

State DOT Representative Report Questions

National Concrete Consortium

San Antonio, Texas

April 2, 2009

Theme: Ride Quality for Bridges Texas DOT

Please provide your state DOT's perspective regarding the following theme questions. Each NCC state DOT representative will be asked to present their responses to the group during the State Report forum on Thursday morning April 2, 2009.

1. What features of a bridge deck and approach do you consider to have the most impact on ride quality?
 - compaction of subgrade and embankment if not using an approach slab. Treatment of subgrade at end of approach slab.
 - Final surface smoothness: we do not trowel decks any longer, rather, we saw groove the hardened concrete surface.
2. How does your state measure ride quality for bridge decks?
 - a. IRI?
 - b. Straight edge?
 - c. Other?
 - d. Specifications?
 - e. **Contractor uses 16-ft straightedge to ensure final surface will be within specified tolerances (1/16"). Engineer uses 10-ft. straightedge (no more than 1/8"/10' and determines locations requiring corrective action and final acceptability.**
3. What smoothness thresholds does your DOT require for bridge decks?
 - 1/8" over 10'.
4. How are transitions near localized features (drainage basins, joints) treated in efforts to ensure acceptable ride quality?
 - They're not.
5. What corrective actions are required for substandard bridge deck/approach ride quality?
 - By specification, the Contractor must submit a plan for corrective action (i.e., diamond grinding, etc.). However, this is a rare occurrence.
6. Does your state initiate a penalty/incentive structure for bridge ride quality?
 - No.
7. Does your state consider ride quality as a scoping item for bridge rehabilitation?
 - Not usually.

8. Does your state require sequencing (casting positive moment regions prior to negative moment regions) of deck pours during placement of bridge deck concrete for continuously designed decks?
 - Not always required. We prefer continuous pours but provide pour sequence if they elect not to pour continuously.

9. What method and type of texture does your state apply to your bridge deck surface?
 - Carpet drag, burlap drag, or broom finish (sandy texture, w/o marks or scratches deeper than 1/16").
 - Saw-cut grooves, 1/8 – 3/16" deep, nominally 1/8" wide, spaced from 5/8 – 1" (transverse)

10. How does your state handle transitions/approaches from pavement on to the bridge deck (approach length, profile, joints)?
 - See attached bridge approach details – not used in all locations
 - <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/standard/bridge/basaste1.pdf>
 - <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/standard/bridge/bascste1.pdf>

11. Does your state maintain a database for bridge ride quality?
 - No.

12. How does your state report its network ride quality for pavements and bridges to the Highway Performance Monitoring System (HPMS) database (network report excludes or includes bridges with pavements)?
 - Excludes bridges.

APPROXIMATE QUANTITIES

Main steel weight = 8.5 lb/MSF of approach slab
 Area of Approach Slab = 22W x 0.317 for 15/1
 W = Width of Approach Slab (ft)
 S = Steel angle (lbs)

BAR TABLE

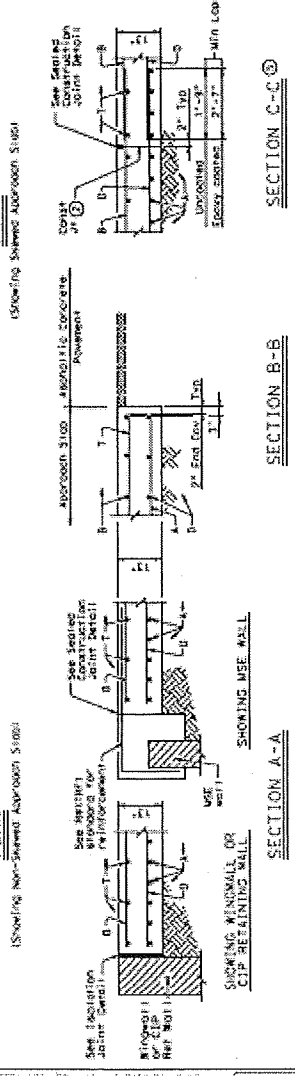
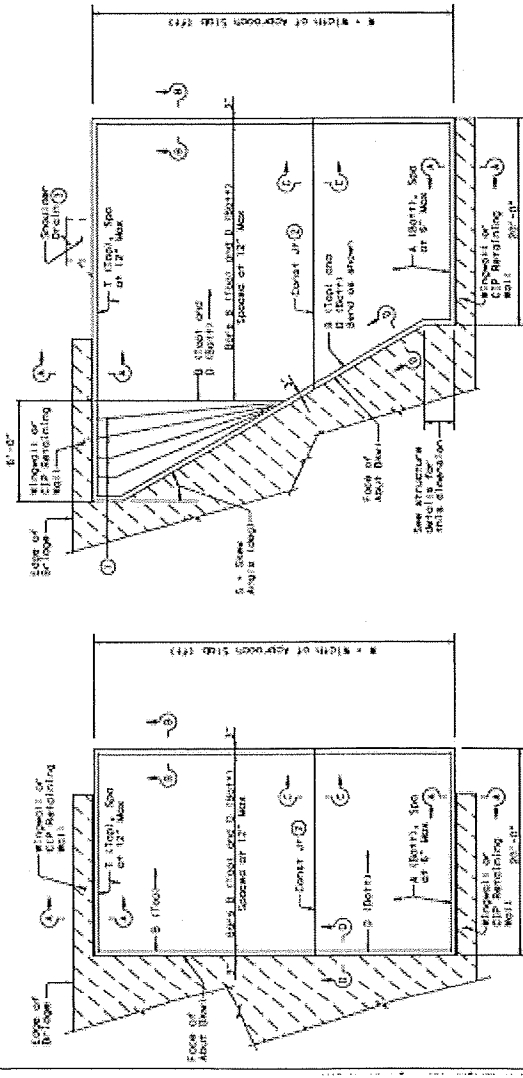
BAR	SIZE
A	#4
B	#5
C	#5
D	#5
E	#5

- Place bars B and D in this region 15'-0" Min. Spacing, minimum spaced bar length = 2'-0". Bend bars as necessary.
- Provide longitudinal construction joints that align with longitudinal construction joints in the bridge slab when or slopes are tapered. Provide similar longitudinal construction joints near relative approach of the Engineer.
- See details elsewhere in plans for shoulder drain location and details.
- For Contractor's information only.
- Multiple pieces of bars are acceptable at longitudinal construction joints provided minimum laps shown are provided.
- See details elsewhere in plans for required cross-slopes.
- Reinforcing rod shall be 20% longer than joint opening and shall be compatible with the section.
- Place 1/2" Preformed Bituminous Fiber Material between concrete rolling and top of approach slab as shown when concrete rolling projects over the approach slab.

GENERAL NOTES

Construct approach slab in accordance with the following:

- Concrete shall be Class "C" with a minimum compressive strength of 4,000 psi, max. 50% air.
- Cast in place concrete shall be placed from the bridge for a minimum thickness of 100 mm.
- Provide a minimum thickness of 100 mm concrete on top of the approach slab, unless otherwise specified on the plans.
- Preparation for the approach slab shall be as shown on the plans.
- Use a dry setting water or membrane separator, polymer fog and preformed bituminous fiber material is mandatory to approach slab concrete or cured wall finish. Do not use the cement treated base. Other products may be used if approved by the Engineer.

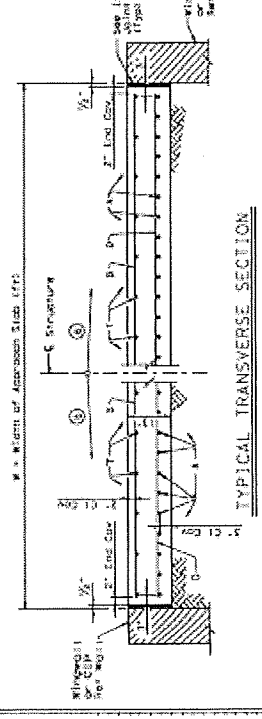
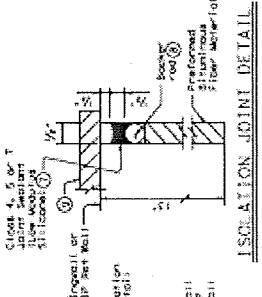
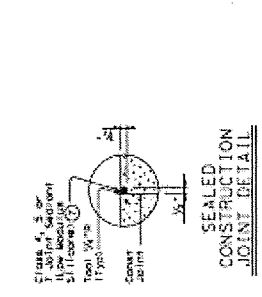


Texas Department of Transportation
 Bridge Division

BRIDGE APPROACH SLAB
 ASPHALTIC CONCRETE PAVEMENT

BAS-A

DATE: 07/27/2006
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 PROJECT: [Name]
 SHEET: [Name]



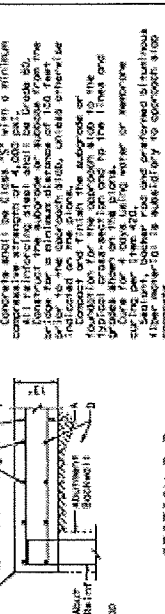
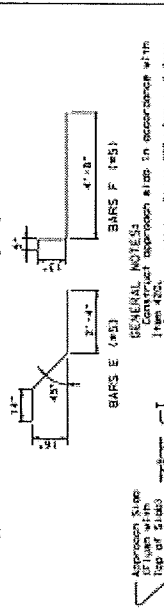
APPROXIMATE QUANTITIES

Rein steel weight = 8.5 LB/FT of Approach Slab
 (Support Slab not included)
 Area of Approach Slab = 200' x 6.394' min. § 1971
 (Support Slab not included)
 W = Width of Approach Slab (ft)
 S = Slab Angle (deg)

BAR TABLE

BAR SIZE	BAR NO.
A	WS
B	WS
C	WS
D	WS
E	WS
F	WS
G	WS

1. Top Bars B and D in 12" depth. See 500, 3' min. Spacing. Minimum length bar length is 2'-0". Bend bars as necessary.
2. Provide longitudinal construction joints near top edge with longitudinal construction joints in the bottom slab with bar break built in stages. Other longitudinal construction joints must receive approval of the Engineer.
3. See details elsewhere in plans for shoulder drain location and details.
4. For contractor's information only.
5. An portion of support slab must support the concrete pavement, unless top surface of support slab is finished with a concrete surface. If not, the concrete surface must be finished with a concrete surface. If not, the concrete surface must be finished with a concrete surface.
6. Multiple pieces of bars are acceptable at longitudinal construction joints provided suitable lap shown are provided.
7. See details elsewhere in plans for required cross-slopes.
8. Place in accordance with Item 433.
9. However, not shall be 27% longer than joint opening and shall be compatible with the section.
10. Place 1/2" Prefabricated Bituminous Fiber Material between concrete railing and top of approach slab to show when concrete railing projects over the approach slab.



GENERAL NOTES

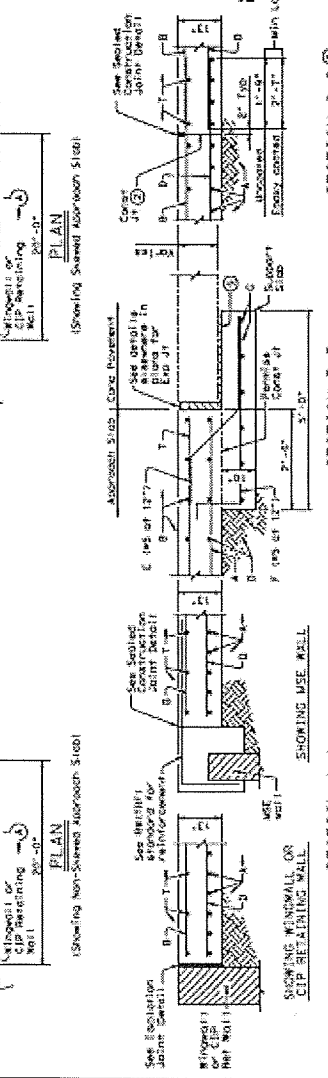
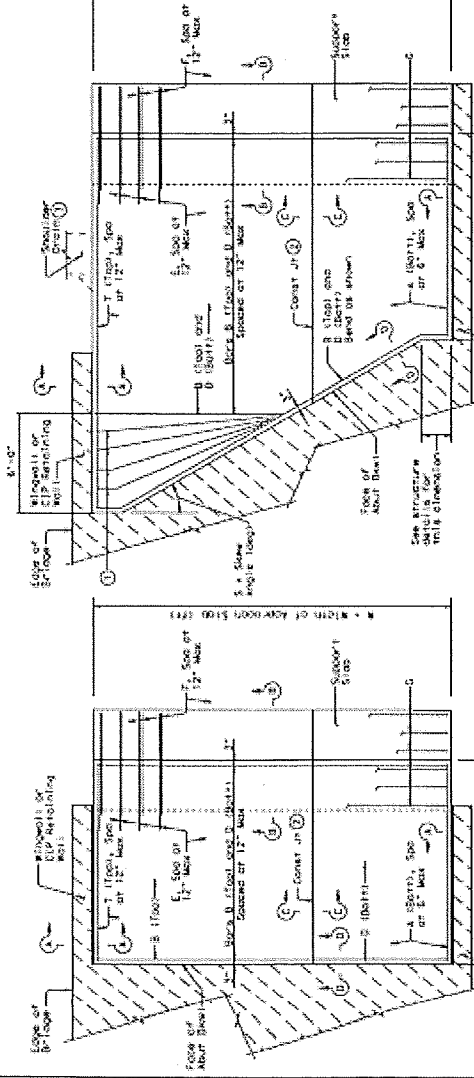
1. Construct approach slab in accordance with concrete slab.
2. Concrete shall be Class 'N' with a minimum compressive strength of 4,000 psi.
3. Construct the approach slab on subgrade from the top for a minimum distance of 100 feet, indicated on the plans, unless otherwise indicated.
4. Contact and finish the subgrade of the approach slab with a 1/2" layer of 1/2" coarse sand.
5. Topical cross-sections are to be taken and placed on the plans.
6. Sealant, better rod and or formed slanting concrete, shall be satisfactory to approach slab.
7. Provide a 1" board over, top surface, concrete approach slab and support slab. The board shall be placed over the approach slab and support slab. The board shall be placed over the approach slab and support slab.
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Texas Department of Transportation
Build America

BRIDGE APPROACH SLAB CONCRETE PAVEMENT

BAS-C

DATE	REVISION	BY	CHKD



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