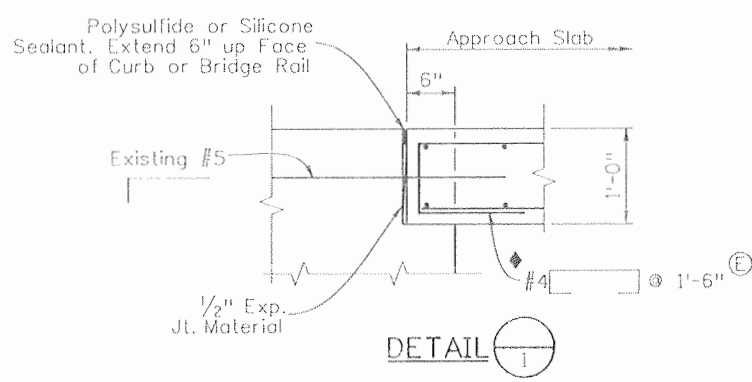
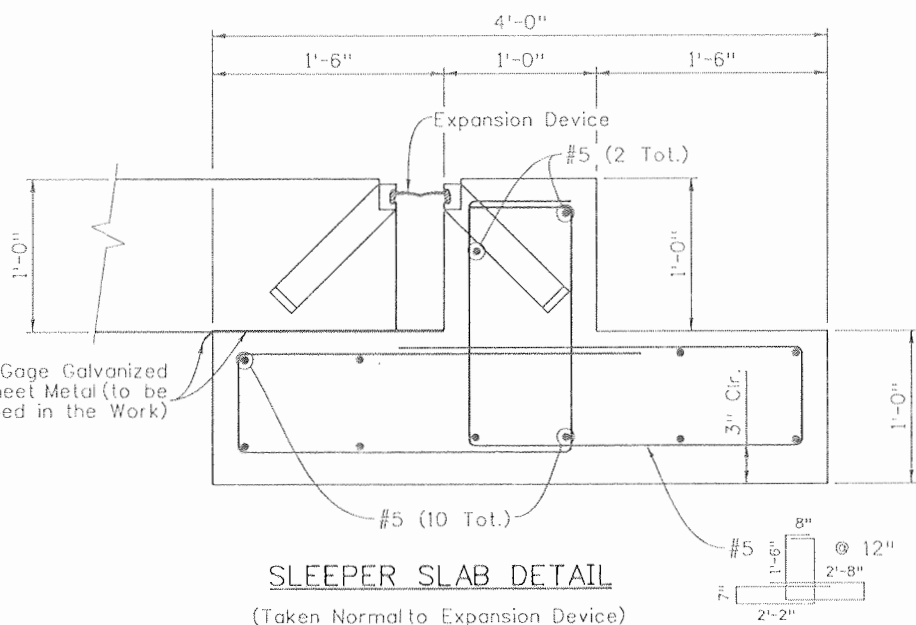
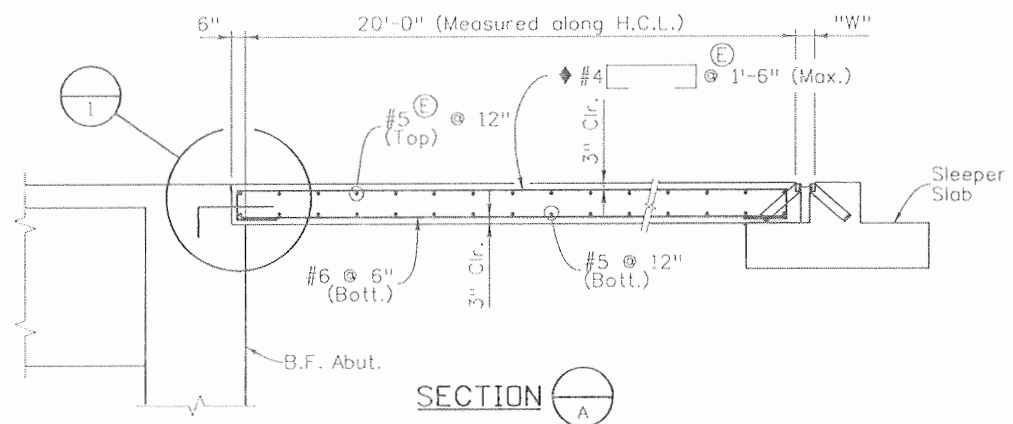


ISOMETRIC VIEW TYPE 10 RAILS

NOTES:

1. Concrete Class D (Bridge) shall be used for approach slabs.
2. Approach slab concrete shall be cured in accordance with the provisions for Bridge Deck Concrete in Section 601 of the Standard Specifications.
3. For expansion device details and dimension 'W', see Sheets B12 and B13.
4. For curb and rail details, see Sheets B4 and B5.
5. For inlet details, see sheet B8.
6. Approach slab reinforcing is non-epoxy coated, unless noted otherwise.

◆ Contractor may use



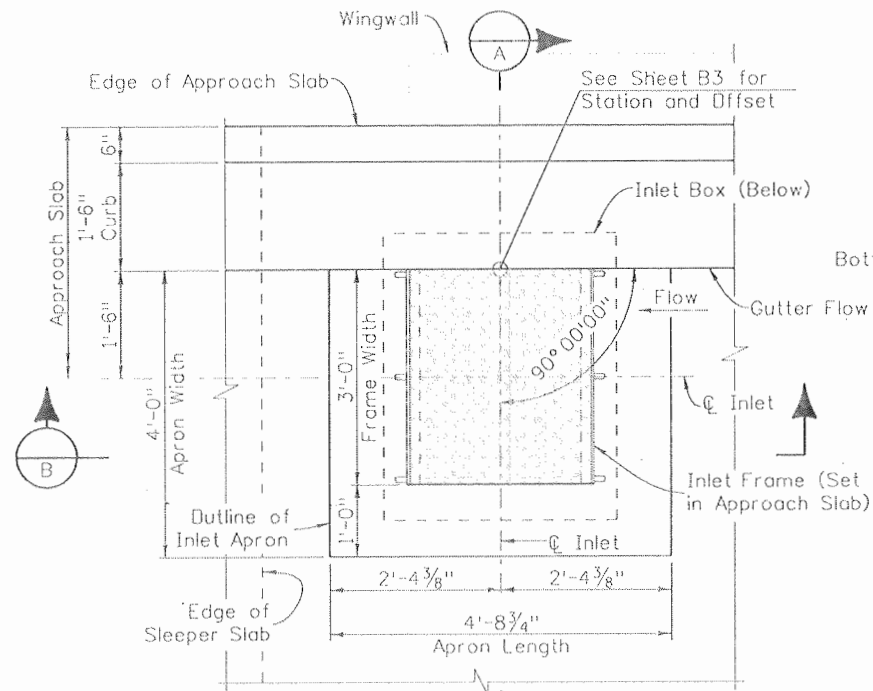
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	By	By	By	By	
Designed By	BJA	AWL	01/10	01/10	BJA
Checked By	AWL	AWL	01/10	01/10	BJA

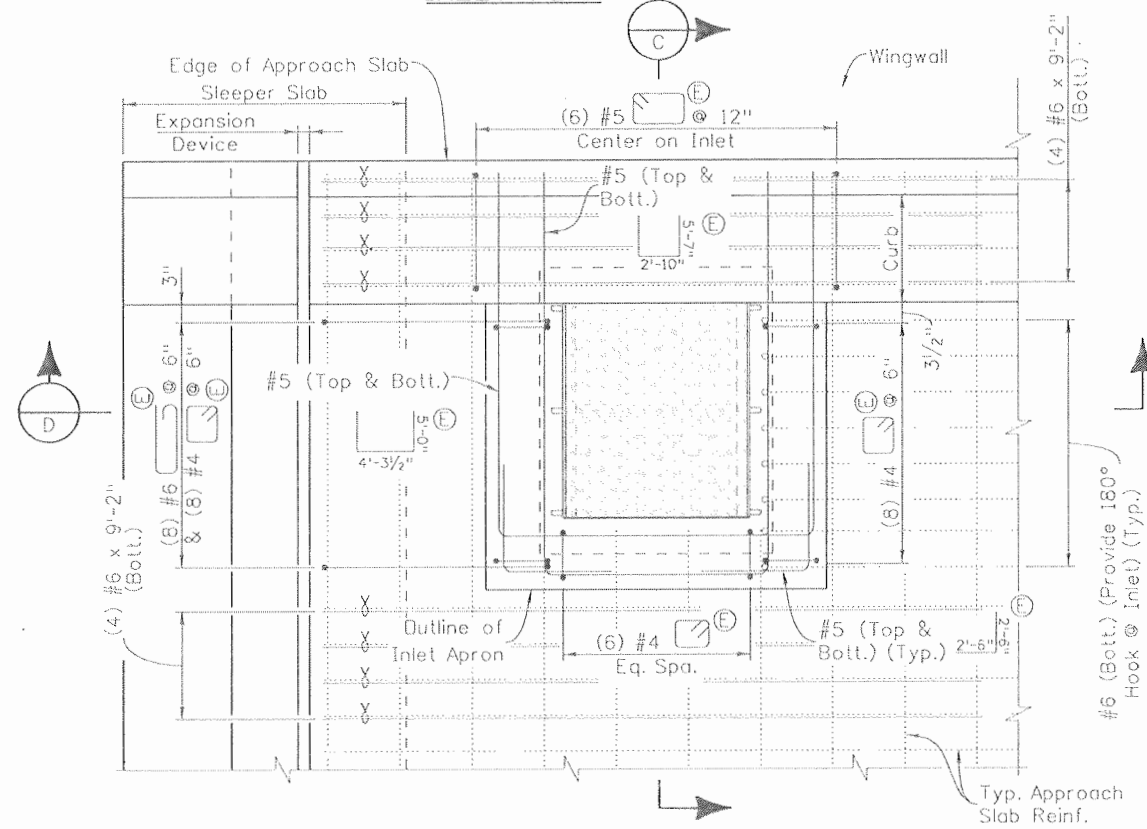
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	By	By	By	By	
Designed By	TRJ	AWL	01/10	01/10	BJA
Checked By	AWL	AWL	01/10	01/10	BJA

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	APPROACH SLAB DETAILS TYPE II		Project No./Code
File Name: 16042_ApproachSlab_Det_02.dgn	Date:	Comments:	Init.		No Revisions: 9/10	Designer: B. Allen	Structure	NH 1602-114
Horiz. Scale: 1:1				Revised:	Detailer: D. Anderson	Numbers	16042	
Unit Information 0221				Void:	Sheet Subset: Bridge	Subset Sheets: B7 of B14	Sheet Number 426	

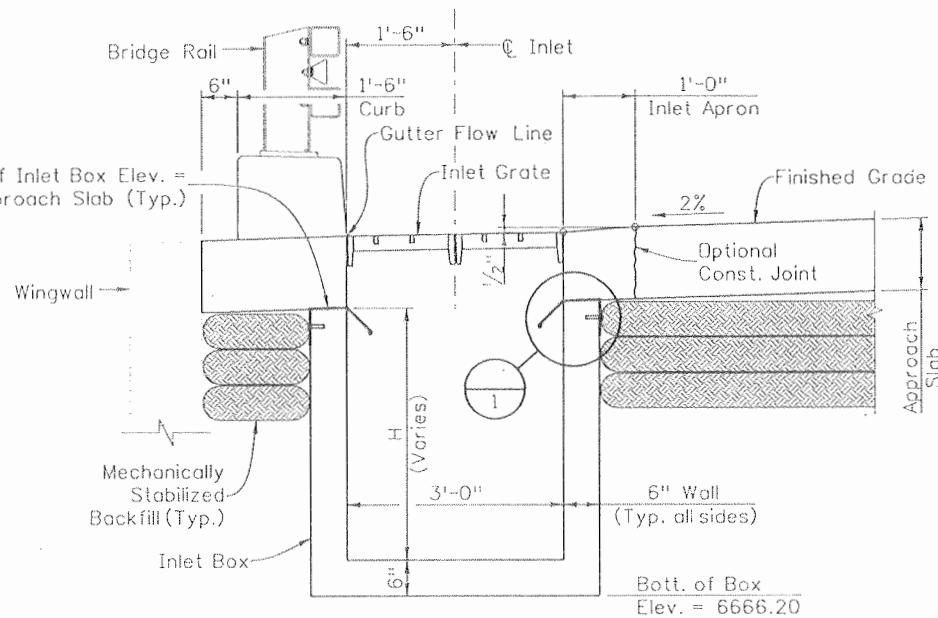




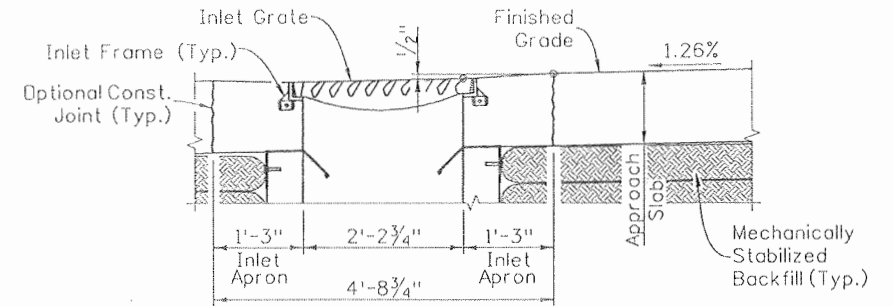
INLET PLAN



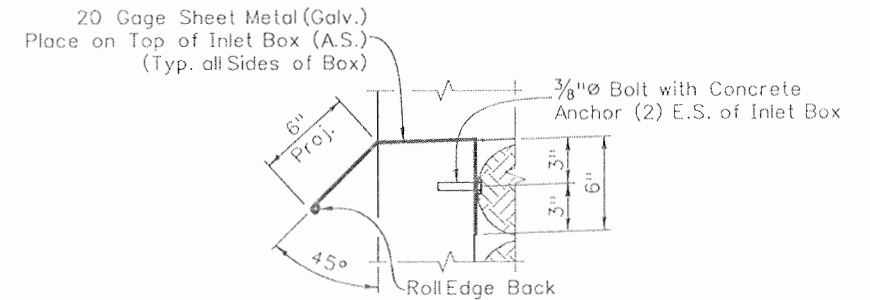
INLET REINFORCEMENT PLAN  
(Curb Reinf. Not Shown)



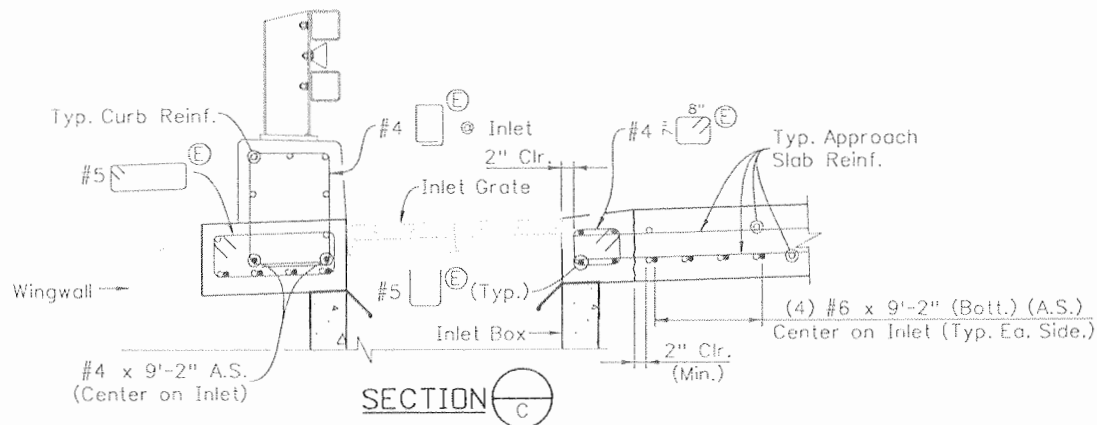
SECTION A



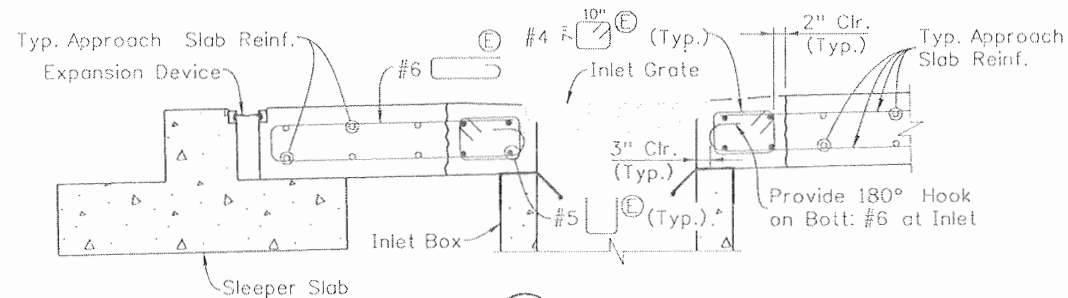
SECTION B



DETAIL 1



SECTION C



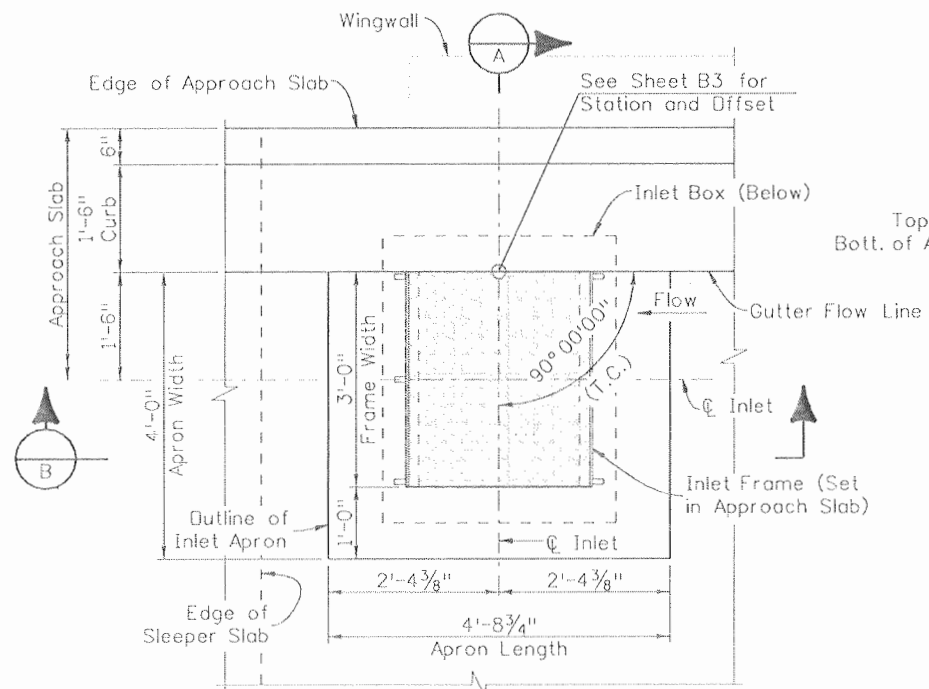
SECTION D

NOTES:

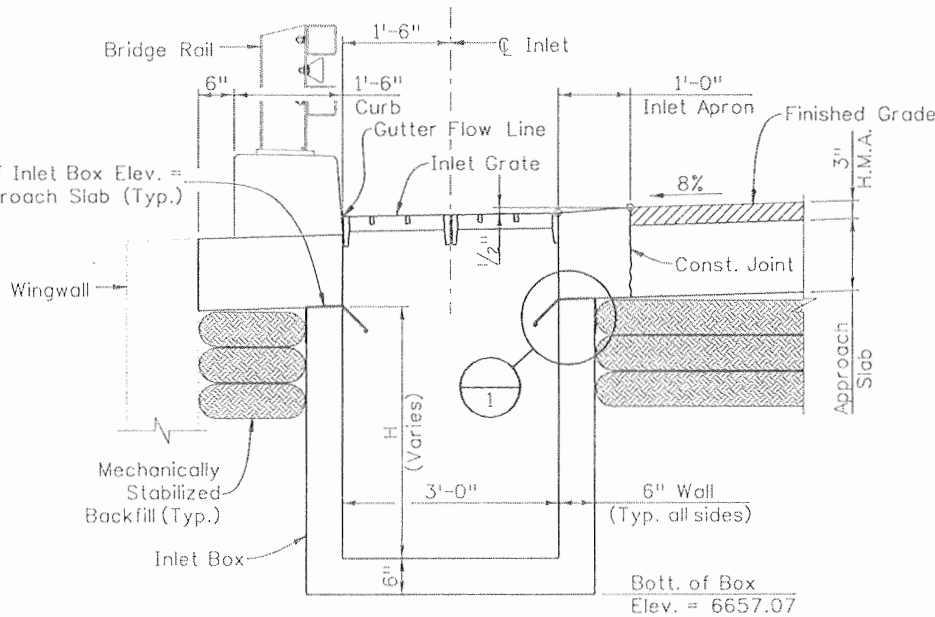
1. Except as shown in the plans, the inlet grate, frame, and box shall be per Standard Plan No. M-604-25.
2. Inlet box may be cast-in-place or pre-cast.
3. Top of inlet box elevations shall match the roadway grade and superelevation. See Bridge Plans for grade and superelevation information.
4. See Drainage Plans for pipe sizes and locations.
5. Typical approach slab reinforcing shall be fabricated to accommodate inlet. Cutting of approach slab reinforcement will not be allowed.
6. Inlet apron concrete shall be Class D (Bridge).

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By: BJA	11/09	Detailed By: RGA	11/09	TRJ	11/09
Checked By: TRJ	11/09	Checked By: TRJ	11/09	Checked By: BJA	11/09

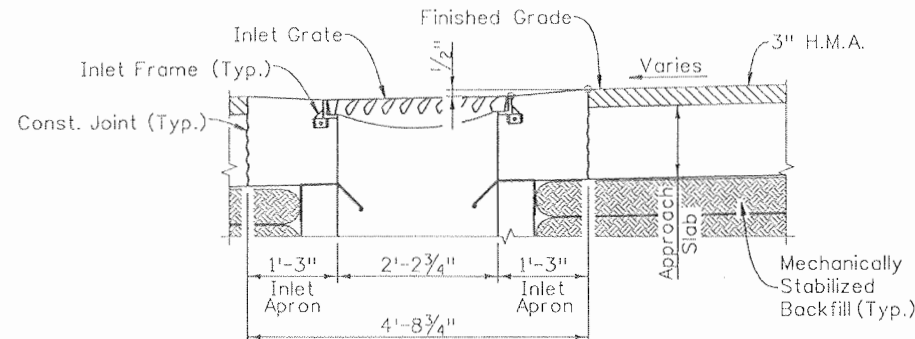
Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365	As Constructed	APPROACH SLAB DRAIN DETAILS		Project No./Code
File Name: 16042_ApproachSlab_Drain_Det_01.dgn	Date:	Comments:	Init.		No Revisions: 9/10	P-05-Y		NH 1602-114
Horiz. Scale: 1:1				Region 5	Revised:	Designer: B. Allen	Structure	16042
Unit Information: 0221					Void:	Detailer: R. Artman	Numbers	
SEMA CONSTRUCTION				WILSON & COMPANY		Sheet Subset: Bridge	Subset Sheets: B8 of B14	Sheet Number: 427



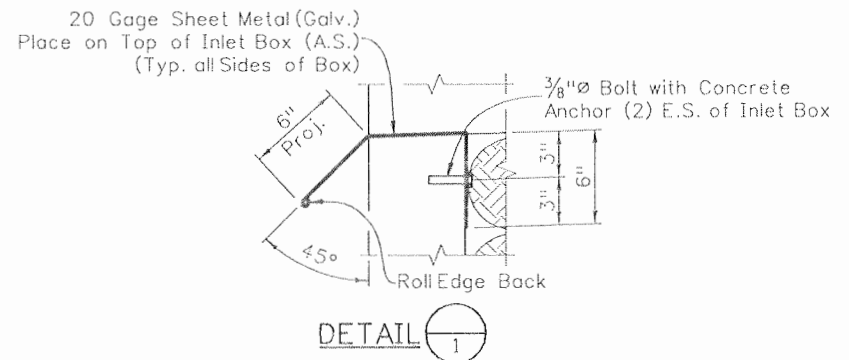
INLET PLAN



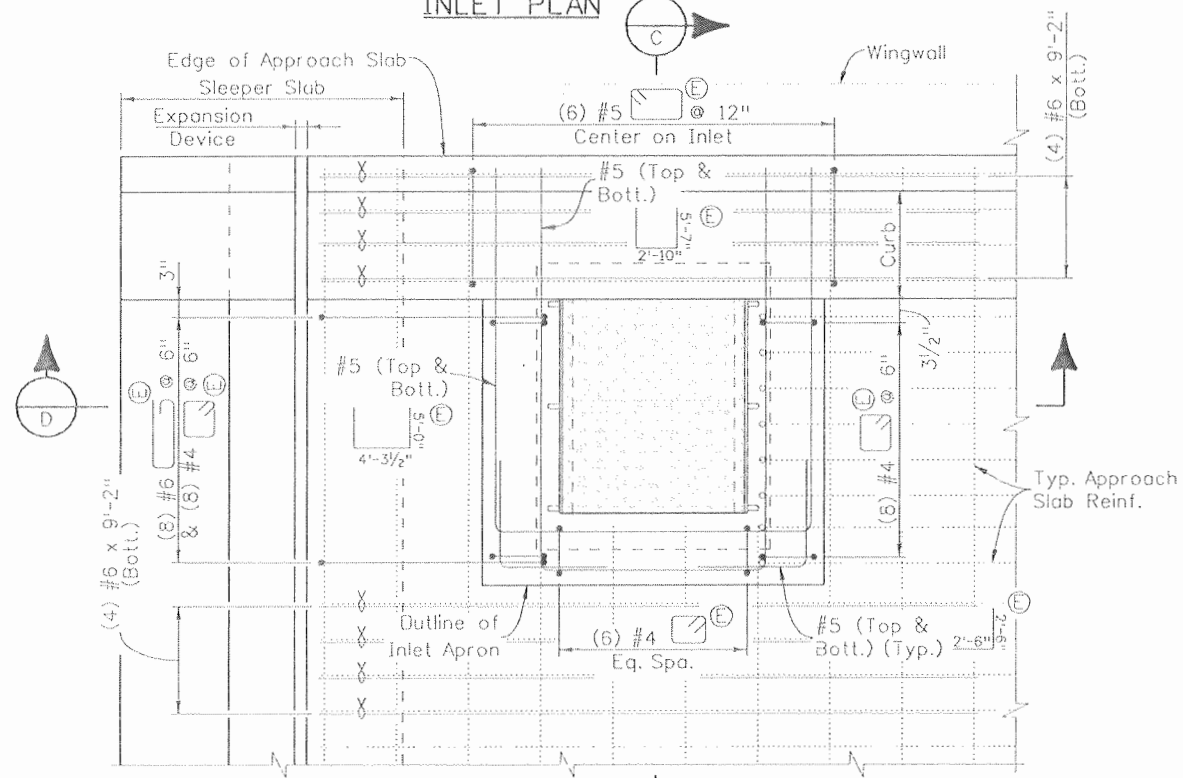
SECTION A



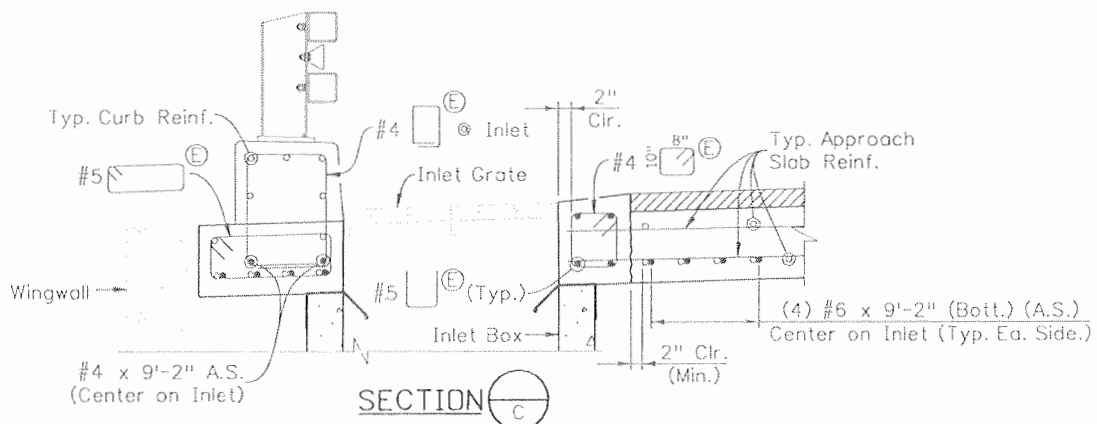
SECTION B



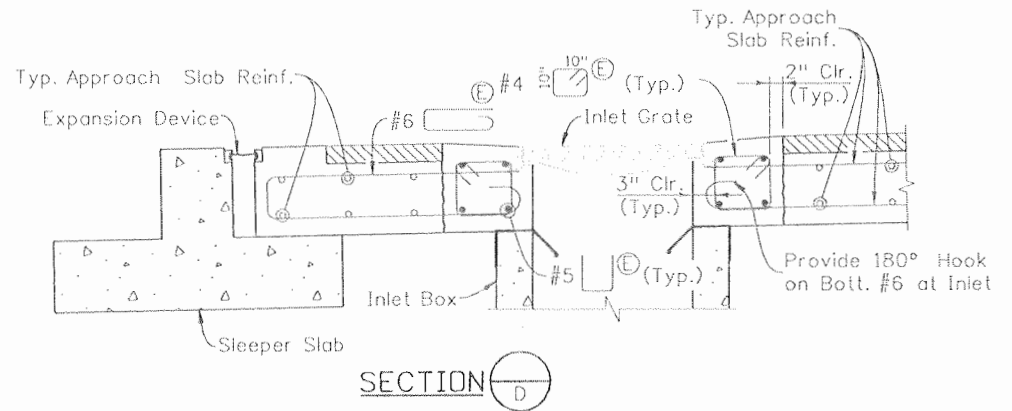
DETAIL 1



INLET REINFORCEMENT PLAN  
(Curb Reinf. Not Shown)



SECTION C



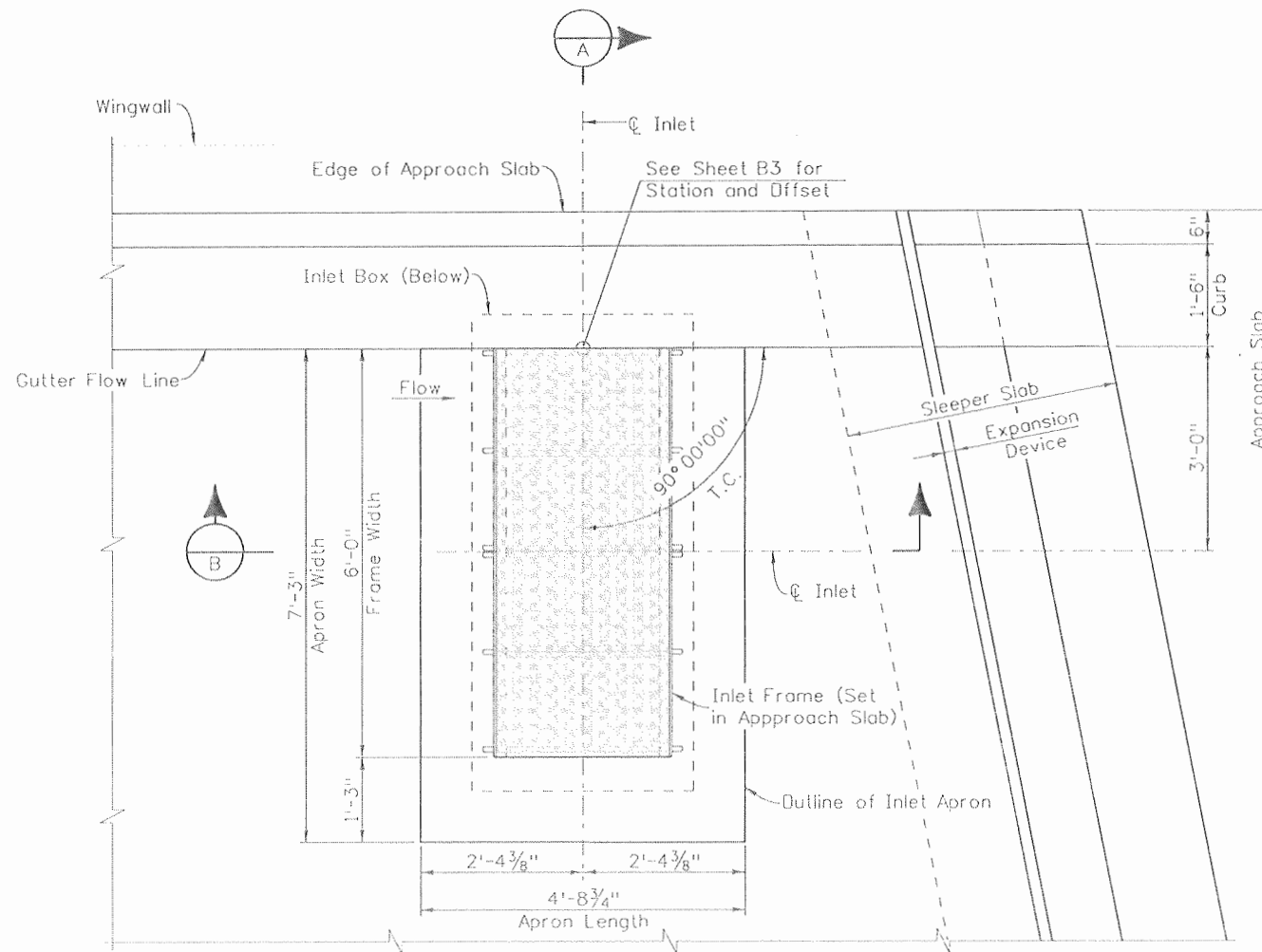
SECTION D

- NOTES:**
1. Except as shown in the plans, the inlet grate, frame, and box shall be per Standard Plan No. M-604-25.
  2. Inlet box may be cast-in-place or pre-cast.
  3. Top of inlet box elevations shall match the roadway grade and superelevation. See Bridge Plans for grade and superelevation information.
  4. See Drainage Plans for pipe sizes and locations.
  5. Typical approach slab reinforcing shall be fabricated to accommodate inlet. Cutting of approach slab reinforcement will not be allowed.
  6. Inlet apron concrete shall be Class D (Bridge).

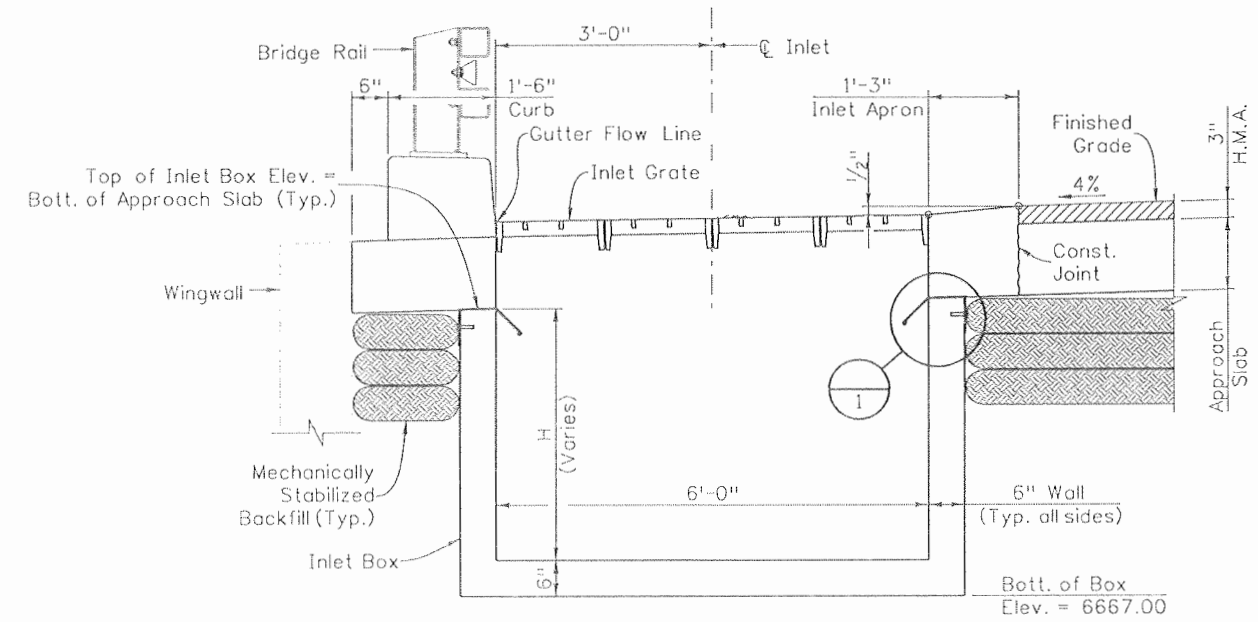
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BJA	11/09	TRJ	11/09	TRJ	11/09
Designed By	Checked By	Designed By	Checked By	Quantities By	Checked By
TRJ	11/09	TRJ	11/09	BJA	11/09

Print Date: 10/1/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	APPROACH SLAB DRAIN DETAILS		Project No./Code
File Name: 16042_ApproachSlab_Drain_Det_02.dgn	Date:	Comments:	Init.		No Revisions: 9/10	P-05-W		NH 1602-114
Horiz. Scale: 1:1				DOT DEPARTMENT OF TRANSPORTATION	Revised:	Designer: B. Allen	Structure Numbers:	16042
Unit Information: 0221					Void:	Detailer: R. Artman	Sheet Subset: Bridge	Subset Sheets: B9 of B14
SEMA CONSTRUCTION		WILSON & COMPANY		EJA				

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	1/10	Detailed By	1/10	Quantities By	1/10
Checked By	1/10	Checked By	1/10	Checked By	1/10



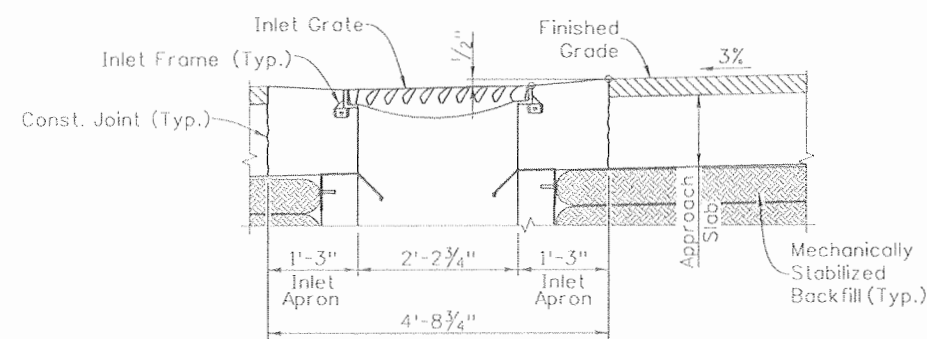
INLET PLAN



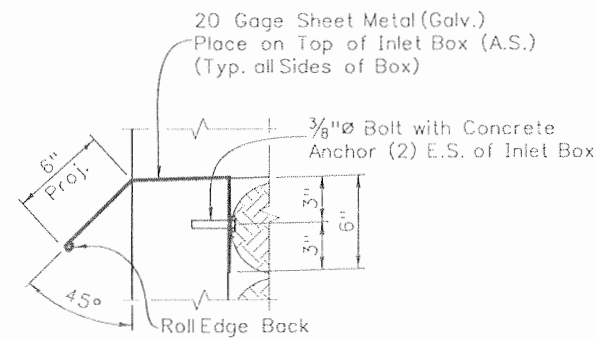
SECTION A

NOTES:

1. Except as shown in the plans, the inlet grate, frame, and box shall be per Standard Plan No. M-604-25.
2. Inlet box may be cast-in-place or pre-cast.
3. Top of inlet box elevations shall match the roadway grade and super-elevation. See Bridge Plans for grade and super-elevation information.
4. See Drainage Plans for pipe sizes and locations.
5. Inlet apron concrete shall be Class D (Bridge).

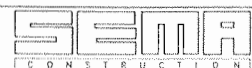


SECTION B

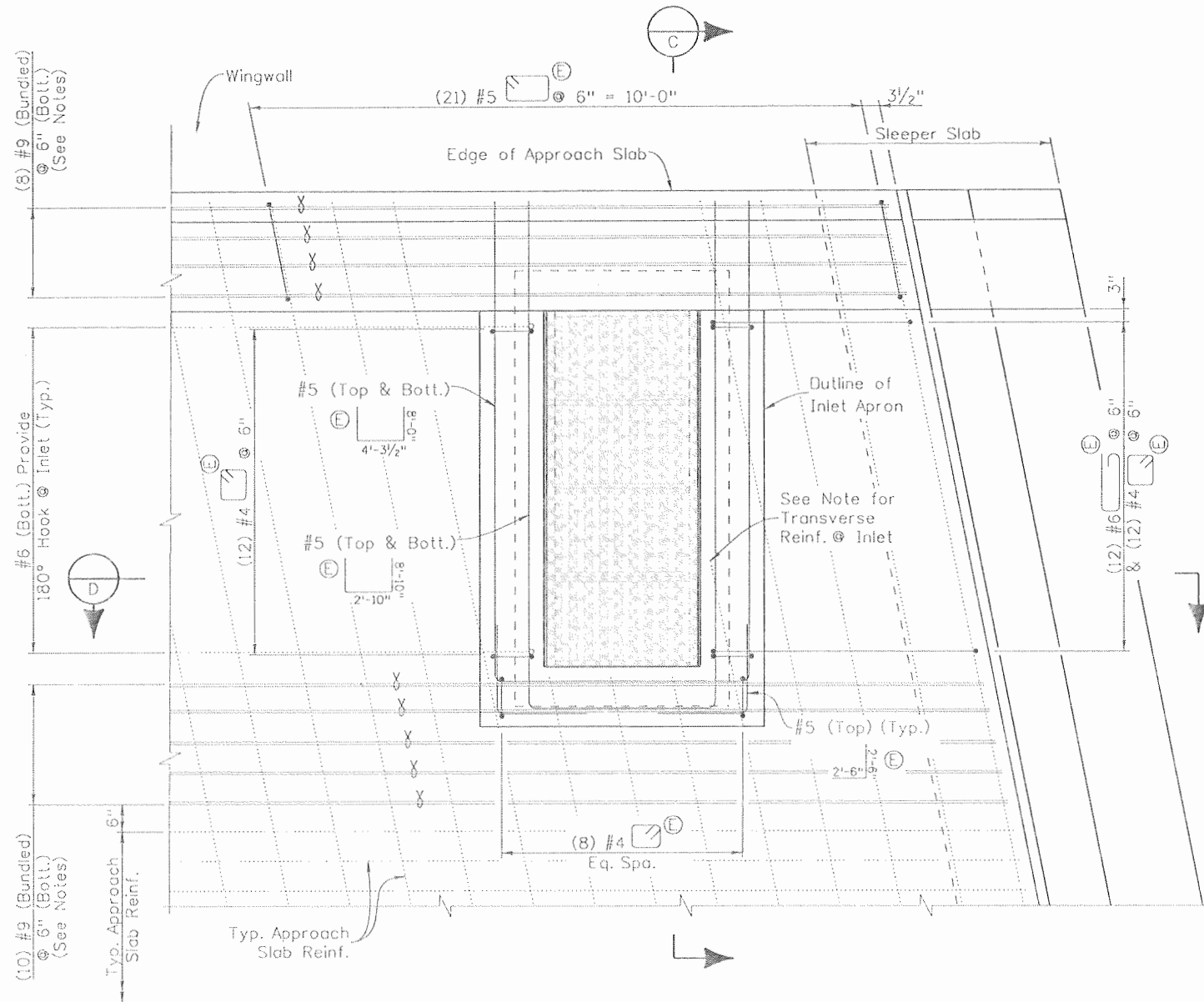


DETAIL 1

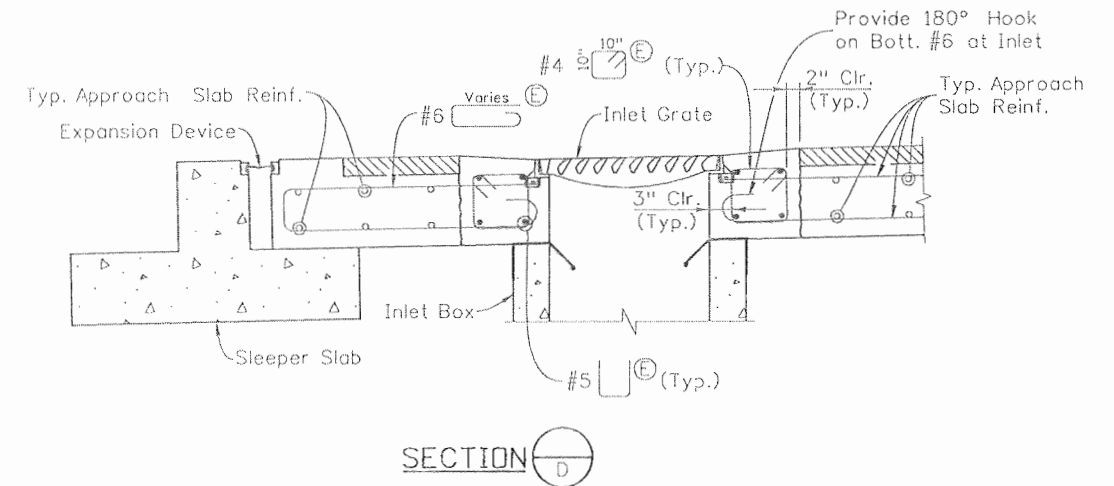
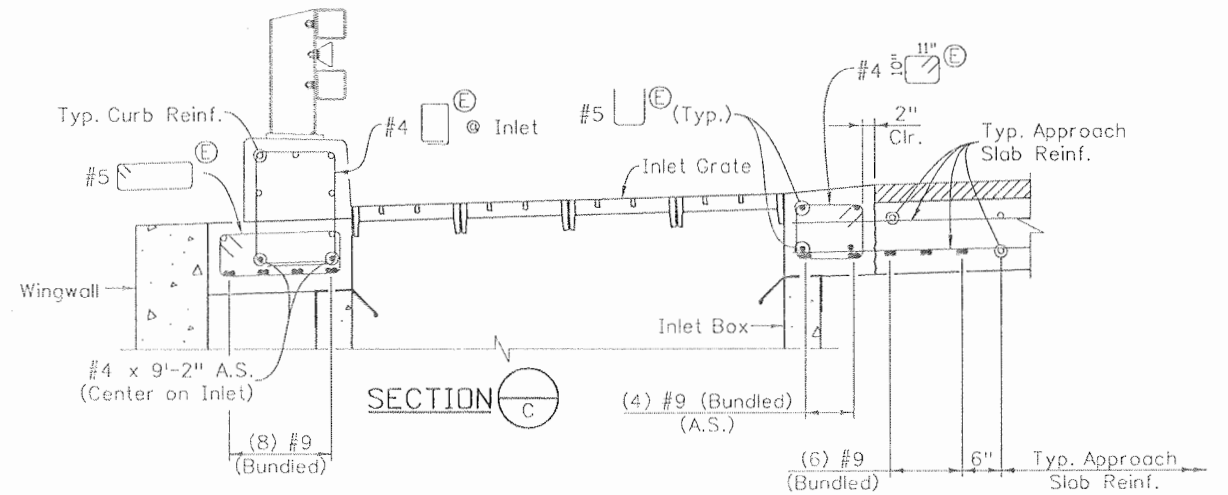
Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365	As Constructed	APPROACH SLAB DRAIN DETAILS		Project No./Code
File Name: 16042_ApproachSlab_Drain_Det_03.dgn	Date:	Comments:	Init.		No Revisions: 9/10	P-05-AG (1 OF 2)		NH 1602-114
Horiz. Scale: 1:1 Unit Information 0221	Vert. Scale: N/A	Region 5			Revised:	Designer: B. Allen	Structure Numbers	16042
Unit Leader STW	EJA			Void:	Detailer: R. Artman	Subset Sheets: B10 of B14	Sheet Number 429	



Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
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Checked By TRJ	11/09	Checked By TRJ	11/09	Checked By BJA	11/09



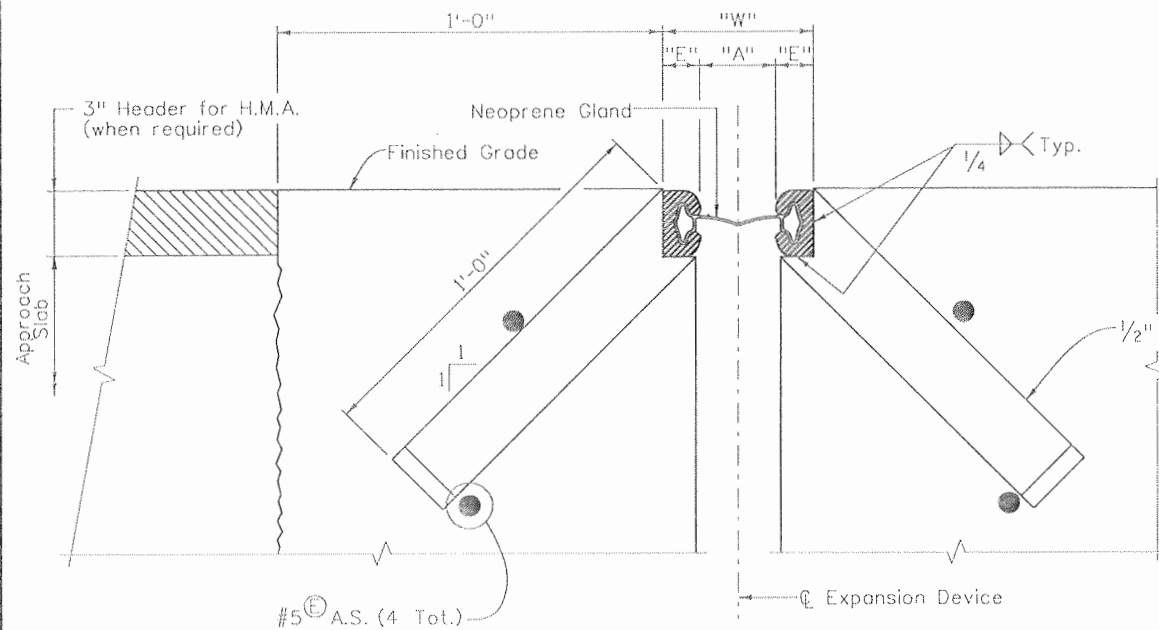
**REINFORCEMENT PLAN**  
(Curb Reinf. Not Shown)



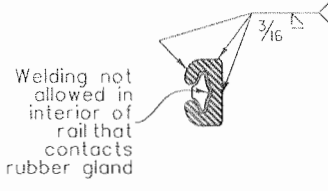
**NOTES:**

1. Typical approach slab reinforcement shall be fabricated to accommodate inlet except transverse bars may be field cut to facilitate installation.
2. At locations of bundled #9 omit typical bottom longitudinal reinforcement.

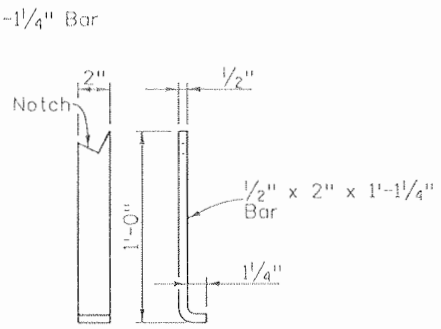
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Horiz. Scale: 1:1 Unit Information 0221				Region 5		Revised:	Designer: B. Allen Detailer: R. Artman	Structure Numbers	16042
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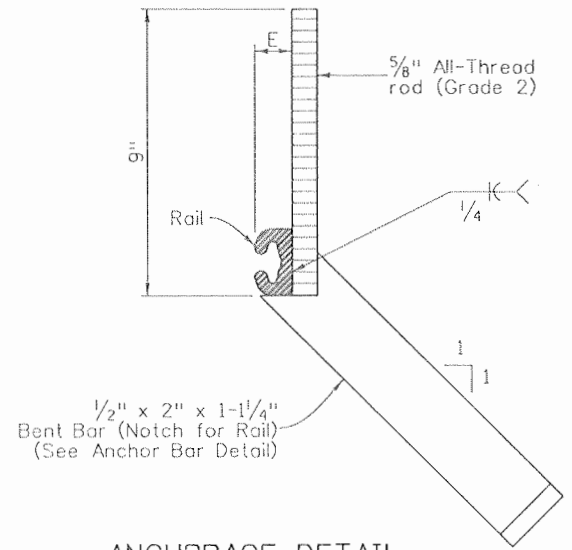
**SECTION THRU STRIP SEAL BRIDGE EXPANSION DEVICE**  
(Section taken perpendicular to  $\phi$  Expansion Device)



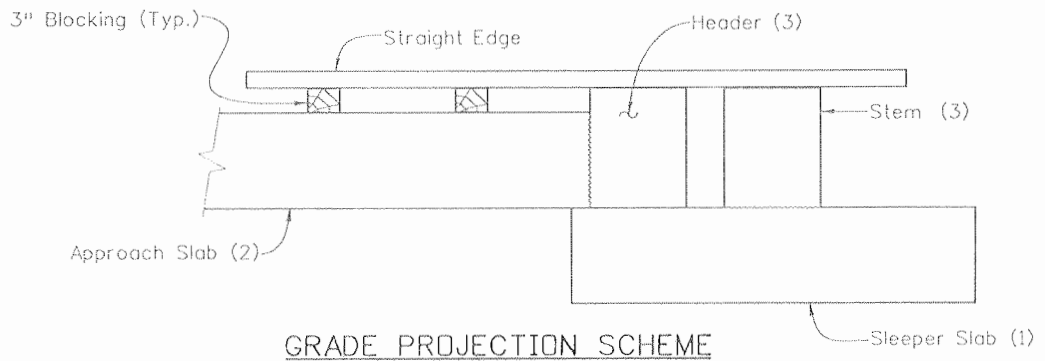
**RAIL FIELD SPLICE DETAIL**



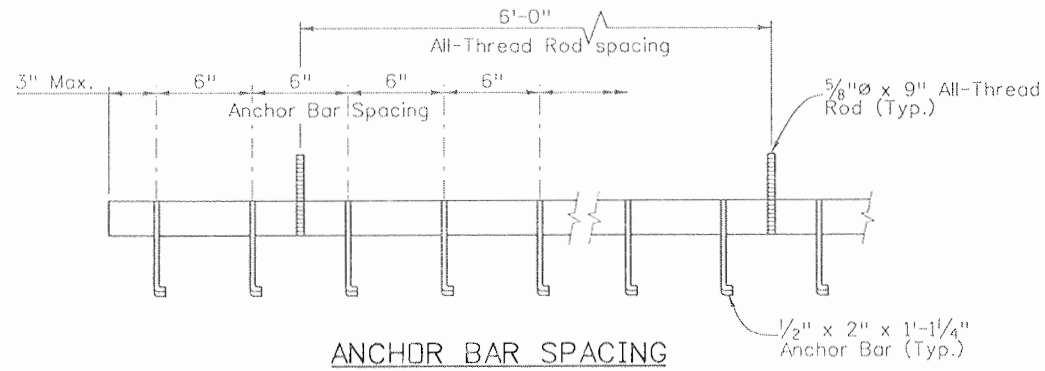
**TYPICAL ANCHOR BAR DETAIL**



**ANCHORAGE DETAIL**



**GRADE PROJECTION SCHEME**  
(Numbers in parenthesis refer to 1st, 2nd, and 3rd concrete pours)

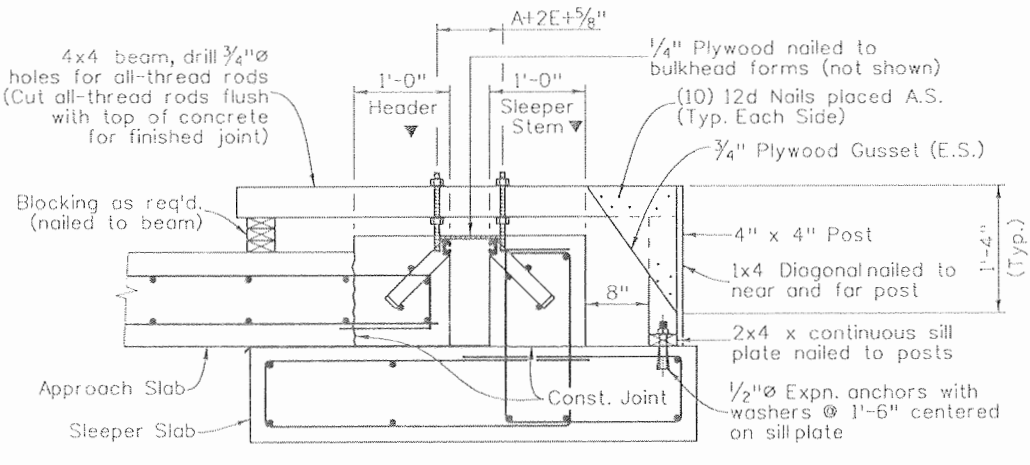


**ANCHOR BAR SPACING**

**EXPANSION JOINT VARIABLES**

(All dimensions given in inches)  
(Dimension "W" given for E = 1/4" (Min.))

Structure Temp.	P-05-AG (Abut. 4)		P-05-V (Abut. 3)		P-05-W (Abut. 1)		P-05-W (Abut. 3)		P-05-Y (Abut. 1 & 3)	
	"A"	"W"	"A"	"W"	"A"	"W"	"A"	"W"	"A"	"W"
0°F	2 1/2	5	3	5 1/2	2	4 1/2	2	4 1/2	2	4 1/2
20°F	2 1/4	4 3/4	2 1/2	5	1 3/4	4 1/4	2	4 1/2	1 3/4	4 1/4
40°F	2	4 1/2	2	4 1/2	1 1/2	4	2	4 1/2	1 1/2	4
60°F	1 3/4	4 1/4	1 1/2	4	1 1/4	3 3/4	2	4 1/2	1 1/4	3 3/4
80°F	1 1/2	4	1	3 1/2	1	3 1/2	2	4 1/2	1	3 1/2



**MINIMUM SUPPORT BRACKET REQUIREMENTS**

**NOTES:**

- Expansion joints are required at the following locations: P-05-AG Abutment 4, P-05-V Abutment 3, P-05-W Abutments 1 & 3, and P-05-Y Abutments 1 & 3.
- The expansion device shall be installed on grade, parallel to the slope and grade of the deck.
- After the concrete has attained initial set, the attachments used to hold the expansion device assembly in its proper position shall be removed.
- Do not paint steel surfaces in contact with either concrete or seal.
- "W" and "E" dimensions are dependent upon the particular expansion device supplied, and shall be shown on the working drawings.
- See table for dimensions "A" and "W"; interpolate as needed. Do not install the gland until dimension "A" has opened up to at least 1/2". Use Section 518.10(b) in the Standard Specifications to determine the structure temperature.
- The neoprene gland shall be installed in one piece in accordance with Section 518 of the Standard Specifications.
- See Section 518 in the Standard Specifications for water tight integrity testing requirements.
- Set elevations at top of header and sleeper stem with the grade projection scheme.
- Steel for expansion device rails and anchor bars shall be AASHTO M270, Grade 36.

**ACCEPTABLE EXPANSION DEVICE ALTERNATES**

- D.S. Brown A2R400-SSA2
- WABD SE400 Type A
- E-poxy Engineered Materials S400-A Strip Seal

**SUPPORT NOTES:**

- Provide expansion device support as shown at 6'-0" intervals.
  - For reinforcing see approach slab details.
- Concrete shall be placed after expansion device has been adjusted to proper grade and approved by the engineer using the Grade Projection Scheme.

Design	INITIAL	DATE	QUANTITIES	DATE
	AML/TRJ	11/09	By	TRJ
Detail	INITIAL	DATE	QUANTITIES	DATE
	DSD/BJA	11/09	By	BJA

Print Date: 9/23/2010  
 File Name: 16042\_BrdgExpDevice\_0-4\_01.dgn  
 Horiz. Scale: 1:1  
 Unit Information: 0221  
 Unit Leader: STW

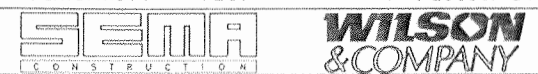
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Date:	Comments	Init.

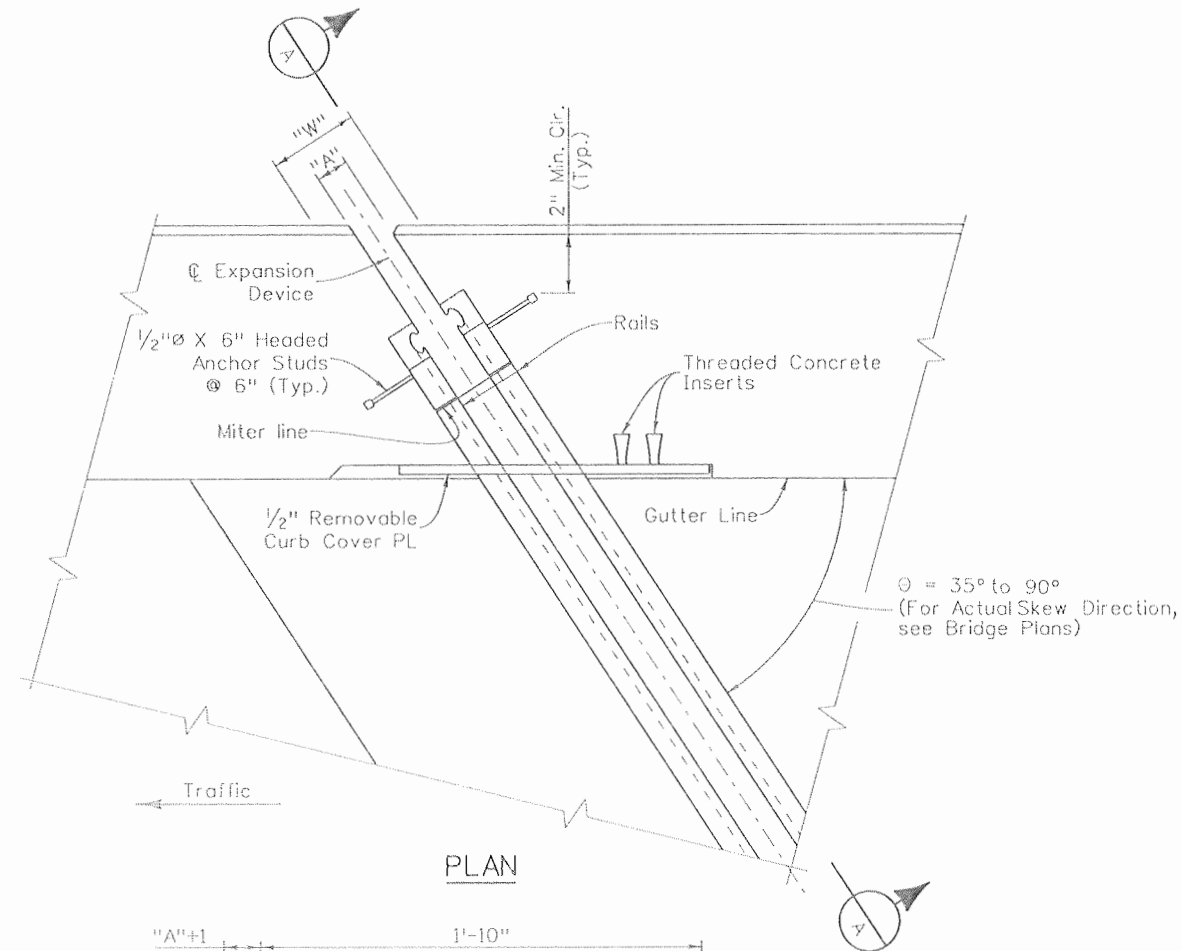
Colorado Department of Transportation  
 3803 North Main Avenue  
 Suite 200  
 Durango, CO 81301  
 Phone: 970-385-1440 FAX: 970-385-8365  
 Region 5 EJA

As Constructed	No Revisions: 9/10
Revised:	
Void:	

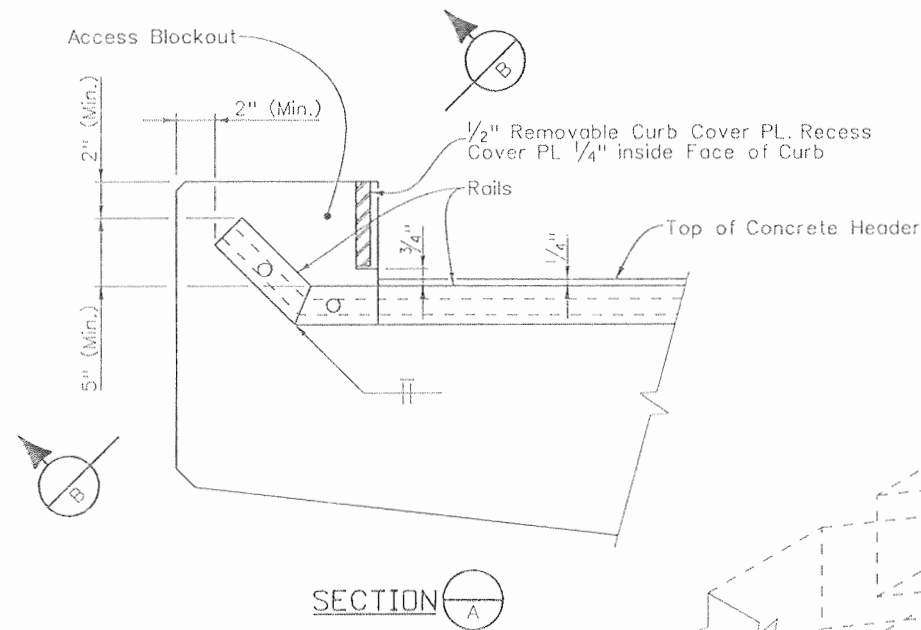
BRIDGE EXPANSION DEVICE (0 - 4 INCH) (1 OF 2)			
Designer:	B. Allen	Structure	
Detailer:	R. Arman	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B12 of B14

Project No./Code	NH 1602-114
	16042
Sheet Number	431

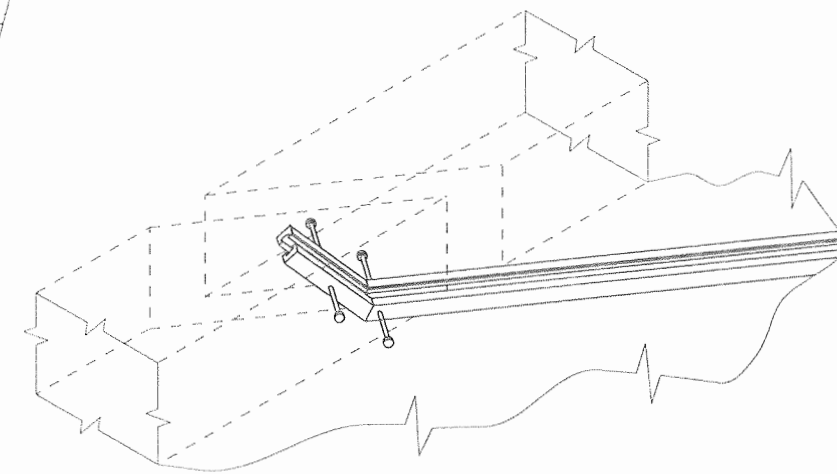




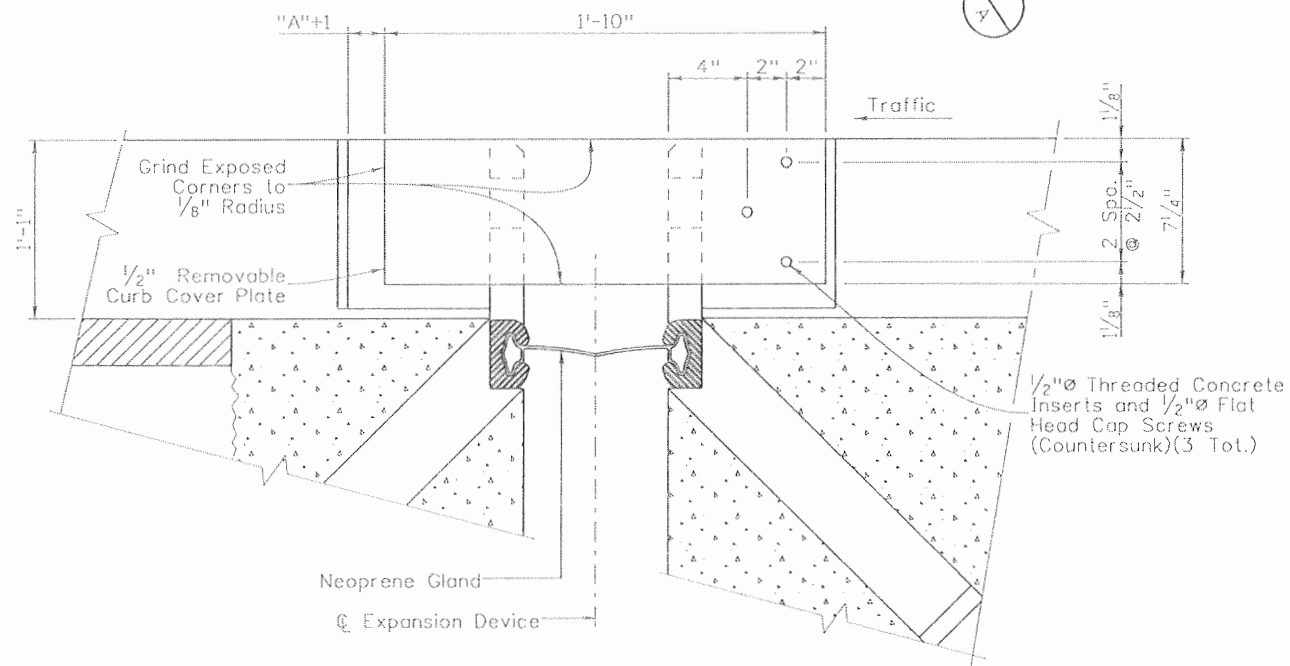
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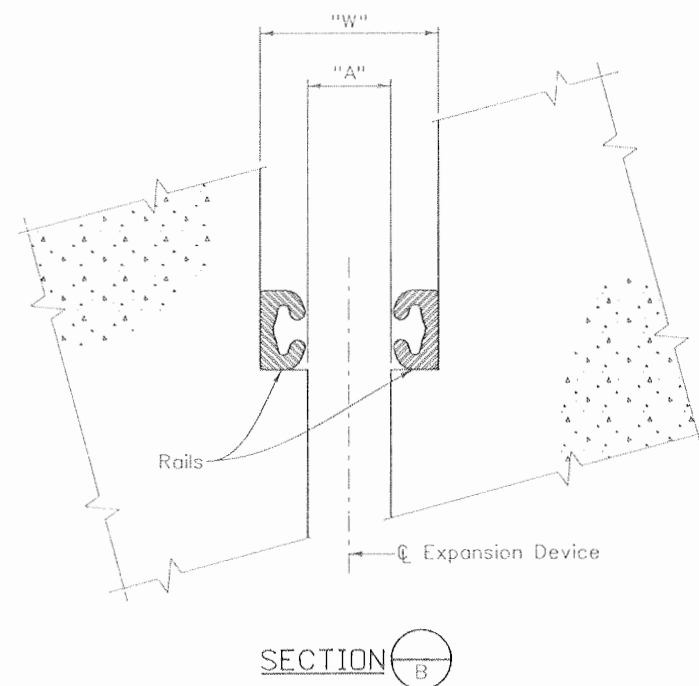
SECTION A



ISOMETRIC VIEW



ELEVATION



SECTION B

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	11/09	Detailed By	11/09	Quantities By	11/09
Checked By	TRJ	Checked By	TRJ	Checked By	BJA

Print Date: 9/23/2010	File Name: 16042_BrdgExpDevice_0-4_02.dgn
Horiz. Scale: 1:1	Vert. Scale: N/A
Unit Information: 0221	Unit Leader: STW
<b>SEMA</b> CONSTRUCTION	<b>WILSON &amp; COMPANY</b>

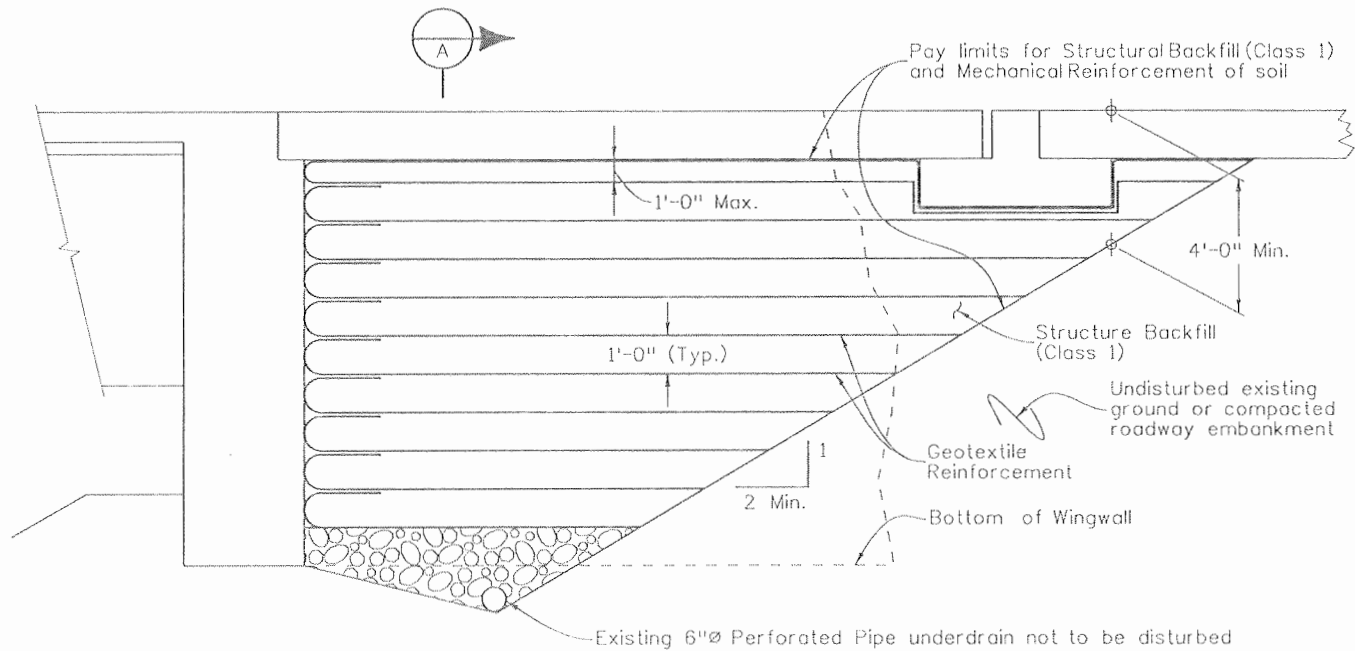
Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 3803 North Main Avenue  
 Suite 200  
 Durango, CO 81301  
 Phone: 970-385-1440 FAX: 970-385-8365  
 Region 5 EJA

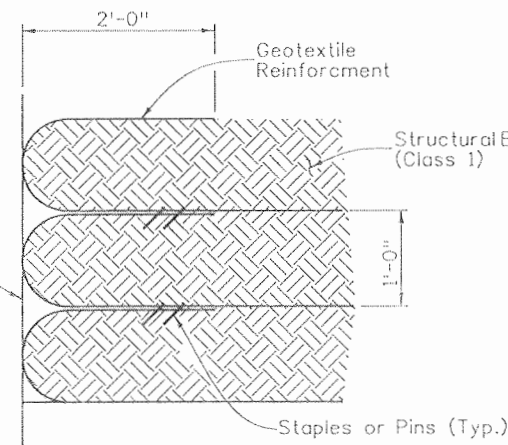
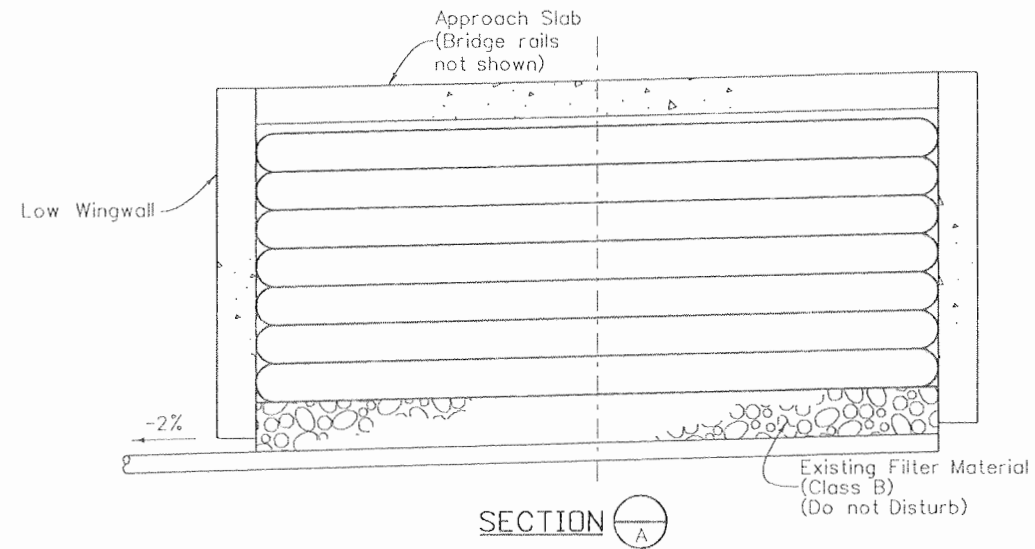
As Constructed	
No Revisions:	9/10
Revised:	
Void:	

BRIDGE EXPANSION DEVICE (0 - 4 INCH) (2 OF 2)			
Designer:	B. Allen	Structure	
Detailer:	D. Anderson	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B13 of B14

Project No./Code	NH 1602-114
	16042
Sheet Number	432



SECTION PERPENDICULAR TO ABUTMENT

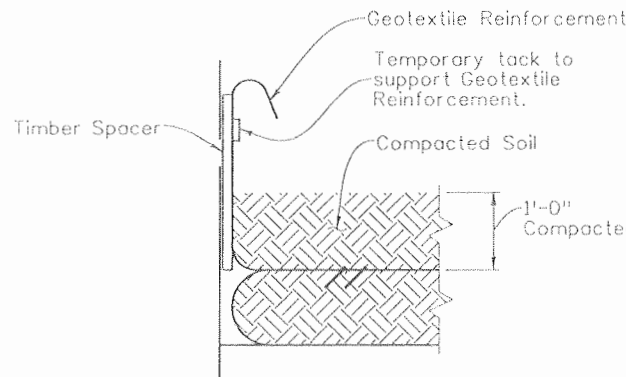


WRAP DETAIL

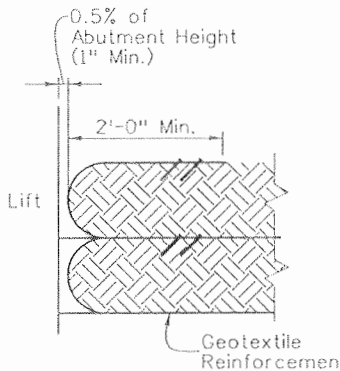
Provide gap between the abutment and backfill. The gap width shall be at least 0.5% of the abutment height, 1" minimum. See Gap Detail 1 and 2. Do not provide this gap at bottom 2 nor the top 2 layers of Reinforced Soil.

NOTES:

1. Geotextile reinforcement shall be woven fabric with a Minimum Average Roll Value of 4800 lb/ft for installations with a gap and 2400 lb/ft for installations without a gap based on ASTM D4595.
2. Geotextile Reinforcement shall be placed by alternating Machine Direction (MD) with Cross Machine Direction (XD) from layer to layer.
3. The Geotextile Reinforcement wrap at Back Face of Abutment shall be pulled back slack free with its end anchored to soil underneath with staples or pins.
4. Minimum splice of all Geofabric shall consist of 6" of overlap.



GAP DETAIL STEP 1



GAP DETAIL STEP 2

When required, the Geotextile Reinforcement wrap at Back Face of Abutment shall be temporarily hung with a spacer board and tack strip. After reaching a total of 1'-0" compacted lift, the tack strip shall be removed and Geotextile Reinforcement shall be pulled back slack free with its end anchored to soil underneath with staple or pins before the spacer board is pulled. Any alternate method to maintain the minimum gap between abutment concrete and Reinforced Soil may be proposed to the Engineer for approval.

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
BJA	11/09	TRJ	11/09	TRJ	11/09
TRJ	11/09	TRJ	11/09	BJA	11/09

Print Date: 9/23/2010  
 File Name: 16042\_MSB\_01.dgn  
 Horiz. Scale: 1:1  
 Unit Information 0221  
 Vert. Scale: N/A  
 Unit Leader STW

**SEMA** CONSTRUCTION  
**WILSON & COMPANY**

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 3803 North Main Avenue  
 Suite 200  
 Durango, CO 81301  
 Phone: 970-385-1440 FAX: 970-385-8365  
 Region 5 EJA

As Constructed	
No Revisions:	9/10
Revised:	
Void:	

MECHANICALLY STABILIZED BACKFILL			
Designer:	B. Allen	Structure Numbers	
Detailer:	D. Anderson		
Sheet Subset:	Bridge	Subset Sheets:	B14 of B14

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