY GUARD RAIL (MASH) STANDARD PLANS FOR MORE INFORMATION



STATE OF LOUISIANA
CARL M. GAUDRY
Louisiana No. 37365
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/20/2018

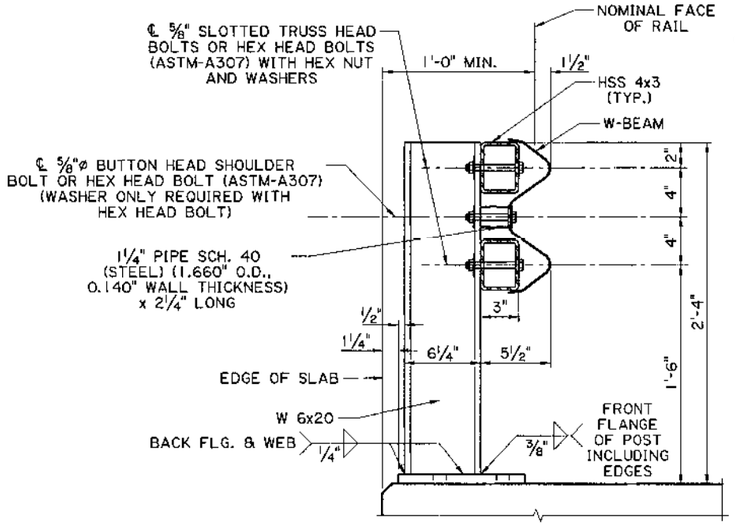
SHEET NUMBER 336

DESIGNED S. MAZUR
CHECKED C. GAUDRY
DETAILED S. MAZUR
CHECKED C. GAUDRY
REVISED K. BRAUNER
SERIES = 1 OF 1

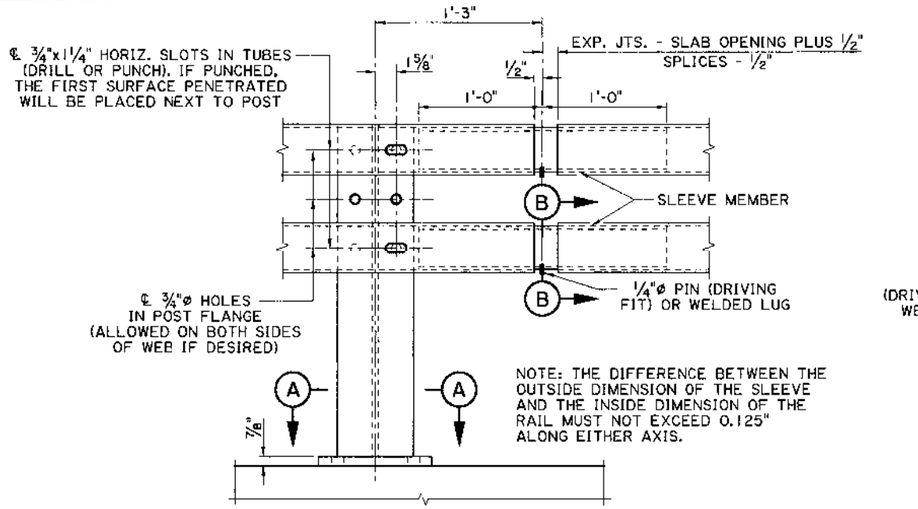
PARISH
CONTROL SECTION
STATE PROJECT
DATE
NO.
REVISION OR CHANGE SHEET DESCRIPTION

TRANSITION ON BRIDGE SPAN
36" SINGLE SLOPE BRIDGE BARRIER
36SS

DOTD BRIDGE DESIGN
BD.2.6.1.3.02



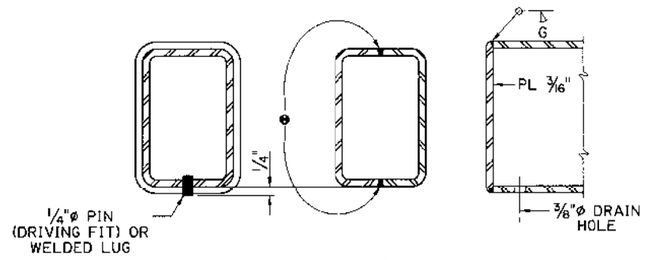
SECTION THROUGH RAIL



TUBE SPLICE DETAILS Ø

Ø SPLICE MAY BE ON EITHER SIDE OF BRIDGE RAIL POST WEB.

❶ WELD MAY BE SQUARE GROOVE OR SINGLE VEE GROOVE. GRIND SMOOTH.



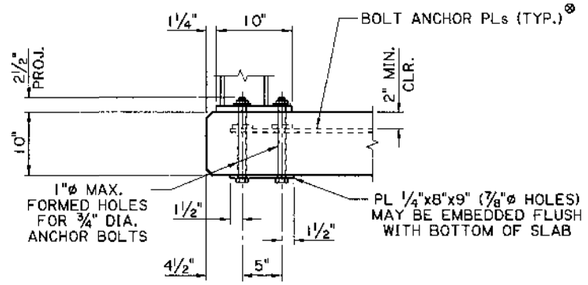
SECTION B-B

SLEEVE FABRICATION OPTION

RAIL CAP

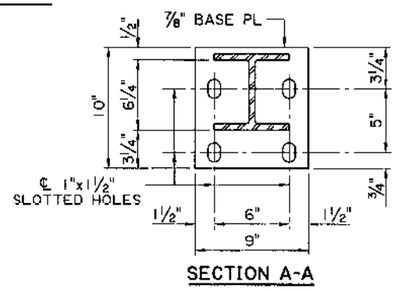
TUBE & SLEEVE MEMBERS		
RAIL MEMBER		SLEEVE THICKNESS
MATERIAL	THICKNESS	MATERIAL A36
A 500 GRADE C	0.188"	0.188"
A 500 GRADE B	0.250"	0.250"
A 500 GRADE A OR A 501	0.313"	0.250"

NOTE: OTHER SECTIONS OF EQUAL OR GREATER STRENGTH ARE ACCEPTABLE FOR SLEEVES.

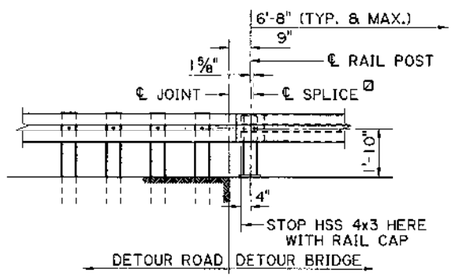


SLAB CONNECTION DETAIL

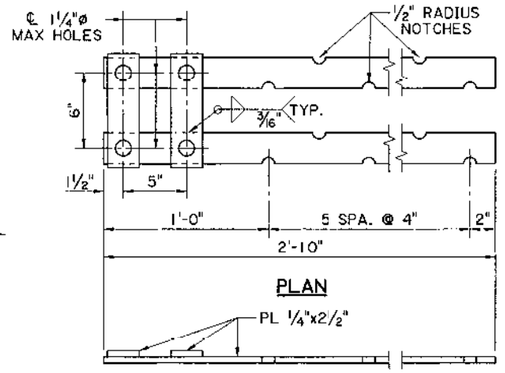
⊗ INSTALL ONE ANCHORAGE PLATE ASSEMBLY IN SLAB AT EACH RAIL POST. DO NOT GALVANIZE OR OIL THIS ASSEMBLY. BOLT ANCHORAGE PLATES MAY NOT BE CUT.



SECTION A-A



CONNECTION DETAIL



PLAN

ELEVATION

BOLT ANCHORAGE PLATES

NOTES:

FOR MORE GUARD RAIL INFORMATION, SEE STANDARD PLANS.

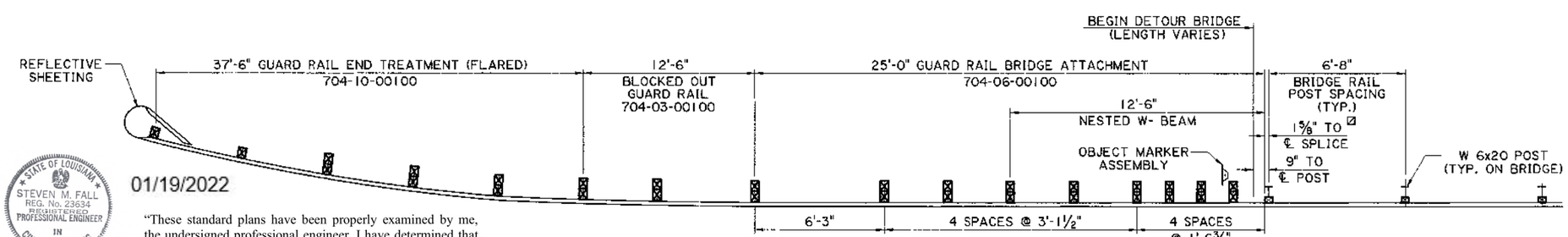
THIS RAIL HAS BEEN APPROVED AS A NCHRP 350-TEST LEVEL 3 BARRIER.

ALL STEEL POSTS AND PLATES SHALL CONFORM TO (ASTM-A36).

GALVANIZE ALL STEEL COMPONENTS UNLESS OTHERWISE SHOWN ON PLANS. ANCHOR BOLTS ARE ¾"ø ASTM-A325 BOLTS OR A449 HEAVY HEX BOLTS (OR A449 THREADED RODS WITH ONE TACK WELDED HEAVY HEX NUT EACH) WITH ONE HEAVY HEX NUT AND ONE 2" O.D. WASHER (0.122" MIN. THICK) AT EACH BOLT. OPTIONALLY USE RECTANGULAR ⅜"x2"x3" ASTM-A36 PLATE WITH 13/16"ø HOLE.

ATTACH SECTION LENGTHS OF HSS 4x3 MEMBERS CONTINUOUSLY TO A MINIMUM OF THREE POSTS (EXCEPT AT ABUTMENTS WITH EXPANSION JOINTS). FACE OF RAIL AND POSTS MUST BE VERTICAL TRANSVERSELY UNLESS OTHERWISE APPROVED BY THE BRIDGE DESIGN ENGINEER. POSTS MUST BE PERPENDICULAR TO ADJACENT ROADWAY GRADE. USE EPOXY MORTAR UNDER POST BASE PLATES IF GAPS LARGER THAN 1/16" EXIST.

FOR ALL RAILS, ERECTION DRAWINGS SHOWING LENGTHS, SPLICE LOCATIONS, RAIL POST SPACING AND ANCHOR BOLT SETTING SHALL BE SUBMITTED TO THE BRIDGE ENGINEER FOR REVIEW.



TYPICAL GUARD RAIL LAYOUT

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

01/19/2022

"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

2/08/13

SHEET NUMBER 337

DESIGNED T. LE
CHECKED K. BRAUNER
DETAILED J. PELTIER
CHECKED K. BRAUNER
REVIEWED P. VAUGHT
SERIES 16 OF 16

DATE 03-01-17 UPDATED FOR 2016 SPECIFICATIONS & BARRIER K.M.B.

DOTD

GUARD RAIL DETAILS

BD.2.8.1.0.16 PRECAST PANEL DETOUR BRIDGE

BRIDGE & STRUCTURAL DESIGN

APPROACH SLAB SPECIAL DETAILS INDEX

	CLEAR WIDTH	BRIDGE STANDARD INDEX NO.	SERIES	DESCRIPTION
COMMON DETAILS (20' AND 40' LONG SLABS)	N/A	BD.2.10.1.0.01	1 OF 6	GENERAL NOTES AND INDEX
		BD.2.10.1.0.02	2 OF 6	PLANS AND SECTIONS - (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.1.0.03	3 OF 6	DETAILS "A" TO "G" - (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.1.0.04	4 OF 6	PLANS AND SECTIONS - (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.1.0.05	5 OF 6	DETAILS "H" TO "M" - (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.1.0.06	6 OF 6	DETAILS "N" TO "S" - (SLAB SPANS AND ALL GIRDER SPANS)
COMMON DETAILS (DRAINAGE)	N/A	BD.2.10.1.0.07	1 OF 1	DRAINAGE DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.1.0.08	1 OF 1	DRAINAGE DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.1.0.09	1 OF 1	BRIDGE END DRAIN SYSTEM (CLOSED)
		BD.2.10.1.0.10	1 OF 1	BRIDGE END DRAIN SYSTEM (OPEN)
SPECIFIC DETAILS (40' LONG SLAB 0°, 15°, 30° AND 45° SKEWS)	* 24'	BD.2.10.2.1.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.1.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.1.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.2.1.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	* 28'	BD.2.10.2.2.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.2.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.2.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.2.2.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	30'	BD.2.10.2.3.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.3.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.3.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.2.3.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	32'	BD.2.10.2.4.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.4.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.4.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.2.4.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	36'	BD.2.10.2.5.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.5.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.5.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.2.5.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	40'	BD.2.10.2.6.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.6.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.6.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.2.6.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	44'	BD.2.10.2.7.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.7.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.2.7.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.2.7.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)

* : TO BE DEVELOPED

	CLEAR WIDTH	BRIDGE STANDARD INDEX NO.	SERIES	DESCRIPTION
SPECIFIC DETAILS (20' LONG SLAB 0°, 15°, 30° AND 45° SKEWS)	* 24'	BD.2.10.3.1.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.1.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.1.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.3.1.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	* 28'	BD.2.10.3.2.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.2.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.2.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.3.2.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	* 30'	BD.2.10.3.3.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.3.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.3.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.3.3.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	* 32'	BD.2.10.3.4.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.4.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.4.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.3.4.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	* 36'	BD.2.10.3.5.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.5.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.5.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.3.5.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	* 40'	BD.2.10.3.6.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.6.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.6.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.3.6.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)
	* 44'	BD.2.10.3.7.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.7.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)
		BD.2.10.3.7.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)
		BD.2.10.3.7.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)

* : TO BE DEVELOPED

APPROACH SLAB GENERAL NOTES

1. DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 7th EDITION. DESIGN LIVE LOAD = LADV-11.
2. CONSTRUCTION SPECIFICATIONS: CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.
3. STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A1. EXPOSED EDGES SHALL HAVE A ¾" CHAMFER, UNLESS OTHERWISE NOTED.
4. BASIS OF PAYMENT: BRIDGE END DRAIN SYSTEM, IF REQUIRED, TO BE PAID FOR UNDER ITEM "BRIDGE END DRAIN SYSTEM (TYPE)." FOR SLAB SPAN AND QUAD BEAM BRIDGE APPROACH SLABS, THE "JOINT SEALANT" AND "BACKER MATERIAL" TO BE PAID FOR IN ACCORDANCE WITH SECTION 815 OF THE STANDARD SPECIFICATIONS, AND THE "PREFORMED JOINT FILLER" TO BE PAID FOR IN ACCORDANCE WITH SECTION 805 OF THE STANDARD SPECIFICATIONS. FOR ASPHALT ROADWAYS ADJACENT TO THE APPROACH SLAB, THE "ASPHALT PATCH" AND "SAWCUT AND SEAL" SHALL BE PAID FOR BY OTHERS. ALL OTHER MATERIAL AND WORK ASSOCIATED WITH APPROACH SLABS SHALL BE PAID FOR UNDER ITEM "CONCRETE APPROACH SLABS (CAST-IN-PLACE)", UNLESS OTHERWISE NOTED.
5. THESE STANDARDS ARE ONLY APPLICABLE FOR APPROACH SLABS WITH UNIFORM WIDTH ON A STRAIGHT ALIGNMENT.
6. NOT EVERY SHEET LISTED IN THE INDEX IS APPLICABLE FOR EVERY PROJECT. THE BRIDGE DESIGN ENGINEER SHALL SELECT THE APPLICABLE SHEETS PER PROJECT, NOTING THAT SHEETS IN A SERIES SHALL BE KEPT TOGETHER.

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

"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."

01/19/2022

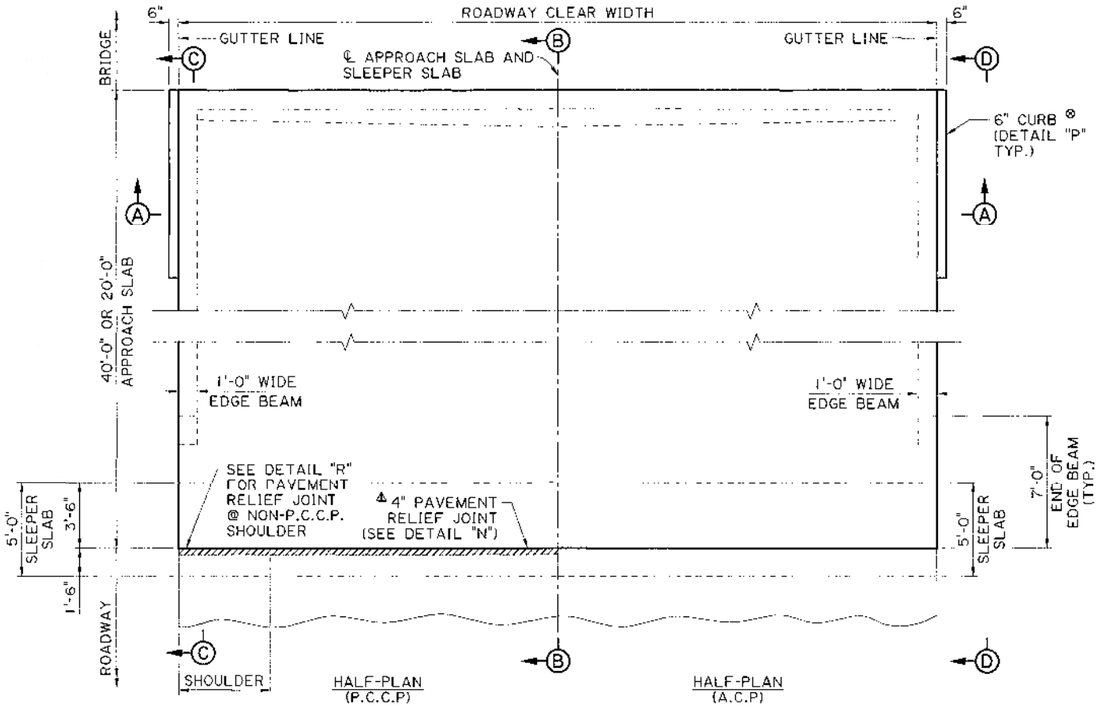
STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6/9/17

SHEET NUMBER 338

DESIGNED A.LANCASTER
CHECKED X. WANG
DETAILED A.LANCASTER
CHECKED R. MORVANT
RECMND Z. FU
SHEET 3 OF 6

APPROACH SLAB
GENERAL NOTES AND INDEX
BD.2.10.1.0.01 - APPROACH SLAB COMMON

DOTD
BRIDGE AND STRUCTURAL DESIGN



APPROACH SLAB PLAN
(SLAB SPAN AND QUAD BEAM BRIDGES)
(0° SKEW SHOWN)

NOTES:

1. P.C.C.P. = PORTLAND CEMENT CONCRETE PAVEMENT
   A.C.P. = ASPHALTIC CONCRETE PAVEMENT
2. FOR DETAILS "A" THROUGH "G" FOR SLAB SPAN OR QUAD BEAM BRIDGES, SEE SHEET 3 OF 6.
   FOR DETAILS "N" THROUGH "R", SEE SHEET 6 OF 6.

☑ 3. FOR P.C.C.P. ROADWAY, "EJ-4" JOINTS" SHALL BE CONSTRUCTED AS SHOWN ON ROADWAY STANDARD PLAN "CP-01". THREE (3) EJ-4" JOINTS ARE REQUIRED.

⊗ 4. DETAIL "P" APPLIES TO BRIDGES WITH GUARDRAIL BUT WITHOUT AN END DRAIN SYSTEM. WHEN AN END DRAIN INSTALLATION IS REQUIRED, SEE SPECIAL DETAIL SHEET "BRIDGE END DRAIN SYSTEM (OPEN)" OR "BRIDGE END DRAIN SYSTEM (CLOSED)" (AS APPLICABLE) FOR CURB LENGTH AND DETAILS. BRIDGES WITHOUT GUARDRAIL OR END DRAINS DO NOT REQUIRE A CURB, UNLESS OTHERWISE STATED IN THE PLANS.

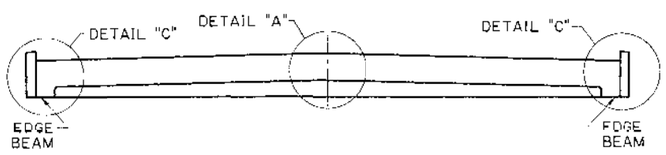
⚠ 5. PAVEMENT RELIEF JOINT FOR P.C.C.P. ROADWAY WITH P.C.C.P. SHOULDER IS SHOWN. FOR PAVEMENT RELIEF JOINT AT P.C.C.P. ROADWAY WITH NON-P.C.C.P. SHOULDER, SEE DETAIL "R".

✱ 6. DIMENSION "D" AT THE APPROACH SLAB CENTERLINE DEPENDS ON THE ROADWAY CLEAR WIDTH. FOR VALUES OF "D", SEE THE TABLE IN DETAIL "A".

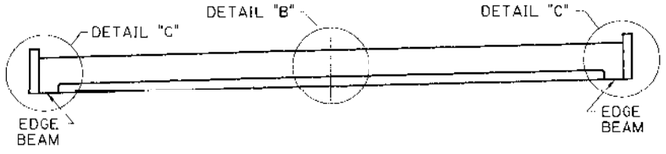
STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

"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."

01/19/2022

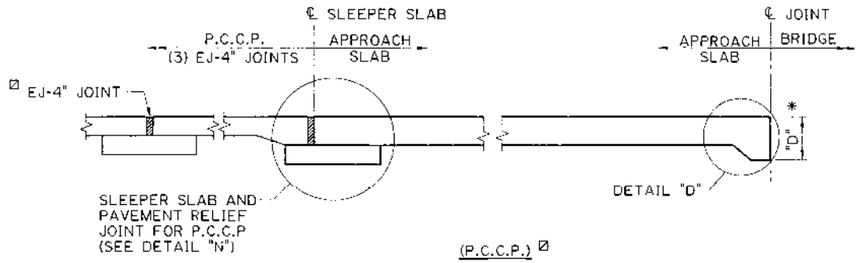


(TWO-WAY TANGENT)

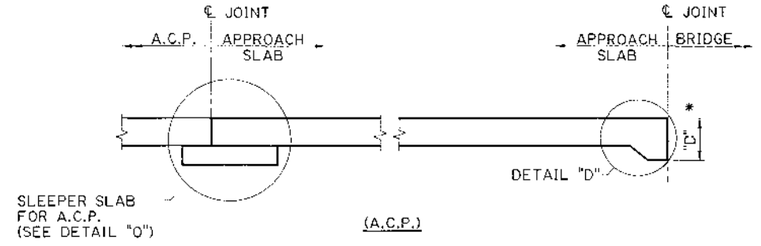


(ONE-WAY TANGENT)

SECTION A-A
(N.T.S.)

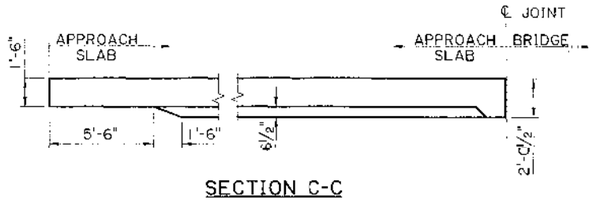


(P.C.C.P.) ☑

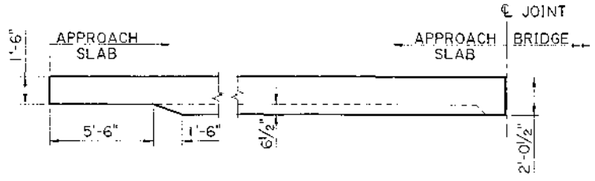


(A.C.P.)

SECTION B-B
(N.T.S.)



SECTION C-C
(SHOWING EDGE BEAM ONLY)
(N.T.S.)



SECTION D-D
(SHOWING EDGE BEAM ONLY)
(N.T.S.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6/19/17

SHEET NUMBER 339

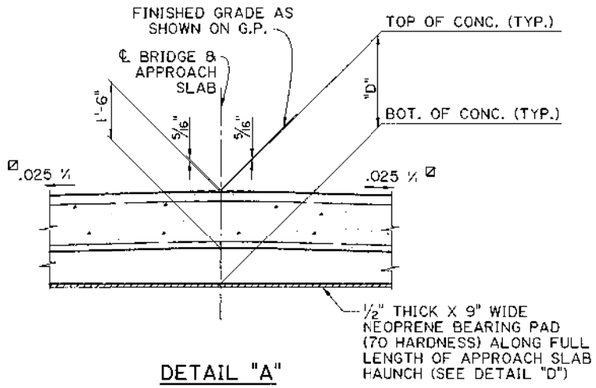
DESIGNED A. LANCASTER
DETAILED X. WANG
DETAILED A. LANCASTER
CHECKED R. MORVANT
QUANTITIES Z. FU
SHEET 2 OF 6

REVISION TO CHANGE TITLE SECTION

APPROACH SLAB
PLANS AND SECTIONS
S_AB SPAN AND QUAD BEAM BRIDGES
BD.2.10.1.0.02 - APPROACH SLAB COMMON

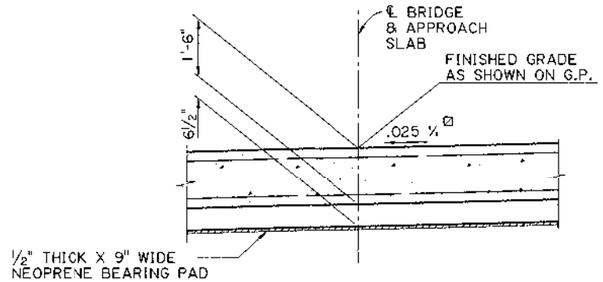
DOTD

BRIDGE AND STRUCTURAL DESIGN



DETAIL "A"
(TWO-WAY TANGENT)
SCALE : ½" = 1'-0"
Ø UNLESS OTHERWISE NOTED IN PLANS

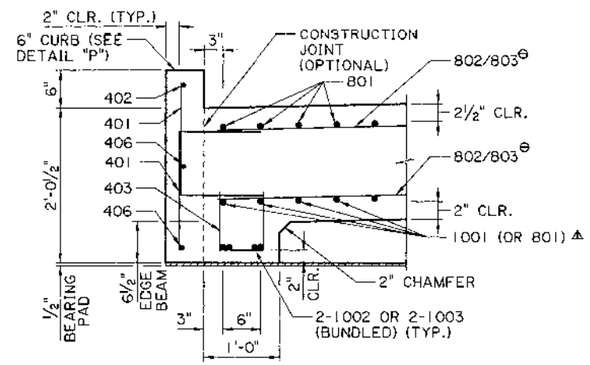
ROADWAY CLEAR WIDTH	DIMENSION "D" (2-WAY TANGENT W/ .025 ⅊ SLOPE)
24'	2'-3¾"
28'	2'-4⅜"
32'	2'-5"
36'	2'-5⅝"
40'	2'-6¼"
44'	2'-6¾"



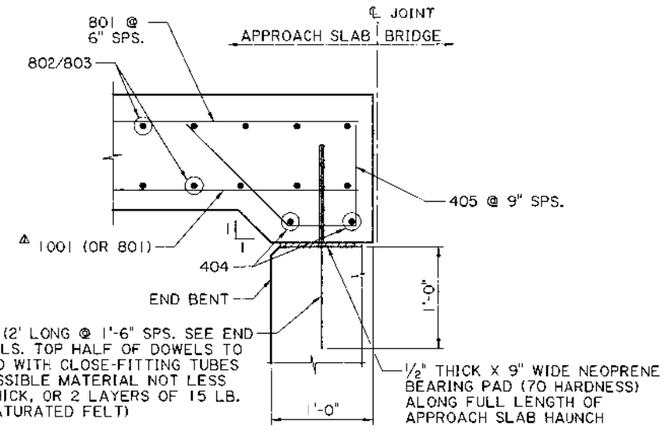
DETAIL "B"
(ONE-WAY TANGENT)
SCALE : ½" = 1'-0"
Ø UNLESS OTHERWISE NOTED IN PLANS

NOTES:

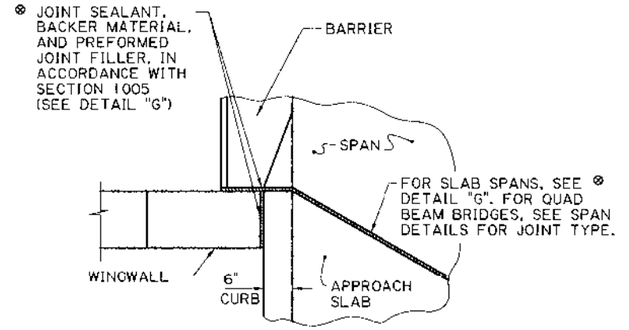
1. FOR REINFORCEMENT LOCATION AND QUANTITIES, SEE APPROACH SLAB "SPECIFIC DETAILS".
2. △ 1001 BARS IN THE BOTTOM OF THE SLAB ARE FOR A 40' LONG SLAB. FOR A 20' LONG SLAB, THESE BOTTOM BARS SHALL BE 801.
3. ⊖ 803 BARS ARE USED IN SKEWED SLABS ONLY.
4. ⊗ JOINT SEALANT AND BACKER MATERIAL TO BE PAID FOR IN ACCORDANCE WITH SECTION 815. JOINT FILLER TO BE PAID FOR IN ACCORDANCE WITH SECTION 805.



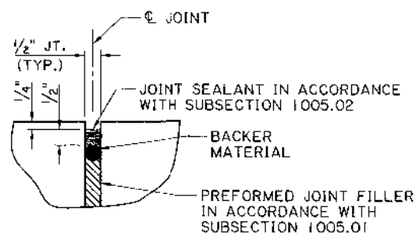
DETAIL "C"
(AT EDGE BEAM)
(N.T.S.)
SEE DETAIL "D"



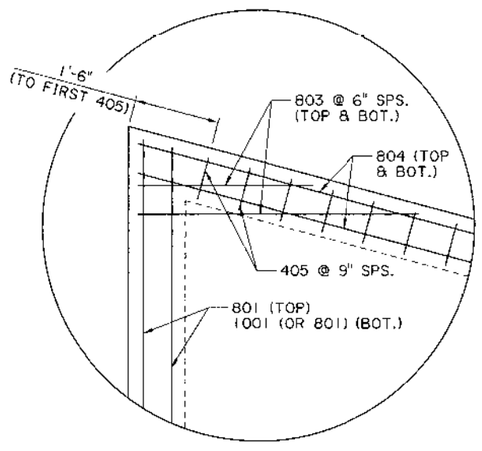
DETAIL "D"
(N.T.S.)



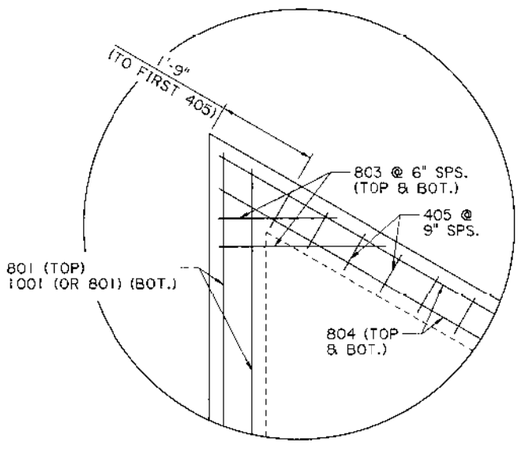
DETAIL "F"
JOINT DETAIL @ WINGWALL
(N.T.S.)



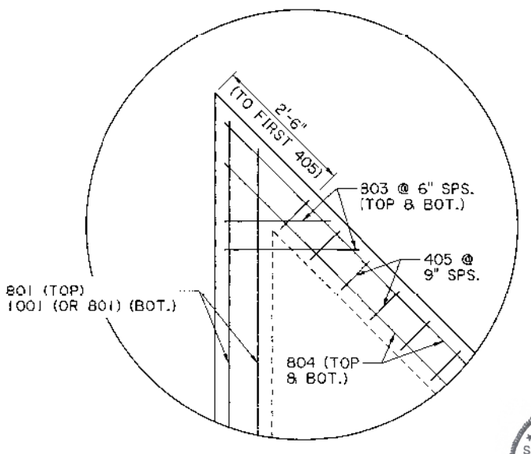
DETAIL "G"
(N.T.S.)



(15° SKEW)



(30° SKEW)



(45° SKEW)

DETAIL "E"
(N.T.S.)
(401, 402, 403, 404, 406 BARS AND CURB NOT SHOWN FOR CLARITY)

"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."

01/19/2022

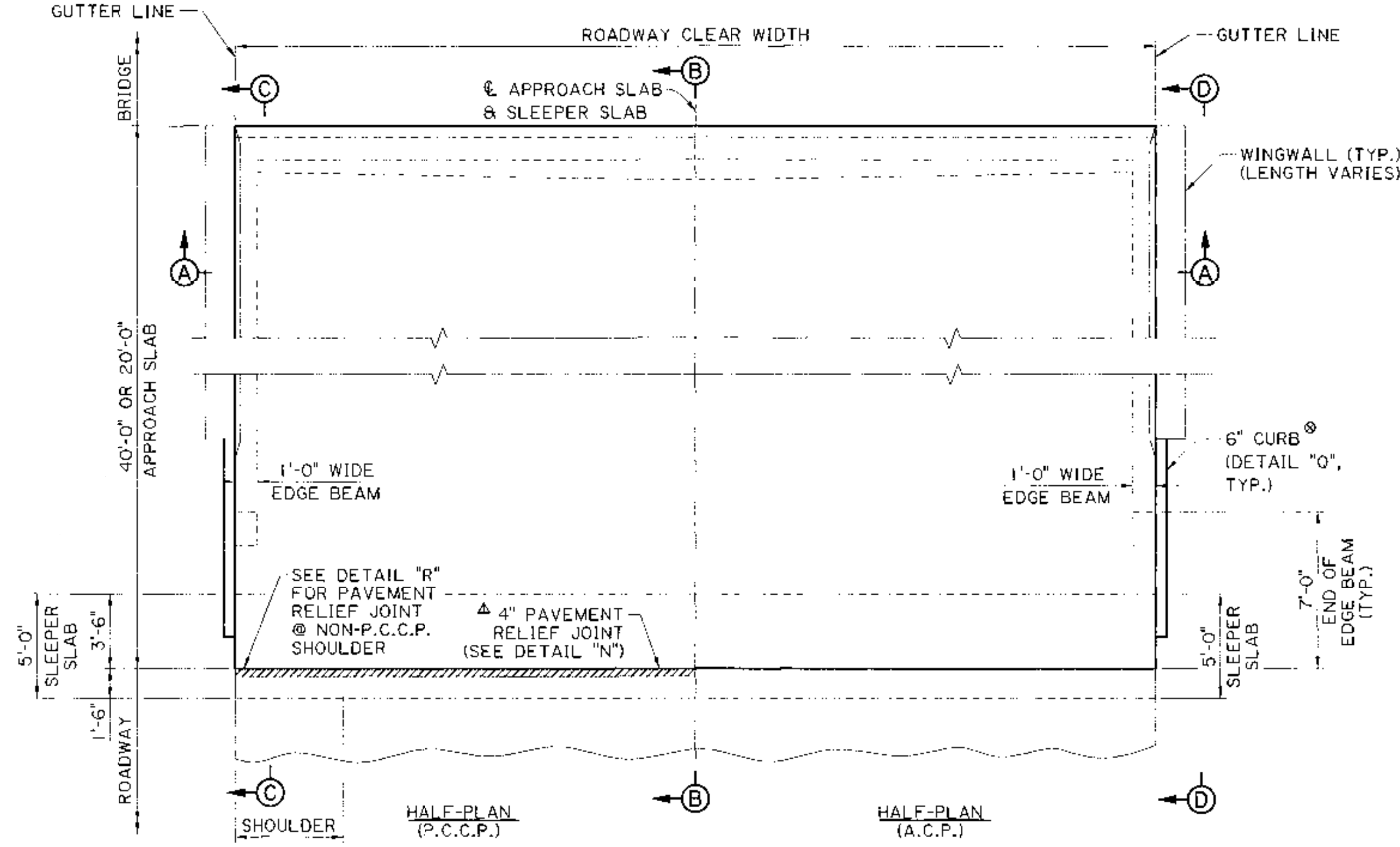
SHEET NUMBER 340

DESIGNED A.LANCASTER
CHECKED R. MORVANT
DETAILED R. MORVANT
CHECKED A.LANCASTER
REVIEWED Z.Z. FU
SERIES # 3 OF 6
PARISH
CONTROL SECTION
STATE PROJECT #

APPRCACH SLAB DETAILS "A" TO "G"
SLAB SPAN AND QUAD BEAM BRIDGES
30.2.10.1.0.03 - APPROACH SLAB COMMON

DATE
NO.
REVISION OR CHANGE DESCRIPTION

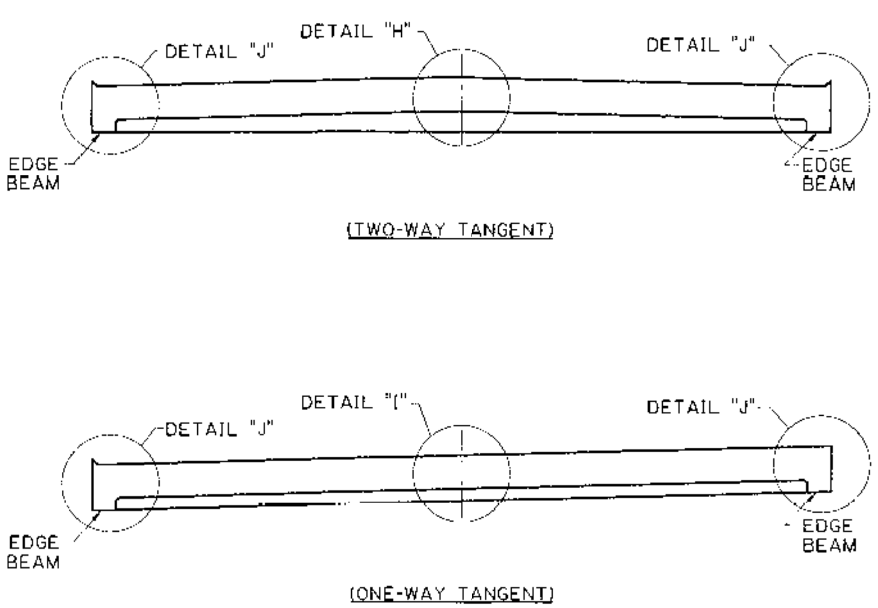
BRIDGE AND STRUCTURAL DESIGN



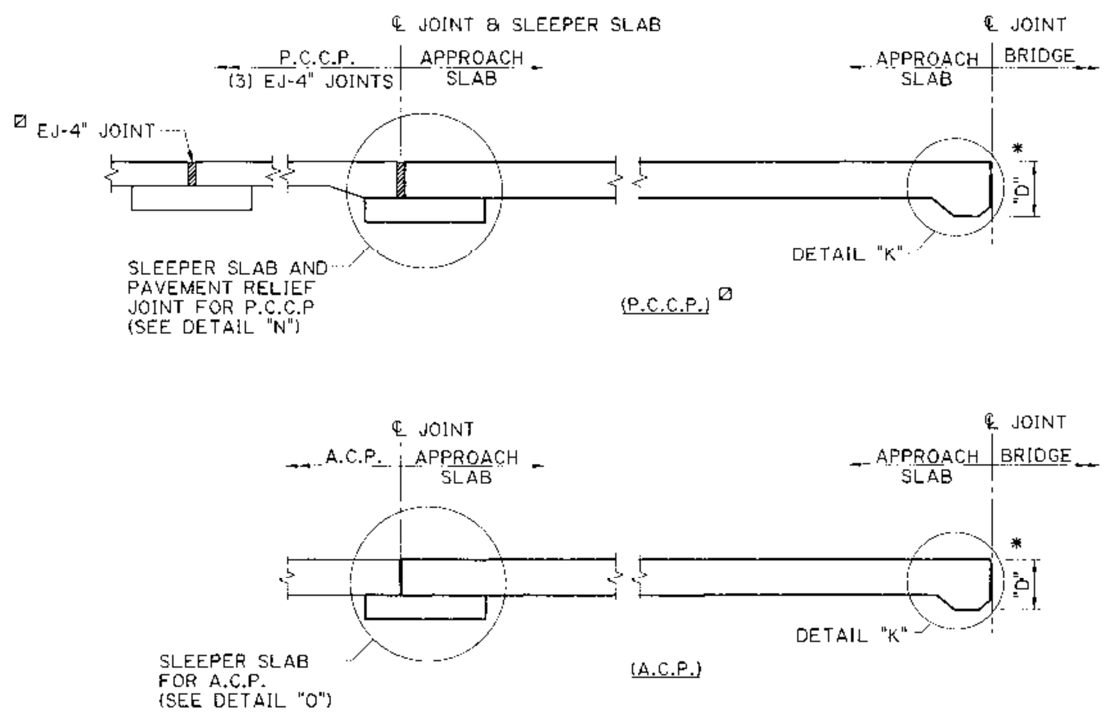
APPROACH SLAB PLAN
(GIRDER SPAN BRIDGES, EXCLUDING QUAD BEAMS)
(0° SKEW SHOWN)

NOTES:

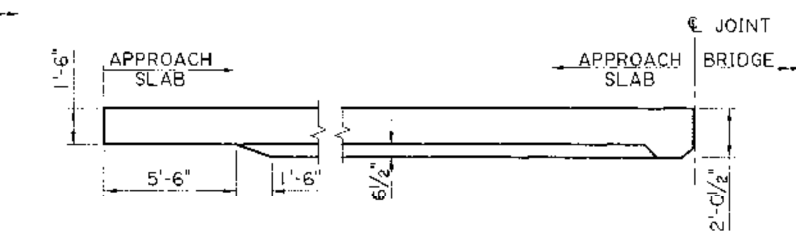
1. P.C.C.P. = PORTLAND CEMENT CONCRETE PAVEMENT
   A.C.P. = ASPHALTIC CONCRETE PAVEMENT
2. FOR DETAILS "H" THROUGH "M" FOR GIRDER SPAN BRIDGES, EXCLUDING QUAD BEAMS, SEE SHEET 5 OF 6. FOR DETAILS "N" THROUGH "R", SEE SHEET 6 OF 6.
3. ☒ FOR P.C.C.P. ROADWAY, "EJ-4" JOINTS" SHALL BE CONSTRUCTED AS SHOWN ON ROADWAY STANDARD PLAN "CP-01". THREE (3) EJ-4" JOINTS ARE REQUIRED.
4. ⊗ DETAIL "Q" APPLIES TO BRIDGES WITH GUARDRAIL BUT WITHOUT AN END DRAIN SYSTEM. WHEN AN END DRAIN INSTALLATION IS REQUIRED, SEE SPECIAL DETAIL SHEET "BRIDGE END DRAIN SYSTEM (OPEN)" OR "BRIDGE END DRAIN SYSTEM (CLOSED)" (AS APPLICABLE) FOR CURB LENGTH AND DETAILS. BRIDGES WITHOUT GUARDRAIL OR END DRAINS DO NOT REQUIRE A CURB, UNLESS OTHERWISE STATED IN THE PLANS.
5. △ PAVEMENT RELIEF JOINT FOR P.C.C.P. ROADWAY WITH P.C.C.P. SHOULDER IS SHOWN. FOR PAVEMENT RELIEF JOINT AT P.C.C.P. ROADWAY WITH NON-P.C.C.P. SHOULDER, SEE DETAIL "R".
6. * DIMENSION "D" AT THE APPROACH SLAB CENTERLINE DEPENDS ON THE ROADWAY CLEAR WIDTH. FOR VALUES OF "D", SEE THE TABLE IN DETAIL "H".



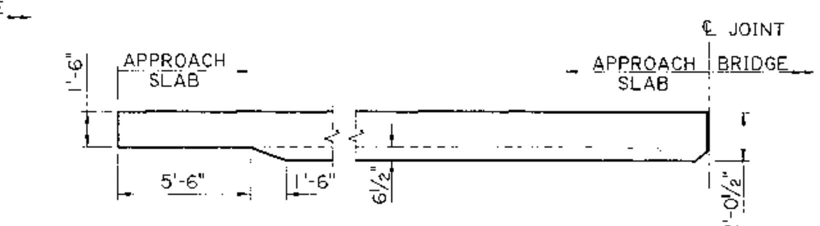
SECTION A-A
(N.T.S.)
(WINGWALLS AND CURBS NOT SHOWN FOR CLARITY)



SECTION B-B
(N.T.S.)



SECTION C-C
(SHOWING EDGE BEAM ONLY)
(N.T.S.)



SECTION D-D
(SHOWING EDGE BEAM ONLY)
(N.T.S.)

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING

01/19/2022

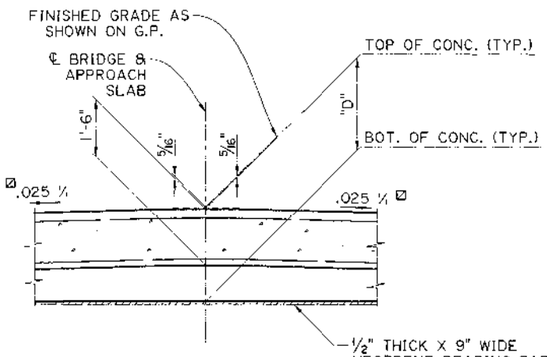
"These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project."

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35672
PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
6/19/17

DESIGNED A. LANCASTER
CHECKED X. WANG
DETAILED A. LANCASTER
CHECKED R. MORVANT
REVISED Z.Z. FU
SHEET 4 OF 6

APPROACH SLAB
PLANS AND SECTIONS
GIRDER SPANS EXCLUDING QUAD BEAMS
BD.2.10.1.0.04 - APPROACH SLAB COMMON

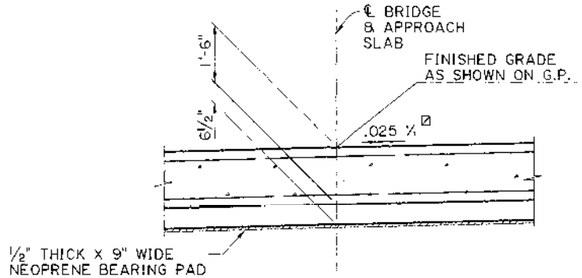
DOTD
BRIDGE AND STRUCTURAL DESIGN



DETAIL "H"
(TWO-WAY TANGENT)
SCALE: ½" = 1'-0"

☑ UNLESS OTHERWISE NOTED IN PLANS

ROADWAY CLEAR WIDTH	DIMENSION "D" (2-WAY TANGENT W/ .025 ⅟ SLOPE)
24'	2'-3¾"
28'	2'-4⅜"
32'	2'-5"
36'	2'-5⅝"
40'	2'-6¼"
44'	2'-6¾"

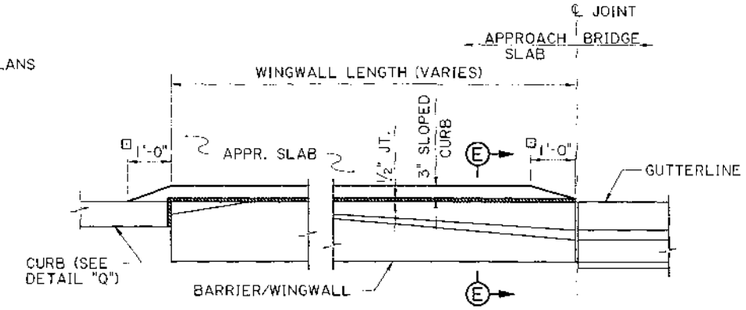


DETAIL "I"
(ONE-WAY TANGENT)
SCALE: ½" = 1'-0"

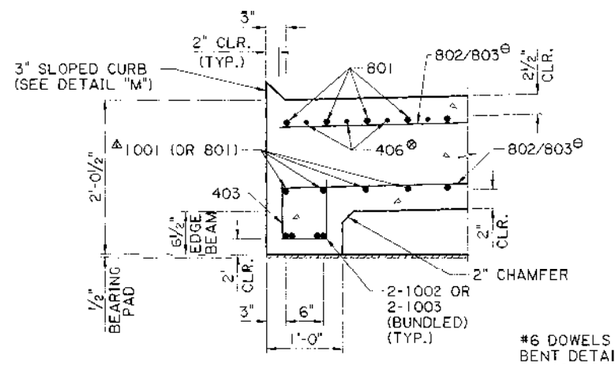
☑ UNLESS OTHERWISE NOTED IN PLANS

NOTES:

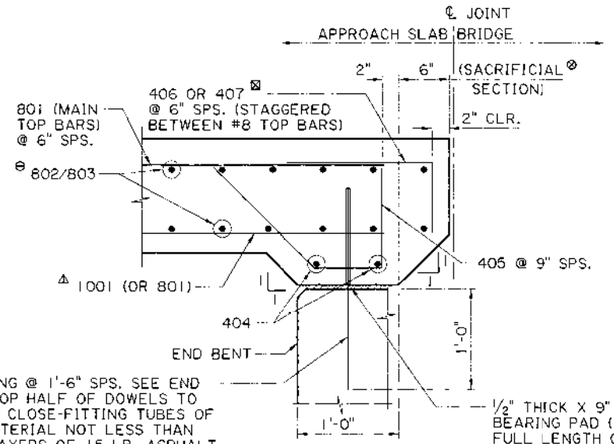
1. FOR REINFORCEMENT LOCATION AND QUANTITIES, SEE APPROACH SLAB "SPECIFIC DETAILS".
2. △ 1001 BARS IN THE BOTTOM OF THE SLAB ARE FOR A 40' LONG SLAB. FOR A 20' LONG SLAB, THESE BOTTOM BARS SHALL BE 801 BARS.
3. ⊖ 803 BARS ARE USED IN SKEWED SLABS ONLY.
4. ⊗ THE SACRIFICIAL SECTION IS PROVIDED FOR THE POSSIBLE CASE WHERE ROADWAY PAVEMENT GROWTH HAS PUSHED THE APPROACH SLAB INTO THE BRIDGE, CLOSING THE JOINT. IF REHABILITATION IS REQUIRED, UP TO 6 INCHES MAY BE REMOVED TO REESTABLISH THE JOINT.
5. ⊠ 407 BARS ARE ONLY REQUIRED FOR SKEWED APPROACH SLABS, AND ARE PLACED TRANSVERSE (PERPENDICULAR) TO THE ROADWAY CENTERLINE, STAGGERED BETWEEN 803 TOP BARS.



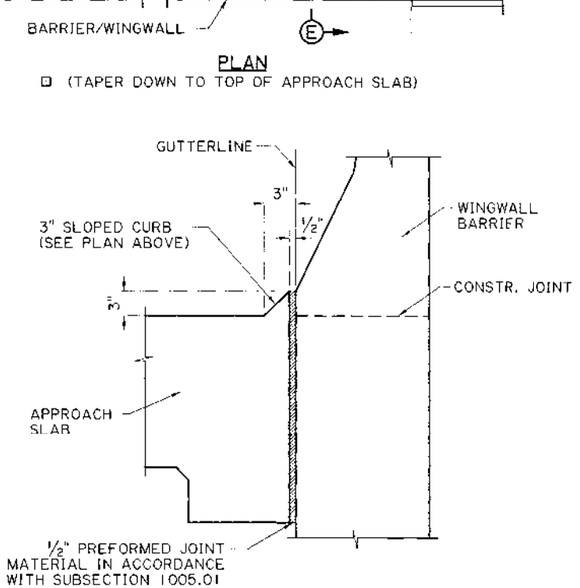
PLAN
☐ (TAPER DOWN TO TOP OF APPROACH SLAB)



DETAIL "J"
(AT EDGE BEAM)
⊗ SEE DETAIL "K"
(N.T.S.)

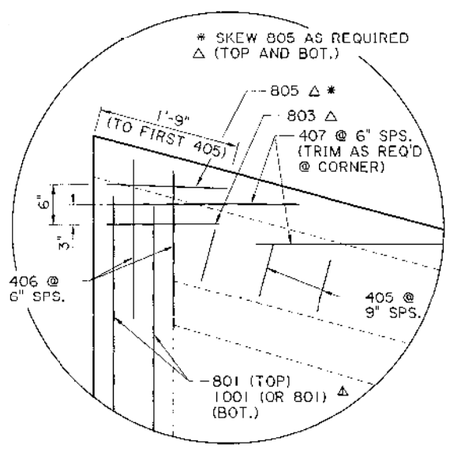


DETAIL "K"
(N.T.S.)

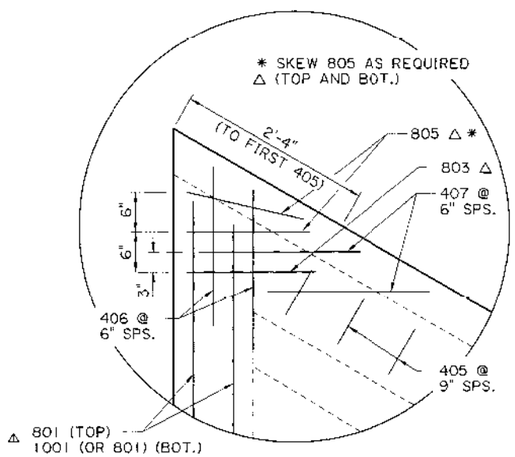


SECTION E-E

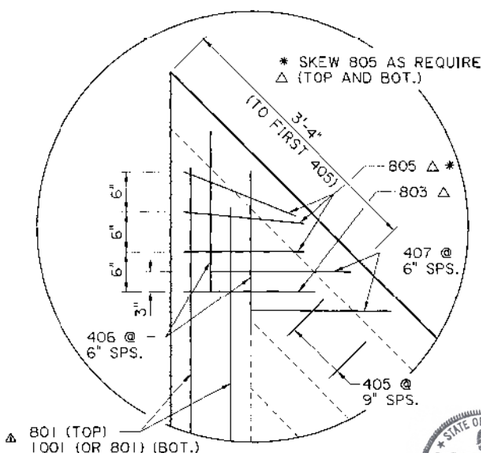
DETAIL "M"
(SHOWING 3" SLOPED CURB AT WINGWALL)
(N.T.S.)



(15° SKEW)
(N.T.S.)



(30° SKEW)
(N.T.S.)



(45° SKEW)
(N.T.S.)

DETAIL "L"
(N.T.S.)
(404 AND 804 BARS NOT SHOWN FOR CLARITY)

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

"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."

01/19/2022

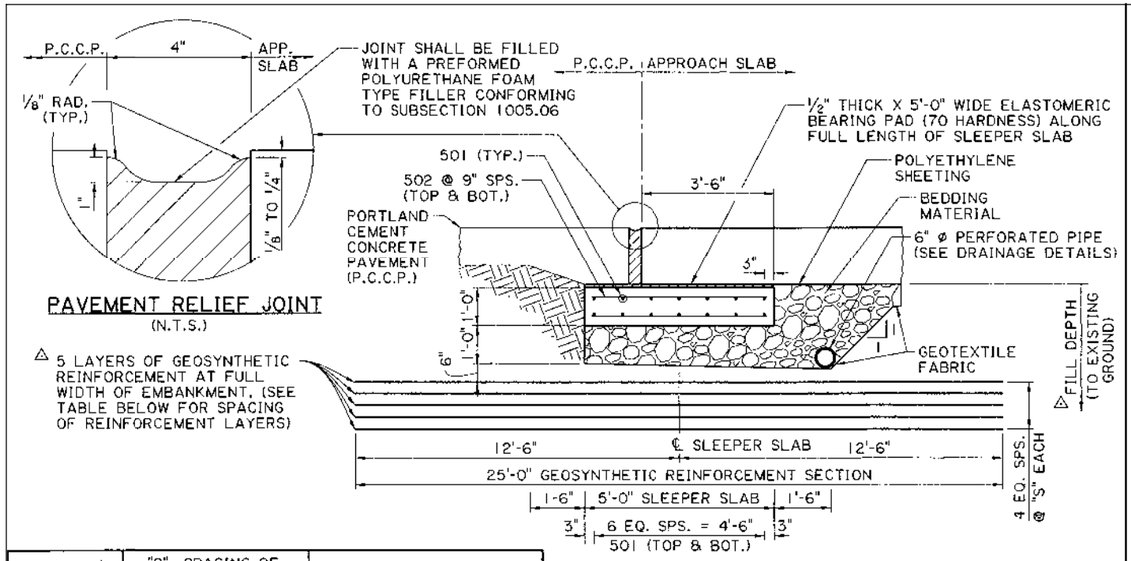
STATE OF LOUISIANA
ADAM LANCASTER
License No. 35574
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6/19/17

SHEET NUMBER 342

DESIGNED A.LANCASTER
DETAILED X. WANG
CHECKED A.LANCASTER
REVISED Z.Z. FU
DATE 6/19/17
SHEET 5 OF 6

APPROACH SLAB DETAILS "H" TO "M"
GIRDER SPANS EXCLUDING QUAD BEAMS
BD.2.10.1.0.05 - APPROACH SLAB COMMON

DOTD
BRIDGE AND STRUCTURAL DESIGN



PAVEMENT RELIEF JOINT
(N.T.S.)

FILL DEPTH △	"S"- SPACING OF GEOSYNTHETIC REINFORCEMENT	NOTE
< 2'-6"	12"	SEE NOTE 6 ✳
2'-6" TO 6'-6"	12"	EXCAVATION REQ'D TO PLACE REINFORCEMENT
6'-6" TO 8'-6"	12" TO 18"	KEEP EQUAL SPS. BETWEEN REINFORCEMENT LAYERS
> 8'-6"	18"	

DETAIL "N"
(N.T.S.)

SLEEPER SLAB & PAVEMENT RELIEF JOINT FOR P.C.C.P. ROADWAY

NOTES:

1. BUILD SLEEPER SLAB TO THE FULL WIDTH OF THE APPROACH SLAB.

△ 2. LAYERS OF GEOTEXTILE FABRIC UNDER THE SLEEPER SLAB ARE ONLY REQUIRED IN A NEW FILL SECTION. SEE GENERAL NOTES FOR DIRECTION WHEN PROJECT INVOLVES AN EXISTING EMBANKMENT.

GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF A BIAXIAL, WOVEN GEOTEXTILE FABRIC CONFORMING TO THE "GENERAL REQUIREMENTS" IN SUBSECTION 1019.01 OF THE STANDARD SPECIFICATIONS. THE "DETAILED REQUIREMENTS" OF 1019.01 DO NOT APPLY. FURNISH A CERTIFICATE OF COMPLIANCE AND TEST DATA FROM AN APPROVED LABORATORY SHOWING THE REINFORCEMENT MEETS OR EXCEEDS THE FOLLOWING STRENGTH REQUIREMENTS:

TENSILE STRENGTH @ 2% STRAIN: 550 LB/FT (ASTM D4595)
ULTIMATE TENSILE STRENGTH: 3000 LB/FT (ASTM D4595)
TENSILE STRENGTH RETAINED AFTER WEATHERING (500 HRS, UVA LAMPS) = 80% (ASTM D7238)

FURNISH GEOSYNTHETIC REINFORCEMENT IN 25' LONG SECTIONS. PLACE SECTIONS SO THAT REINFORCEMENT RUNS CONTINUOUSLY IN THE DIRECTION OF THE ROADWAY. INSTALL LAYERS OF REINFORCEMENT FLAT AND TAUT, AND SECURE LAYERS IN PLACE WITH SHOVELLED PILES OF FILL, PINS, OR STAPLES. PLACE AND SPREAD LAYERS OF FILL IN THE DIRECTION OF OVERLAPS TO PREVENT PEELING OR SEPARATION OF REINFORCEMENT LAYERS AT THE OVERLAPS. LAYERS OF REINFORCEMENT MUST REMAIN FLAT AND TAUT DURING AND AFTER FILL PLACEMENT. HANDLING AND PLACEMENT OF REINFORCEMENT SHALL CONFORM TO THE "CONSTRUCTION REQUIREMENTS" OF SUBSECTION 203.11.

☒ 3. "ASPHALT PATCH" AND "SAW CUT AND SEAL" TO BE PAID UNDER APPROPRIATE PAY ITEMS BY OTHERS.

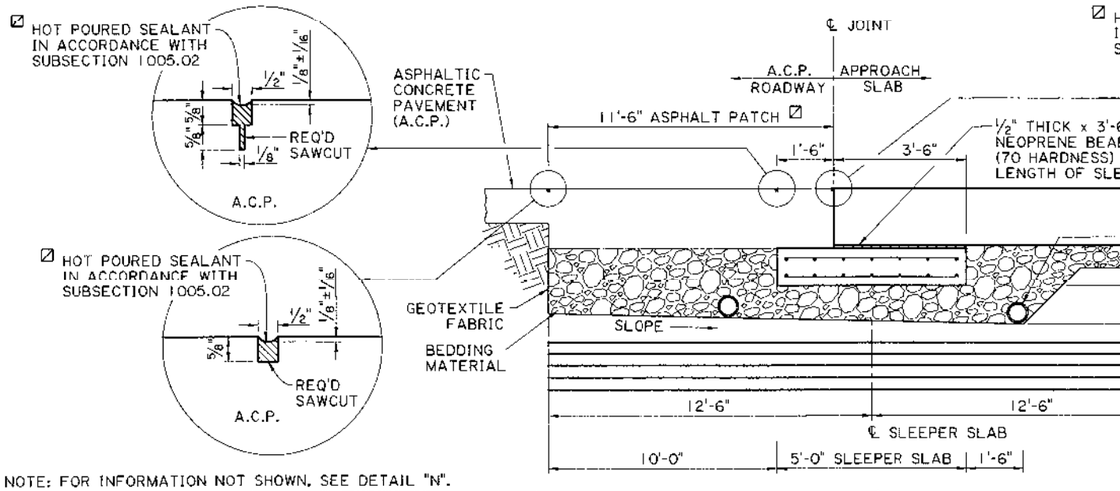
⊗ 4. DETAILS "P" AND "Q" APPLY TO BRIDGES WITH GUARDRAIL BUT WITHOUT AN END DRAIN SYSTEM. WHEN AN END DRAIN INSTALLATION IS REQUIRED, SEE SPECIAL DETAIL SHEET "BRIDGE END DRAIN SYSTEM (OPEN)" OR "BRIDGE END DRAIN SYSTEM (CLOSED)" (AS APPLICABLE) FOR CURB LENGTH AND DETAILS. BRIDGES WITHOUT GUARDRAIL OR END DRAINS DO NOT REQUIRE A CURB, UNLESS OTHERWISE STATED IN THE PLANS.

☒ 5. FOR A P.C.C.P. ROADWAY WITH NON-P.C.C.P. SHOULDERS, DISCONTINUE THE 4" PAVEMENT RELIEF JOINT AT THE EDGE OF ROADWAY, AS SHOWN IN DETAIL "R".

IN CASES WHERE THE REQUIRED CURB LENGTH EXTENDS BEYOND THE END OF THE APPROACH SLAB ONTO AN ASPHALT SHOULDER, THE SEGMENT OF THE CURB ON THE ASPHALT SHOULDER MAY BE CONSTRUCTED OF ASPHALT. IN THESE CASES, BARS 401 AND 402 MAY BE OMITTED FROM THE CURB.

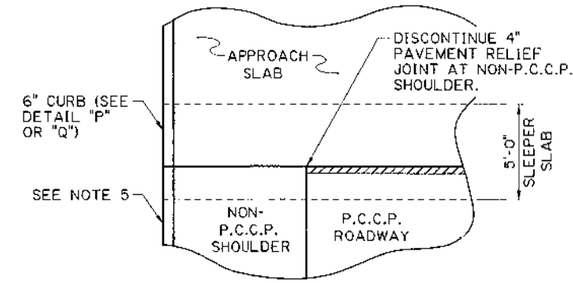
✳ 6. IF WARRANTED BY PROJECT CONDITIONS, GEOTEXTILE REINFORCEMENT UNDER SLEEPER SLAB MAY BE OMITTED, BUT SUBSURFACE SOIL CONDITIONS SHOULD BE INVESTIGATED TO DETERMINE SOIL BEARING CAPACITY AND EXPECTED SETTLEMENT. IF SOIL BEARING CAPACITY UNDER THE SLEEPER SLAB EXCEEDS 2000 PSF, NO GEOSYNTHETIC REINFORCEMENT IS REQUIRED.

"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."



NOTE: FOR INFORMATION NOT SHOWN, SEE DETAIL "N".

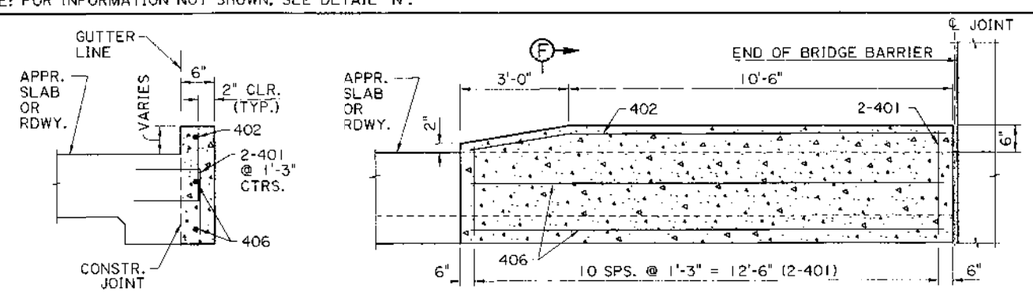
DETAIL "Q"
(N.T.S.)



DETAIL "R" ☒
(N.T.S.)

SLEEPER SLAB FOR A.C.P. ROADWAY

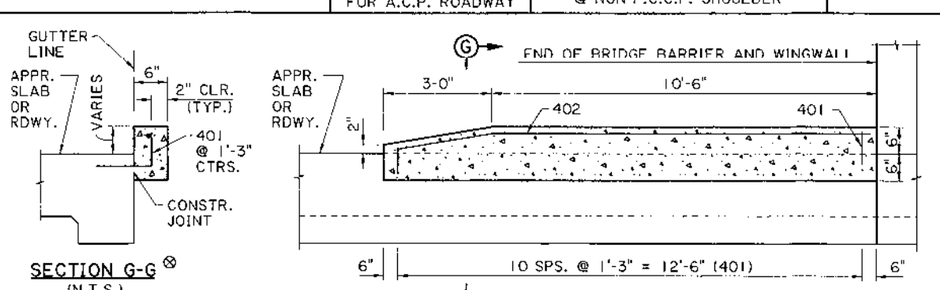
PAVEMENT RELIEF JOINT & CURB @ NON-P.C.C.P. SHOULDER



SECTION F-F ⊗
(N.T.S.)

DETAIL "P" ⊗
(N.T.S.)

CURB DETAIL - SLAB SPAN & QUAD BEAM BRIDGES



SECTION G-G ⊗
(N.T.S.)

DETAIL "Q" ⊗
(N.T.S.)

CURB DETAIL - GIRDER SPAN BRIDGES EXCEPT QUAD BEAMS

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
01/19/2022

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/19/19

SHEET NUMBER 343

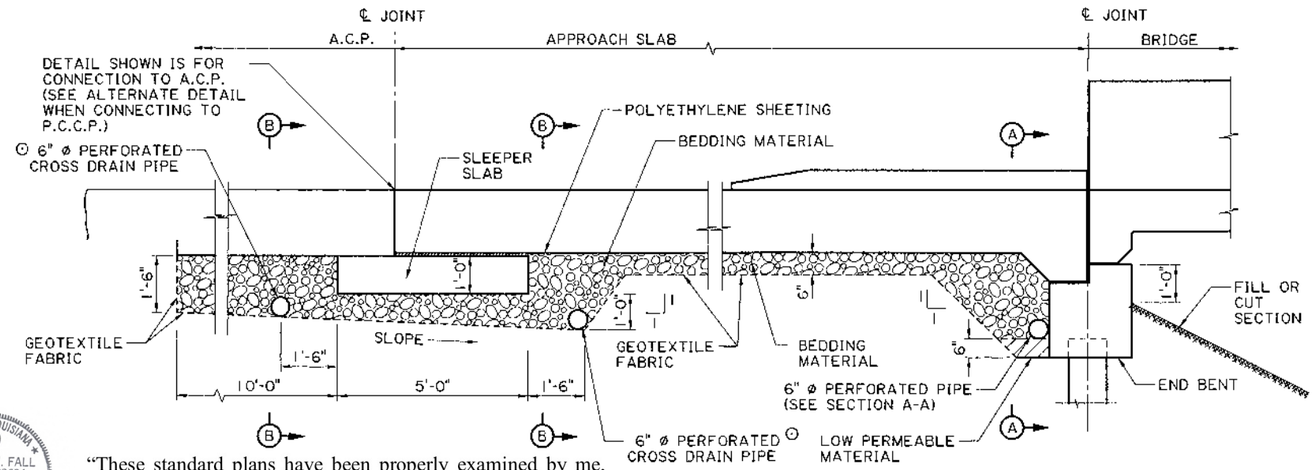
DESIGNED A.LANCASTER
CHECKED X. WANG
DETAILED A.LANCASTER
CHECKED R. MORVANT
CONTRO. SECTION
REVISED Z.Z. FU
SERIES = 6 OF 6
STATE PROJECT

APPROACH SLAB DETAILS "N" TO "R"

BD.2.10.1.0.06 - APPROACH SLAB COMMON

BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d0695344\BD.2.10.1.0.06_Approach Slab Common 06.raster .dgn

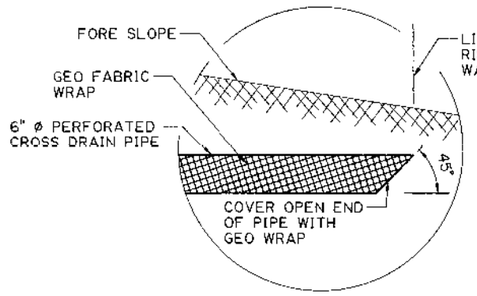


ELEVATION @ APPROACH SLAB

(SLAB SPAN BRIDGE SHOWN.
QUAD BEAM DETAIL SIMILAR)
(ASPHALTIC CONCRETE ROADWAY SHOWN.
FOR ALTERNATE DETAILS AT ROADWAY, SEE BELOW)

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.

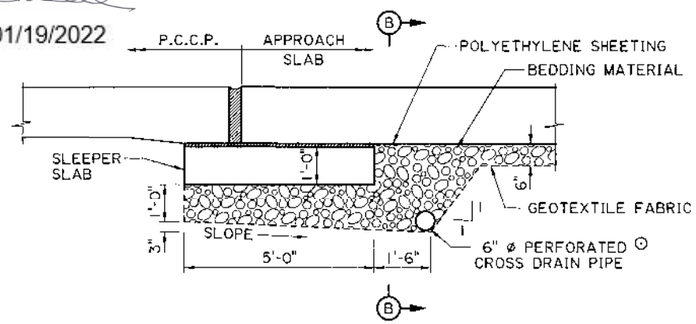


DETAIL A

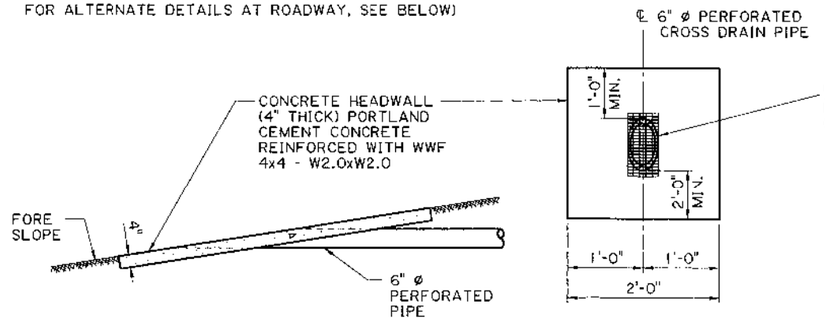
STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

"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."

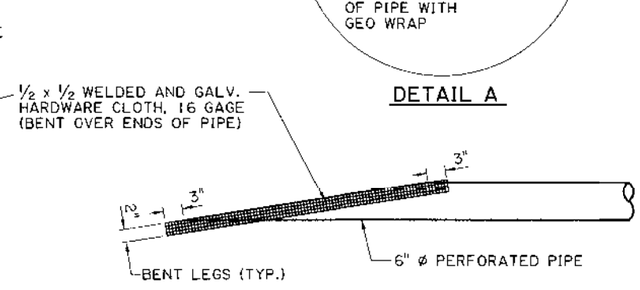
01/19/2022



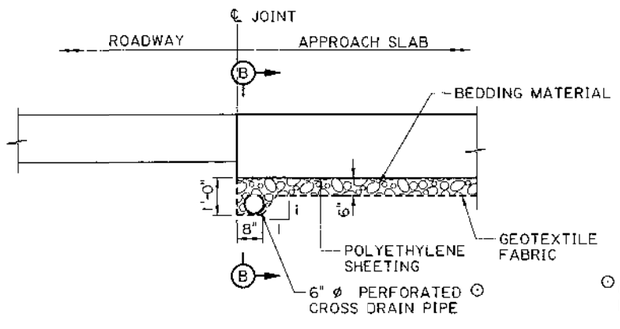
ALTERNATE DETAIL FOR P.C.C.P. ROADWAY



CONCRETE HEADWALL

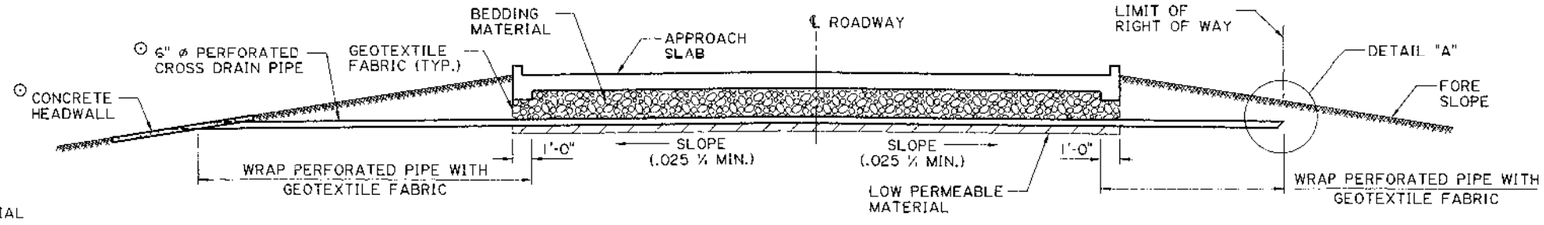


END TREATMENT
FOR 6" PERFORATED CROSS DRAIN PIPES



⊡ 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)

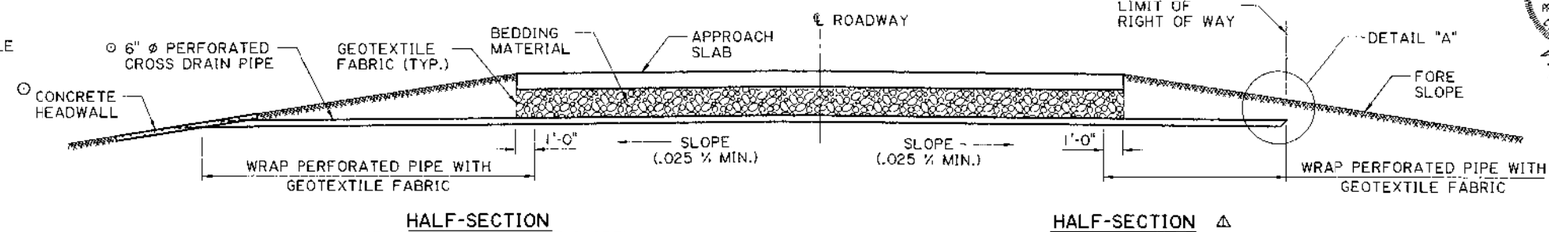


HALF-SECTION
(WITH HEADWALL ON FORE SLOPE)

SECTION A-A

HALF-SECTION ⚠
(AT LIMIT OF R.O.W.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35013
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/19/17



HALF-SECTION
(WITH HEADWALL ON FORE SLOPE)

SECTION B-B

HALF-SECTION ⚠
(AT LIMIT OF R.O.W.)

(ALL DETAILS ON THIS SHEET ARE N.T.S.)

SHEET NUMBER 344

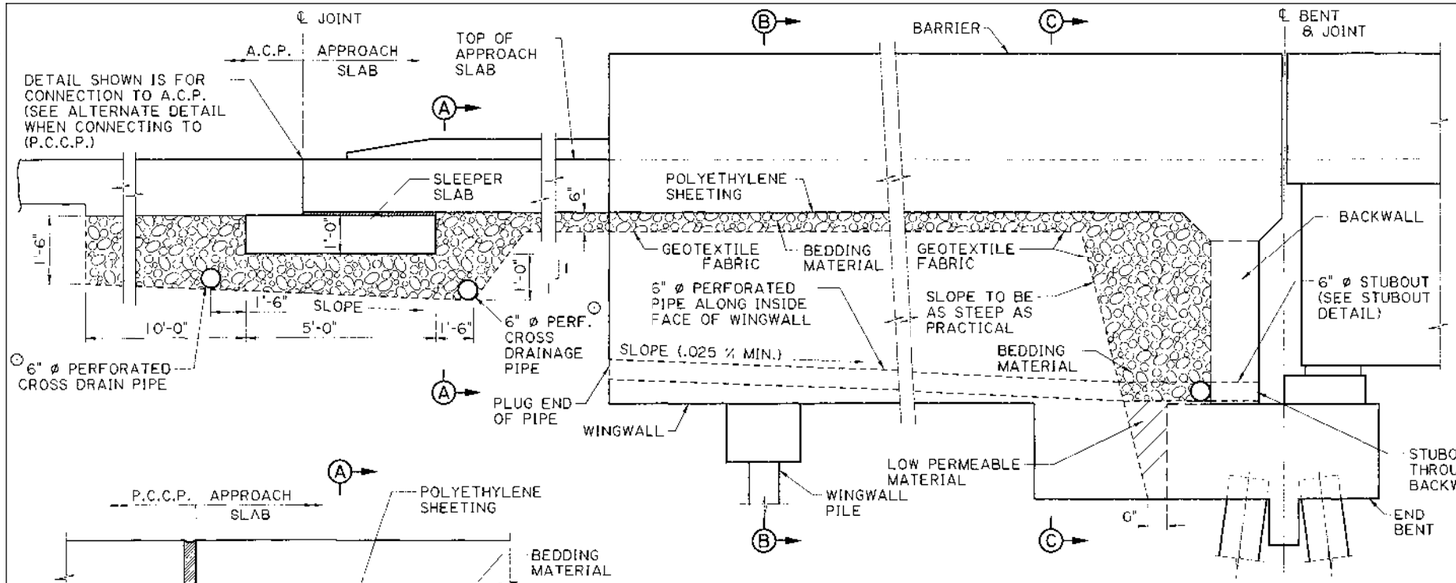
DESIGNED	A. LANCASTER
CHECKED	X. WANG
DETAILED	A. KUYORO
CHECKED	A. LANCASTER
REVIEWED	Z. Z. FU
SERIES #	1 OF 1

DRAINAGE DETAILS FOR CONCRETE APPROACH SLABS

SLAB SPANS AND QUAD BEAM BRIDGES

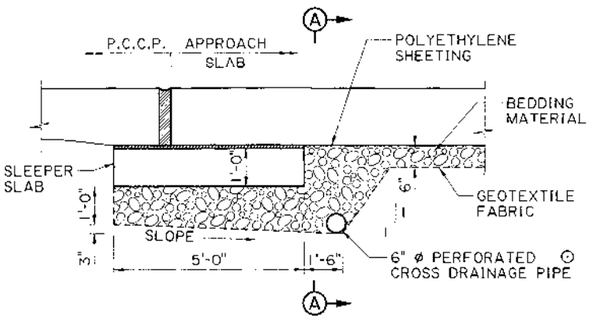
BD.2.10.1.0.07 - APPROACH SLAB COMMON

BRIDGE AND STRUCTURAL DESIGN



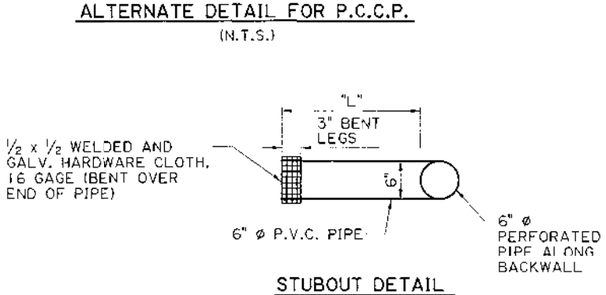
ELEVATION @ APPROACH SLAB

(DETAIL SHOWN IS FOR A.C.P. SEE ALT. DETAIL FOR P.C.C.P.)



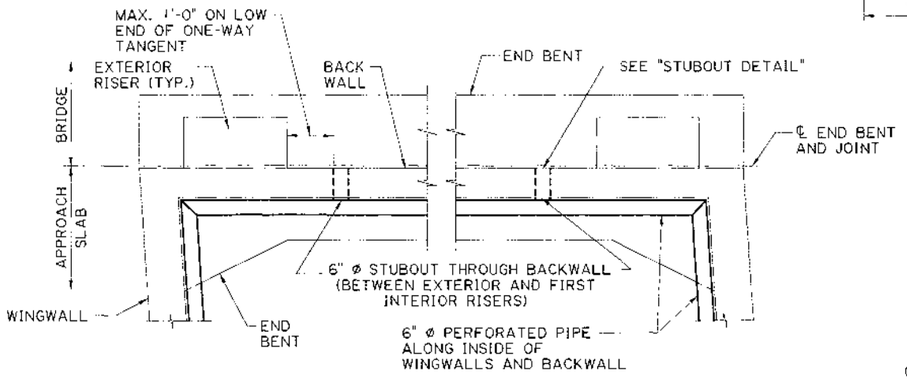
ALTERNATE DETAIL FOR P.C.C.P.

(N.T.S.)



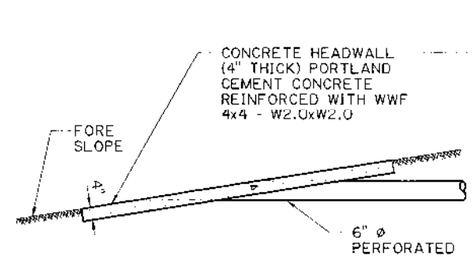
STUBOUT DETAIL

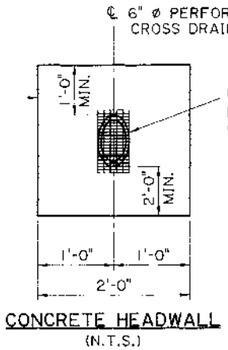
("L" IS DETERMINED BY THE THICKNESS OF THE END BENT BACKWALL)



PLAN - END BENT

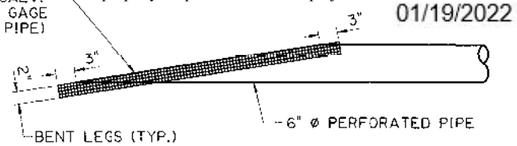
(SHOWING 6" ø DRAINAGE STUBOUTS)





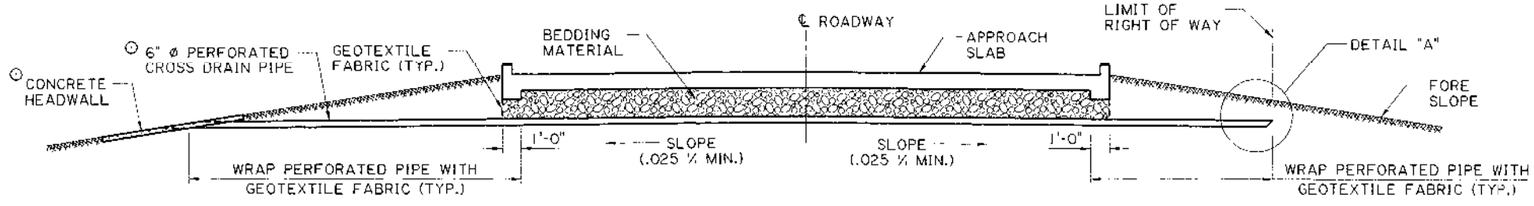
CONCRETE HEADWALL

(N.T.S.)



END TREATMENT FOR 6" PERFORATED CROSS DRAIN PIPES

(N.T.S.)



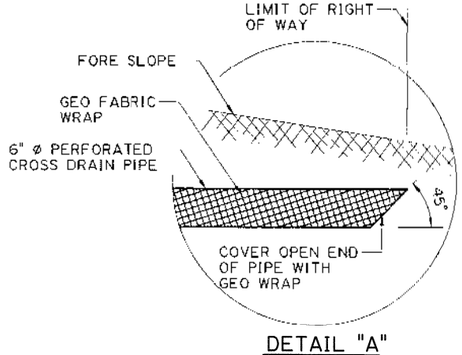
HALF-SECTION

(WITH HEADWALL ON FORE SLOPE)

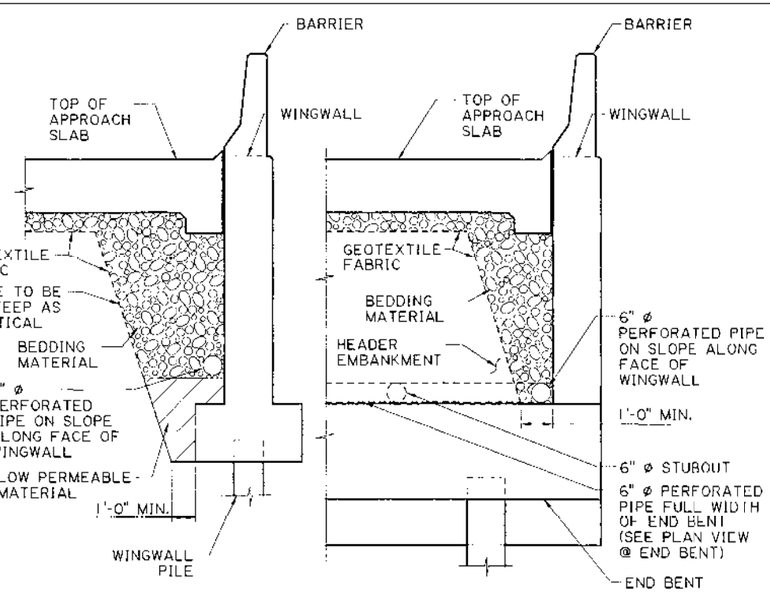
SECTION A-A

HALF-SECTION ⚠

(AT LIMIT OF R.O.W.)



DETAIL "A"



SECTION B-B

SECTION C-C

"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."

01/19/2022

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
PRESENTLY EMPLOYED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

STATE OF LOUISIANA
ADAM LANCASTER
License No. 32413
PROFESSIONAL ENGINEER
IN
ENGINEERING
6/19/17

NOTES:

1. INSTALL POLYETHYLENE SHEETING (6 MIL. THICKNESS) BETWEEN THE BEDDING MATERIAL AND APPROACH SLAB. INSTALL GEOTEXTILE FABRIC DIRECTLY BELOW AND AROUND THE SIDES OF 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 R.O.W. (SEE DETAIL "A")

SHEET NUMBER 345

DESIGNED A. LANCASTER
DETAILED K. WANG
CHECKED A. LANCASTER
REVIEWED Z. FU
APPROVED Z. FU

DRAINAGE DETAILS FOR CONCRETE APPROACH SLAB
GIRDER SPANS EXCLUDING QUAD BEAMS
BD.2.1.0.08 - APPROACH SLAB COMMON

DOTD
BRIDGE AND STRUCTURAL DESIGN

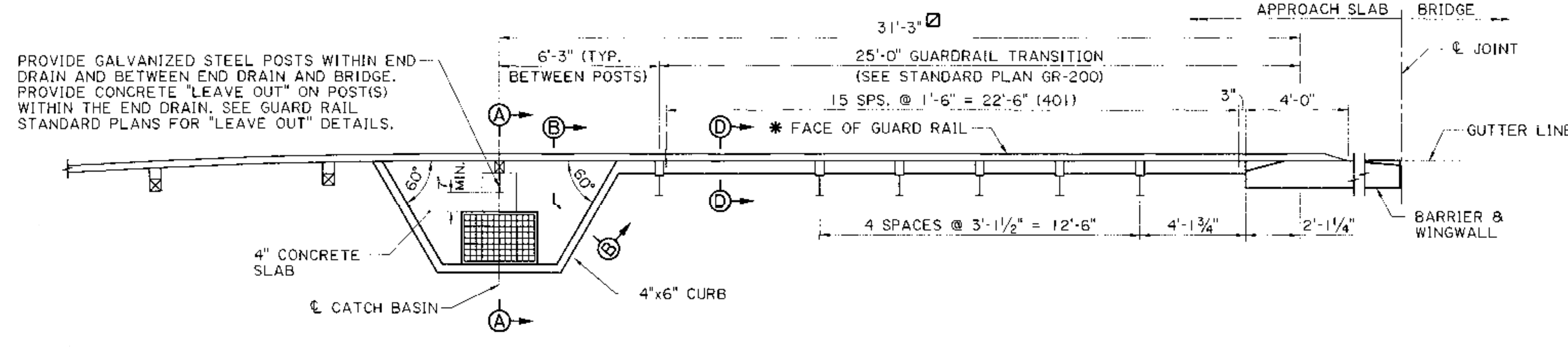
NOTES:

1. SEE GENERAL PLAN FOR END DRAIN SYSTEM REQUIREMENT.

✱ 2. GUARD RAIL SHALL BE LAID OUT PRIOR TO BUILDING THE CATCH BASIN AND END DRAIN. FRONT FACE OF CURB TO BE FLUSH WITH BACK FACE OF THRIE BEAM RAIL (SEE GUARD RAIL STANDARD PLANS FOR GUARD RAIL DETAILS).

3. COST OF CB-01 CATCH BASIN, 18"ø PIPE, FABRICATED CONDUIT FITTINGS, SLOPE PROTECTION, 4" CONCRETE SLAB, 4"x6" CURB, WWF, AND #4 DOWELS TO BE INCLUDED IN THE COST OF ITEM "BRIDGE END DRAIN SYSTEM (CLOSED)". 6"x6" CURB TO BE INCLUDED IN THE COST OF ITEM "CONCRETE APPROACH SLABS". GUARDRAIL TO BE PAID FOR SEPARATELY. (SEE STANDARD PLAN FOR GUARD RAIL DETAILS.)

☒ 4. DIMENSION TO CENTER OF CATCH BASIN MAY BE LENGTHENED AS WARRANTED BY PROJECT-SPECIFIC CONDITIONS. FOR EXAMPLE, IT IS UNDESIRABLE FOR THE CATCH BASIN AND ASSOCIATED 4" CONCRETE SLAB TO BE LOCATED AT THE END OF THE APPROACH SLAB WHERE THE 4" SLAB WOULD BE CONNECTED TO BOTH THE APPROACH SLAB AND THE ROADWAY. DIFFERENTIAL SETTLEMENT BETWEEN THE ROADWAY AND APPROACH SLAB IN THIS CASE COULD DAMAGE THE END DRAIN SYSTEM. SEE GENERAL PLAN FOR LOCATION OF END DRAIN SYSTEM.

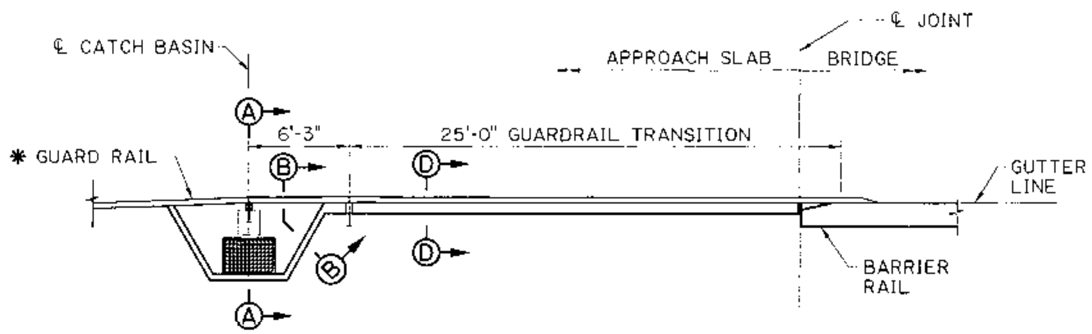


PLAN "A"- CLOSED END DRAIN
FOR GIRDER SPAN BRIDGES (EXCEPT QUAD BEAMS)
(WINGWALL PARALLEL TO ROADWAY)
(N.T.S)

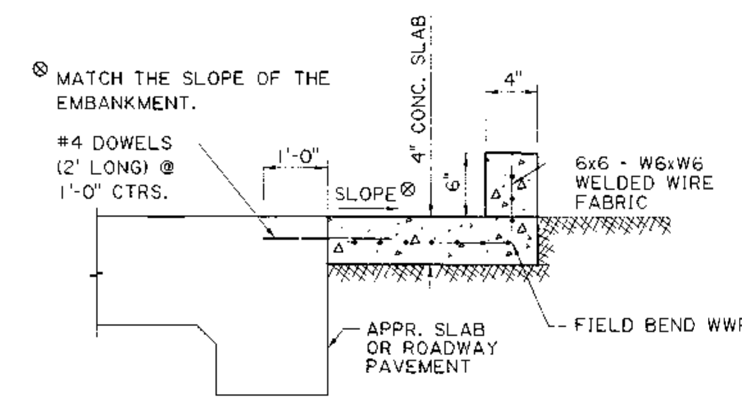
"These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project."

STATE OF LOUISIANA
STEVEN M. FALL
REG. No. 23634
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

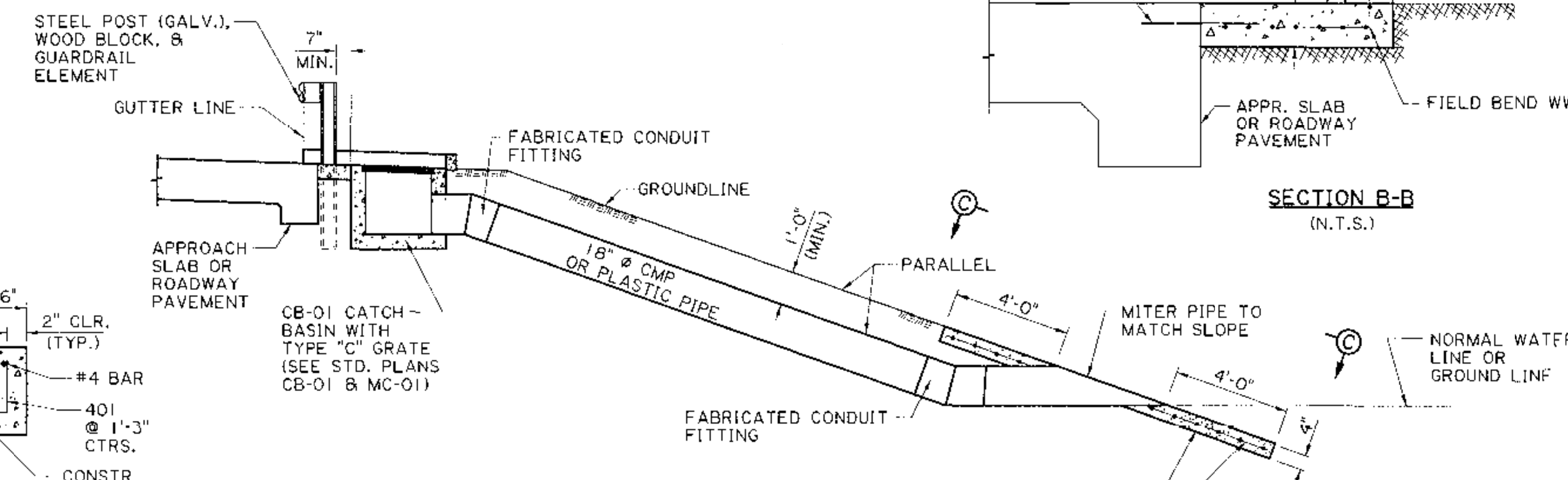
01/19/2022



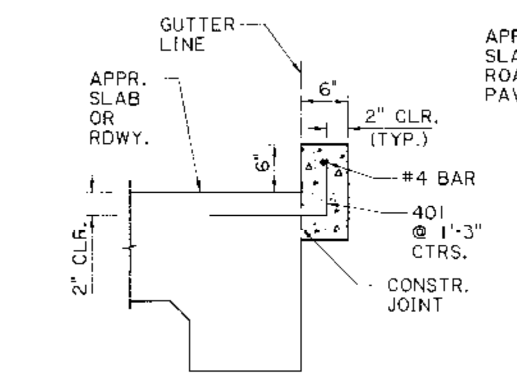
PLAN "B"- CLOSED END DRAIN
FOR SLAB SPAN AND QUAD BEAM BRIDGES
(FOR INFORMATION NOT SHOWN, SEE PLAN "A")
(WINGWALL NOT PARALLEL TO ROADWAY)
(N.T.S.)



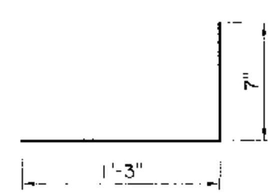
SECTION B-B
(N.T.S.)



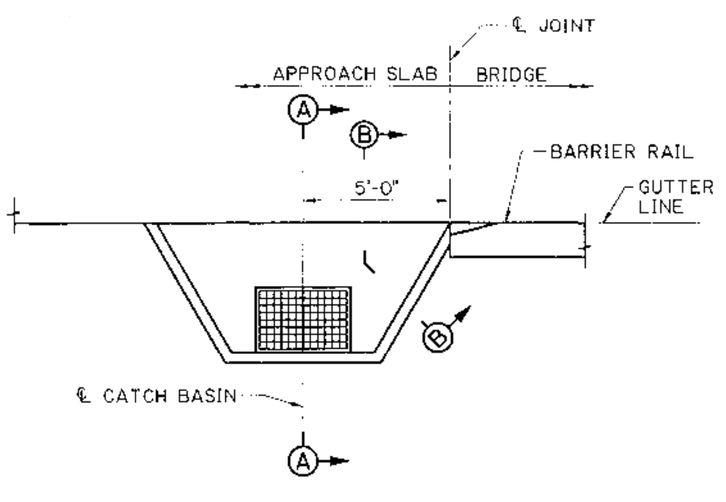
SECTION A-A
(N.T.S.)



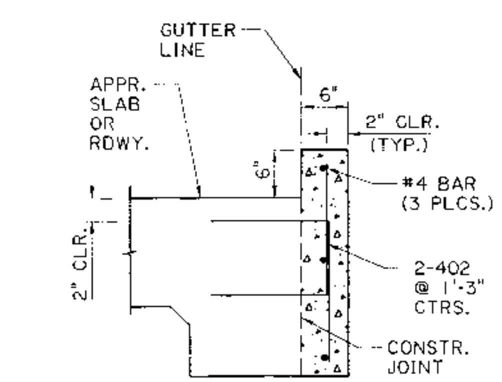
CURB DETAIL
(GIRDER SPAN BRIDGES, EXCLUDING QUAD BEAM)



401
(2"ø PIN)

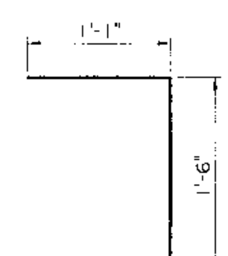


PLAN "C"- CLOSED END DRAIN WHEN
WINGWALLS AND GUARDRAIL ARE NOT REQUIRED
(FOR INFORMATION NOT SHOWN, SEE PLAN "A")
(N.T.S.)

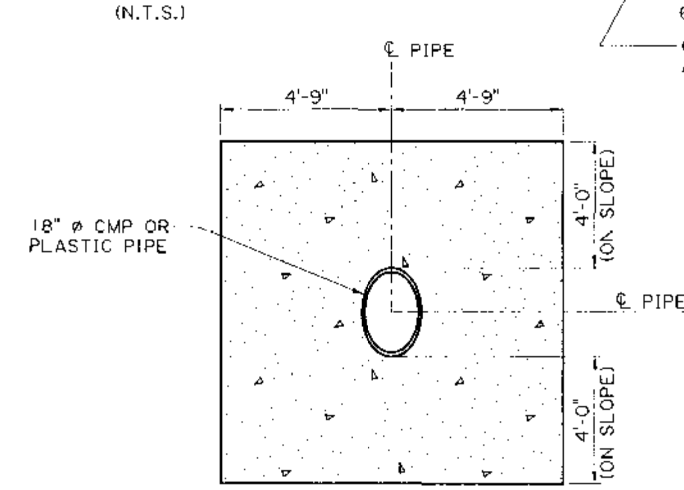


CURB DETAIL
(SLAB SPAN AND QUAD BEAM BRIDGES)

SECTION D-D
(N.T.S.)



402
(2"ø PIN)



SECTION C-C
(CONCRETE SLOPE PROTECTION AT PIPE END)
(N.T.S.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35513
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/19/17

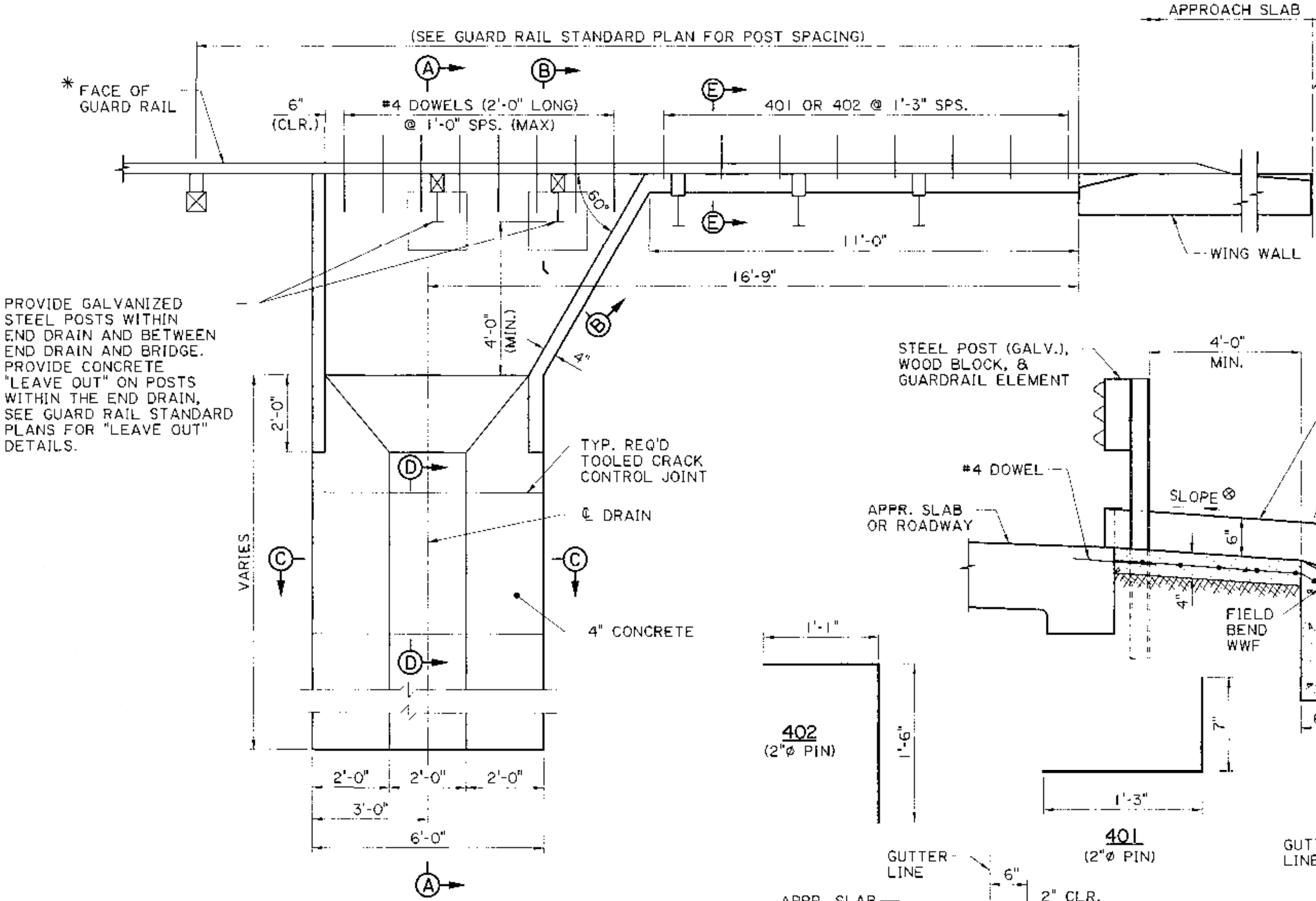
DESIGNED: A. LANCASTER
DETAILED: X. WANG
CHECKED: R. MORVANT
CHECKED: A. LANCASTER
REVISED: Z.Z. FU
SHEET 1 OF 1

BRIDGE END DRAIN SYSTEM
CLOSED DRAIN
BD.2.10.1.0.09 - APPROACH SLAB COMMON

DOTD
BRIDGE AND STRUCTURAL DESIGN

07:15 1/9/2020

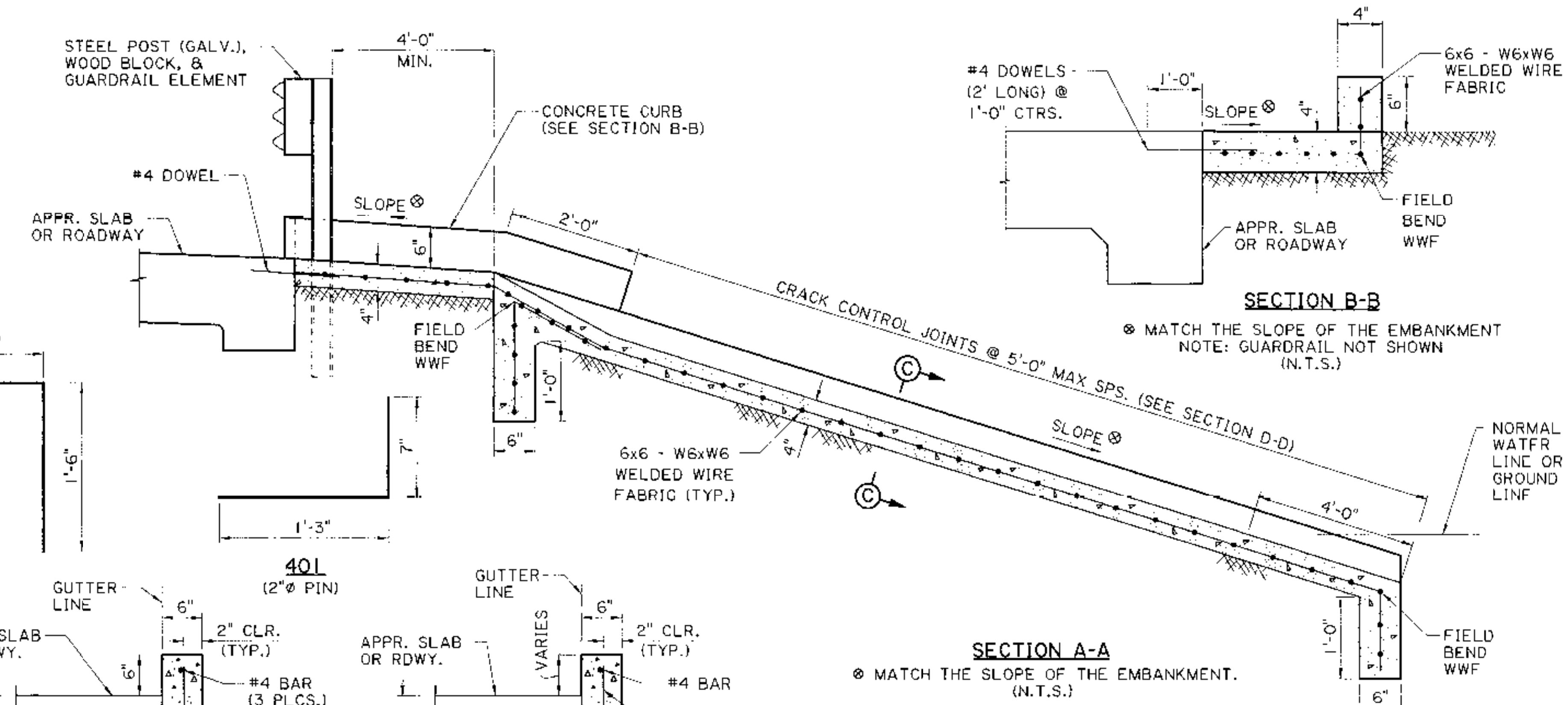
IP_PWP:d0695344\BD.2.10.1.0.10_Approach Slab Common 10.raster .dgn



PLAN "A" - OPEN END DRAIN
FOR GIRDER SPAN BRIDGES (EXCEPT QUAD BEAMS)
(WINGWALL PARALLEL TO ROADWAY)
(N.T.S.)

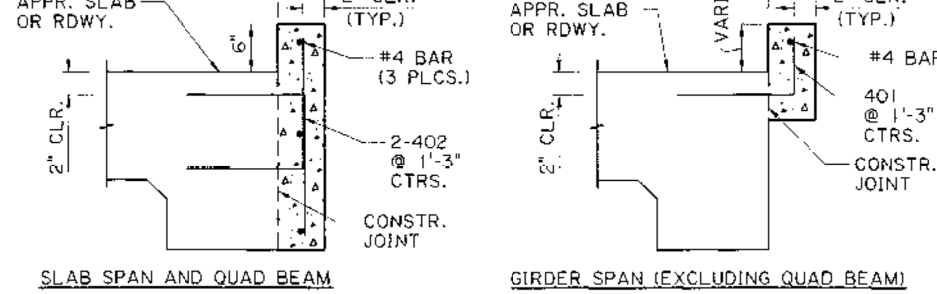
NOTES:

1. SEE GENERAL PLAN FOR END DRAIN REQUIREMENT.
2. * GUARD RAIL SHALL BE LAID OUT PRIOR TO BUILDING THE END DRAIN. FRONT FACE OF CURB TO BE FLUSH WITH BACK FACE OF THRIE BEAM RAIL (SEE GUARD RAIL STANDARD PLAN.)
3. △ EMBANKMENT/NATURAL GROUND SHALL BE A MINIMUM OF ½" ABOVE ALL EXPOSED EDGES OF CONCRETE DRAIN, AND THE EROSION CONTROL SYSTEM SHALL OVERLAP THESE EDGES A MINIMUM OF 2", AS SHOWN. EROSION CONTROL SYSTEM SHALL BE PLACED IN ACCORDANCE WITH SECTION 720 OF THE STANDARD SPECIFICATIONS.
4. CONCRETE CURB ON APPROACH SLAB, GUARD RAIL COMPONENTS, AND EROSION CONTROL SYSTEM WILL BE PAID FOR UNDER SEPARATE PAY ITEMS. REMAINING ITEMS SHOWN ON THIS SHEET, INCLUDING EXCAVATION, WILL BE PAID FOR UNDER THE BRIDGE END DRAIN SYSTEM (OPEN DRAIN) PAY ITEM.

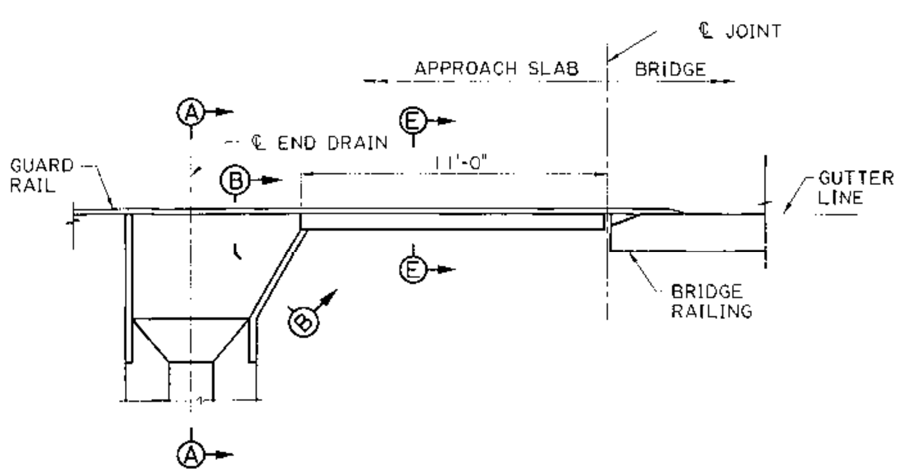


SECTION B-B
⊗ MATCH THE SLOPE OF THE EMBANKMENT
NOTE: GUARDRAIL NOT SHOWN
(N.T.S.)

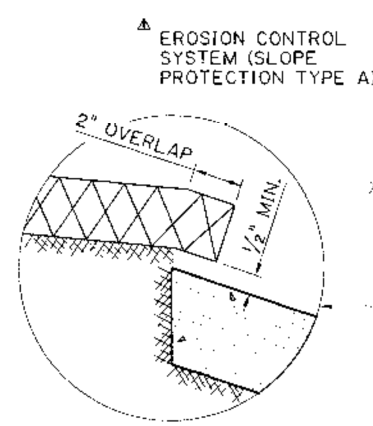
SECTION A-A
⊗ MATCH THE SLOPE OF THE EMBANKMENT.
(N.T.S.)



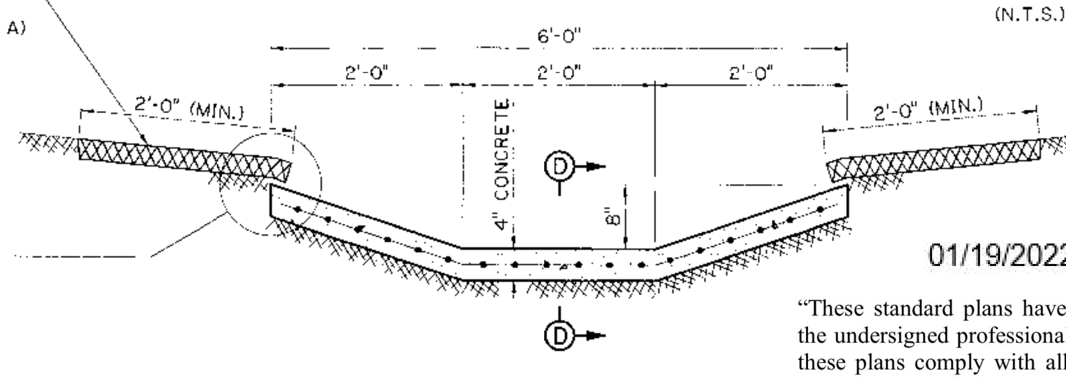
SECTION E-E
(N.T.S.)



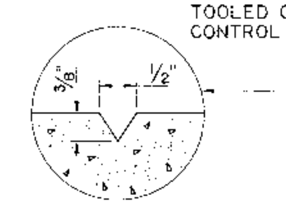
PLAN "B"- OPEN END DRAIN
FOR SLAB SPAN AND QUAD BEAM BRIDGES
(WINGWALL NOT PARALLEL TO ROADWAY)
(FOR INFORMATION NOT SHOWN, SEE PLAN "A")
(N.T.S.)



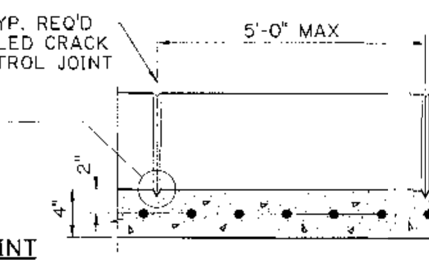
OVERLAP DETAIL (TYP.) △
(N.T.S.)



SECTION C-C
(N.T.S.)



CRACK CONTROL JOINT
(N.T.S.)



SECTION D-D
(N.T.S.)

STATE OF LOUISIANA STEVEN M. FALL REG. No. 23634 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

01/19/2022

"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 ADAM LANCASTER License No. 30675 PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

6/19/17

SHEET NUMBER 347

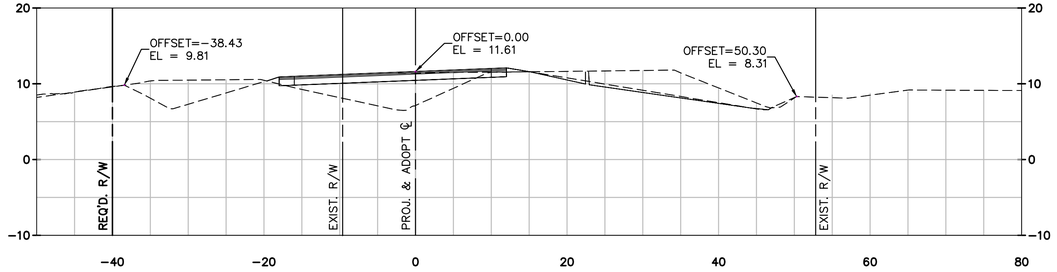
DESIGNED A. LANCASTER
CHECKED R. MORVANT
DETAILED A. LANCASTER
CHECKED R. MORVANT
REVISED Z. FU
SHEET 1 OF 1

BRIDGE END DRAIN SYSTEM
OPEN DRAIN
BD.2.10.1.0.10 - APPROACH SLAB COMMON

DOTD
BRIDGE AND STRUCTURAL DESIGN

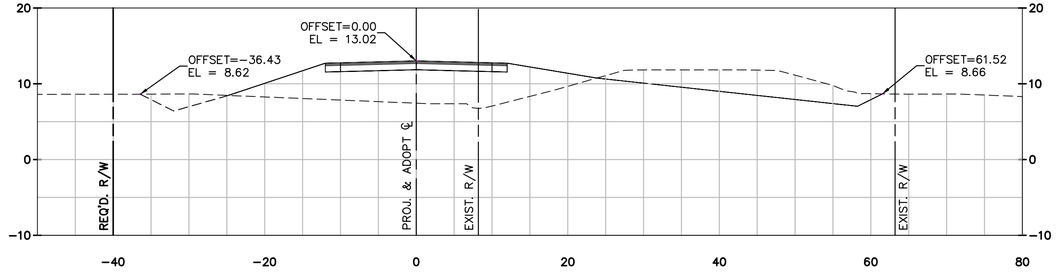
45+00.00

EXC: 238 EMB: 297



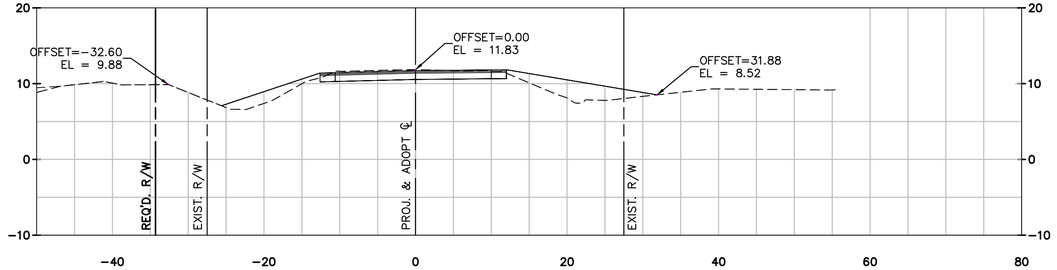
48+00.00

EXC: 562 EMB: 358



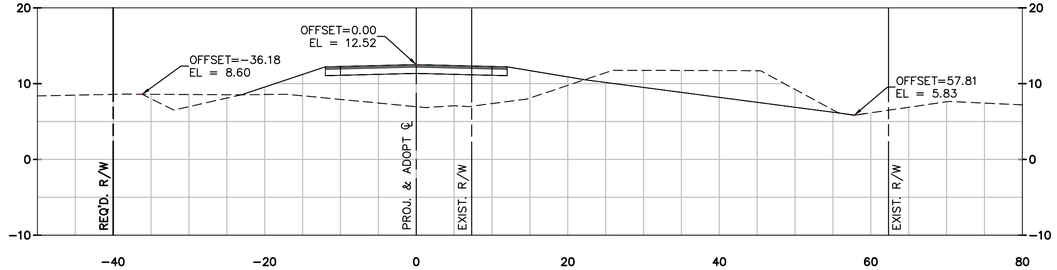
44+00.00

EXC: 55 EMB: 48



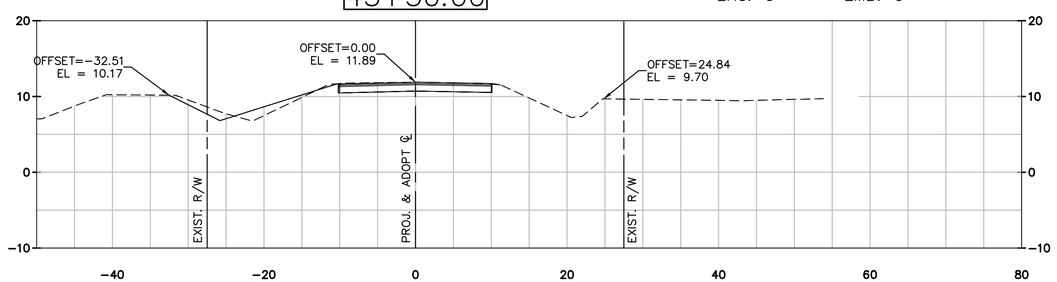
47+00.00

EXC: 345 EMB: 600



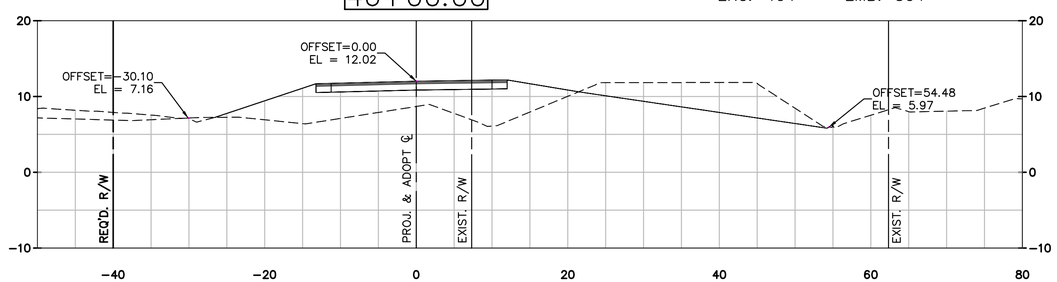
43+50.00

EXC: 0 EMB: 0



46+00.00

EXC: 404 EMB: 504



STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10-8-2022

SHEET NUMBER 401

CITY COVINGTON
PARISH ST. TAMMANY

DESIGNED JHS
CHECKED DAC
DETAILED JAC
CHECKED DAC
SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

CROSS SECTIONS

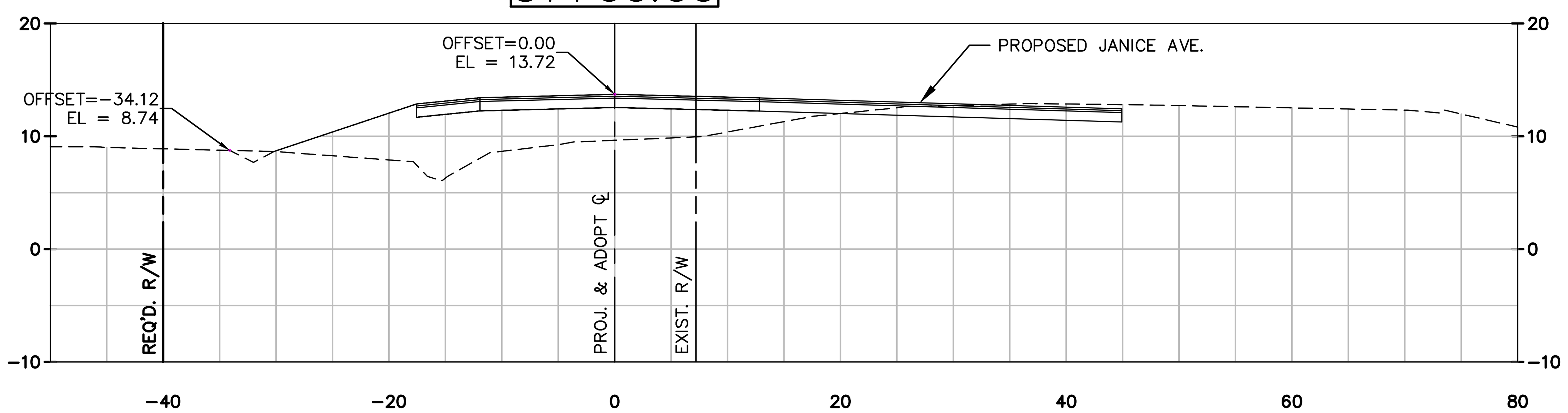
THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS CORPORATION

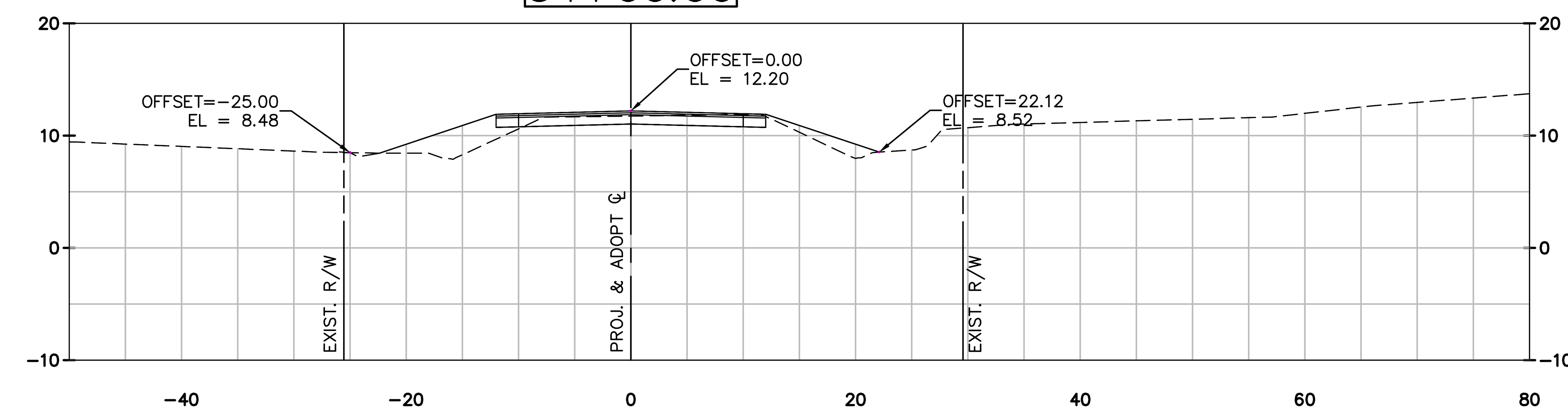
G:\11428 Third Ave Bridge\PLANS\CROSS SECTIONS.dwg [CROSS SECTION 1] Oct 08, 2021 - 12:00pm by dcotten

CROSS SECTIONS

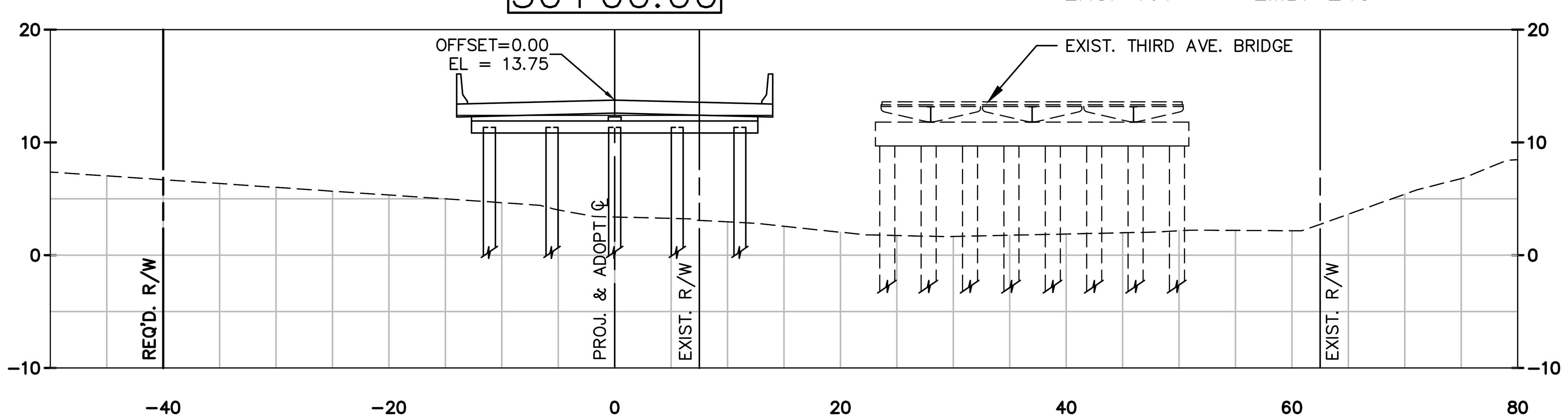
51+00.00
EXC: 4 EMB: 242



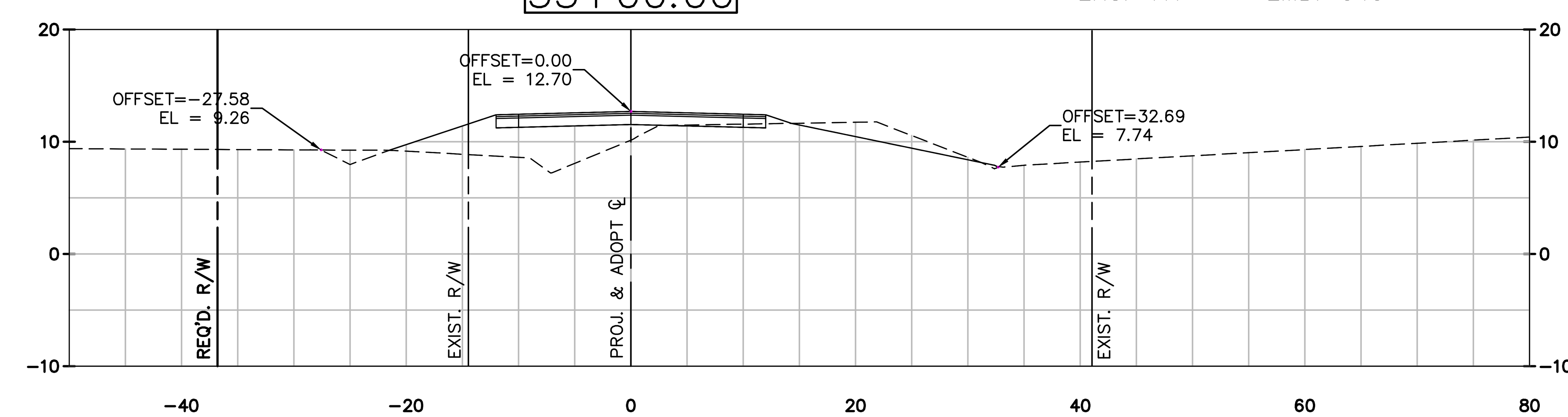
54+00.00
EXC: 72 EMB: 148



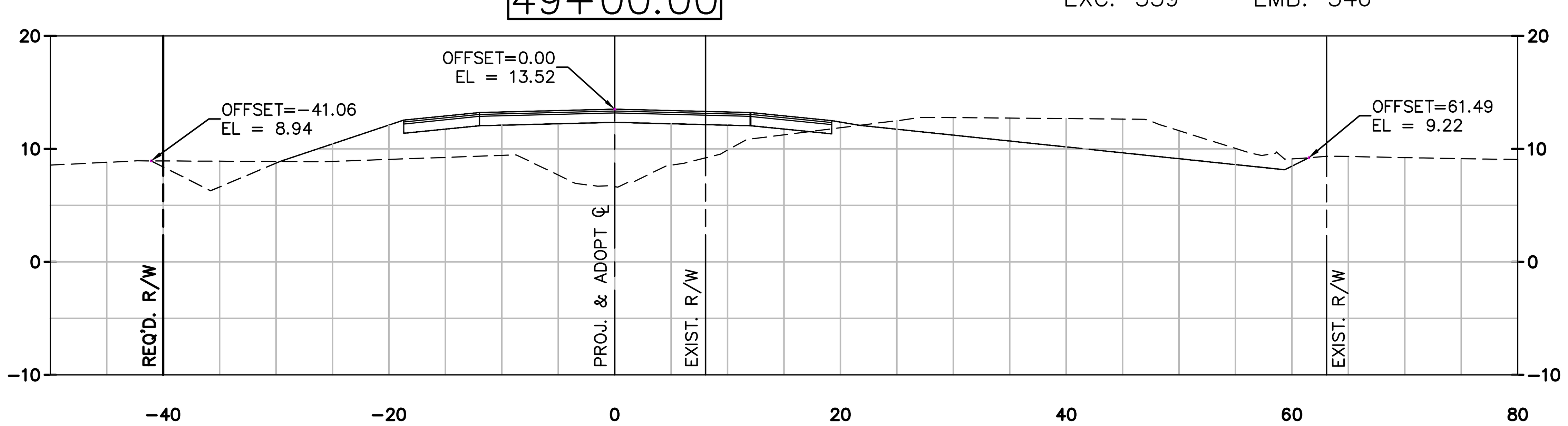
50+00.00
EXC: 161 EMB: 243



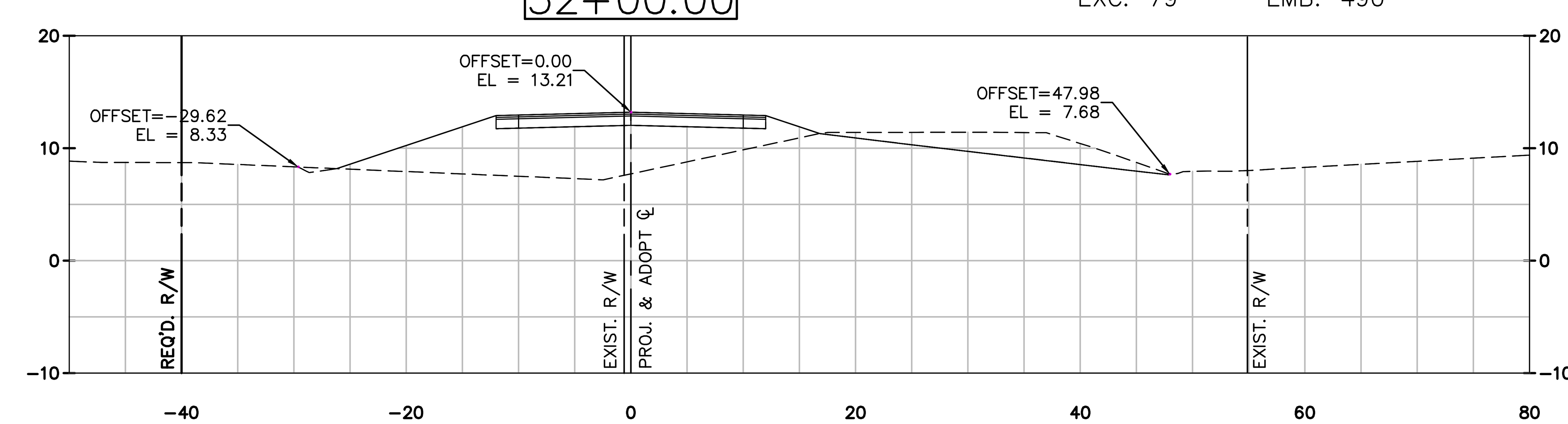
53+00.00
EXC: 117 EMB: 345



49+00.00
EXC: 339 EMB: 546



52+00.00
EXC: 79 EMB: 490



SHEET NUMBER 402

CITY: COVINGTON
PARISH: ST. TAMMANY

DESIGNED JHS
CHECKED DAC
DETAILED JAC
CHECKED DAC
SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

CROSS SECTIONS

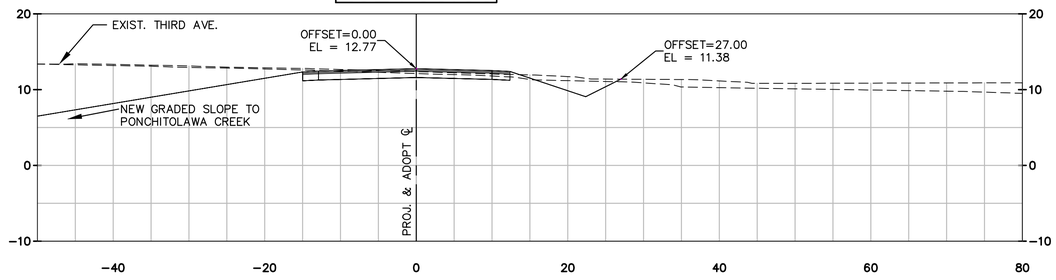
THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS

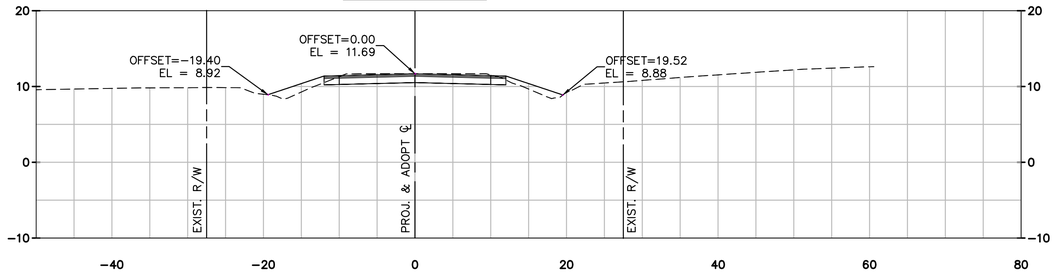
STATE OF LOUISIANA JOHN H. SHIRES REG. No. 26865 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

G:\11428 Third Ave Bridge\PLANS\CROSS SECTIONS.dwg [CROSS SECTION 2] Oct 08, 2021 - 12:00pm by dcotten

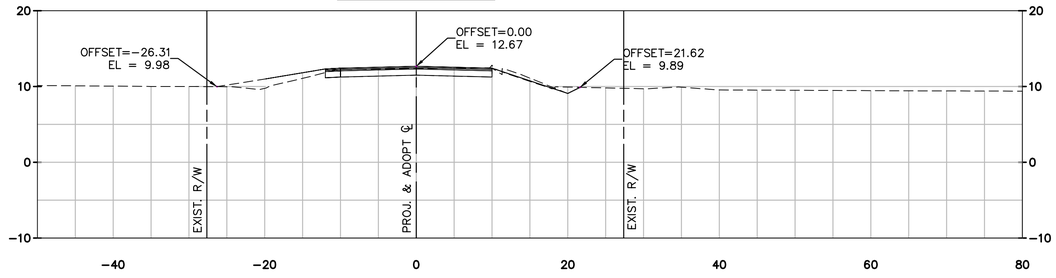
202+00.00 EXC: 344 EMB: 9



55+00.00 EXC: 88 EMB: 71



201+50.00 EXC: 0 EMB: 0



JANICE AVENUE CROSS SECTIONS

STATE OF LOUISIANA
JOHN H. SHIRES
REG. No. 26865
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/8/2022

SHEET NUMBER	403
CITY	COVINGTON
PARISH	ST. TAMMANY
DESIGNED JHS / CHECKED DAC	
DETAILED JAC / CHECKED DAC	
SERIES NUMBER	

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

CROSS SECTIONS

THIRD AVE. BRIDGE

PEC PROFESSIONAL ENGINEERING CONSULTANTS