LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

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Project Development Division
Bridge Design Section
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Bobby Jindal, Governor
Sherri H. LeBas, P.E., Secretary

MEMORANDUM

TO: ALL CONSULTANTS
ALL BRIDGE DESIGNERS

FROM: PAUL FOSSIER, P.E.
BRIDGE DESIGN ENGINEER ADMINISTRATOR

SUBJECT: BRIDGE DESIGN TECHNICAL MEMORANDUM NO. 57 (BDTM.57)
PUBLICATION OF NEW APPROACH SLAB SPECIAL DETAILS

DATE: August 18, 2015

Effective immediately, use of the subject Special Details, "Approach Slab Special Details", shall be implemented for all projects in the preliminary plan stage. For projects in the final plan stage, the new Approach Slab Special Details may be implemented if the scope and schedule will not be impacted. If the new details are to be implemented, but the scope or schedule will be impacted, the bridge task manager shall obtain prior approval from the Bridge Design Engineer Administrator.

Background:

A new approach slab design policy was recently established with the purpose of improving approach slab performance and rideability. The new policy is published in Pt. II, Vol. I, Ch.2, Sec. 2.5.2.4 of the LA DOTD Bridge Design and Evaluation Manual (BDEM.) In conjunction with the new design policy, a new stand-alone set of approach slab special details has been developed.

Two LTRC research projects were used as a starting point for the new approach slab design. LTRC Project 03-4GT ("*Determination of Interaction Between Concrete Approach Slab and Embankment Settlement*") used finite element modeling to show that an under-designed approach slab combined with embankment settlement will cause large deflections in the slab, resulting in a "bump" or ramping effect near the bridge end. To alleviate this, the new slab is thicker and more heavily reinforced than the previous design, accounting for current LADV-11 loads.

In addition to strengthening the slab itself, a sleeper slab and geo-synthetic soil reinforcement were added at the roadway end of the approach slab to help alleviate differential settlement between the bridge and the roadway end of the slab. This is based on results of LTRC Project 05-1GT ("*Field Demonstration of New Bridge Approach Slab Designs and Performance*") at Bayou Courtableau Bridge.

This set of special details also incorporates approach slab drainage details and bridge end drain details, which were previously stand-alone special details (*ASD-SS*, *ASD-SA*, and *End Drain*).

Organization:

The new Approach Slab Special Details are organized into "Common Details (20' and 40' long slabs)," "Common Details (Drainage)," and "Specific Details." Specific Details for 20' and 40' long slabs are to be used in conjunction with the Common Details (20' and 40' long slabs) and Common Details (Drainage), and will be available for roadway clear widths of 24', 28', 32', 36', 40' and 44'.

Specific Details for 10' long approach slabs (off-system use only) are to be used in conjunction with only the Common Details (Drainage), and will be developed for 24' and 28' clear widths. The current 10' slab design will not be changed, however some details and notes will need to be updated for new DOTD specifications and policies.

Special Details Sheet List:

See below for a list of all published and planned Approach Slab Special Details sheets.

	Clear Width	Standards Index #	Series	Description	Publication Date
Common Details (20' and 40' Long Slabs)	n/a	BD.2.10.1.0.01	1 of 6	General Notes and Index	7/28/2015
		BD.2.10.1.0.02	2 of 6	Plans and Sections (Slab Span and Quad Beam Bridges)	7/28/2015
		BD.2.10.1.0.03	3 of 6	Details "A" to "G" (Slab Span and Quad Beam Bridges)	7/28/2015
		BD.2.10.1.0.04	4 of 6	Plans and Sections (Girder Spans excluding Quad Beams)	7/28/2015
		BD.2.10.1.0.05	5 of 6	Details "H" to "M" (Girder Spans excluding Quad Beams)	7/28/2015
		BD.2.10.1.0.06	6 of 6	Details "N" to "S" (Slab Spans and all Girder Bridges)	7/28/2015
Common Details (Drainage)	n/a	BD.2.10.1.0.07	1 of 1	Drainage Details (Slab Span and Quad Beam Bridges)	7/28/2015
		BD.2.10.1.0.08	1 of 1	Drainage Details (Girder Spans excluding Quad Beam Bridges)	7/28/2015
		BD.2.10.1.0.09	1 of 1	Bridge End Drain System (Closed)	7/28/2015
		BD.2.10.1.0.10	1 of 1	Bridge End Drain System (Open)	7/28/2015
Specific Details (40' Long Slab, 0°, 15°, 30° and 45° skews)	24'	BD.2.10.2.1.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.1.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.1.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.2.1.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	28'	BD.2.10.2.2.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.2.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.2.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.2.2.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	32'	BD.2.10.2.3.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.3.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.3.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.2.3.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	36'	BD.2.10.2.4.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.4.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.4.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.2.4.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	40'	BD.2.10.2.5.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	7/28/2015
		BD.2.10.2.5.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	7/28/2015
		BD.2.10.2.5.03	1 of 2	Details (Girder Spans excluding Quad Beams)	7/28/2015
		BD.2.10.2.5.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	7/28/2015
	44'	BD.2.10.2.6.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.6.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.2.6.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.2.6.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.

T.B.D = To Be Developed

	Clear Width	Standards Index #	Series	Description	Publication Date
Specific Details (20' Long Slab, 0°, 15°, 30° and 45° skews)	24'	BD.2.10.3.1.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.1.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.1.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.3.1.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	28'	BD.2.10.3.2.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.2.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.2.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.3.2.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	32'	BD.2.10.3.3.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.3.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.3.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.3.3.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	36'	BD.2.10.3.4.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.4.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.4.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.3.4.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	40'	BD.2.10.3.5.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.5.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.5.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.3.5.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
	44'	BD.2.10.3.6.01	1 of 2	Details (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.6.02	2 of 2	Quantities (Slab Span and Quad Beam Bridges)	T.B.D.
		BD.2.10.3.6.03	1 of 2	Details (Girder Spans excluding Quad Beams)	T.B.D.
		BD.2.10.3.6.04	2 of 2	Quantities (Girder Spans excluding Quad Beams)	T.B.D.
Off-System Specific Details (10' Long Slab)	24'	BD.2.10.4.1.01	1 of 2	Plan, Section, Quantities (0° skew)	T.B.U.
		BD.2.10.4.1.02	2 of 2	Plan, Section, Quantities (0° skew)(Alt. for precast)	T.B.U.
		BD.2.10.4.1.03	1 of 2	Plan, Section, Quantities (15° skew)	T.B.U.
		BD.2.10.4.1.04	2 of 2	Plan, Section, Quantities (15° skew)(Alt. for precast)	T.B.U.
		BD.2.10.4.1.05	1 of 2	Plan, Section, Quantities (30° skew)	T.B.U.
		BD.2.10.4.1.06	2 of 2	Plan, Section, Quantities (30° skew)(Alt. for precast)	T.B.U.
		BD.2.10.4.1.07	1 of 2	Plan, Section, Quantities (45° skew)	T.B.U.
		BD.2.10.4.1.08	2 of 2	Plan, Section, Quantities (45° skew)(Alt. for precast)	T.B.U.
	28'	BD.2.10.4.2.01	1 of 2	Plan, Section, Quantities (0° skew)	T.B.U.
		BD.2.10.4.2.02	2 of 2	Plan, Section, Quantities (0° skew)(Alt. for precast)	T.B.U.
		BD.2.10.4.2.03	1 of 2	Plan, Section, Quantities (15° skew)	T.B.U.
		BD.2.10.4.2.04	2 of 2	Plan, Section, Quantities (15° skew)(Alt. for precast)	T.B.U.
		BD.2.10.4.2.05	1 of 2	Plan, Section, Quantities (30° skew)	T.B.U.
		BD.2.10.4.2.06	2 of 2	Plan, Section, Quantities (30° skew)(Alt. for precast)	T.B.U.
		BD.2.10.4.2.07	1 of 2	Plan, Section, Quantities (45° skew)	T.B.U.
		BD.2.10.4.2.08	2 of 2	Plan, Section, Quantities (45° skew)(Alt. for precast)	T.B.U.

T.B.D = To Be Developed
T.B.U. = To Be Updated

Applicability and Usage Guidelines:

These standards apply to 10', 20' and 40' long approach slabs with a uniform width, on slab span, quad beam, precast prestressed concrete girder, and steel girder bridges on straight alignments, including skews of 0°, 15°, 30° and 45°. 10' long approach slabs shall be used for off-system bridges only. 20' and 40' slabs shall be used for on-system bridges, and may be used for off-system bridges when needed.

For 20' and 40' long approach slabs, the Common Details shall be used in conjunction with the Specific Details for the applicable roadway width, and the bridge design engineer shall select the relevant sheets per project, noting that sheets in a series shall be kept together.

Example 1: 40' long slab, 40' clear width, AASHTO girder bridge, closed bridge end drain
The following sheets will be required:

Common Details (20' and 40' long slabs):
- BD.2.10.1.0.01 – BD.2.10.1.0.06

Common Details (Drainage):
- Drainage Details (Girder Spans excluding Quad Beams): BD.2.10.1.0.08
- Bridge End Drain System (Closed): BD.2.10.1.0.09

Specific Details (40' long slab/ 40' clear width):
- App. Slab Details and Quantities: BD.2.10.2.5.03 – BD.2.10.2.5.04

Example 2: 20' long slab, 32' clear width, slab span bridge, open bridge end drain

Common Details (20' and 40' long slabs):
- BD.2.10.1.0.01 – BD.2.10.1.0.06

Common Details (Drainage):
- Drainage Details (Slab Span and Quad Beam bridges): BD.2.10.1.0.07
- Bridge End Drain System (Open): BD.2.10.1.0.10

Specific Details (20' long slab/ 32' clear width):
- App. Slab Details and Quantities: BD.2.10.3.3.01 – BD.2.10.3.3.02

For 10' long approach slabs, the Common Details (Drainage) shall be used in conjunction with the Specific Details for the applicable roadway width.

Example 3: 10' long slab, 28' clear width, slab span bridge with a 30° skew

Common Details (Drainage):
- Drainage Details (Slab Span and Quad Beam bridges): BD.2.10.1.0.07

Specific Details (10' long slab/ 28' clear width/ 30° skew):
- Plan, Section and Quantities: BD.2.10.4.2.05 – BD.2.10.4.2.06

Contact the Bridge Design Standards Manager concerning projects that require Approach Slab Special Details which have not yet been developed or updated.

Non-Standard Approach Slabs:

For projects with a non-standard approach slab that:

a. is on a curved alignment, or has an otherwise non-uniform shape (e.g. a roadway or driveway turnout),
b. has a skew other than 0°, 15°, 30° or 45°,
c. is wider than 44', and/or
d. will be built in pieces under phased construction,

the designer shall develop approach slab drawings based on the design of the Approach Slab Special Details, modifying the layout and geometry as needed for that project.

Approach slabs that have a skew angle exceeding 45°, or that are not 10', 20' or 40' long at the centerline, shall require approval from the Bridge Design Engineer Administrator. If approved, the Bridge Design Standards Manager will provide the necessary approach slab design criteria.

In all cases of non-standard approach slabs, the designer shall be responsible for stamping the approach slab drawings.

Curb Details:

While compiling this new set of comprehensive approach slab details, an effort has been made to incorporate the necessary curb details associated with the approach slab, while also clarifying the curb purpose and usage. First, a minimum 13'-6" long curb is required wherever guardrail is used at the end of a bridge, based on the new GR-200 Standard Plans published per BDTM.56. This curb was included while crash-testing the guardrail, and is necessary as part of the safety system. Second, a curb is needed in certain situations for drainage purposes, to carry water away from the end of the bridge.

Pile-Supported Approach Slabs:

Pile-supported approach slabs with varying pile lengths have been used in the past for sites with large embankment settlement in south Louisiana. LTRC Project 97-4GT evaluated LADOTD's pile-supported approach slab standard (Bridge Design Manual, English 4th Ed., Ch. 6), and the results indicated that the standard design did not always perform as expected. While the research produced a design methodology, practically, it is impossible to accurately predict the surface settlement of a pile-embankment composite, which is necessary to create a smooth transition between the roadway and the bridge. Therefore, it is no longer recommended by LTRC and DOTD Pavement and Geotechnical Section to use pile-supported approach slabs. For project sites that need special attention in controlling settlement, the designer should work with the geotechnical engineer and may utilize other means to control or mitigate the settlement.

Revision of Existing Slab Span Special Details:

The existing approach slab details included in the slab span special details shall no longer be used. In addition, new slab span end bent details will need to be developed that will accommodate the new approach slab shape. The slab span special details are currently in the process of being revised. If a project requires the slab span standards, contact the Bridge Design Standards Manager for more information regarding the revisions.

Discontinuation of Existing Special Details:

Use of all existing approach slab details currently included in the slab span bridge standards shall be discontinued for projects in the preliminary plan stage as of August 2015. The following drainage details shall also be discontinued for all projects in the preliminary plan stage as of August 2015: "ASD-SS -

Underdrains for Concrete Approach Slabs (Cross Drainage)," "ASD-SA - Underdrains for Concrete Approach Slabs (Drainage through Backwall)," and "End Drain - Bridge End Drain Detail." These drainage details will still be available during a transition period for projects that require them, until they are phased out of use.

Revision of Existing Standard Plan CP-01:

Historically, DOTD has had issues with concrete roadway pavement growth pushing the approach slab into the bridge over time. This can cause the first bridge joint to close, and may result in damage to the end bent backwall. Bridge Design worked with Road Design to revise the Standard Plan CP-01 (Portland Cement Concrete Pavement Details) by adding two 4" pavement expansion joints in the roadway to help alleviate this problem. This is in addition to the two EJ-4" joints previously shown on CP-01.

- The first new EJ-4" joint was added 500' away from the two existing EJ-4" joints, further up the roadway, away from the bridge.

- Another new 4" joint was added directly adjacent to the end of the approach slab on the roadway side. This joint detail is covered in the new Approach Slab Special Details.

The revised CP-01 has been published and implemented for projects letting after June, 2015.

This technical memorandum is posted on the LA DOTD Website under *Inside La DOTD* > *Divisions - Engineering* > *Bridge Design* > *Technical Memoranda – BDTMs*

Please contact Ms. Zhengzheng "Jenny" Fu (225-379-1321, zhengzheng.fu@la.gov) if you have questions or comments.

PF/zzf/abl

Cc: Janice Williams (Chief Engineer)
Chad Winchester (Chief, Project Development Division)
Vacant (Assistant Secretary of Operations)
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David Miller (Bridge Maintenance Administrator)
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Simone Ardoin (Road Design Engineer Administrator)
Art Aguirre (FHWA)
District Administrators (02, 03, 04, 05, 07, 08, 58, 61, 62)
Patrick Wollerson (DOTD Plans Manager)

08:20

8/21/2015

APPROACH SLAB SPECIAL DETAILS INDEX

	CLEAR WIDTH	BRIDGE STANDARD INDEX NO.	SERIES	DESCRIPTION	PUBLISHED DATE
COMMON DETAILS (20' AND 40' LONG SLABS)	N/A	BD.2.10.1.0.01	1 OF 6	GENERAL NOTES AND INDEX	07-28-2015
		BD.2.10.1.0.02	2 OF 6	PLANS AND SECTIONS - (SLAB SPAN & QUAD BEAM BRIDGES)	07-28-2015
		BD.2.10.1.0.03	3 OF 6	DETAILS "A" TO "G" - (SLAB SPAN & QUAD BEAM BRIDGES)	07-28-2015
		BD.2.10.1.0.04	4 OF 6	PLANS AND SECTIONS - (GIRDER SPANS EXCLUDING QUAD BEAMS)	07-28-2015
		BD.2.10.1.0.05	5 OF 6	DETAILS "H" TO "M" - (GIRDER SPANS EXCLUDING QUAD BEAMS)	07-28-2015
		BD.2.10.1.0.06	6 OF 6	DETAILS "N" TO "S" - (SLAB SPANS AND ALL GIRDER SPANS)	07-28-2015
COMMON DETAILS (DRAINAGE)	N/A	BD.2.10.1.0.07	1 OF 1	DRAINAGE DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	07-28-2015
		BD.2.10.1.0.08	1 OF 1	DRAINAGE DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	07-28-2015
		BD.2.10.1.0.09	1 OF 1	BRIDGE END DRAIN SYSTEM (CLOSED)	07-28-2015
		BD.2.10.1.0.10	1 OF 1	BRIDGE END DRAIN SYSTEM (OPEN)	07-28-2015
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)	T.B.D.
		BD.2.10.2.1.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.1.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.2.1.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	28'	BD.2.10.2.2.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.2.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.2.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.2.2.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	32'	BD.2.10.2.3.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.3.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.3.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.2.3.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	36'	BD.2.10.2.4.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.4.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.4.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.2.4.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	40'	BD.2.10.2.5.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	07-28-2015
		BD.2.10.2.5.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	07-28-2015
		BD.2.10.2.5.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	07-28-2015
		BD.2.10.2.5.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	07-28-2015
	44'	BD.2.10.2.6.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.6.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.2.6.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.2.6.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.

T.B.D. = TO BE DEVELOPED

	CLEAR WIDTH	BRIDGE STANDARD INDEX NO.	SERIES	DESCRIPTION	PUBLISHED DATE
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)	T.B.D.
		BD.2.10.3.1.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.1.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.3.1.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	28'	BD.2.10.3.2.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.2.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.2.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.3.2.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	32'	BD.2.10.3.3.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.3.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.3.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.3.3.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	36'	BD.2.10.3.4.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.4.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.4.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.3.4.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	40'	BD.2.10.3.5.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.5.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.5.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.3.5.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
	44'	BD.2.10.3.6.01	1 OF 2	DETAILS (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.6.02	2 OF 2	QUANTITIES (SLAB SPAN & QUAD BEAM BRIDGES)	T.B.D.
		BD.2.10.3.6.03	1 OF 2	DETAILS (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
		BD.2.10.3.6.04	2 OF 2	QUANTITIES (GIRDER SPANS EXCLUDING QUAD BEAMS)	T.B.D.
OFF-SYSTEM SPECIFIC DETAILS (10' LONG SLAB)	24'	BD.2.10.4.1.01	1 OF 2	PLAN, SECTION, QUANTITIES (0° SKEW)	T.B.U.
		BD.2.10.4.1.02	2 OF 2	PLAN, SECTION, QUANTITIES (0° SKEW) (ALT. FOR PRECAST)	T.B.U.
		BD.2.10.4.1.03	1 OF 2	PLAN, SECTION, QUANTITIES (15° SKEW)	T.B.U.
		BD.2.10.4.1.04	2 OF 2	PLAN, SECTION, QUANTITIES (15° SKEW) (ALT. FOR PRECAST)	T.B.U.
		BD.2.10.4.1.05	1 OF 2	PLAN, SECTION, QUANTITIES (30° SKEW)	T.B.U.
		BD.2.10.4.1.06	2 OF 2	PLAN, SECTION, QUANTITIES (30° SKEW) (ALT. FOR PRECAST)	T.B.U.
		BD.2.10.4.1.07	1 OF 2	PLAN, SECTION, QUANTITIES (45° SKEW)	T.B.U.
		BD.2.10.4.1.08	2 OF 2	PLAN, SECTION, QUANTITIES (45° SKEW) (ALT. FOR PRECAST)	T.B.U.
	28'	BD.2.10.4.2.01	1 OF 2	PLAN, SECTION, QUANTITIES (0° SKEW)	T.B.U.
		BD.2.10.4.2.02	2 OF 2	PLAN, SECTION, QUANTITIES (0° SKEW) (ALT. FOR PRECAST)	T.B.U.
		BD.2.10.4.2.03	1 OF 2	PLAN, SECTION, QUANTITIES (15° SKEW)	T.B.U.
		BD.2.10.4.2.04	2 OF 2	PLAN, SECTION, QUANTITIES (15° SKEW) (ALT. FOR PRECAST)	T.B.U.
		BD.2.10.4.2.05	1 OF 2	PLAN, SECTION, QUANTITIES (30° SKEW)	T.B.U.
		BD.2.10.4.2.06	2 OF 2	PLAN, SECTION, QUANTITIES (30° SKEW) (ALT. FOR PRECAST)	T.B.U.
		BD.2.10.4.2.07	1 OF 2	PLAN, SECTION, QUANTITIES (45° SKEW)	T.B.U.
		BD.2.10.4.2.08	2 OF 2	PLAN, SECTION, QUANTITIES (45° SKEW) (ALT. FOR PRECAST)	T.B.U.

T.B.D. = TO BE DEVELOPED

T.B.U. = TO BE UPDATED

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 AA(M). EXPOSED EDGES SHALL HAVE A ¾" CHAMFER, UNLESS OTHERWISE NOTED.
4. ASPHALTIC CONCRETE: TO BE THE SAME TYPE AS THE ASPHALTIC CONCRETE USED FOR THE APPROACH ROADWAY PAVEMENT OR OVERLAY.
5. BASIS OF PAYMENT: 2" ASPHALTIC CONCRETE LAYER, IF REQUIRED, TO BE PAID FOR UNDER ITEM "SUPERPAVE ASPHALTIC CONCRETE." ASPHALTIC JOINT SAWING AND SEALING, IF REQUIRED, TO BE PAID FOR UNDER ITEM "SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALTIC CONCRETE OVERLAY." BRIDGE END DRAIN SYSTEM, IF REQUIRED, TO BE PAID FOR UNDER ITEM "BRIDGE END DRAIN SYSTEM (TYPE)." ALL OTHER MATERIAL AND WORK ASSOCIATED WITH APPROACH SLABS SHALL BE PAID FOR UNDER ITEM "CONCRETE APPROACH SLABS."
6. THESE STANDARDS ARE ONLY APPLICABLE FOR APPROACH SLABS WITH UNIFORM WIDTH ON A STRAIGHT ALIGNMENT.
7. 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
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-29-15

SHEET NUMBER

DESIGNED	A.LANCASTER	PARISH		STATE PROJECT
CHECKED	X. WANG			
DETAILED	A.LANCASTER	CONTROL SECTION		
CHECKED	R. MORVANT			
REVIEWED	Z.Z. FU			
SERIES #	1 OF 6			

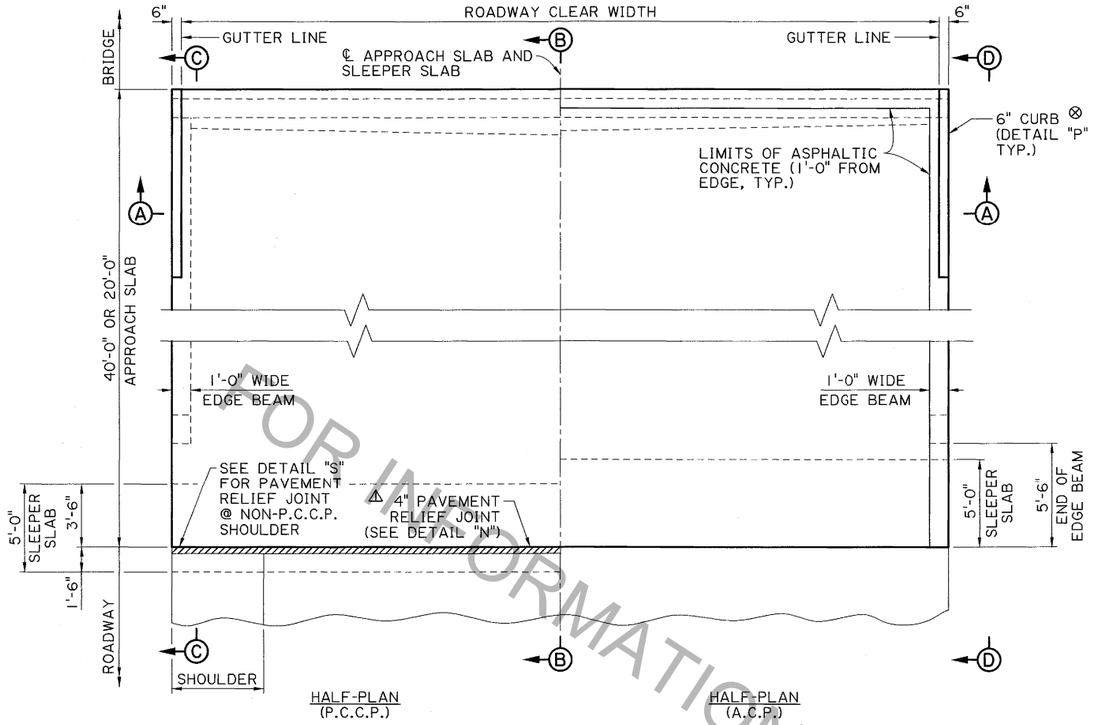
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROACH SLAB
GENERAL NOTES AND INDEX

BD.2.10.1.0.01 - APPROACH SLAB COMMON

BRIDGE AND STRUCTURAL DESIGN

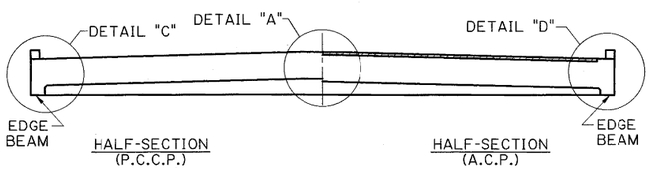
IP_PWP:d0540729\BD.2.10.1.0.01_Approach Slab Common 01.raster.dgn



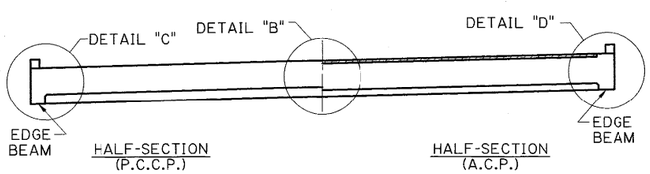
APPROACH SLAB PLAN
(SLAB SPAN AND QUAD BEAM BRIDGES)
(0° SKEW SHOWN)

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 "S", 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 "S".
6. ✱ DIMENSION "D1" AT THE APPROACH SLAB CENTERLINE DEPENDS ON THE ROADWAY CLEAR WIDTH. FOR VALUES OF "D1", SEE THE TABLE IN DETAIL "A".

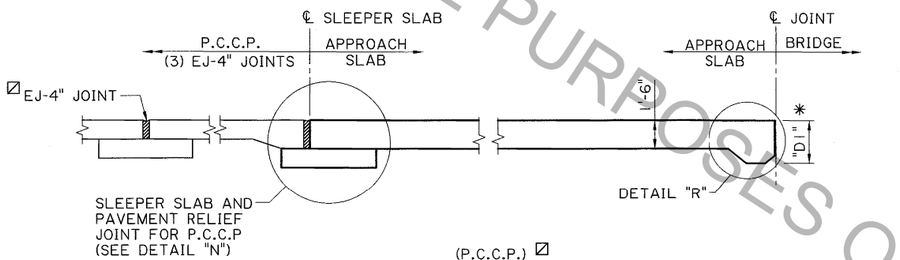


(TWO-WAY TANGENT)

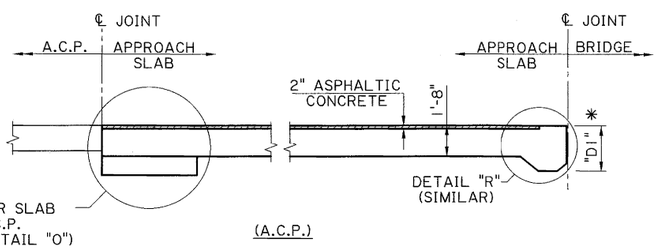


(ONE-WAY TANGENT)

SECTION A-A
(N.T.S.)

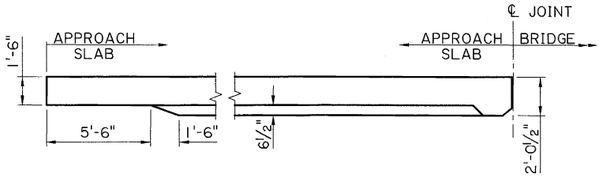


(P.C.C.P.) ☑

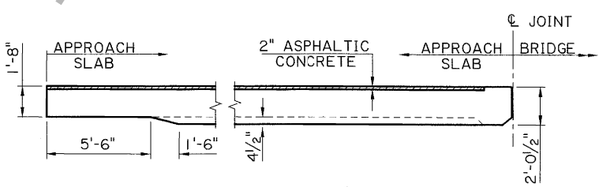


(A.C.P.)

SECTION B-B
(N.T.S.)



SECTION C-C
(SHOWING EDGE BEAM ONLY, P.C.C.P.)
(N.T.S.)



SECTION D-D
(SHOWING EDGE BEAM ONLY, A.C.P.)
(N.T.S.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER		
	PARISH	CONTROL SECTION
DESIGNED A.LANCASTER CHECKED X. WANG		STATE PROJECT
DETAILED A.LANCASTER CHECKED R. MORVANT		
REVIEWED Z.Z. FU SERIES # 2 OF 6		

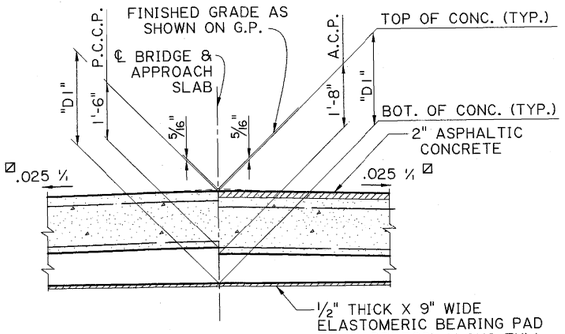
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DOTD

BRIDGE AND STRUCTURAL DESIGN

APPROACH SLAB PLANS AND SECTIONS
SLAB SPAN AND QUAD BEAM BRIDGES

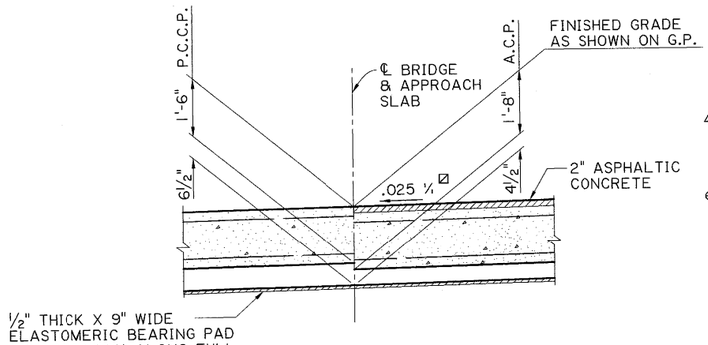
BD.2.10.1.0.02 - APPROACH SLAB COMMON



DETAIL "A"

(TWO WAY TANGENT)
SCALE : 1/2" = 1'-0"
⊠ UNLESS OTHERWISE NOTED IN PLANS

ROADWAY CLEAR WIDTH	DIMENSION "D1" (2-WAY TANGENT W/ .025 1/1 SLOPE)
24'	2'-4"
28'	2'-4 1/2"
32'	2'-5 1/8"
36'	2'-5 3/4"
40'	2'-6 3/8"
44'	2'-7"

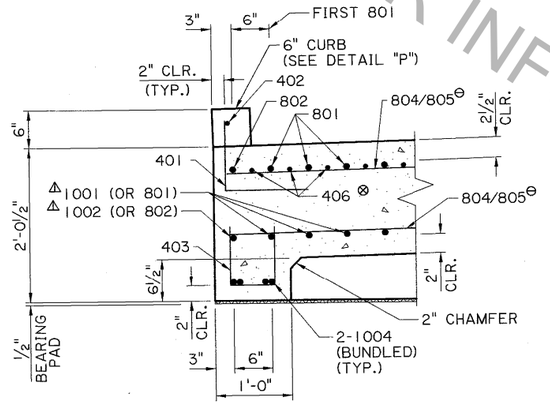


DETAIL "B"

SCALE : 1/2" = 1'-0"
⊠ UNLESS OTHERWISE NOTED IN PLANS

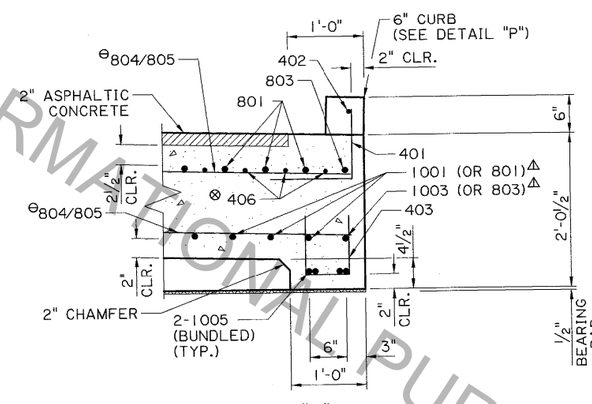
NOTES:

1. FOR REINFORCEMENT LOCATION AND QUANTITIES, SEE APPROACH SLAB "SPECIFIC DETAILS".
2. △ 1001, 1002, AND 1003 BARS IN THE BOTTOM OF THE SLAB ARE FOR A 40' LONG SLAB. FOR A 20' LONG SLAB, THESE BOTTOM BARS SHALL BE 801, 802, AND 803.
3. ⊖ 805 BARS ARE USED IN SKEWED SLABS ONLY.



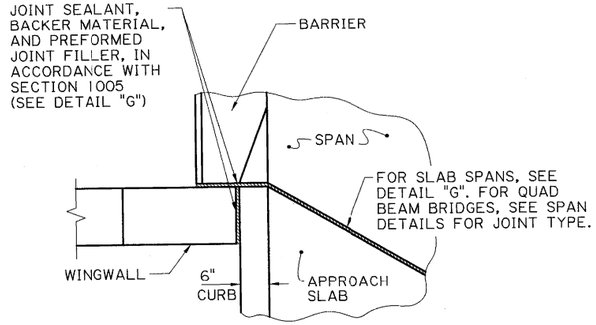
DETAIL "C"

(AT EDGE BEAM)
(N.T.S.)
⊗ SEE DETAIL "R"



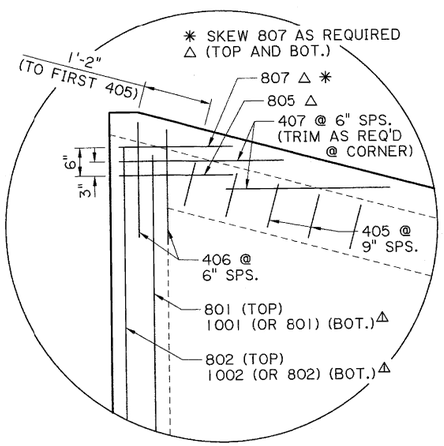
DETAIL "D"

(AT EDGE BEAM)
(N.T.S.)
⊗ SEE DETAIL "R"

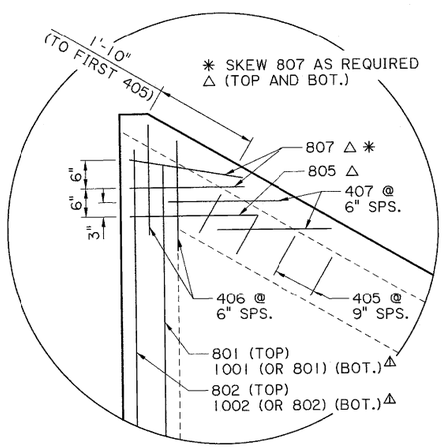


DETAIL "F"

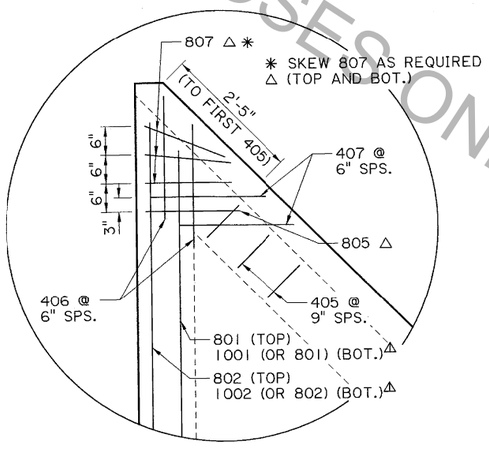
JOINT DETAIL @ WINGWALL
(N.T.S.)



(15° SKEW)
(N.T.S.)



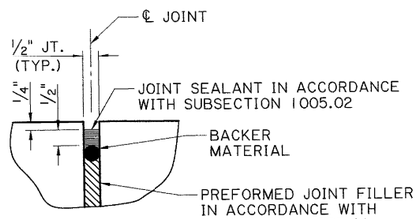
(30° SKEW)
(N.T.S.)



(45° SKEW)
(N.T.S.)

DETAIL "E"

(N.T.S.)
(401, 402, 404, 806 BARS AND CURB NOT SHOWN FOR CLARITY)



DETAIL "G"

(N.T.S.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

NUMBER

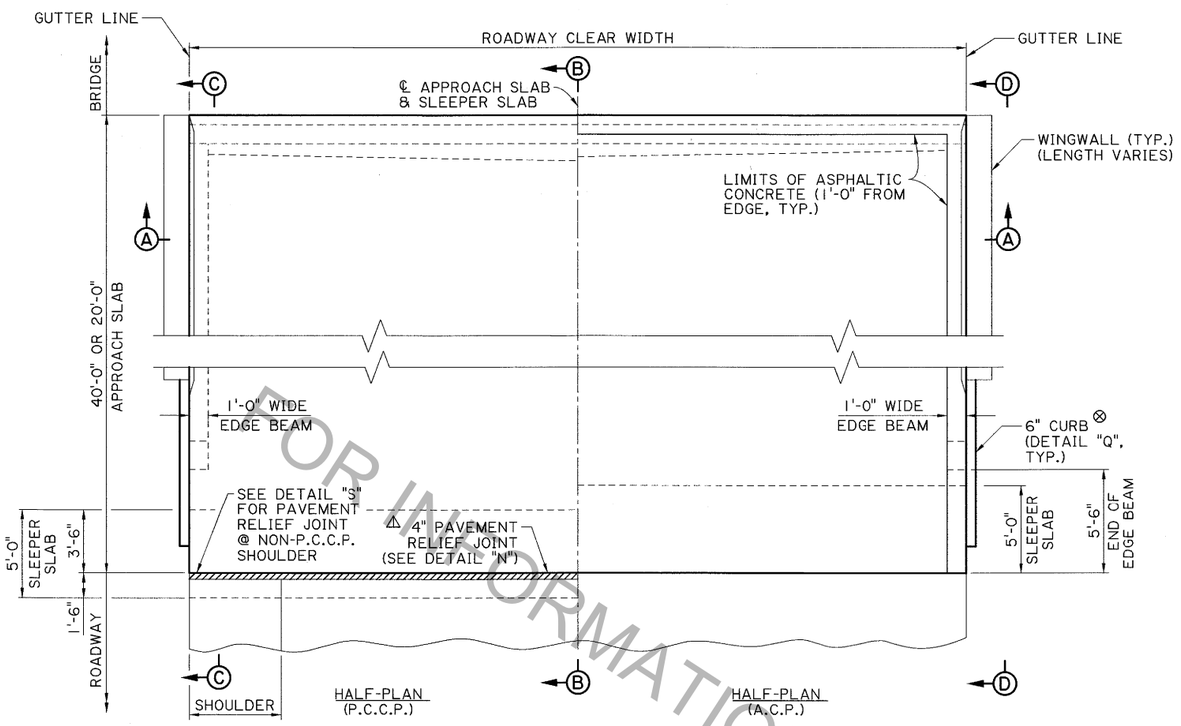
PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED A.LANCASTER
CHECKED R. MORVANT
DETAILED R. MORVANT
CHECKED A.LANCASTER
REVIEWED Z.Z. FU
SERIES # 3 OF 6

APPROACH SLAB DETAILS "A" TO "G"
SLAB SPAN AND QUAD BEAM BRIDGES

DOTD DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

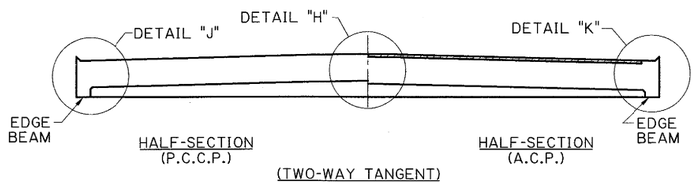
BRIDGE AN STRUCTURA DESIGN



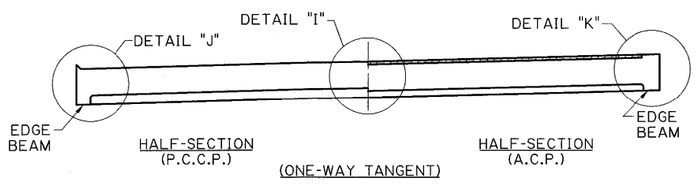
APPROACH SLAB PLAN
(GIRDER SPAN BRIDGES, EXCLUDING QUAD BEAMS)
(0° SKEW SHOWN)

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 "S", 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 "S".
6. ✳ DIMENSION "D2" AT THE APPROACH SLAB CENTERLINE DEPENDS ON THE ROADWAY CLEAR WIDTH. FOR VALUES OF "D2", SEE THE TABLE IN DETAIL "H".

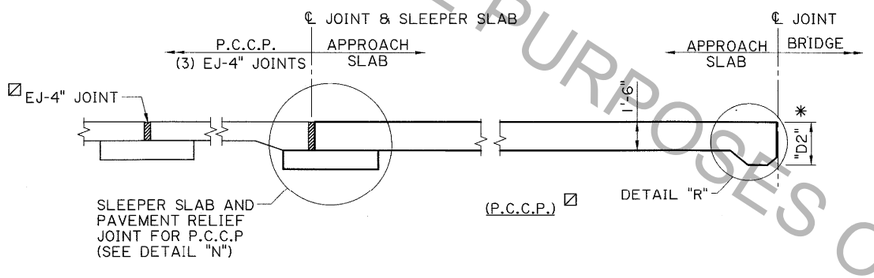


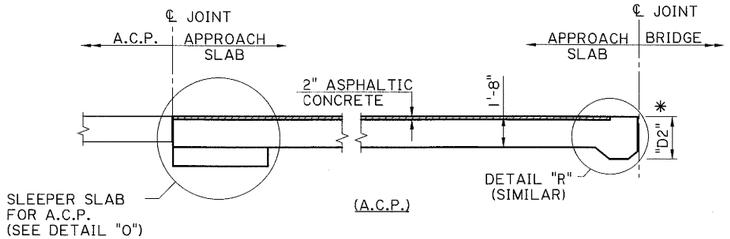
(TWO-WAY TANGENT)



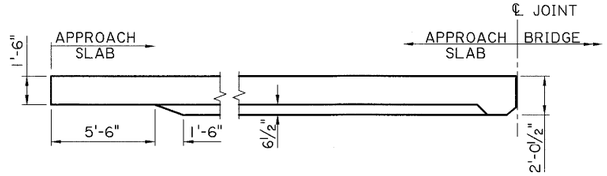
(ONE-WAY TANGENT)

SECTION A-A
(N.T.S.)
(WINGWALLS AND CURBS NOT SHOWN FOR CLARITY)

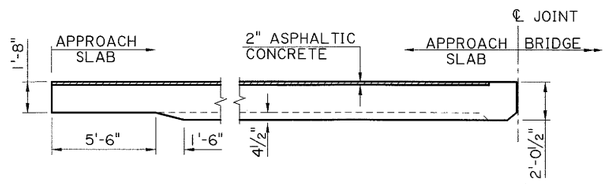




SECTION B-B
(N.T.S.)



SECTION C-C
(SHOWING EDGE BEAM ONLY, P.C.C.P.)
(N.T.S.)



SECTION D-D
(SHOWING EDGE BEAM ONLY, A.C.P.)
(N.T.S.)

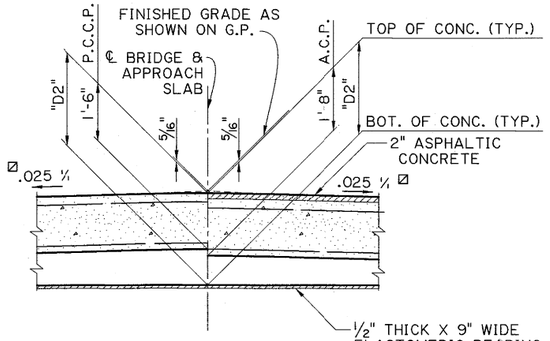
STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER	
PARISH	
CONTROL SECTION	
STATE PROJECT	
DESIGNED A.LANCASTER	
CHECKED X. WANG	
DETAILED A.LANCASTER	
CHECKED R. MORVANT	
REVIEWED Z.Z. FU	
SERIES # 4 OF 6	

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

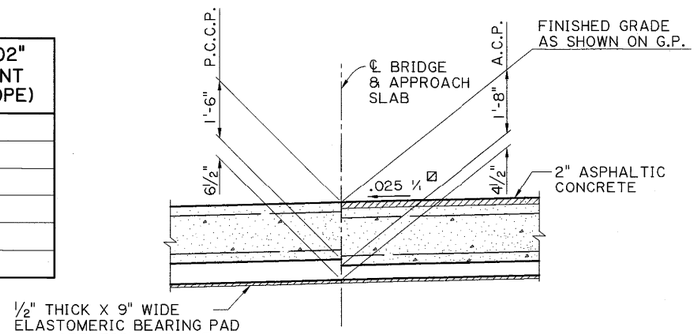
APPROACH SLAB PLANS AND SECTIONS
GIRDER SPANS EXCLUDING QUAD BEAMS
BD.2.10.1.0.04 - APPROACH SLAB COMMON

BRIDGE AND STRUCTURAL DESIGN



DETAIL "H"
(TWO WAY TANGENT)
SCALE : ½" = 1'-0"
☑ UNLESS OTHERWISE NOTED IN PLANS

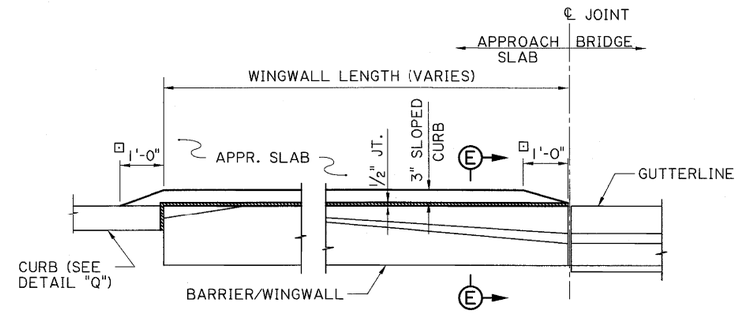
ROADWAY CLEAR WIDTH	DIMENSION "D2" (2-WAY TANGENT W/ .025 ⅛ SLOPE)
24'	2'-3¾"
28'	2'-4⅜"
32'	2'-5"
36'	2'-5⅝"
40'	2'-6¼"
44'	2'-6¾"



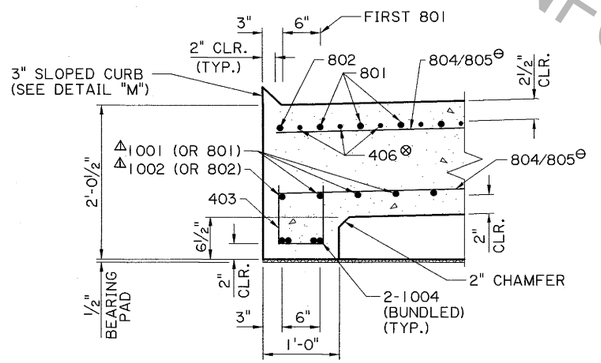
DETAIL "I"
(ONE WAY TANGENT)
SCALE : ½" = 1'-0"
☑ UNLESS OTHERWISE NOTED IN PLANS

NOTES:

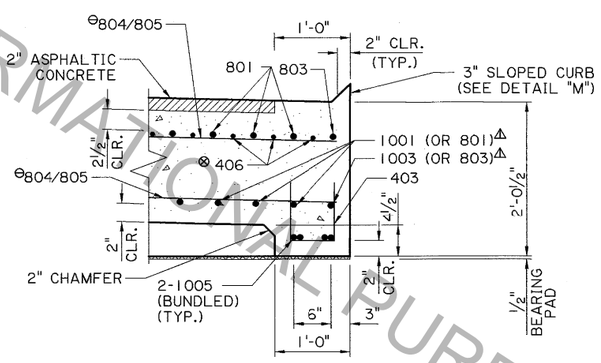
1. FOR REINFORCEMENT LOCATION AND QUANTITIES, SEE APPROACH SLAB "SPECIFIC DETAILS".
2. ⚠ 1001, 1002, AND 1003 BARS IN THE BOTTOM OF THE SLAB ARE FOR A 40' LONG SLAB. FOR A 20' LONG SLAB, THESE BOTTOM BARS SHALL BE 801, 802, AND 803.
3. ⊖ 805 BARS ARE USED IN SKEWED SLABS ONLY.



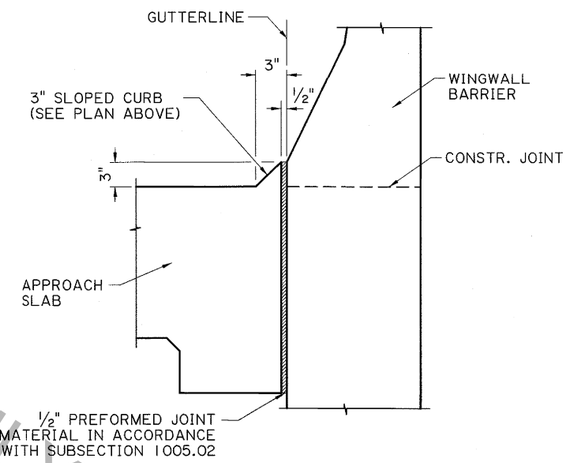
PLAN
⊡ (TAPER DOWN TO TOP OF APPROACH SLAB)



DETAIL "J"
(AT EDGE BEAM)
⊗ SEE DETAIL "R"
(N.T.S.)

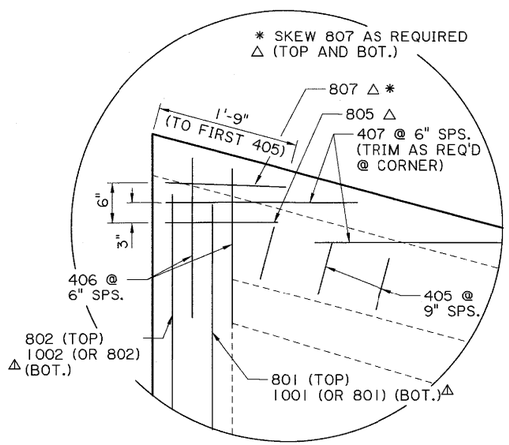


DETAIL "K"
(AT EDGE BEAM)
⊗ SEE DETAIL "R"
(N.T.S.)

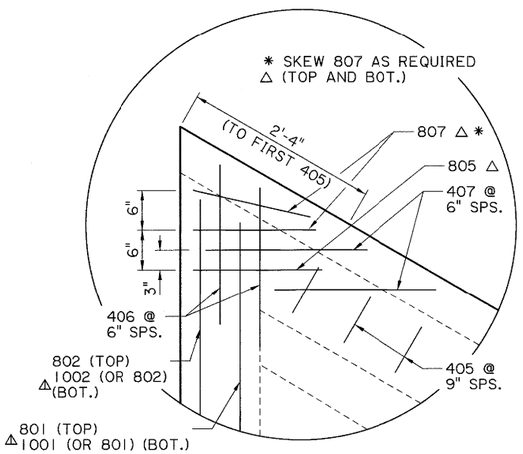


SECTION E-E

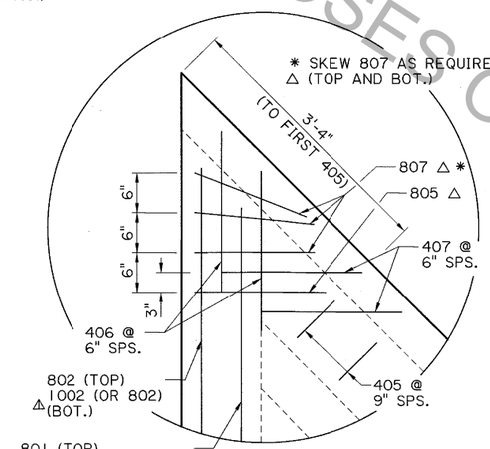
DETAIL "M"
(SHOWING 3" SLOPED CURB AT WINGWALL)
(N.T.S.)



(15° SKEW)
(N.T.S.)



(30° SKEW)
(N.T.S.)



(45° SKEW)
(N.T.S.)

DETAIL "L"
(N.T.S.)
(404 AND 806 BARS NOT SHOWN FOR CLARITY)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-15

SHEET NUMBER

PARISH	CONTROL SECTION	STATE PROJECT

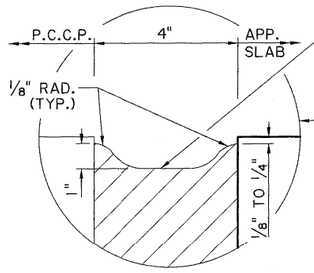
DESIGNED A.LANCASTER
CHECKED X. WANG
DETAILED R. MORVANT
CHECKED A.LANCASTER
REVIEWED Z.Z. FU
SERIES # 5 OF 6

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROACH SLAB
DETAILS "H" TO "M"
GIRDER SPANS EXCLUDING QUAD BEAMS
BD.2.10.1.0.05 - APPROACH SLAB COMMON

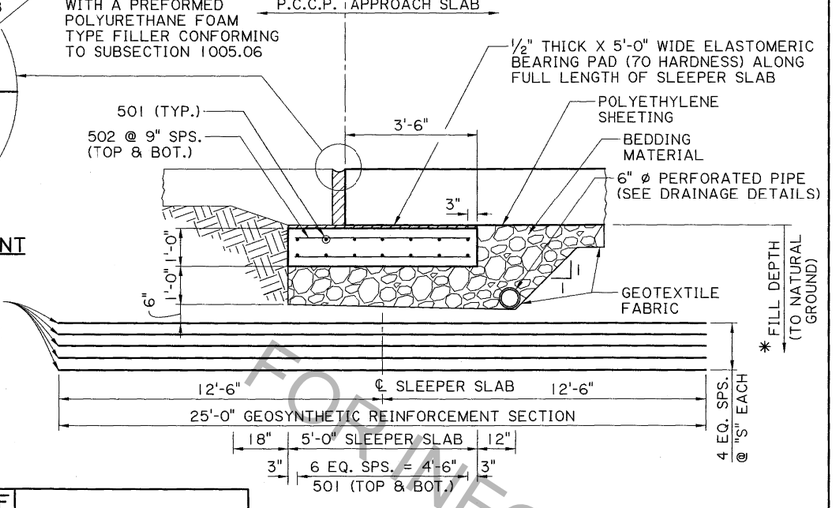
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DOTD

BRIDGE AND STRUCTURAL DESIGN



PAVEMENT RELIEF JOINT
(N.T.S.)

JOINT SHALL BE FILLED WITH A PREFORMED POLYURETHANE FOAM TYPE FILLER CONFORMING TO SUBSECTION 1005.06



△ 5 LAYERS OF GEOSYNTHETIC REINFORCEMENT AT FULL WIDTH OF EMBANKMENT. (SEE TABLE BELOW FOR SPACING OF REINFORCEMENT LAYERS)

DETAIL "N"
(N.T.S.)

FILL ✳ DEPTH	"S"- SPACING OF GEOSYNTHETIC REINFORCEMENT	NOTE
< 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"	

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. 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. LAYERS OF GEOTEXTILE FABRIC UNDER THE SLEEPER SLAB ARE ONLY REQUIRED IN A FILL SECTION.

☑ 4. SAW CUT AND SEAL 2" ASPHALTIC CONCRETE AT THE END OF THE APPROACH SLAB ALONG THE ENTIRE ROADWAY WIDTH. WORK TO BE PAID FOR UNDER ITEM "SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALTIC CONCRETE OVERLAY."

⊗ 5. 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.

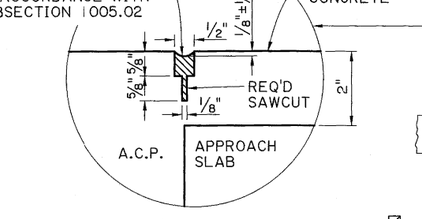
⊡ 6. THE SACRIFICIAL SECTION IS PROVIDED FOR THE POSSIBLE CASE WHERE ROADWAY PAVEMENT GROWTH HAS PUSHED THE APPROACH SLAB INTO THE BRIDGE, CLOSING THE JOINT. IF REHABILITATION IS REQUIRED, UP TO 6 INCHES MAY BE REMOVED TO REESTABLISH THE JOINT.

⊖ 7. 407 BARS ARE ONLY REQUIRED FOR SKEWED APPROACH SLABS, AND ARE PLACED TRANSVERSE TO THE ROADWAY, STAGGERED BETWEEN 805 TOP BARS.

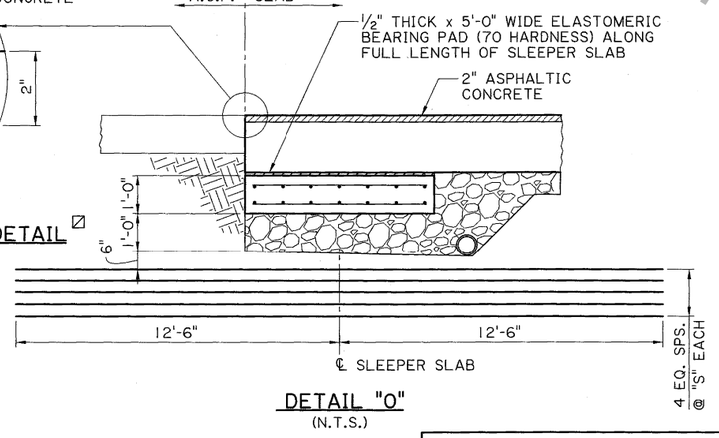
△ 8. 1001, 1002, AND 1003 BARS IN THE BOTTOM OF THE SLAB ARE FOR A 40' LONG SLAB. FOR A 20' LONG SLAB, THESE BOTTOM BARS SHALL BE 801, 802, AND 803.

⊠ 9. 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 "S".

10. 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.



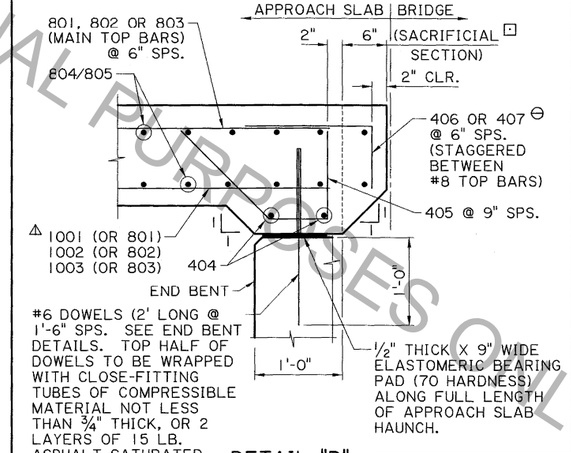
JOINT SAWING & SEALING DETAIL ☑
(N.T.S.)



DETAIL "O"
(N.T.S.)

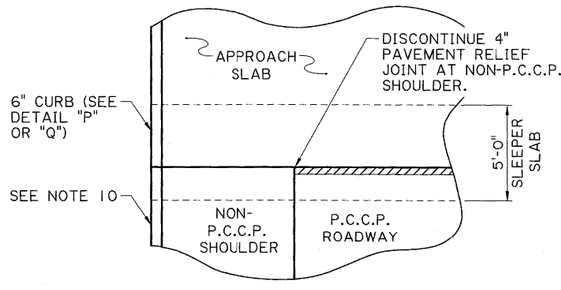
NOTE: FOR INFORMATION NOT SHOWN, SEE DETAIL "N".

SLEEPER SLAB FOR A.C.P. ROADWAY



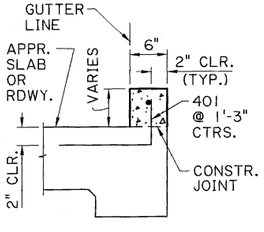
DETAIL "R"
(N.T.S.)

APPROACH SLAB SECTION @ END BENT

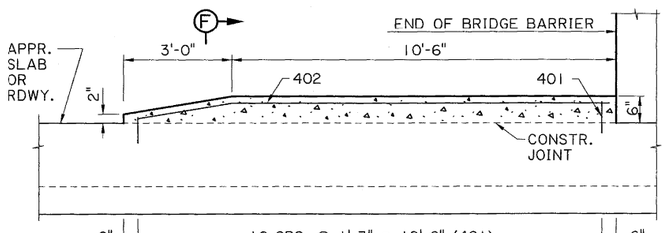


DETAIL "S" ☒
(N.T.S.)

PAVEMENT RELIEF JOINT & CURB @ NON-P.C.C.P. SHOULDER

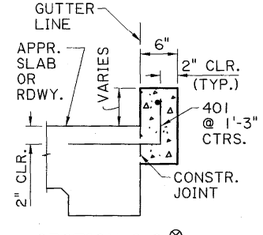


SECTION F-F ⊗
(N.T.S.)

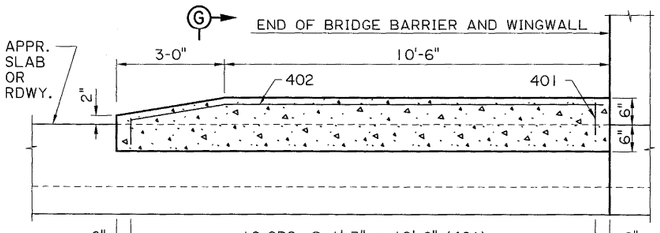


DETAIL "P" ⊗
(N.T.S.)

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
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER		
PARISH	CONTROL SECTION	STATE PROJECT
DESIGNED A.LANCASTER CHECKED X. WANG	DETAILED A.LANCASTER CHECKED R. MORVANT	REVIEWED Z.Z. FU SERIES # 6 OF 6

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROACH SLAB DETAILS "N" TO "S"

BD.2.10.1.0.06 - APPROACH SLAB COMMON

BRIDGE AND STRUCTURAL DESIGN

8/18/2015 15:30

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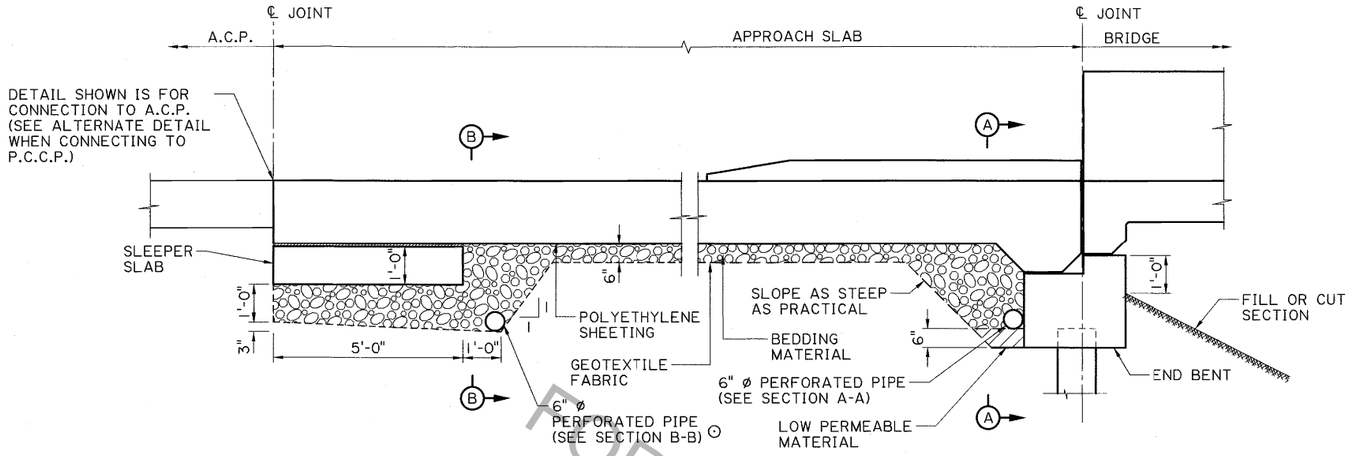
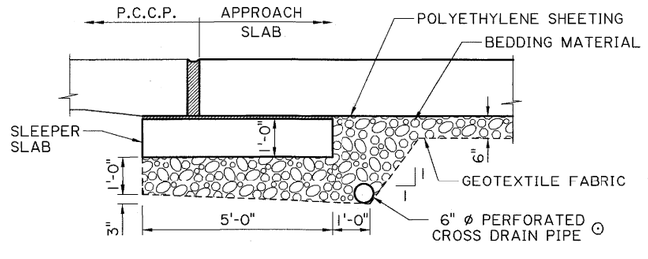


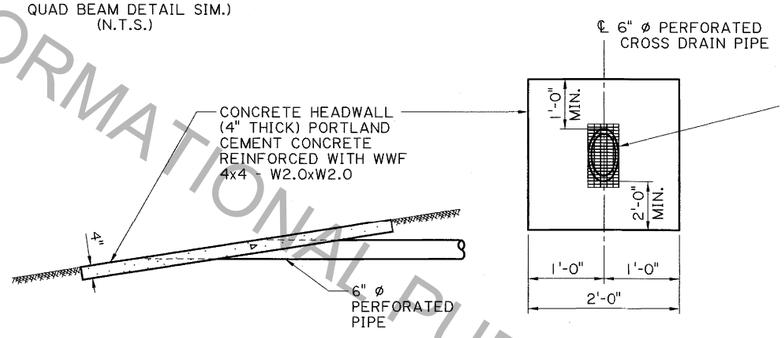
ELEVATION @ APPROACH SLAB

(SLAB SPAN BRIDGE SHOWN. QUAD BEAM DETAIL SIM.) (N.T.S.)



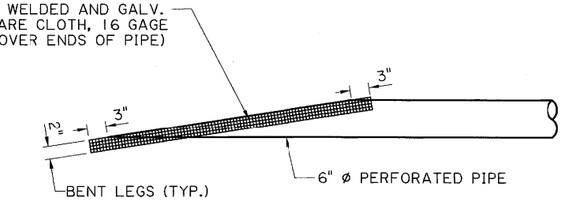
ALTERNATE DETAIL FOR P.C.C.P.

(N.T.S.)



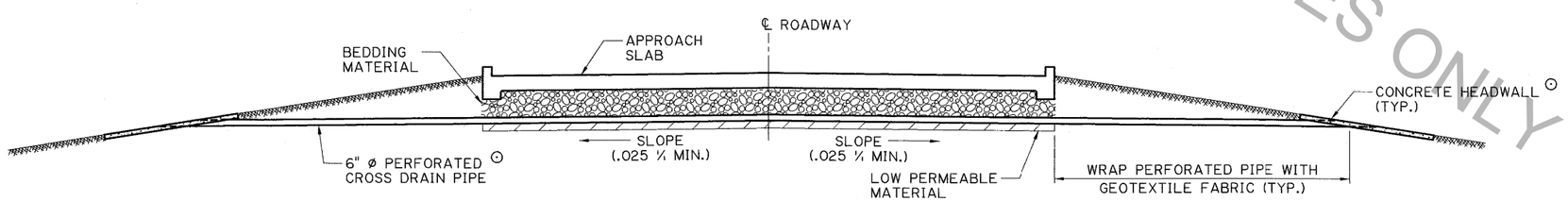
CONCRETE HEADWALL

(N.T.S.)



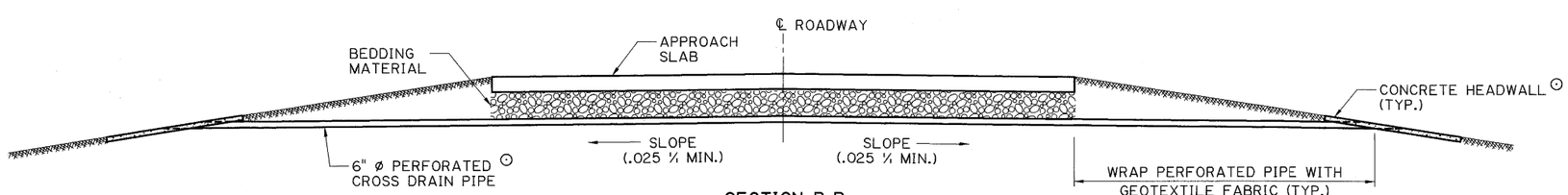
END TREATMENT FOR 6" PERFORATED CROSS DRAIN PIPES

(N.T.S.)



SECTION A-A

(N.T.S.)



SECTION B-B

(N.T.S.)

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 IN THE AREA OUTSIDE OF THE BEDDING MATERIAL.
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.

SHEET NUMBER

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED A.LANCASTER
CHECKED X. WANG
DETAILED A. KUYORO
CHECKED A.LANCASTER
REVIEWED Z.Z. FU
SERIES # 1 OF 1

NO.	REVISION OR CHANGE ORDER DESCRIPTION	DATE	BY

STATE OF LOUISIANA — ADAM LANCASTER License No. 35573 PROFESSIONAL ENGINEER IN CIVIL ENGINEERING 7-28-2015

DRAINAGE DETAILS FOR CONCRETE APPROACH SLABS

SLAB SPANS AND QUAD BEAM BRIDGES

BD.2.10.1.0.07 - APPROACH SLAB COMMON

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT — DOTD

BRIDGE AND STRUCTURAL DESIGN

8/18/2015 15:31

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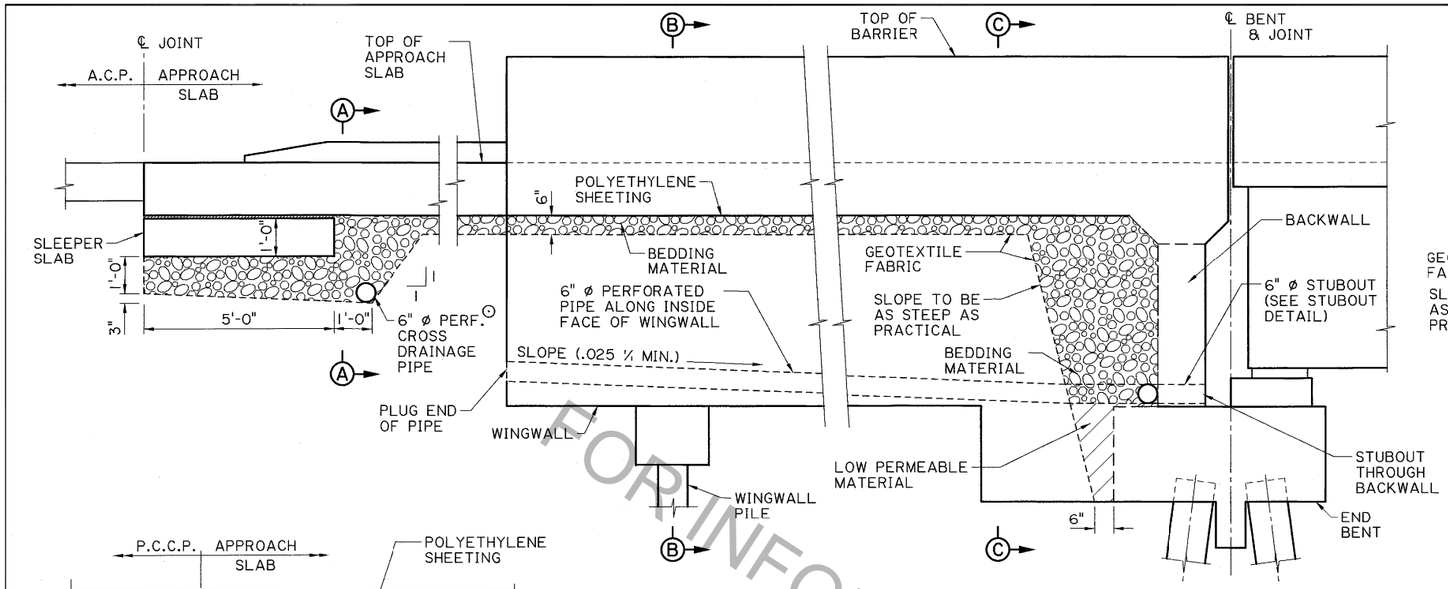
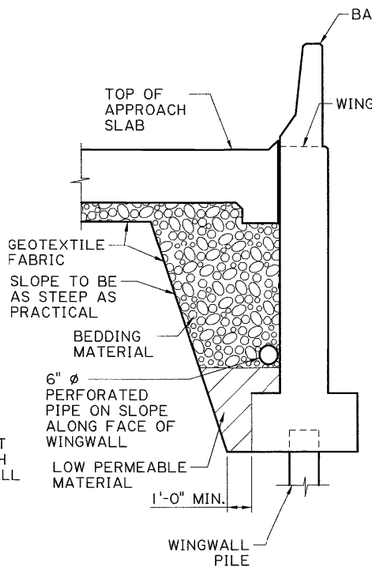
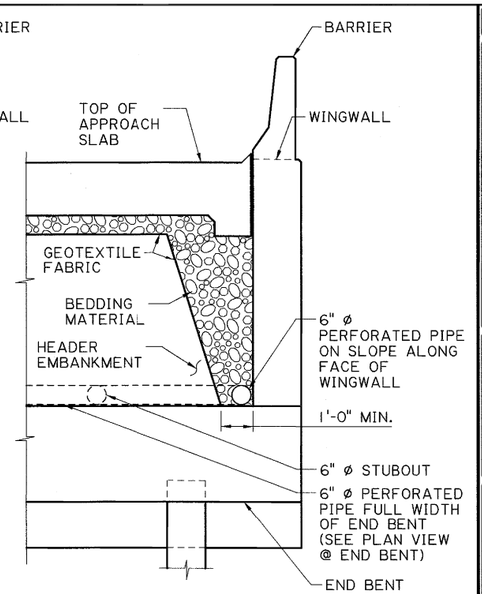


ELEVATION @ APPROACH SLAB

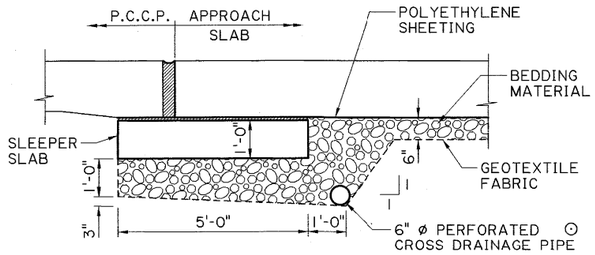
(SLEEPER SLAB SHOWN IS FOR A.C.P. SEE ALT. DETAIL FOR P.C.C.P.)



SECTION B-B

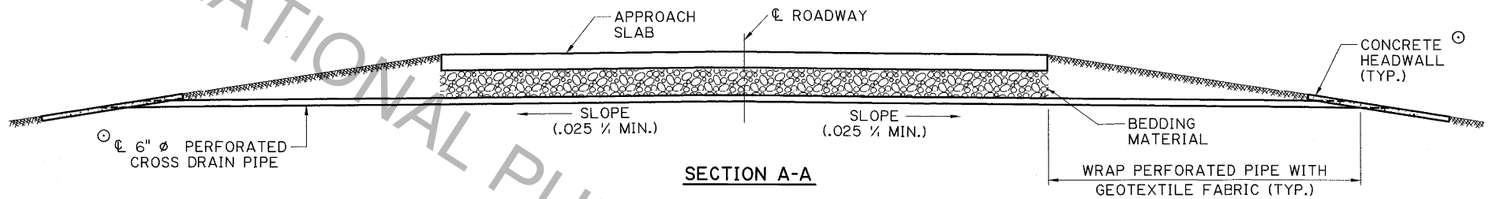


SECTION C-C

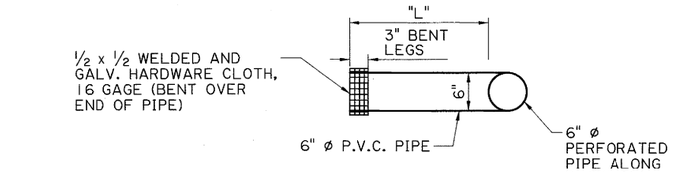


ALTERNATE DETAIL FOR P.C.C.P.

(N.T.S.)

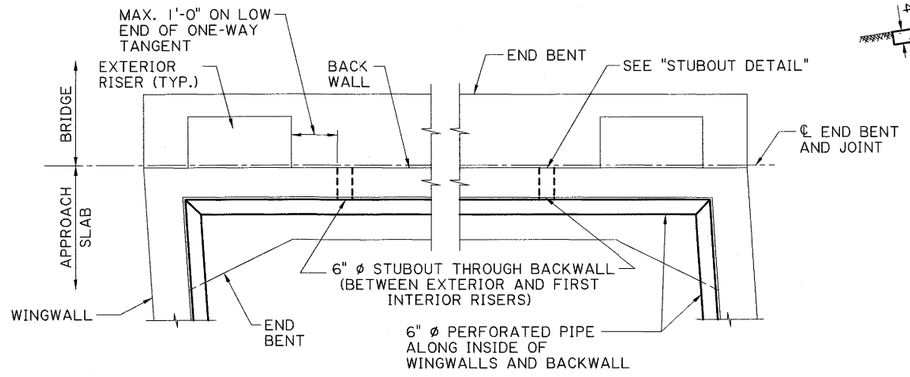


SECTION A-A



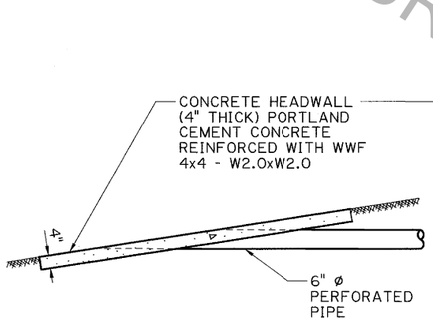
STUBOUT DETAIL

("L" IS DETERMINED BY THE THICKNESS OF THE END BENT BACKWALL)



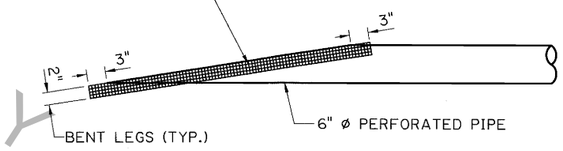
PLAN - END BENT

(SHOWING 6" ø DRAINAGE STUBOUTS)



CONCRETE HEADWALL

(N.T.S.)



END TREATMENT FOR 6" PERFORATED CROSS DRAIN PIPES

(N.T.S.)

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 IN THE AREA OUTSIDE OF THE BEDDING MATERIAL.
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.

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED A.LANCASTER
CHECKED X. WANG
DETAILED A. KUYORO
CHECKED A.LANCASTER
REVIEWED Z.Z. FU
SERIES # 1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

DRAINAGE DETAILS FOR CONCRETE APPROACH SLAB

GIRDER SPANS EXCLUDING QUAD BEAMS

BD.2.10.1.0.08 - APPROACH SLAB COMMON

BRIDGE AND STRUCTURAL DESIGN

8/18/2015 15:31

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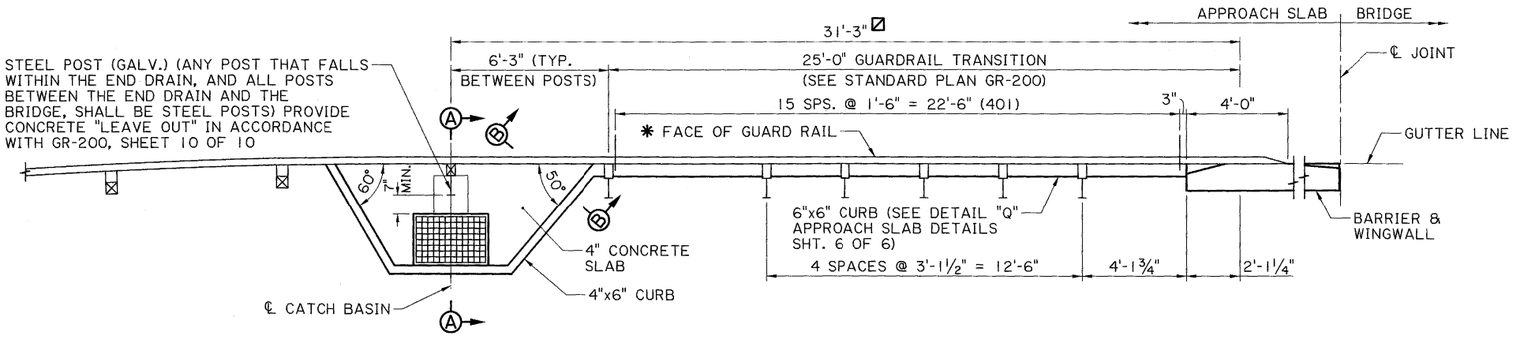
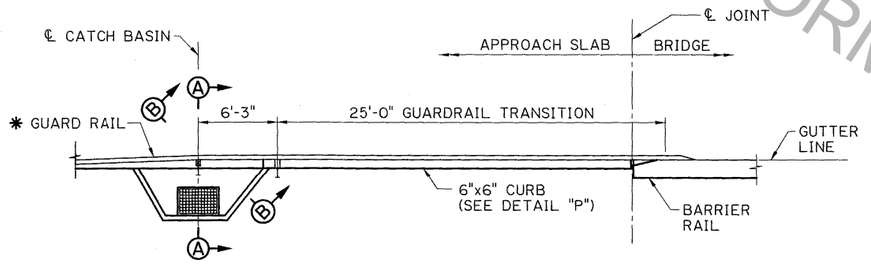


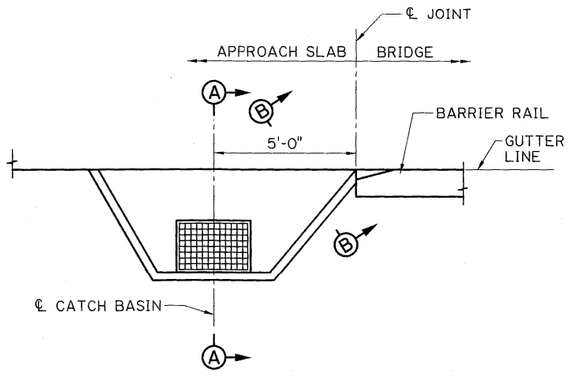
PLAN "A"- CLOSED END DRAIN FOR GIRDER SPAN BRIDGES (EXCEPT QUAD BEAMS)

(WINGWALL PARALLEL TO ROADWAY)
(N.T.S)



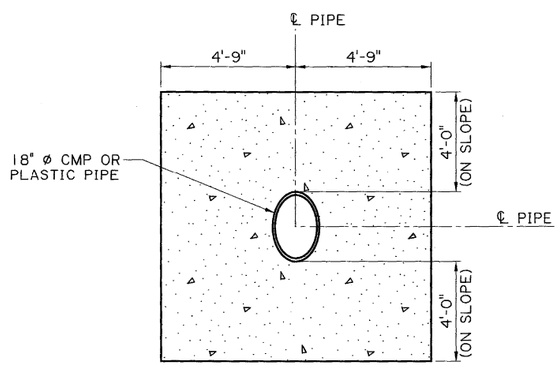
PLAN "B"- CLOSED END DRAIN FOR SLAB SPAN AND QUAD BEAM BRIDGES

(FOR INFORMATION NOT SHOWN, SEE PLAN "A")
(WINGWALL NOT PARALLEL TO ROADWAY)
(N.T.S.)



PLAN "C"- CLOSED END DRAIN WHEN WINGWALLS AND GUARDRAIL ARE NOT REQUIRED

(FOR INFORMATION NOT SHOWN, SEE PLAN "A")
(N.T.S.)



SECTION C-C

(CONCRETE SLOPE PROTECTION AT PIPE END)
(N.T.S.)

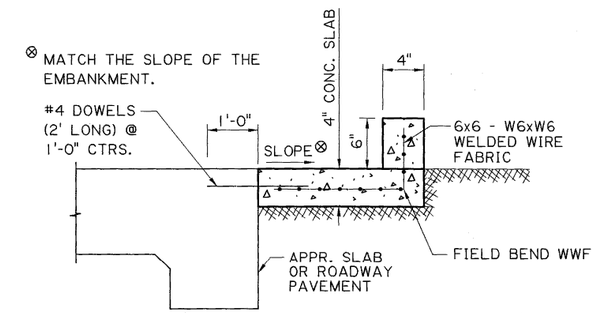
NOTES:

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 GR-200 SHT. 3 OF 10, SECTION A-A).

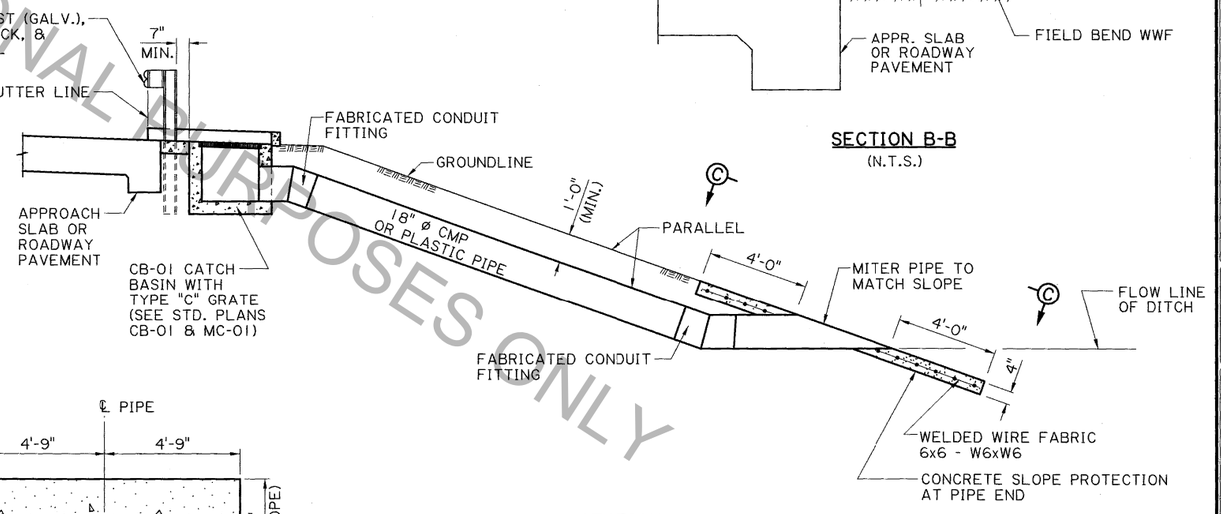
3. COST OF CB-01 CATCH BASIN, 18"ø PIPE, FABRICATED CONDUIT FITTINGS, SLOPE PROTECTION, 4" CONCRETE SLAB, 4"x6" CURB, WWF, AND #4 DOWELS TO BE INCLUDED IN THE COST OF ITEM "BRIDGE END DRAIN SYSTEM (CLOSED)". 6"x6" CURB TO BE INCLUDED IN THE COST OF ITEM "CONCRETE APPROACH SLABS". GUARDRAIL TO BE PAID FOR SEPARATELY. (SEE STANDARD PLAN GR-200 FOR GUARDRAIL DETAILS.)

☑ 4. THIS DIMENSION MAY BE ALTERED 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. NOTE THAT A MINIMUM CURB LENGTH OF 13'-6" IS REQUIRED IN CASES WHERE THE END DRAIN SYSTEM IS INSTALLED WITH GUARDRAIL. SEE GENERAL PLAN FOR LOCATION OF END DRAIN SYSTEM.



SECTION B-B

(N.T.S.)



SECTION A-A

(N.T.S.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER		
PARISH	CONTROL SECTION	STATE PROJECT
DESIGNED A.LANCASTER CHECKED X. WANG	DETAILED R. MORVANT CHECKED A.LANCASTER	
REVIEWED Z.Z. FU		SERIES # 1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

BRIDGE END DRAIN SYSTEM
CLOSED DRAIN
BD.2.10.1.0.09 - APPROACH SLAB COMMON

BRIDGE AND STRUCTURAL DESIGN

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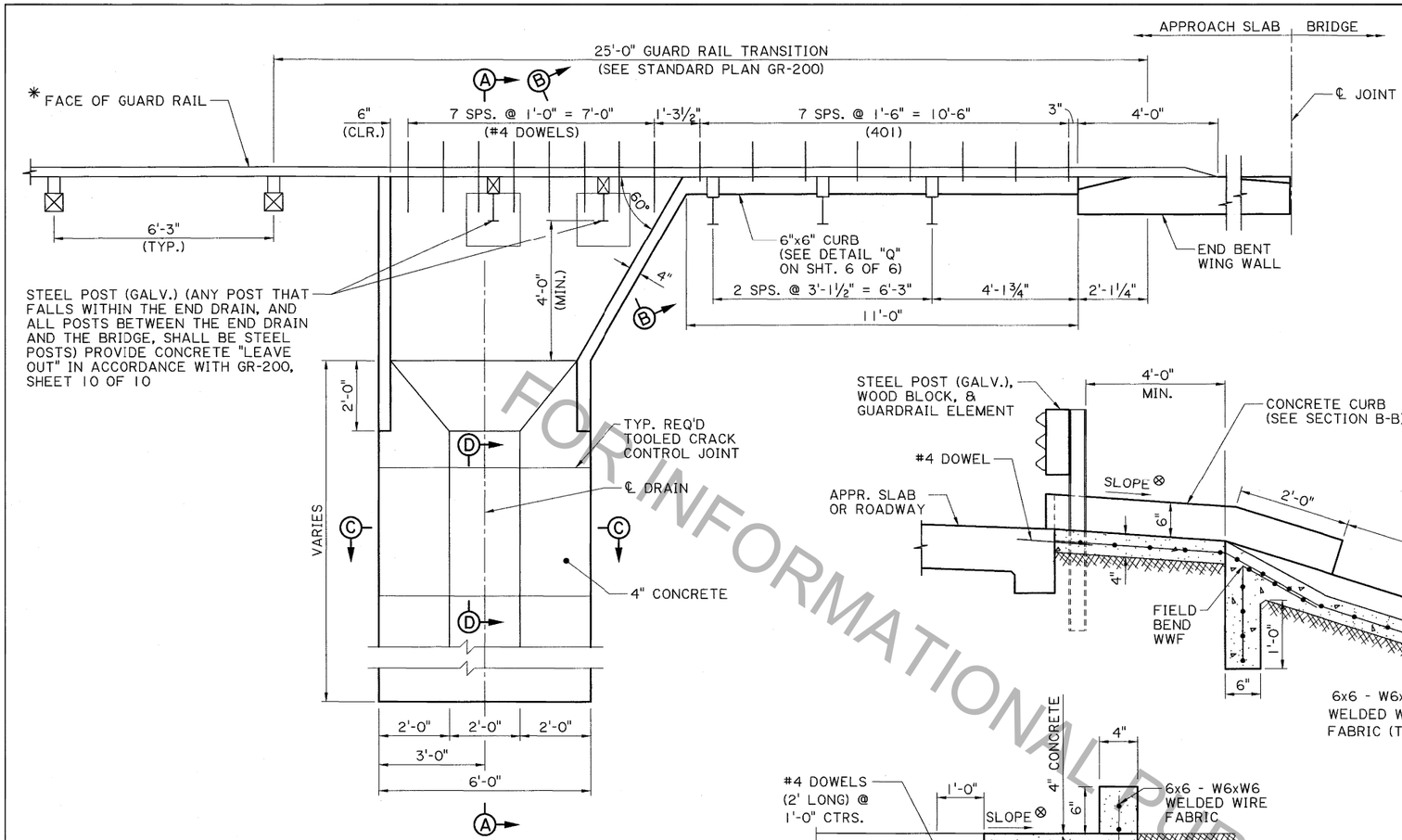
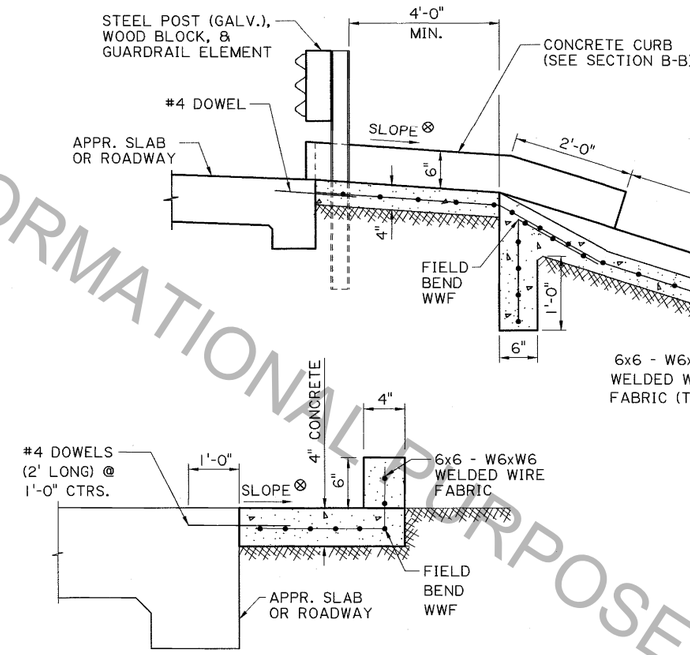
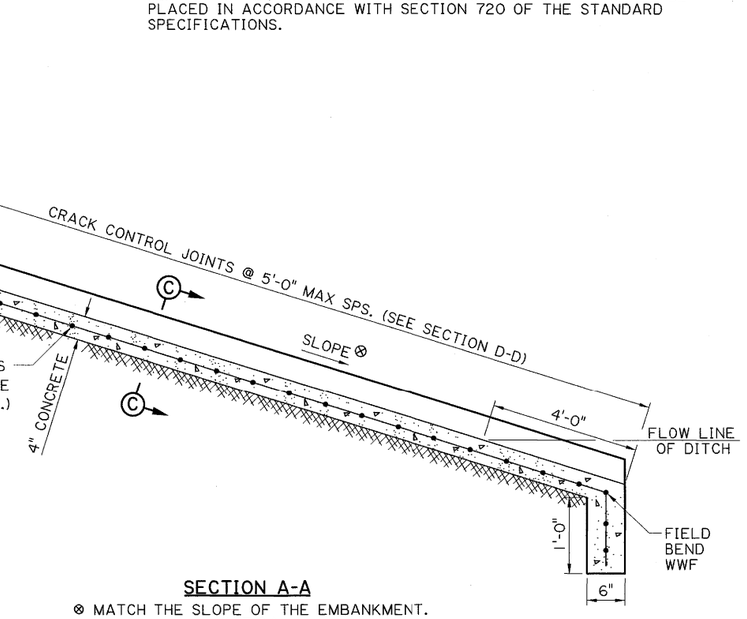


PLAN "A" - OPEN END DRAIN
FOR GIRDER SPAN BRIDGES (EXCEPT QUAD BEAMS)
(WINGWALL PARALLEL TO ROADWAY)
(N.T.S.)



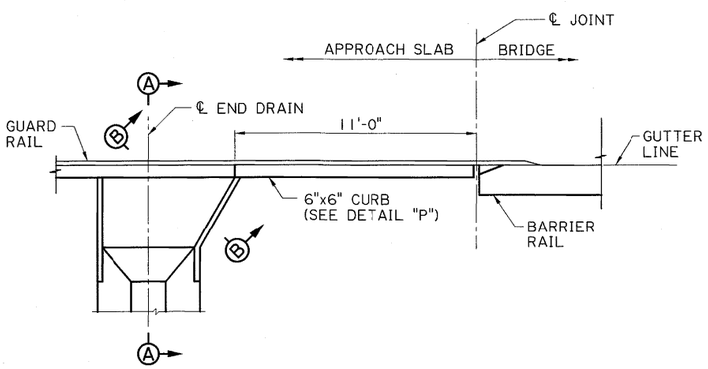
SECTION B-B
⊗ MATCH THE SLOPE OF THE EMBANKMENT
NOTE: GUARDRAIL NOT SHOWN
(N.T.S.)



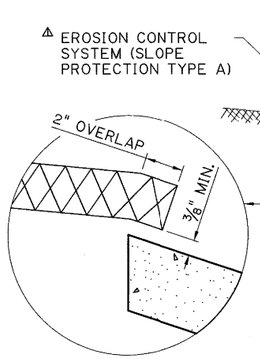
SECTION A-A
⊗ MATCH THE SLOPE OF THE EMBANKMENT.
(N.T.S.)

NOTES:

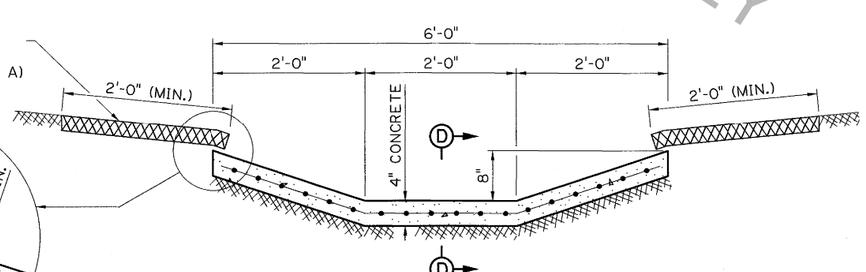
1. SEE GENERAL PLAN FOR END DRAIN REQUIREMENT.
2. ✱ GUARD RAIL SHALL BE LAID OUT PRIOR TO BUILDING THE END DRAIN. FRONT FACE OF CURB TO BE FLUSH WITH BACK FACE OF THRIE BEAM RAIL (SEE GR-200 SHT. 3 OF 10, SECTION A-A.)
3. ALL ITEMS SHOWN IN THIS SHEET TO BE INCLUDED IN COST OF ITEM "BRIDGE END DRAIN SYSTEM (OPEN)", EXCEPT FOR THE 6"x6" CONCRETE CURB TO BE INCLUDED IN THE COST OF ITEM "CONCRETE APPROACH SLABS" AND THE GUARDRAIL, TO BE PAID FOR SEPARATELY. SEE STANDARD PLAN GR-200 FOR GUARD RAIL DETAILS.
4. ALL EXCAVATION BELOW ROADSIDE DITCH TYPICAL SECTION WILL BE INCIDENTAL TO THE DRAIN, AND PAYMENT WILL BE INCLUDED IN THE COST OF ITEM "BRIDGE END DRAIN SYSTEM (OPEN)".
5. ⚠ EMBANKMENT/NATURAL GROUND SHALL BE A MINIMUM OF ⅜" 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.



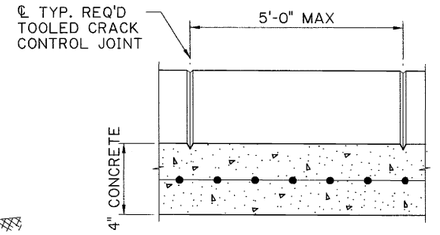
PLAN "B"- OPEN END DRAIN
FOR SLAB SPAN AND QUAD BEAM BRIDGES
(WINGWALL NOT PARALLEL TO ROADWAY)
(FOR INFORMATION NOT SHOWN, SEE PLAN "A")
(N.T.S.)



OVERLAP DETAIL
(N.T.S.)



SECTION C-C
(N.T.S.)



SECTION D-D
(N.T.S.)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER

PARISH	CONTROL SECTION	STATE PROJECT

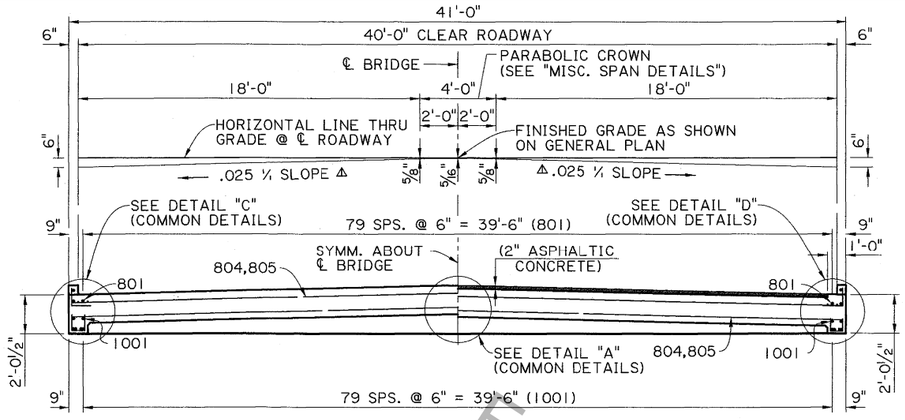
DESIGNED A.LANCASTER
CHECKED R. MORVANT
DETAILED A.LANCASTER
CHECKED R. MORVANT
REVIEWED Z.Z. FU
SERIES # 1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

BRIDGE END DRAIN SYSTEM
OPEN DRAIN
BD.2.10.1.0.10 - APPROACH SLAB COMMON

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DOTD

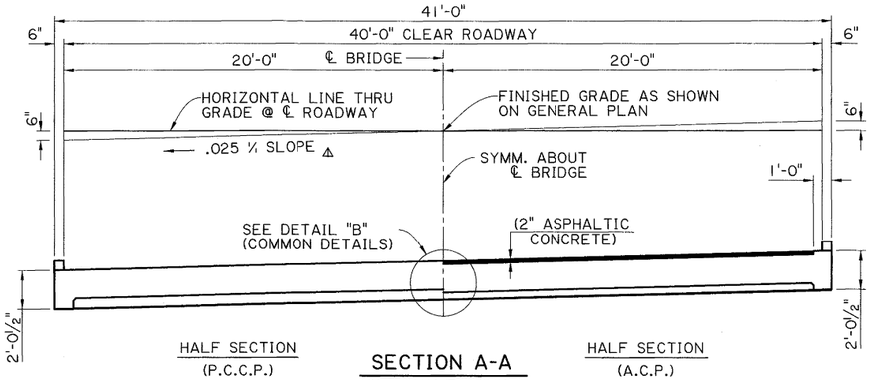
BRIDGE AND STRUCTURAL DESIGN



HALF SECTION (P.C.C.P.) — HALF SECTION (A.C.P.)

SECTION A-A
(TWO-WAY TANGENT)
SCALE : ¼" = 1'-0"

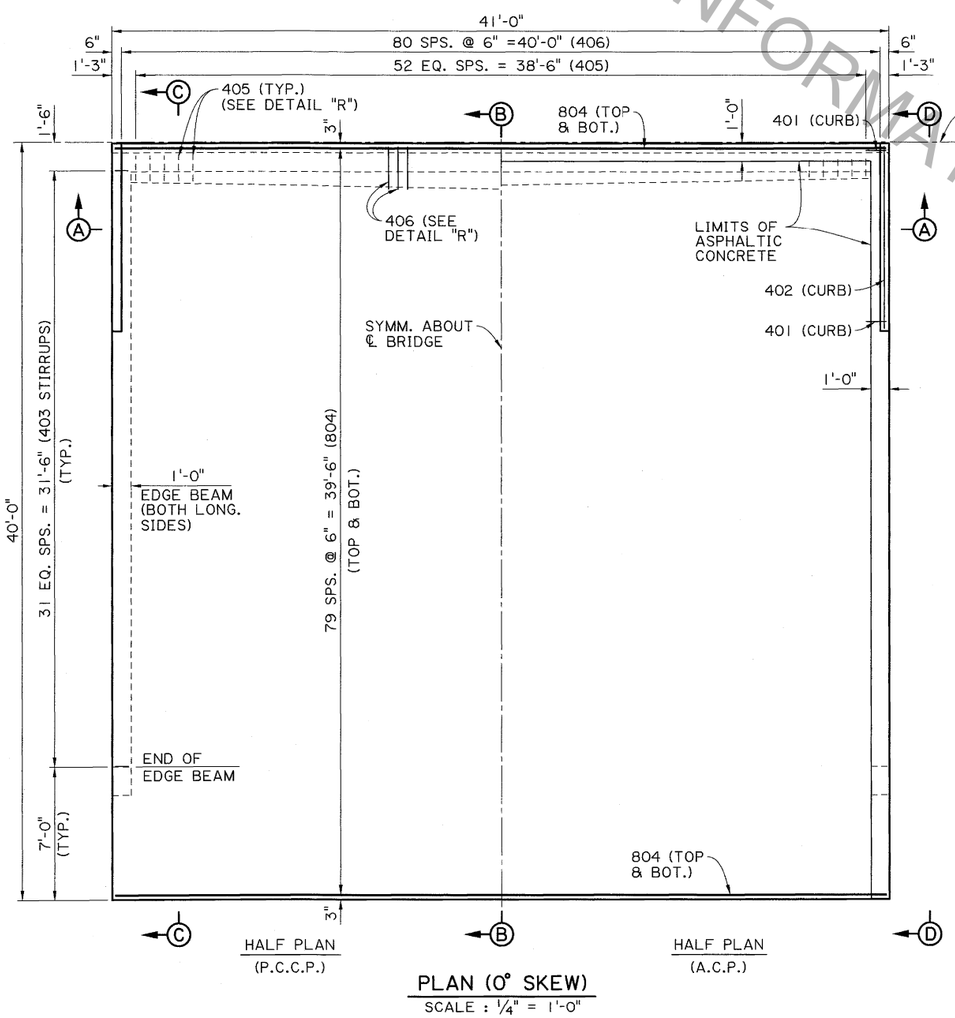
FOR REBAR AND DIMENSIONS NOT SHOWN, SEE DETAILS "C" OR "D"
⏢ UNLESS OTHERWISE NOTED IN PLANS



HALF SECTION (P.C.C.P.) — HALF SECTION (A.C.P.)

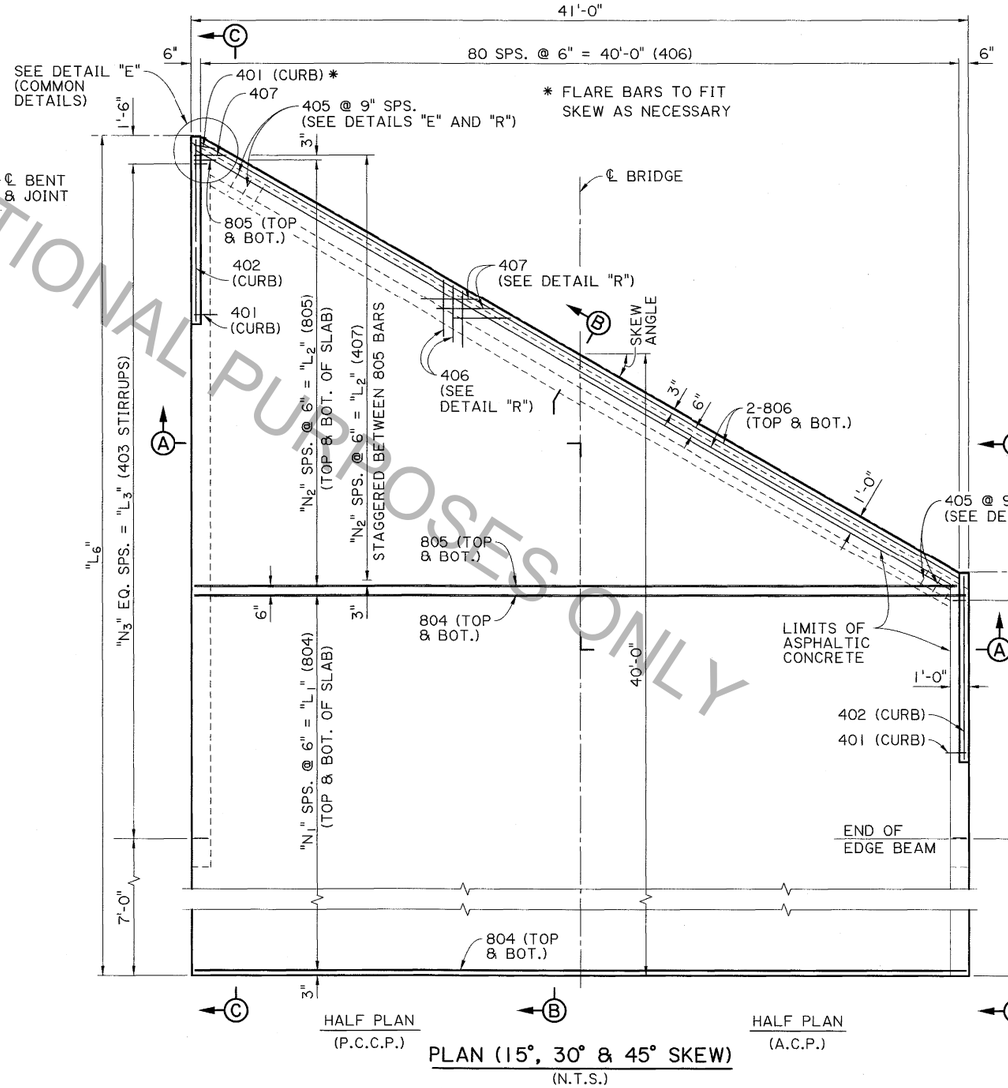
SECTION A-A
(ONE-WAY TANGENT)
SCALE : ¼" = 1'-0"

SEE TWO-WAY TANGENT FOR REINFORCEMENT DETAILS
⏢ UNLESS OTHERWISE NOTED IN PLANS



HALF PLAN (P.C.C.P.) — HALF PLAN (A.C.P.)

PLAN (0° SKEW)
SCALE : ¼" = 1'-0"



HALF PLAN (P.C.C.P.) — HALF PLAN (A.C.P.)

PLAN (15°, 30° & 45° SKEW)
(N.T.S.)
(SEE SHT. 2 OF 2 FOR VARIABLES)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER

DESIGNED	A.LANCASTER	PARISH	CONTROL SECTION	STATE PROJECT
CHECKED	X. WANG			
DETAILED	R. MORVANT			
CHECKED	A.LANCASTER			
REVIEWED	Z.Z. FU			
SERIES #1	1 OF 2			

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROACH SLAB DETAILS
40' LONG & 40' CLEAR ROADWAY
SLAB SPANS AND QUAD BEAM BRIDGES

BD.2.10.2.5.01 - APPROACH SLAB

BRIDGE AND STRUCTURAL DESIGN

ESTIMATED QUANTITIES (ONE 0° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	80	-	-	39'-1"	3126'-8"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	39'-1"	39'-1"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	39'-1"	39'-1"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	32'-3"	129'-0"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	32'-3"	129'-0"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3462'-10" = 14,901 LBS						
	801	80	-	-	39'-1"	3126'-8"	LONGIT. IN TOP OF SLAB
	802	1	-	-	39'-1"	39'-1"	LONGIT. IN TOP OF SLAB
	803	1	-	-	39'-1"	39'-1"	LONGIT. IN TOP OF SLAB
	804	160	-	-	40'-8"	6506'-8"	TRANSV. IN TOP & BOT. OF SLAB
	TOTAL NO. 8 BARS = 9711'-6" = 25,930 LBS						
	501	14	-	-	40'-8"	569'-4"	TOP & BOT. OF SLEEPER SLAB
	502	110	-	-	4'-8"	513'-4"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1082'-8" = 1,129 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURBS
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURBS
	403	64	-	-	2'-2"	138'-8"	STIRRUPS IN EDGE BEAMS
⊠	404	2	-	-	42'-5"	84'-10"	BOTTOM OF HAUNCH
	405	53	-	-	5'-4"	282'-8"	STIRRUPS IN HAUNCH
	406	81	-	-	3'-5"	276'-9"	LONG. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 848'-3" = 567 LBS						
	TOTAL DEFORMED REINFORCING STEEL						42,527 LBS.
	CONCRETE APPROACH SLAB						182.22 SQ.YD.
⊙	ASPHALTIC CONCRETE						18.59 TONS.
⊙	SAWCUT AND SEAL						39 LN. FT.

ESTIMATED QUANTITIES (ONE 15° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	80	33'-10"	1.61"	44'-5"	3130'-0"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	44'-6"	44'-6"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	33'-9"	33'-9"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	37'-6"	150'-0"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	26'-10"	107'-4"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3465'-7" = 14,912 LBS						
	801	80	33'-10"	1.61"	44'-5"	3130'-0"	LONGIT. IN TOP OF SLAB
	802	1	-	-	44'-6"	44'-6"	LONGIT. IN TOP OF SLAB
	803	1	-	-	33'-9"	33'-9"	LONGIT. IN TOP OF SLAB
	804	136	-	-	40'-8"	5530'-8"	TRANSV. IN TOP & BOT. OF SLAB
	805	42	2'-0"	22.35"	39'-3"	866'-3"	TRANSV. IN TOP & BOT. OF SLAB
	806	4	-	-	42'-1"	168'-4"	TOP & BOT. OF SLAB ALONG SKEW
	807	2	-	-	2'-0"	4'-0"	CORNER OF SLAB
	TOTAL NO. 8 BARS = 9777'-6" = 26,106 LBS						
	501	14	-	-	40'-8"	569'-4"	TOP & BOT. OF SLEEPER SLAB
	502	110	-	-	4'-8"	513'-4"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1082'-8" = 1,129 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURBS
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURBS
	403	65	-	-	2'-2"	140'-10"	STIRRUPS IN EDGE BEAMS
⊠	404	2	-	-	43'-10"	87'-8"	BOTTOM OF HAUNCH
	405	54	-	-	5'-4"	288'-0"	STIRRUPS IN HAUNCH
	406	81	-	-	3'-5"	276'-9"	LONG. IN TOP OF SLAB
	407	21	-	-	3'-0"	63'-0"	TRANSV. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 921'-7" = 616 LBS						
	TOTAL DEFORMED REINFORCING STEEL						42,763 LBS.
	CONCRETE APPROACH SLAB						182.22 SQ.YD.
⊙	ASPHALTIC CONCRETE						18.59 TONS.
⊙	SAWCUT AND SEAL						39 LN. FT.

ESTIMATED QUANTITIES (ONE 30° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	80	27'-8"	3.47"	50'-6"	3126'-8"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	50'-9"	50'-9"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	27'-5"	27'-5"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	43'-7"	174'-4"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	20'-7"	82'-4"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3461'-6" = 14,895 LBS						
	801	80	27'-8"	3.47"	50'-6"	3126'-8'	LONGIT. IN TOP OF SLAB
	802	1	-	-	50'-9"	50'-9"	LONGIT. IN TOP OF SLAB
	803	1	-	-	27'-5"	27'-5"	LONGIT. IN TOP OF SLAB
	804	112	-	-	40'-8"	4554'-8"	TRANSV. IN TOP & BOT. OF SLAB
	805	88	2'-1"	10.42"	39'-5"	1826'-0"	TRANSV. IN TOP & BOT. OF SLAB
	806	4	-	-	46'-10"	187'-4"	TOP & BOT. OF SLAB ALONG SKEW
	807	4	-	-	2'-0"	8'-0"	CORNER OF SLAB
	TOTAL NO. 8 BARS = 9780'-10" = 26,115 LBS						
	501	14	-	-	40'-8"	569'-4"	TOP & BOT. OF SLEEPER SLAB
	502	110	-	-	4'-8"	513'-4"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1082'-8" = 1,129 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURBS
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURBS
	403	65	-	-	2'-2"	140'-10"	STIRRUPS IN EDGE BEAMS
⊠	404	2	-	-	48'-7"	97'-2"	BOTTOM OF HAUNCH
	405	60	-	-	5'-4"	320'-0"	STIRRUPS IN HAUNCH
	406	81	-	-	3'-5"	276'-9"	LONG. IN TOP OF SLAB
	407	44	-	-	2'-0"	88'-0"	TRANSV. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 988'-1" = 660 LBS						
	TOTAL DEFORMED REINFORCING STEEL						42,799 LBS.
	CONCRETE APPROACH SLAB						182.22 SQ.YD.
⊙	ASPHALTIC CONCRETE						18.59 TONS.
⊙	SAWCUT AND SEAL						39 LN. FT.

ESTIMATED QUANTITIES (ONE 45° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	80	19'-2"	6.0"	58'-8"	3113'-4"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	59'-2"	59'-2"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	18'-8"	18'-8"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	51'-10"	207'-4"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	11'-10"	47'-4"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3445'-10" = 14,827 LBS						
	801	80	19'-2"	6.0"	58'-8"	3113'-4"	LONGIT. IN TOP OF SLAB
	802	1	-	-	59'-2"	59'-2"	LONGIT. IN TOP OF SLAB
	803	1	-	-	18'-8"	18'-8"	LONGIT. IN TOP OF SLAB
	804	76	-	-	40'-8"	3090'-8"	TRANSV. IN TOP & BOT. OF SLAB
	805	156	1'-8"	6.0"	40'-2"	3263'-0"	TRANSV. IN TOP & BOT. OF SLAB
	806	4	-	-	57'-4"	229'-4"	TOP & BOT. OF SLAB ALONG SKEW
	807	6	-	-	1'-6"	9'-0"	CORNER OF SLAB
	TOTAL NO. 8 BARS = 9783'-2" = 26,121 LBS						
	501	14	-	-	40'-8"	569'-4"	TOP & BOT. OF SLEEPER SLAB
	502	110	-	-	4'-8"	513'-4"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1082'-8" = 1,129 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURBS
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURBS
	403	66	-	-	2'-2"	143'-0"	STIRRUPS IN EDGE BEAMS
⊠	404	2	-	-	59'-1"	118'-2"	BOTTOM OF HAUNCH
	405	74	-	-	5'-4"	394'-8"	STIRRUPS IN HAUNCH
	406	81	-	-	3'-5"	276'-9"	LONG. IN TOP OF SLAB
	407	78	-	-	2'-0"	156'-0"	TRANSV. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 1153'-11" = 771 LBS						
	TOTAL DEFORMED REINFORCING STEEL						42,848 LBS.
	CONCRETE APPROACH SLAB						182.22 SQ.YD.
⊙	ASPHALTIC CONCRETE						18.59 TONS.
⊙	SAWCUT AND SEAL						39 LN. FT.

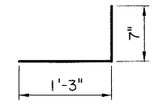
NOTES:

⚠ 1. QUANTITIES SHOWN FOR 401 AND 402 BARS ARE FOR A 13'-6" CURB (SEE APPROACH SLAB DETAIL "P"). ADJUST QUANTITIES AS NEEDED FOR LONGER CURBS OR FOR "BRIDGE END DRAIN SYSTEM" INSTALLATIONS. BRIDGES WITHOUT GUARDRAIL OR END DRAINS DO NOT REQUIRE A CURB, UNLESS OTHERWISE STATED IN THE PLANS.

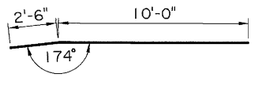
2. ALL MATERIAL TO BE PAID FOR UNDER ITEM "CONCRETE APPROACH SLABS." QUANTITIES ARE FOR INFORMATION PURPOSES ONLY.

⊙ 3. REQUIRED WHEN APPROACH SLAB IS ADJACENT TO ASPHALTIC CONCRETE PAVEMENT.

⊠ 4. FOR HANDLING PURPOSES, #4 BARS OVER 40' MAY BE SPLICED WITH A 1'-9" MIN. LAP SPLICE. ALL SPLICES TO BE STAGGERED. (1'-9" SPLICE INCLUDED IN ESTIMATED QUANTITES.)



401
(2"ø PIN)



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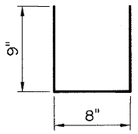

403
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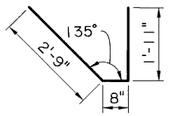

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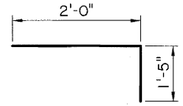


406
(2"ø PIN)

VARIABLE	15° SKEW	30° SKEW	45° SKEW
N_1	67	55	37
N_2	20	43	77
N_3	37	43	52
N_4	26	20	12
L_1	33'-6"	27'-6"	18'-6"
L_2	10'-0"	21'-6"	38'-6"
L_3	36'-10"	43'-0"	51'-6"
L_4	26'-1"	20'-0"	11'-6"
L_6	45'-4 1/4"	51'-6 3/4"	60'-0"
L_7	34'-7 3/4"	28'-5 1/2"	20'-0"

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER

DESIGNED	A.LANCASTER	PARISH		
CHECKED	R. MORVANT			
DETAILED	A. KUYORO	CONTROL SECTION		
CHECKED	A.LANCASTER			
REVIEWED	Z.Z. FU	STATE PROJECT		
SERIES #	2 OF 2			

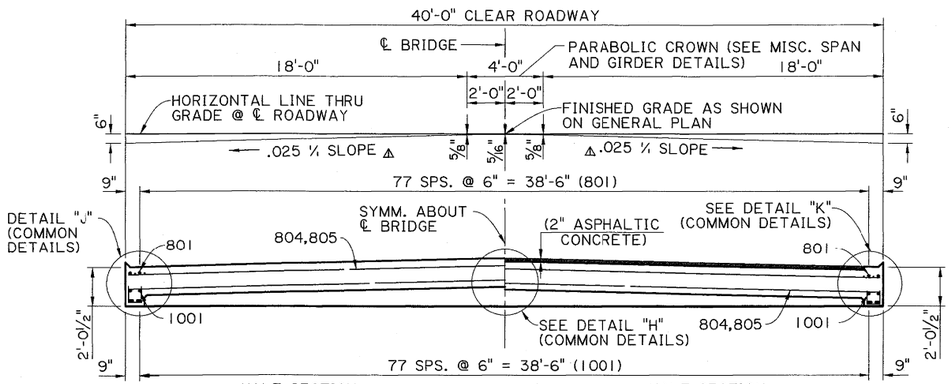
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROACH SLAB QUANTITIES 40' LONG & 40' CLEAR ROADWAY

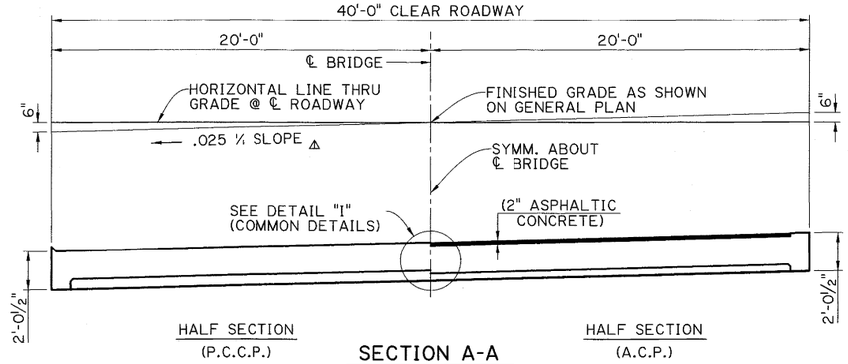
SLAB SPANS AND QUAD BEAM BRIDGES

BD.2.10.2.5.02 - APPROACH SLAB

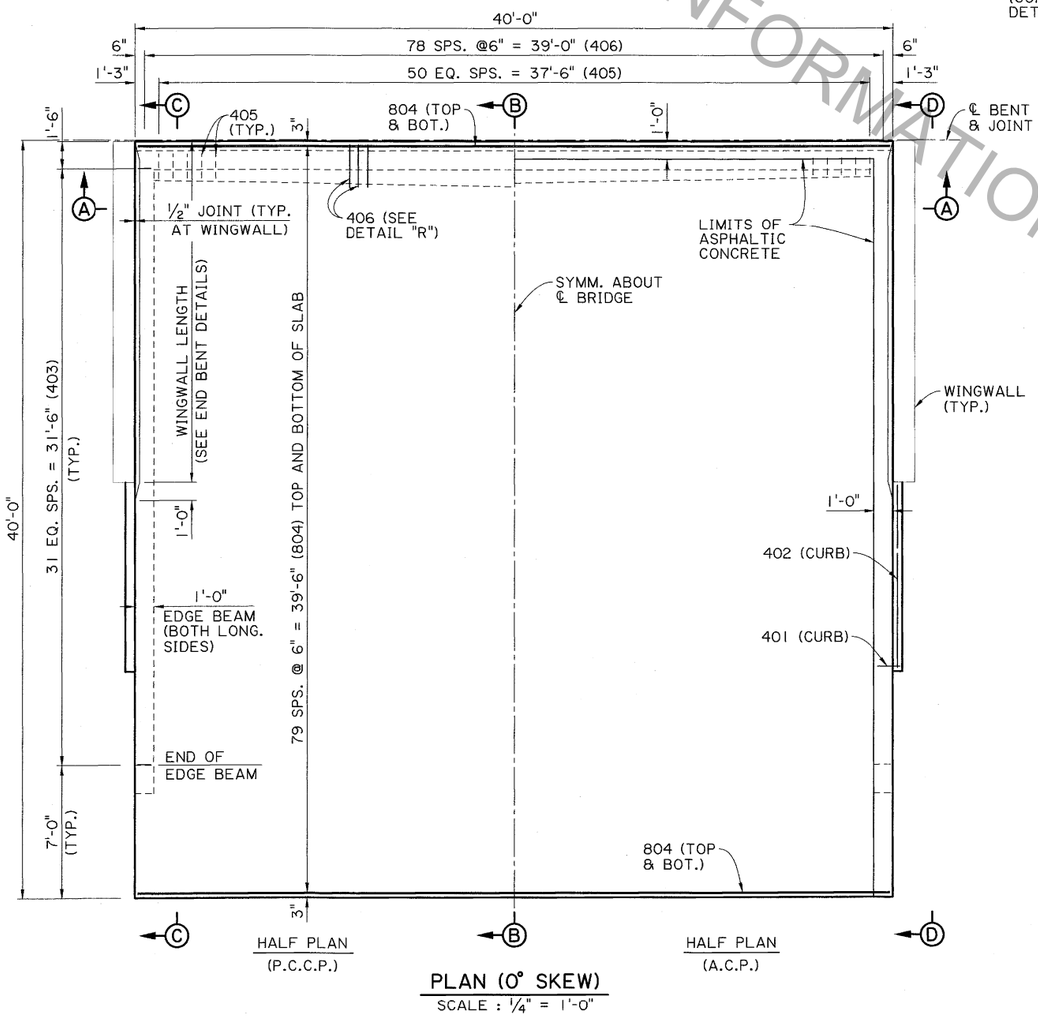
BRIDGE AND STRUCTURAL DESIGN



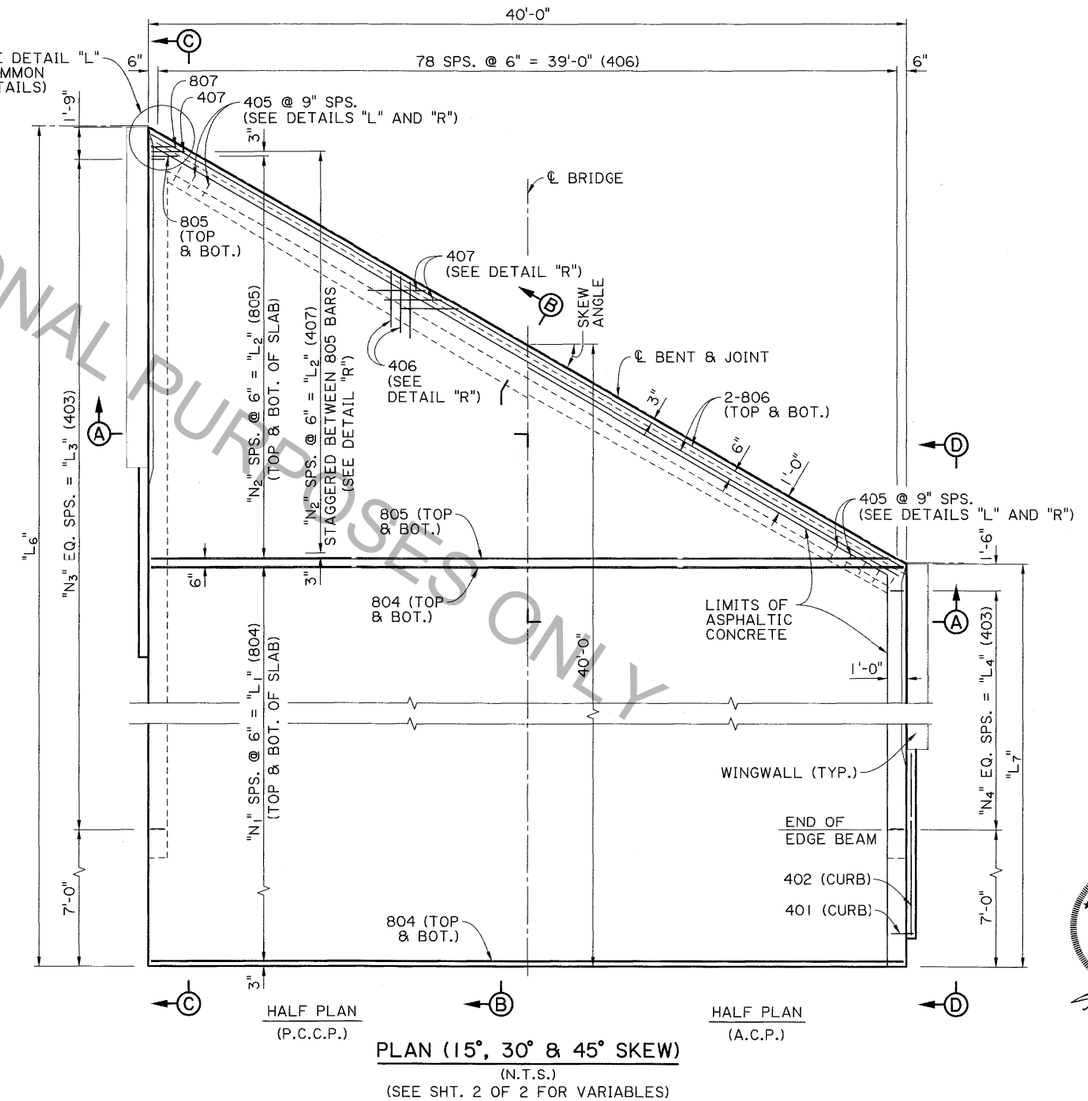
SECTION A-A
(TWO-WAY TANGENT)
SCALE : ¼" = 1'-0"
(WINGWALLS, BARRIERS AND CURBS NOT SHOWN)
(FOR REBAR AND DIMENSIONS NOT SHOWN, SEE DETAILS "J" OR "K")
⏢ UNLESS OTHERWISE NOTED IN PLANS



SECTION A-A
(ONE-WAY TANGENT)
SCALE : ¼" = 1'-0"
NOTE: DETAILS NOT SHOWN SIMILAR TO TWO-WAY TANGENT
⏢ UNLESS OTHERWISE NOTED IN PLANS



PLAN (0° SKEW)
SCALE : ¼" = 1'-0"



PLAN (15°, 30° & 45° SKEW)
(N.T.S.)
(SEE SHT. 2 OF 2 FOR VARIABLES)

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
7-28-2015

SHEET NUMBER		
PARISH	CONTROL SECTION	STATE PROJECT
DESIGNED A.LANCASTER CHECKED R. MORVANT	DETAILED R. MORVANT CHECKED A.LANCASTER	REVIEWED Z.Z. FU SERIES # 1 OF 2

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROACH SLAB DETAILS
40' LONG & 40' CLEAR ROADWAY
GIRDER SPANS EXCLUDING QUAD BEAMS

BD.2.10.2.5.03 - APPROACH SLAB

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
dotd
STATE OF LOUISIANA

BRIDGE AND STRUCTURAL DESIGN

ESTIMATED QUANTITIES (ONE 0° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	78	-	-	39'-1"	3048'-6"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	39'-1"	39'-1"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	39'-1"	39'-1"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	32'-3"	129'-0"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	32'-3"	129'-0"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3384'-8" = 14,564 LBS						
	801	78	-	-	39'-1"	3048'-6"	LONGIT. IN TOP OF SLAB
	802	1	-	-	39'-1"	39'-1"	LONGIT. IN TOP OF SLAB
	803	1	-	-	39'-1"	39'-1"	LONGIT. IN TOP OF SLAB
	804	160	-	-	39'-8"	6346'-8"	TRANSV. IN TOP & BOT. OF SLAB
	TOTAL NO. 8 BARS = 9473'-4" = 25,294 LBS						
	501	14	-	-	39'-8"	555'-4"	TOP & BOT. OF SLEEPER SLAB
	502	108	-	-	4'-8"	504'-0"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1059'-4" = 1,105 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURBS
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURBS
	403	64	-	-	2'-2"	138'-8"	STIRRUPS IN EDGE BEAMS
	404	2	-	-	39'-8"	79'-4"	BOTTOM OF HAUNCH
	405	51	-	-	5'-4"	272'-0"	STIRRUPS IN HAUNCH
	406	79	-	-	3'-5"	269'-11"	LONG. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 825'-3" = 551 LBS						
	TOTAL DEFORMED REINFORCING STEEL					41,514 LBS.	
	CONCRETE APPROACH SLAB					177.78 SQ.YD.	
⊙	ASPHALTIC CONCRETE					18.11 TONS.	
⊙	SAWCUT AND SEAL					38 LN. FT.	

ESTIMATED QUANTITIES (ONE 15° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	78	34'-0"	1.60"	44'-3"	3051'-9"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	44'-5"	44'-5"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	33'-10"	33'-10"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	37'-6"	150'-0"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	27'-0"	108'-0"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3388'-0" = 14,579 LBS						
	801	78	34'-0"	1.60"	44'-3"	3051'-9"	LONGIT. IN TOP OF SLAB
	802	1	-	-	44'-5"	44'-5"	LONGIT. IN TOP OF SLAB
	803	1	-	-	33'-10"	33'-10"	LONGIT. IN TOP OF SLAB
	804	136	-	-	39'-8"	5394'-8"	TRANSV. IN TOP & BOT. OF SLAB
	805	42	1'-5"	22.40"	38'-9"	843'-6"	TRANSV. IN TOP & BOT. OF SLAB
	806	4	-	-	41'-0"	164'-0"	TOP & BOT OF SLAB ALONG SKEW
	807	2	-	-	1'-6"	3'-0"	CORNER OF SLAB
	TOTAL NO. 8 BARS = 9535'-2" = 25,459 LBS						
	501	14	-	-	39'-8"	555'-4"	TOP & BOT. OF SLEEPER SLAB
	502	108	-	-	4'-8"	504'-0"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1059'-4" = 1,105 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURB
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURB
	403	64	-	-	2'-2"	138'-8"	STIRRUPS IN EDGE BEAMS
⊠	404	2	-	-	42'-9"	85'-6"	BOTTOM OF HAUNCH
	405	53	-	-	5'-4"	282'-8"	STIRRUPS IN HAUNCH
	406	79	-	-	3'-5"	269'-11"	LONG. IN TOP OF SLAB
	407	21	-	-	3'-0"	63'-0"	TRANSV. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 905'-1" = 605 LBS						
	TOTAL DEFORMED REINFORCING STEEL					41,748 LBS.	
	CONCRETE APPROACH SLAB					177.78 SQ.YD.	
⊙	ASPHALTIC CONCRETE					18.11 TONS.	
⊙	SAWCUT AND SEAL					38 LN. FT.	

ESTIMATED QUANTITIES (ONE 30° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	78	27'-11	3.47"	50'-2"	3045'-3"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	50'-6"	50'-6"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	27'-8"	27'-8"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	43'-4"	173'-4"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	20'-11"	83'-8"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3380'-5" = 14,546 LBS						
	801	78	27'-11"	3.47"	50'-2"	3045'-3"	LONGIT. IN TOP OF SLAB
	802	1	-	-	50'-6"	50'-6"	LONGIT. IN TOP OF SLAB
	803	1	-	-	27'-8"	27'-8"	LONGIT. IN TOP OF SLAB
	804	112	-	-	39'-8"	4442'-8"	TRANSV. IN TOP & BOT. OF SLAB
	805	88	1'-7"	10.40"	38'-10"	1778'-4"	TRANSV. IN TOP & BOT. OF SLAB
	806	4	-	-	45'-9"	183'-0"	TOP & BOT OF SLAB ALONG SKEW
	807	4	-	-	1'-6"	6'-0"	CORNER OF SLAB
	TOTAL NO. 8 BARS = 9533'-5" = 25,455 LBS						
	501	14	-	-	39'-8"	555'-4"	TOP & BOT. OF SLEEPER SLAB
	502	108	-	-	4'-8"	504'-0"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1059'-4" = 1,105 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURB
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURB
	403	65	-	-	2'-2"	140'-10"	STIRRUPS IN EDGE BEAMS
⊠	404	2	-	-	47'-6"	95'-0"	BOTTOM OF HAUNCH
	405	59	-	-	5'-4"	314'-8"	STIRRUPS IN HAUNCH
	406	79	-	-	3'-5"	269'-11"	LONG. IN TOP OF SLAB
	407	44	-	-	2'-0"	88'-0'	TRANSV. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 973'-9" = 650 LBS						
	TOTAL DEFORMED REINFORCING STEEL					41,756 LBS.	
	CONCRETE APPROACH SLAB					177.78 SQ.YD.	
⊙	ASPHALTIC CONCRETE					18.11 TONS.	
⊙	SAWCUT AND SEAL					38 LN. FT.	

ESTIMATED QUANTITIES (ONE 45° SKEWED APPROACH SLAB)

	BAR	NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
	1001	78	19'-8"	6.0"	58'-2"	3035'-6"	LONGIT. IN BOT. OF SLAB
	1002	1	-	-	58'-8"	58'-8"	LONGIT. IN BOT. OF SLAB
	1003	1	-	-	19'-2"	19'-2"	LONGIT. IN BOT. OF SLAB
	1004	4	-	-	51'-4"	205'-4"	BOTTOM OF EDGE BEAMS
	1005	4	-	-	12'-4"	49'-4"	BOTTOM OF EDGE BEAMS
	TOTAL NO. 10 BARS = 3368'-0" = 14,493 LBS						
	801	78	19'-8"	6.0"	58'-2"	3035'-6"	LONGIT. IN TOP OF SLAB
	802	1	-	-	58'-8"	58'-8"	LONGIT. IN TOP OF SLAB
	803	1	-	-	19'-2"	19'-2"	LONGIT. IN TOP OF SLAB
	804	78	-	-	39'-8"	3094'-0"	TRANSV. IN TOP & BOT. OF SLAB
	805	152	1'-8"	6.0"	39'-2"	3103'-4"	TRANSV. IN TOP & BOT. OF SLAB
	806	4	-	-	56'-1"	224'-4"	TOP & BOT OF SLAB ALONG SKEW
	807	6	-	-	1'-6"	9'-0"	CORNER OF SLAB
	TOTAL NO. 8 BARS = 9544'-0" = 25,482 LBS						
	501	14	-	-	39'-8"	555'-4"	TOP & BOT. OF SLEEPER SLAB
	502	108	-	-	4'-8"	504'-0"	TOP & BOT. OF SLEEPER SLAB
	TOTAL NO. 5 BARS = 1059'-4" = 1,105 LBS						
⚠	401	22	-	-	1'-10"	40'-4"	DOWELS IN CURB
⚠	402	2	-	-	12'-6"	25'-0"	LONGIT. IN CURB
	403	65	-	-	2'-2"	140'-10"	STIRRUPS IN EDGE BEAMS
⊠	404	2	-	-	57'-10"	115'-8"	BOTTOM OF HAUNCH
	405	72	-	-	5'-4"	384'-0"	STIRRUPS IN HAUNCH
	406	79	-	-	3'-5"	269'-11"	LONG. IN TOP OF SLAB
	407	76	-	-	2'-0"	152'-0"	TRANSV. IN TOP OF SLAB
	TOTAL NO. 4 BARS = 1127'-9" = 753 LBS						
	TOTAL DEFORMED REINFORCING STEEL					41,833 LBS.	
	CONCRETE APPROACH SLAB					177.78 SQ.YD.	
⊙	ASPHALTIC CONCRETE					18.11 TONS.	
⊙	SAWCUT AND SEAL					38 LN. FT.	

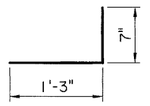
NOTES:

⚠ 1. QUANTITIES SHOWN FOR 401 AND 402 BARS ARE FOR A 13'-6" CURB (SEE APPROACH SLAB DETAIL "Q"). ADJUST QUANTITIES AS NEEDED FOR LONGER CURBS OR FOR "BRIDGE END DRAIN SYSTEM" INSTALLATIONS. BRIDGES WITHOUT GUARDRAIL OR END DRAINS DO NOT REQUIRE A CURB, UNLESS OTHERWISE STATED IN THE PLANS.

2. ALL MATERIAL TO BE PAID FOR UNDER ITEM "CONCRETE APPROACH SLABS." QUANTITIES ARE FOR INFORMATION PURPOSES ONLY.

⊙ 3. REQUIRED WHEN APPROACH SLAB IS ADJACENT TO ASPHALTIC CONCRETE PAVEMENT.

⊠ 4. FOR HANDLING PURPOSES, #4 BARS OVER 40' MAY BE SPLICED WITH A 1'-9" MIN. LAP SPLICE. ALL SPLICES TO BE STAGGERED. (1'-9" SPLICE INCLUDED IN ESTIMATED QUANTITES.)



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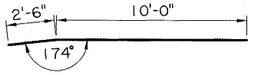

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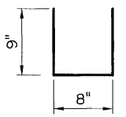

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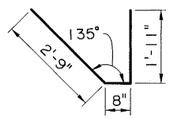

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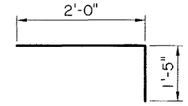

406
(2"ø PIN)

VARIABLE	15° SKEW	30° SKEW	45° SKEW
N_1	67	55	38
N_2	20	43	75
N_3	36	43	51
N_4	26	20	12
L_1	33'-6"	27'-6"	19'-0"
L_2	10'-0"	21'-6"	37'-6"
L_3	36'-7"	42'-9"	51'-3"
L_4	26'-1"	19'-11"	11'-6"
L_6	45'-4¼"	51'-6¾"	60'-0"
L_7	34'-7¾"	28'-5½"	20'-0"

STATE OF LOUISIANA
ADAM LANCASTER
License No. 35573
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
Adam Lancaster 7-28-2015

SHEET NUMBER

DESIGNED	A. LANCASTER	PARISH	CONTROL SECTION	STATE PROJECT
CHECKED	R. MORVANT			
DETAILED	A. KUYORO			
CHECKED	A. LANCASTER			
REVIEWED	Z.Z. FU			
SERIES #	2 OF 2			

NO.	REVISION OR CHANGE ORDER DESCRIPTION	DATE	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

APPROACH SLAB QUANTITIES 40' LONG & 40' CLEAR ROADWAY

GIRDER SPANS EXCLUDING QUAD BEAMS

BD.2.10.2.5.04 - APPROACH SLAB

DOTD

BRIDGE AND STRUCTURAL DESIGN