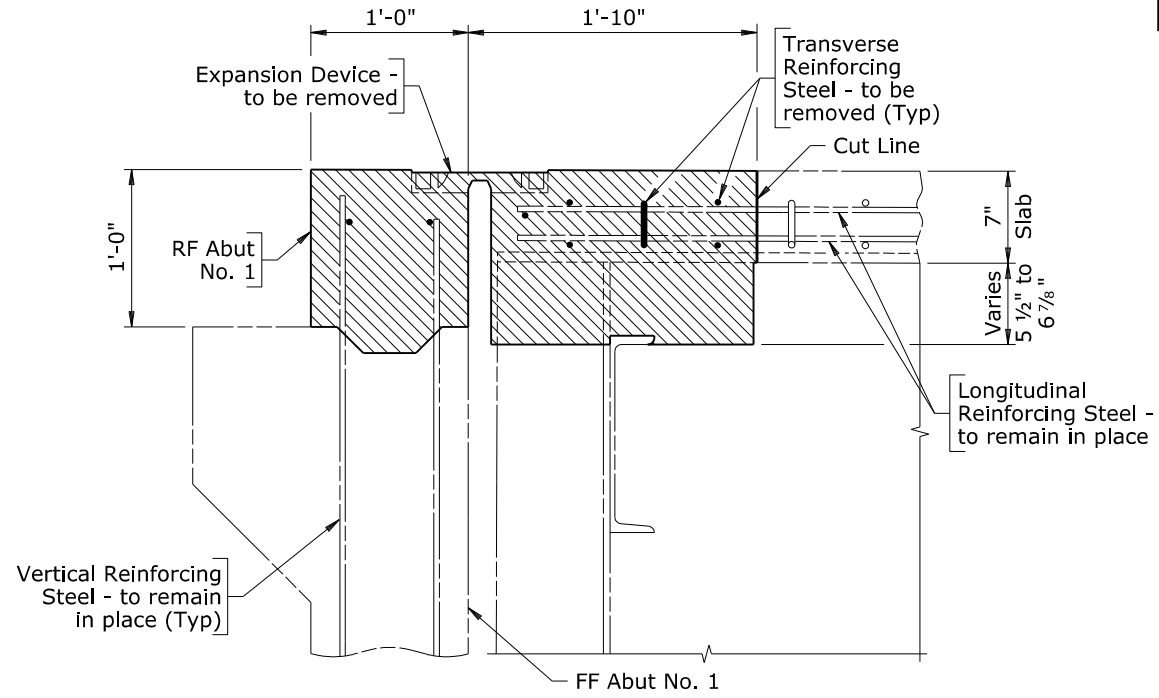
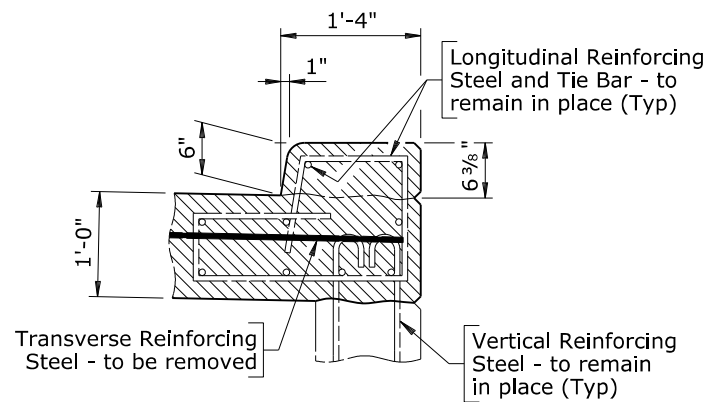


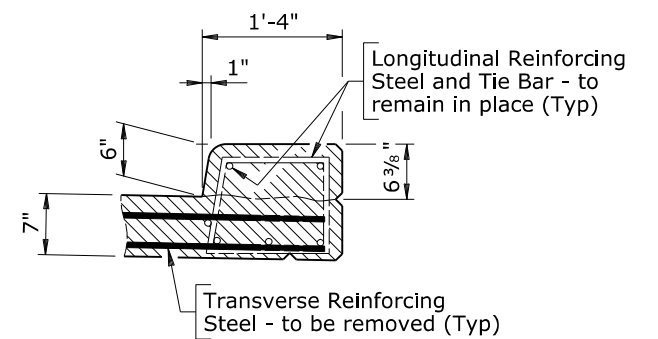
**PLAN**  
 (Showing removal)  
 (Expansion device and reinforcing steel not shown)



**SECTION A-A**



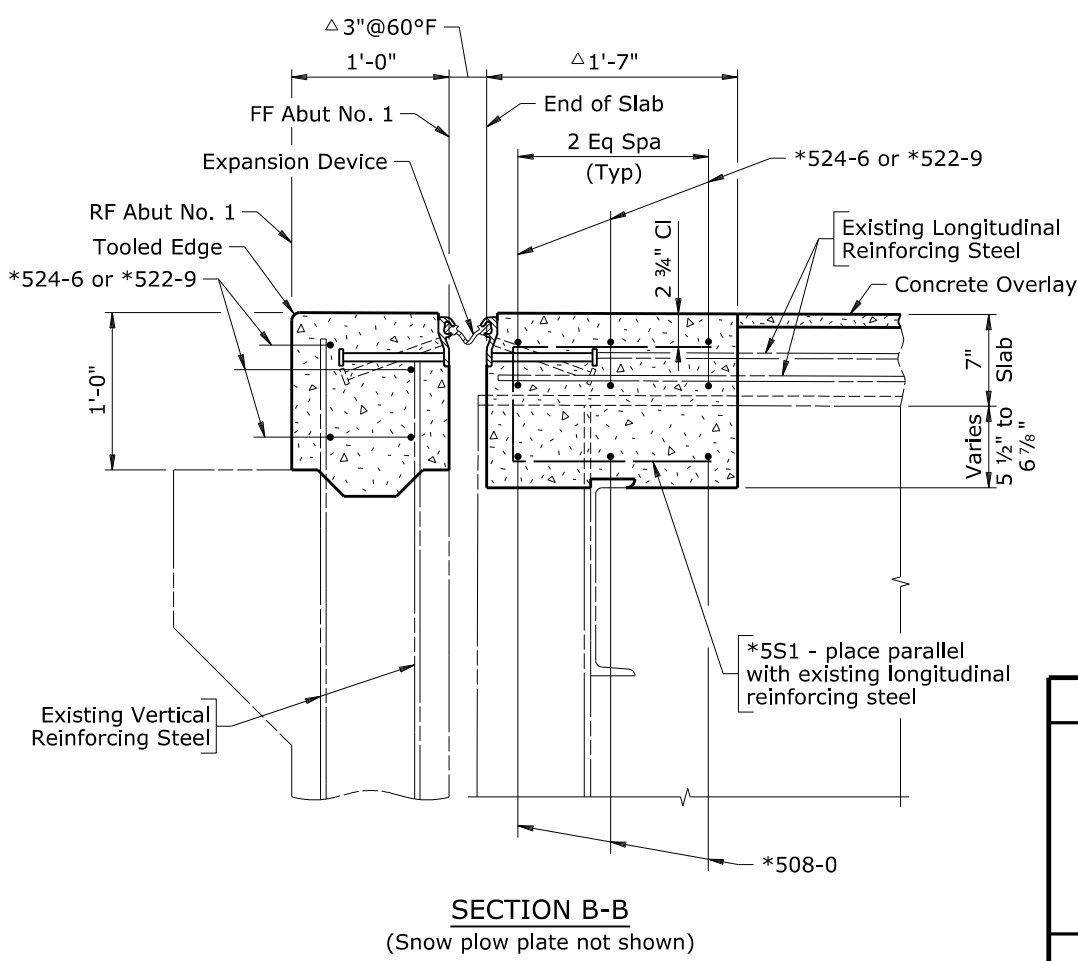
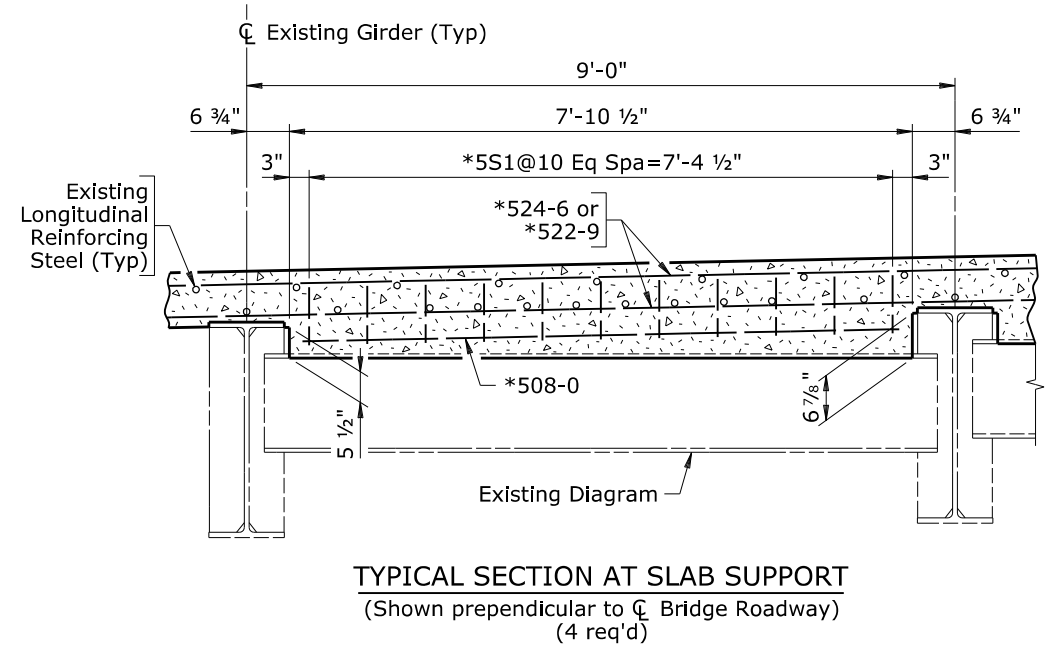
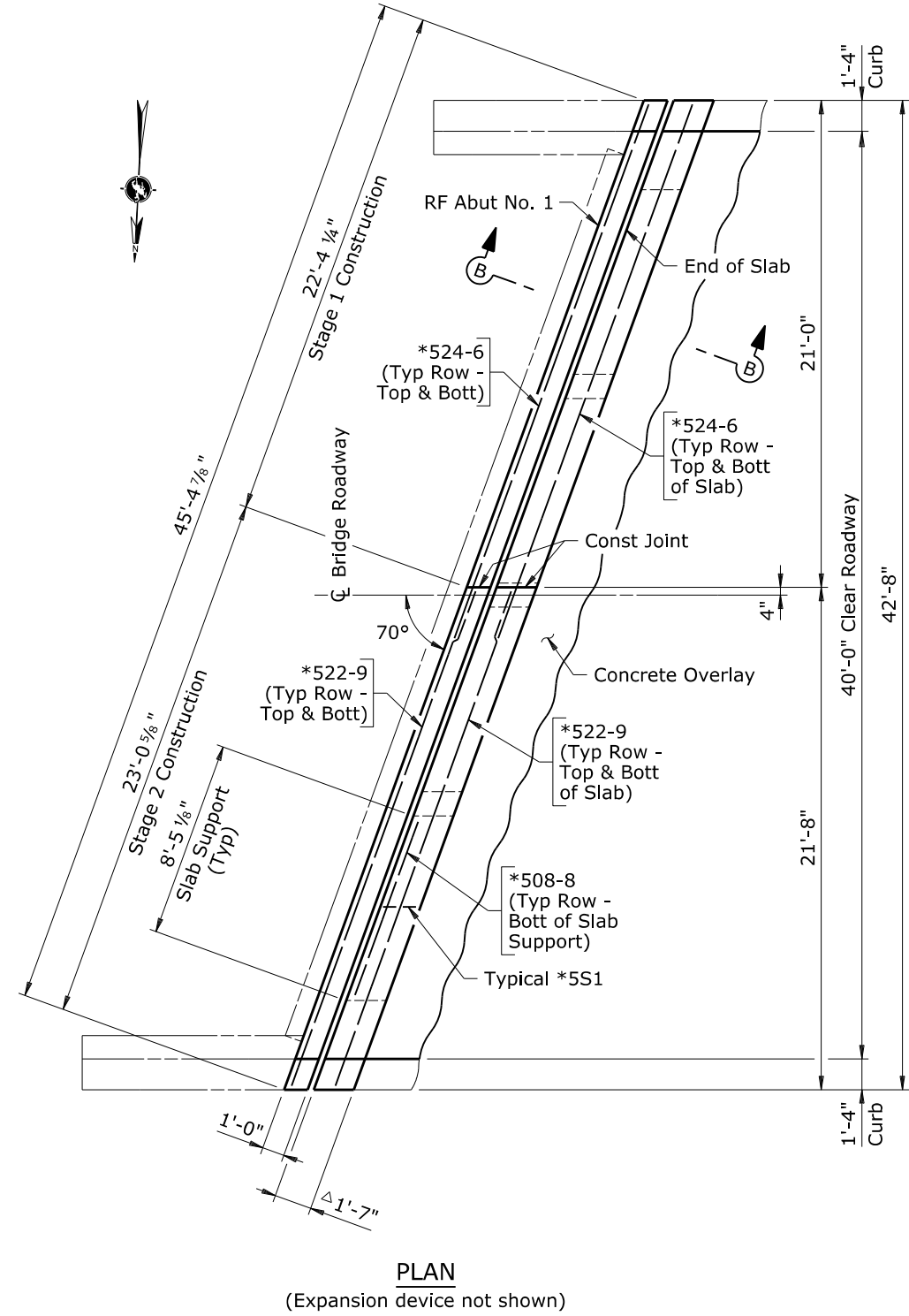
**SECTION AT ABUTMENT CURBS**  
 (Shown perpendicular to edge of slab)



**SECTION AT SLAB CURBS**  
 (Shown perpendicular to edge of slab)

**ABUTMENT NO. 1**

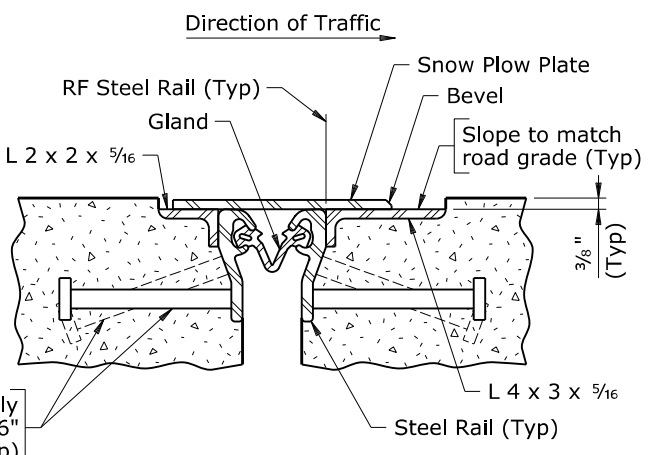
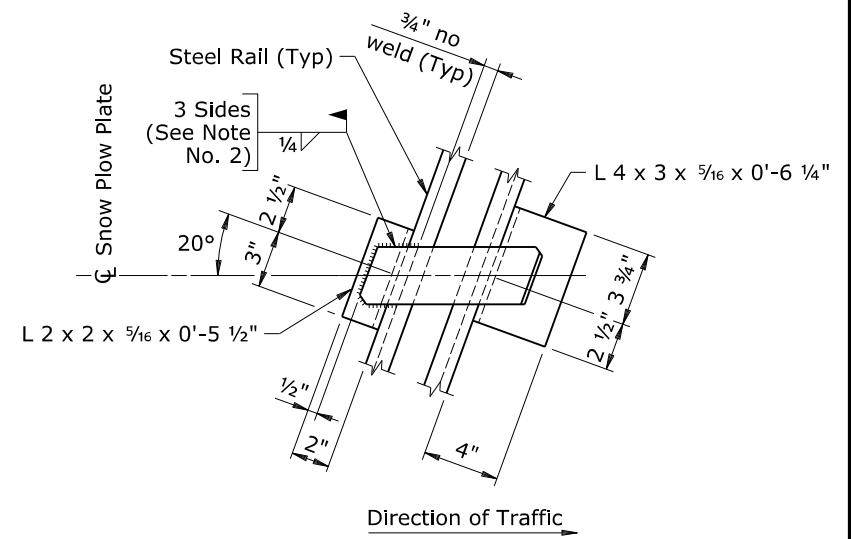
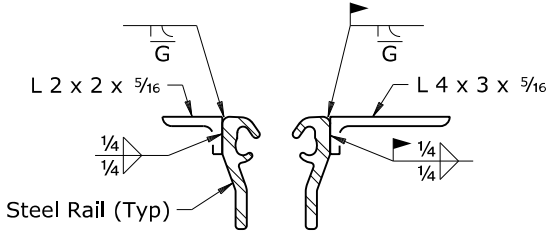
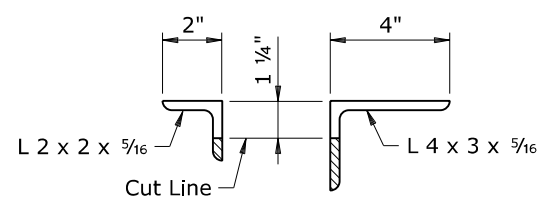
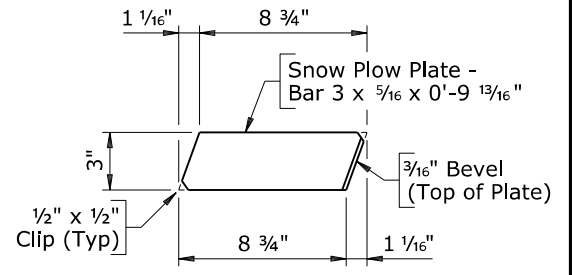
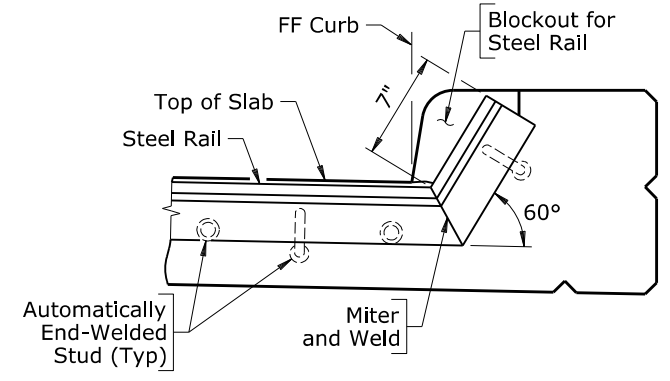
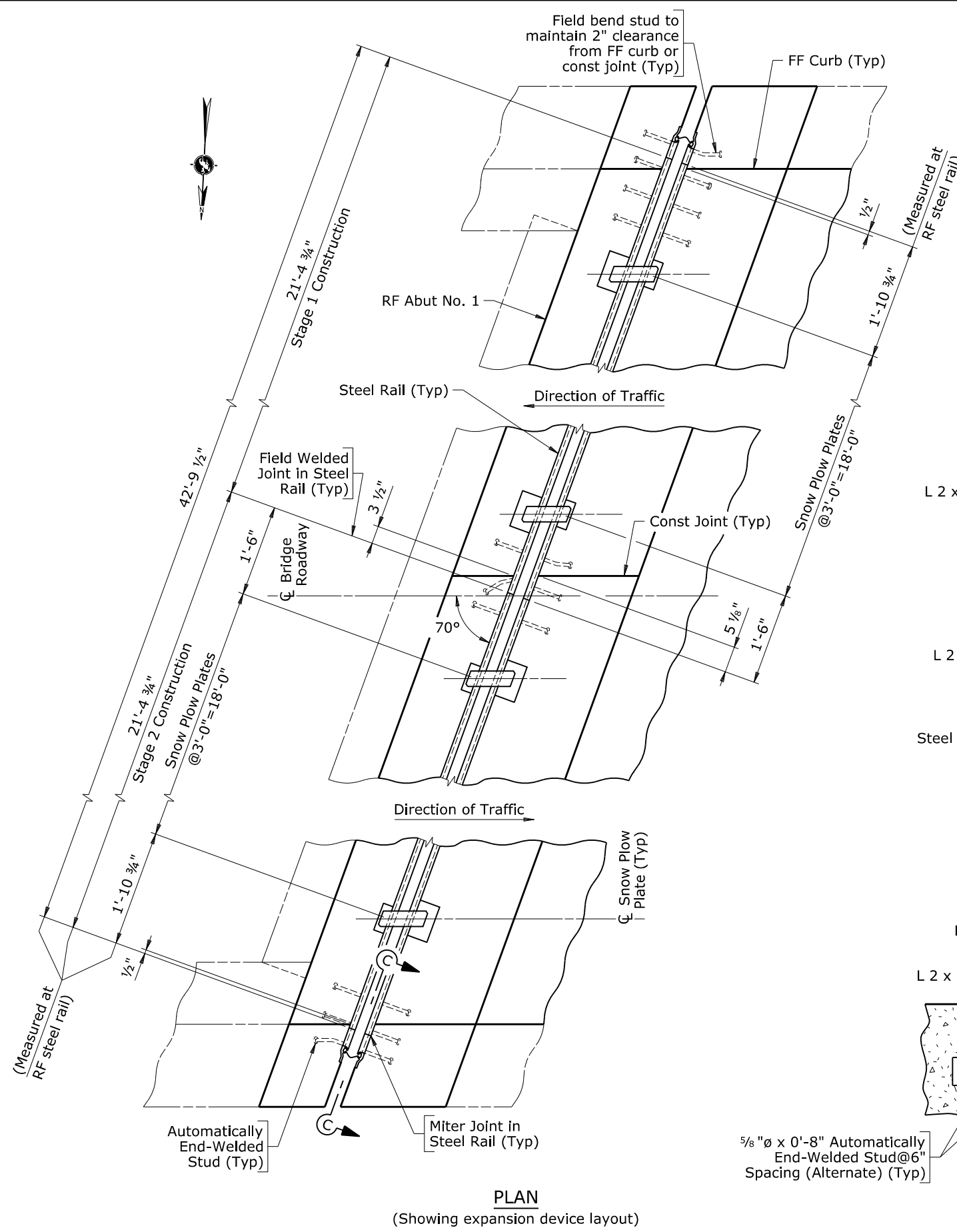
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
EXPANSION DEVICE REPLACEMENT DETAILS			
BRIDGE REHABILITATION			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	Drwg No. 0010	Sheet 3 of 15
	QTY'S		



BILL OF REINFORCEMENT			
Location	Mark	Number Required	
		Stage 1 Construction	Stage 2 Construction
Expansion Device Replacement	*5S1	22	22
	*508-0	6	6
	*522-9	—	10
	*524-6	10	—
*Weight		*386 LB	*368 LB
Bending Diagram			

- Note:**
- 1) Shift \*5S1 spacing, as necessary, to miss automatically end-welded studs.
  - 2) Increase the opening between front face abutment and end of slab 1/16" for each 10° F below 60° F and decrease the opening 1/16" for each 10° F above 60° F. Account for variance in slab forming.
  - 3) Construct new curbs to match the existing curbs.
  - 4) Ensure the reinforcing steel fabricator prefixes expansion device replacement bar marks with numeral 1.
  - 5) The estimated quantity of class A concrete for the expansion device replacement is 2.2 CY for stage 1 construction and 2.4 CY for stage 2 construction.

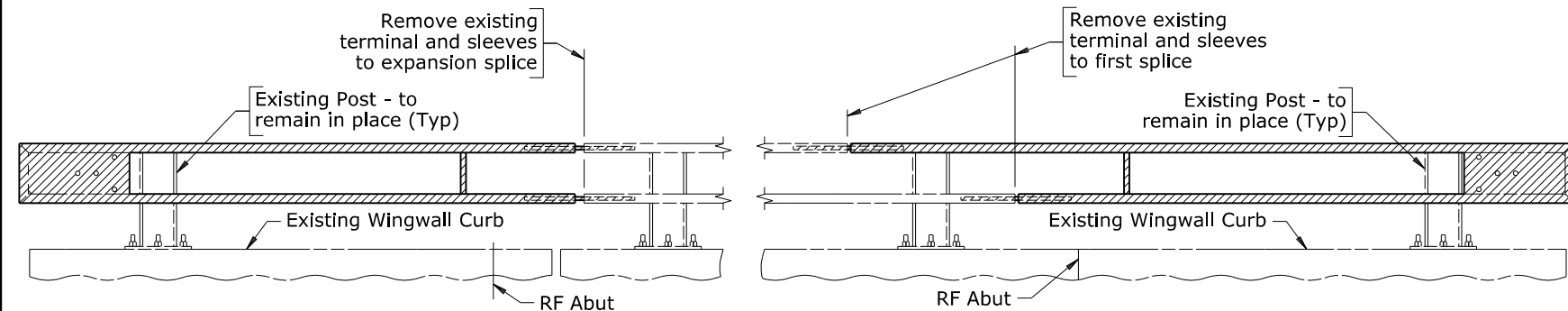
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
<b>EXPANSION DEVICE REPLACEMENT DETAILS</b>			
<b>BRIDGE REHABILITATION</b>			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	CCC	AAA
	QTY'S	BBB	EEE
		Drwg No. 0010	Sheet 4 of 15



Note: 1) Ensure the expansion device fabricator includes additional length in the steel rails to account for grade, slope and variances in actual conditions. Field cut steel rails for proper fit in accordance with the fabricator's recommendations.  
2) Do not warp snow plow plates or damage gland during welding. Do not exceed 150° F preheat temperature.

ABUTMENT NO. 1

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
EXPANSION DEVICE REPLACEMENT DETAILS			
BRIDGE REHABILITATION			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	CCC	AAA
	QTY'S	BBB	EEE
		Drwg No. 0010	Sheet 5 of 15

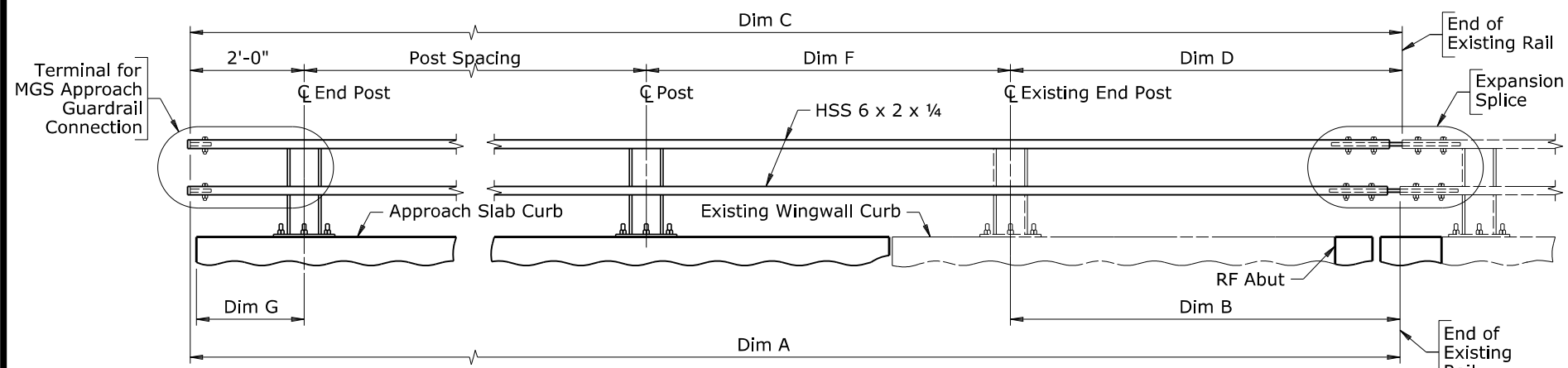


ABUTMENT NO. 1  
(SE corner shown, NE corner similar)

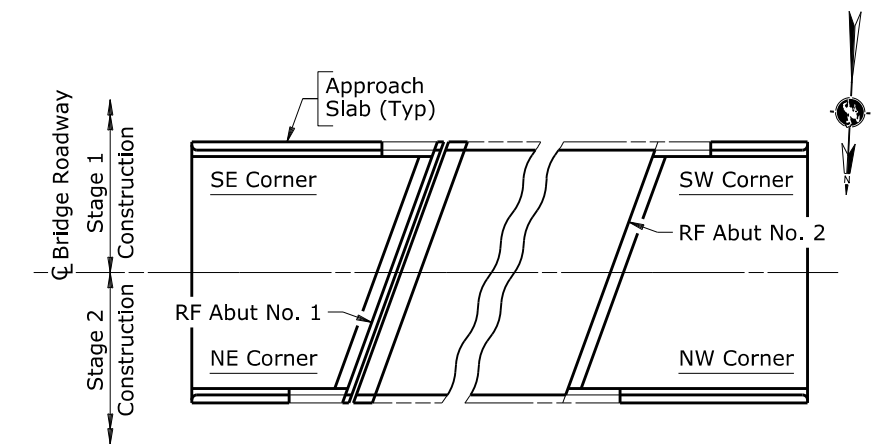
ABUTMENT NO. 2  
(SW corner shown, NW corner similar)

TYPICAL ELEVATION  
(Showing removal)

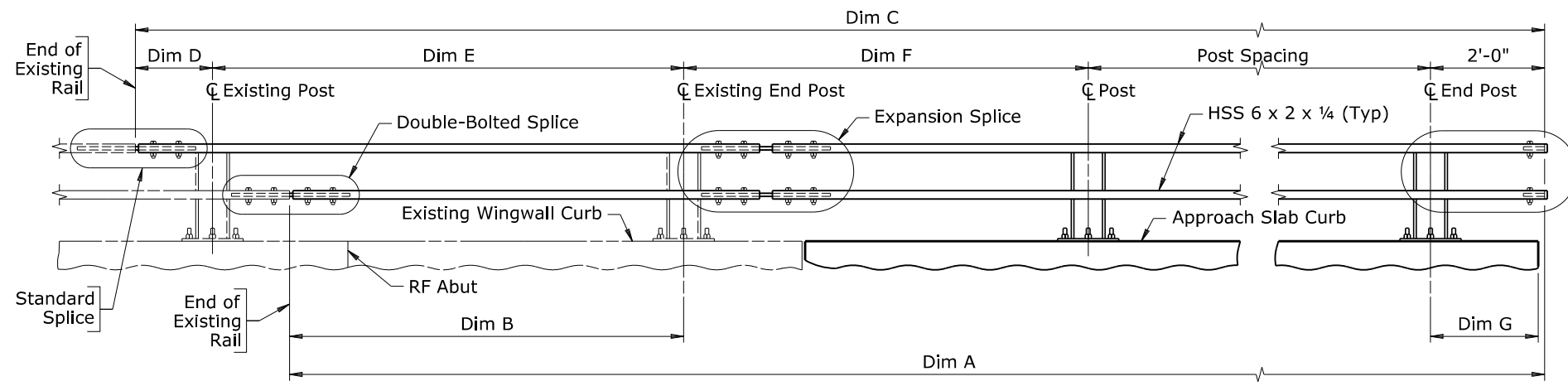
TABLE OF DIMENSIONS									
Location	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Post Spacing	No. of Posts Req'd
SE Corner	40'-11"	7'-8"	40'-11 1/2"	7'-8 1/2"	---	7'-6"	1'-10 5/8"	3 Spa @ 7'-11" = 23'-9"	4
NE Corner	25'-6 3/4"	7'-7 3/4"	25'-6 3/4"	7'-7 3/4"	---	8'-0"	2'-0 5/8"	1 Spa @ 7'-11"	2
SW Corner	26'-0 3/4"	7'-10 3/4"	29'-1 1/4"	1'-7 3/4"	9'-3 1/2"	8'-3"	1'-10 7/8"	1 Spa @ 7'-11"	2
NW Corner	40'-8"	7'-5"	43'-8 1/2"	1'-7"	8'-10 1/2"	7'-6"	1'-11 3/8"	3 Spa @ 7'-11" = 23'-9"	4



ABUTMENT NO. 1 ELEVATION  
(Showing new construction)  
(SE corner shown, NE corner similar)



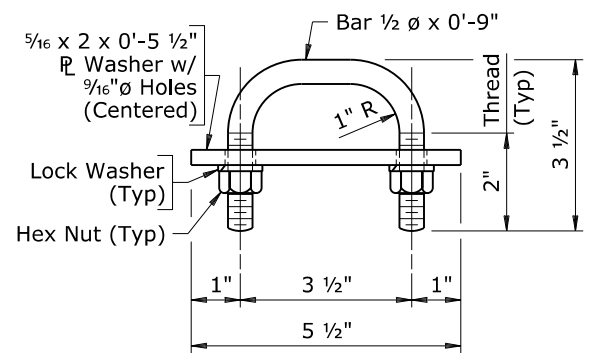
PLAN



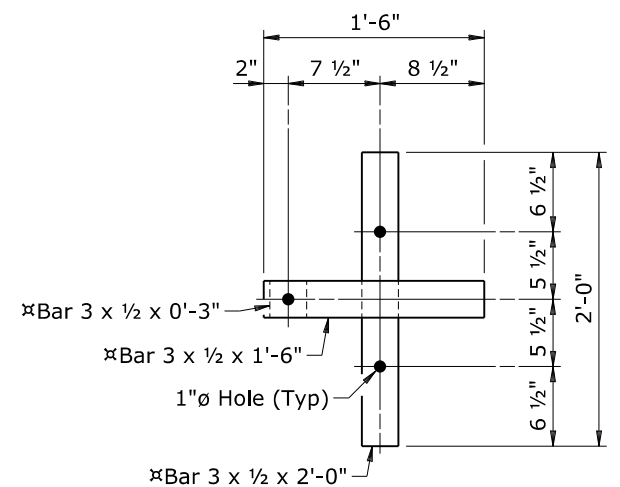
ABUTMENT NO. 2 ELEVATION  
(Showing new construction)  
(SW corner shown, NW corner similar)

- Note:
- 1) Ensure the expansion splice is located in the railing panel which passes over the bridge joint as indicated in the elevations.
  - 2) Field drill existing rails as required for installation of new splices. Grind rough edges of drilled areas.
  - 3) The estimated quantity for bridge railing modification is based on the average of dimension A and dimension C at each location.

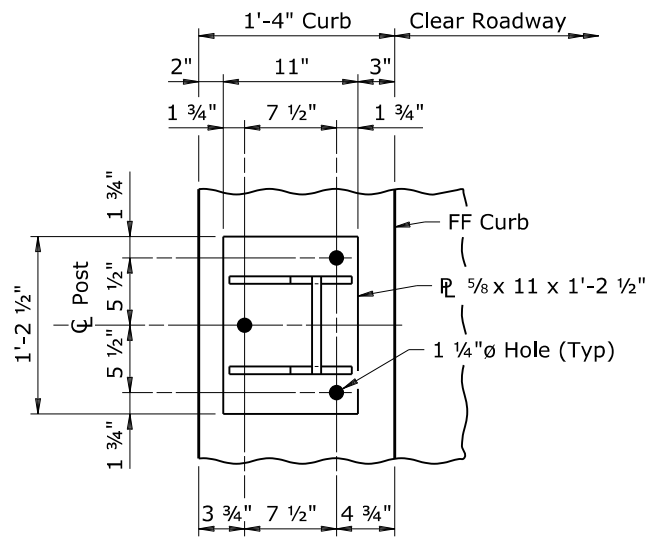
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING MODIFICATION DETAILS			
BRIDGE REHABILITATION			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	CCC	AAA
	QTY'S	BBB	EEE
Drwg No. 0010		Sheet 6 of 15	



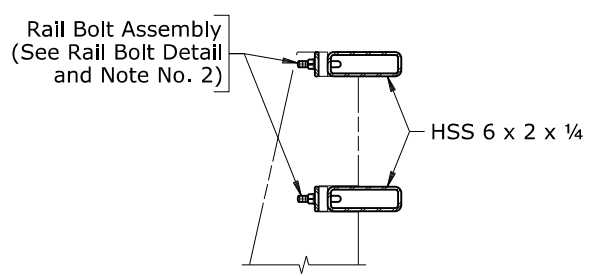
**RAIL BOLT DETAIL**



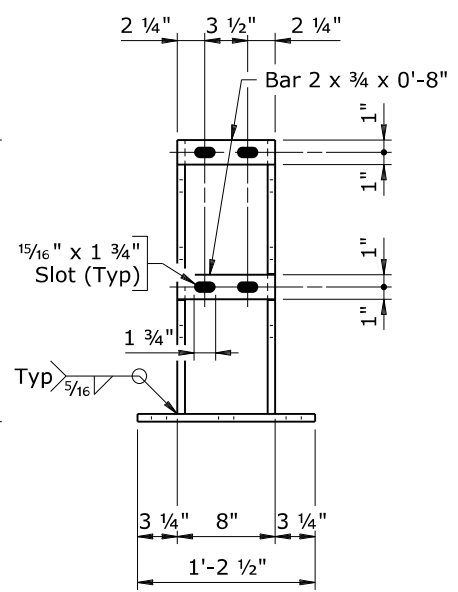
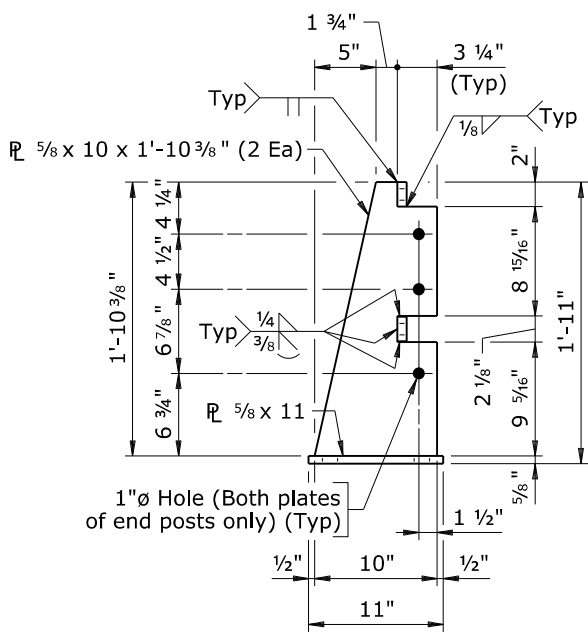
**SECTION B-B**  
(Not galvanized)  
(Anchor bolts and slab not shown)



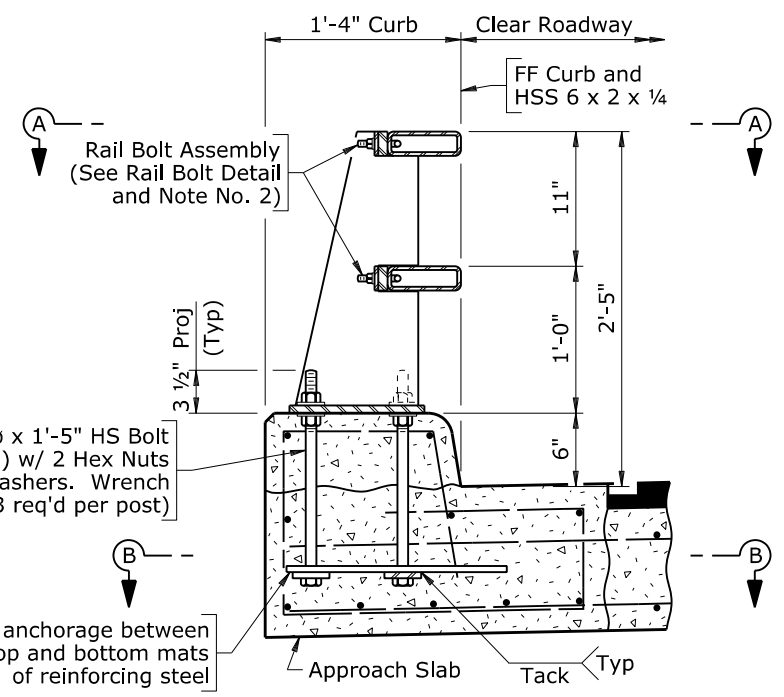
**VIEW A-A**  
(Anchor bolts, rails, and rail bolts not shown)



**RAIL INSTALLATION DETAIL**  
(Showing new rails at existing post)



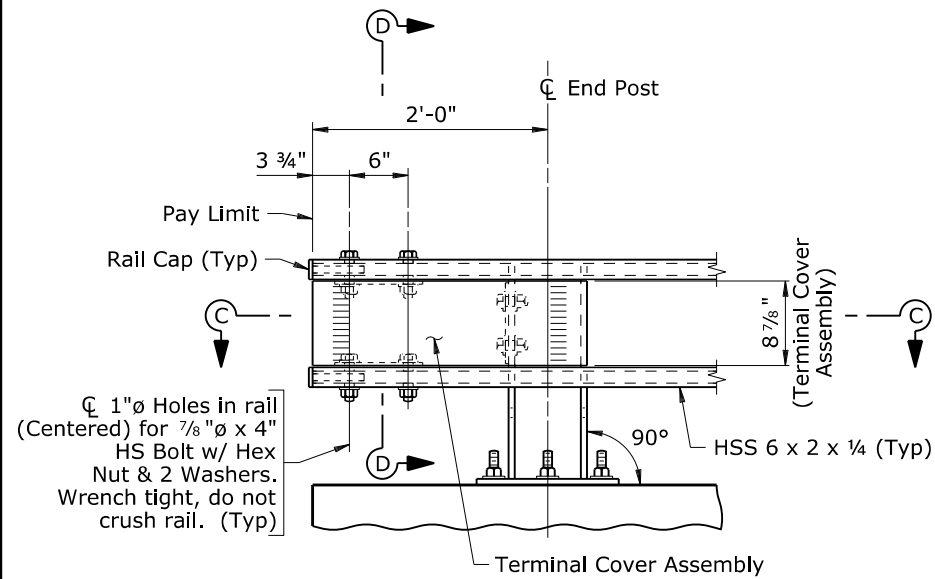
**POST DETAILS**  
(See View A-A for anchor bolt hole spacing)



**ASSEMBLY DETAIL**  
(Shown near  $\phi$  Post)

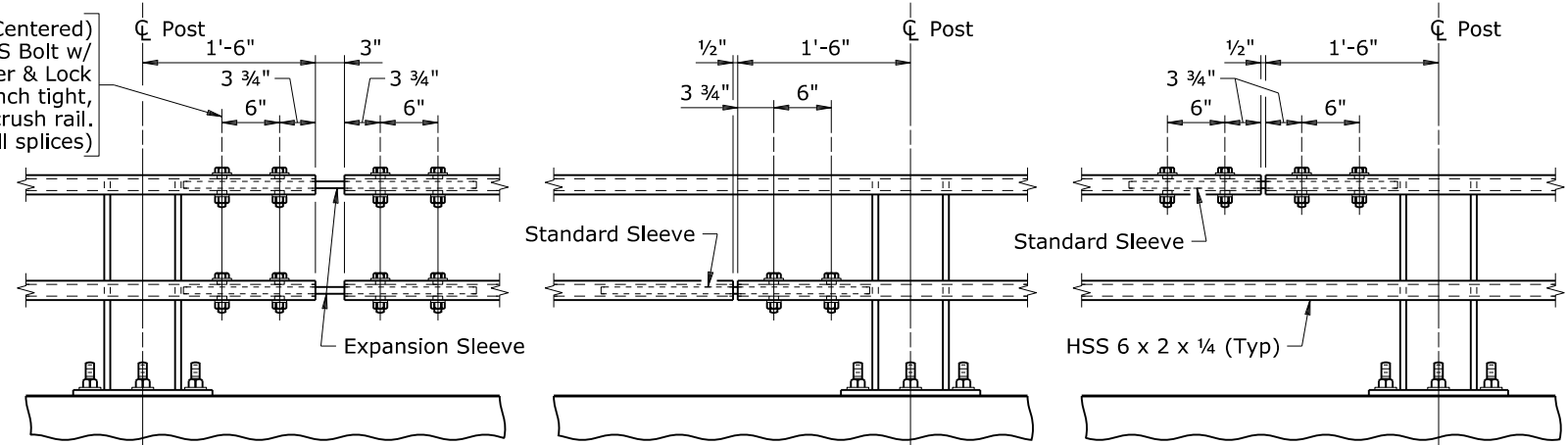
- Note:**
- 1) Anchor bolts may be tack welded to anchorage (Shop or field).
  - 2) At post locations, drill two 1 1/16 inch diameter holes in each rail to receive rail bolts (Shop or field). See Post Details for hole spacing.
  - 3) Paint surfaces of the railing components that have been cut, drilled, or otherwise damaged with two coats of zinc-rich paint conforming to ASTM A 780.
  - 4) After installing rails, paint exposed bolt threads with two coats of zinc-rich paint conforming to ASTM A 780.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING MODIFICATION DETAILS			
BRIDGE REHABILITATION			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	Drwg No. 0010	Sheet 7 of 15
	QTY'S		



ELEVATION AT TERMINAL

1"  $\phi$  Holes in rail (Centered) for 3/4"  $\phi$  x 3 1/2" HS Bolt w/ Hex Nut, Washer & Lock Washer. Wrench tight, do not crush rail. (Typ) (All splices)

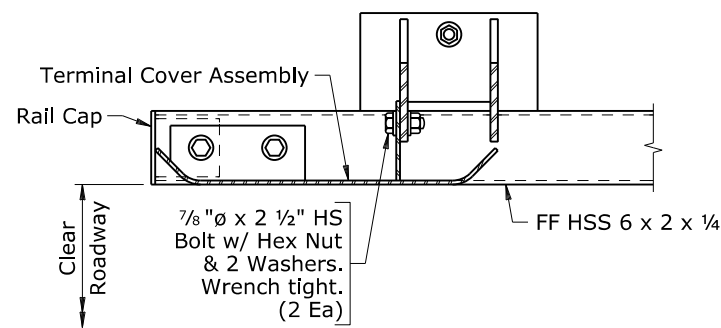


EXPANSION SPLICE  
(Top and bottom rail)

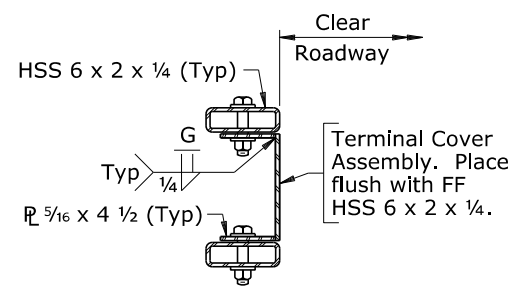
STANDARD SPLICE  
(Top or bottom rail)  
SPLICE DETAILS

DOUBLE-BOLTED SPLICE  
(Top or bottom rail)

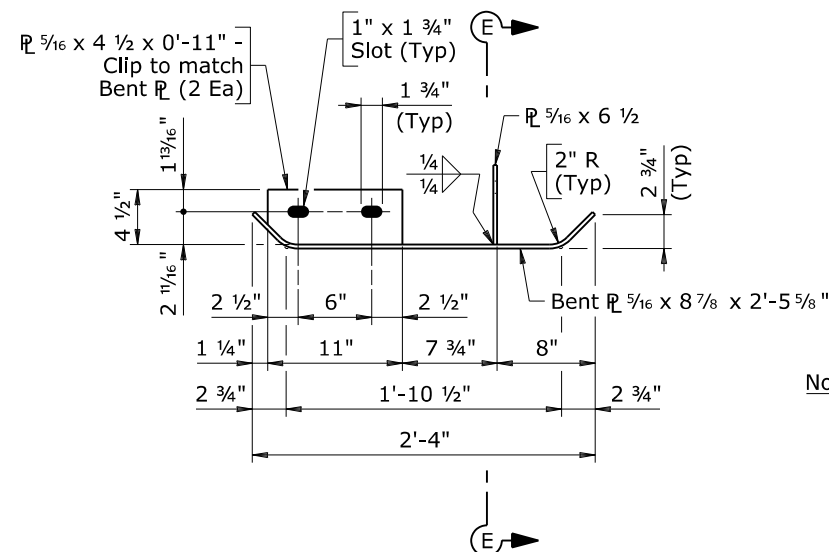
TERMINAL COMPONENT REQUIREMENTS		
Approach Guardrail Connection	Rail Caps Required	Terminal Cover Assembly Required
MGS Approach Guardrail	Yes (Without bolts)	±No
Box Beam w/ Rubrail Approach Guardrail	No	No
No Approach Guardrail	Yes (With bolts)	Yes



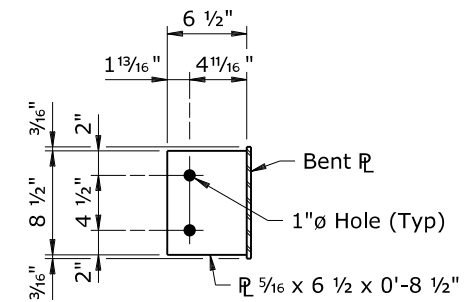
SECTION C-C



SECTION D-D

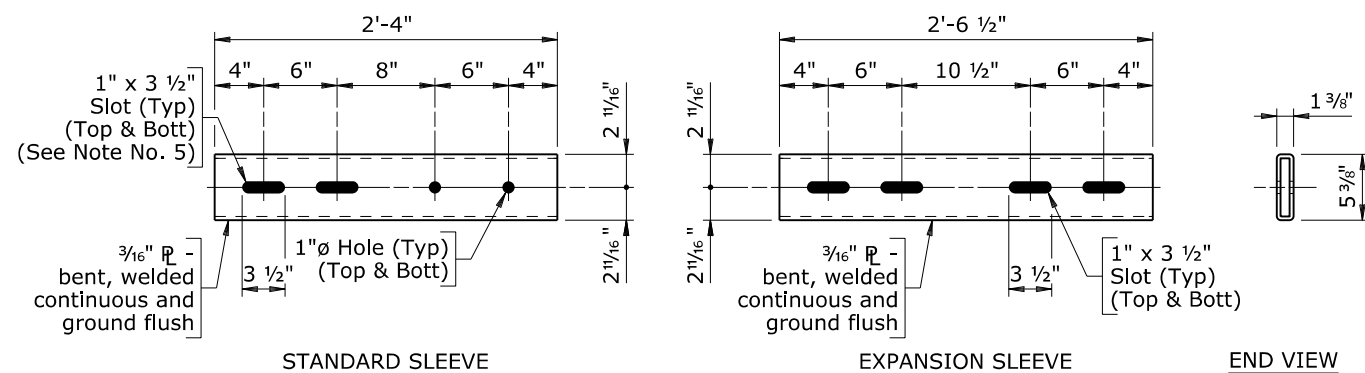


TERMINAL COVER ASSEMBLY DETAIL



SECTION E-E

- Note:
- 1) Ensure each rail length is continuous over a minimum of two posts.
  - 2) In rehabilitation work, ensure railing that cannot feasibly be made continuous over a minimum of two posts has a double-bolted splice.
  - 3) Splices may be located on either side of post.
  - 4) Not more than one splice is permitted per side of post, except at expansion splices.
  - 5) Slots may be omitted in standard sleeves where bolts are required on one side of splice only.
  - 6) Do not shop splice rails.
  - 7) Terminal components removed during rehabilitation work will remain the property of the department.
  - ±8) Installation of MGS approach guardrail will require other fabricated assemblies to be connected to end post. See road plans for details and pay item.

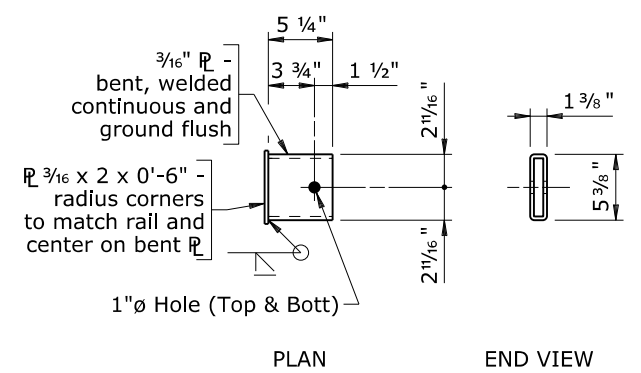


STANDARD SLEEVE

EXPANSION SLEEVE

END VIEW

SLEEVE DETAILS

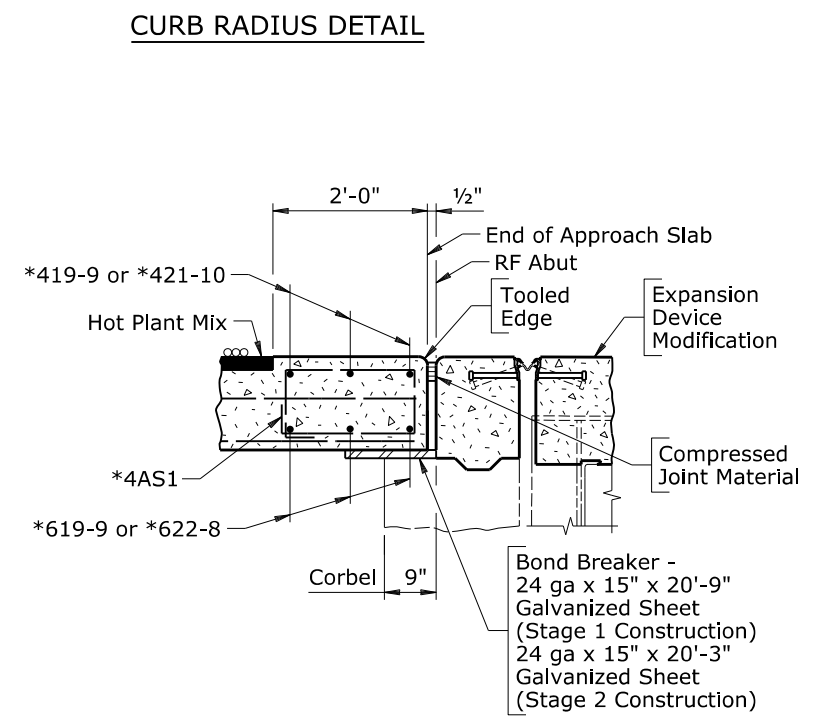
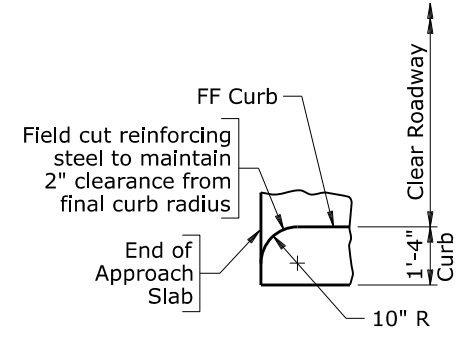
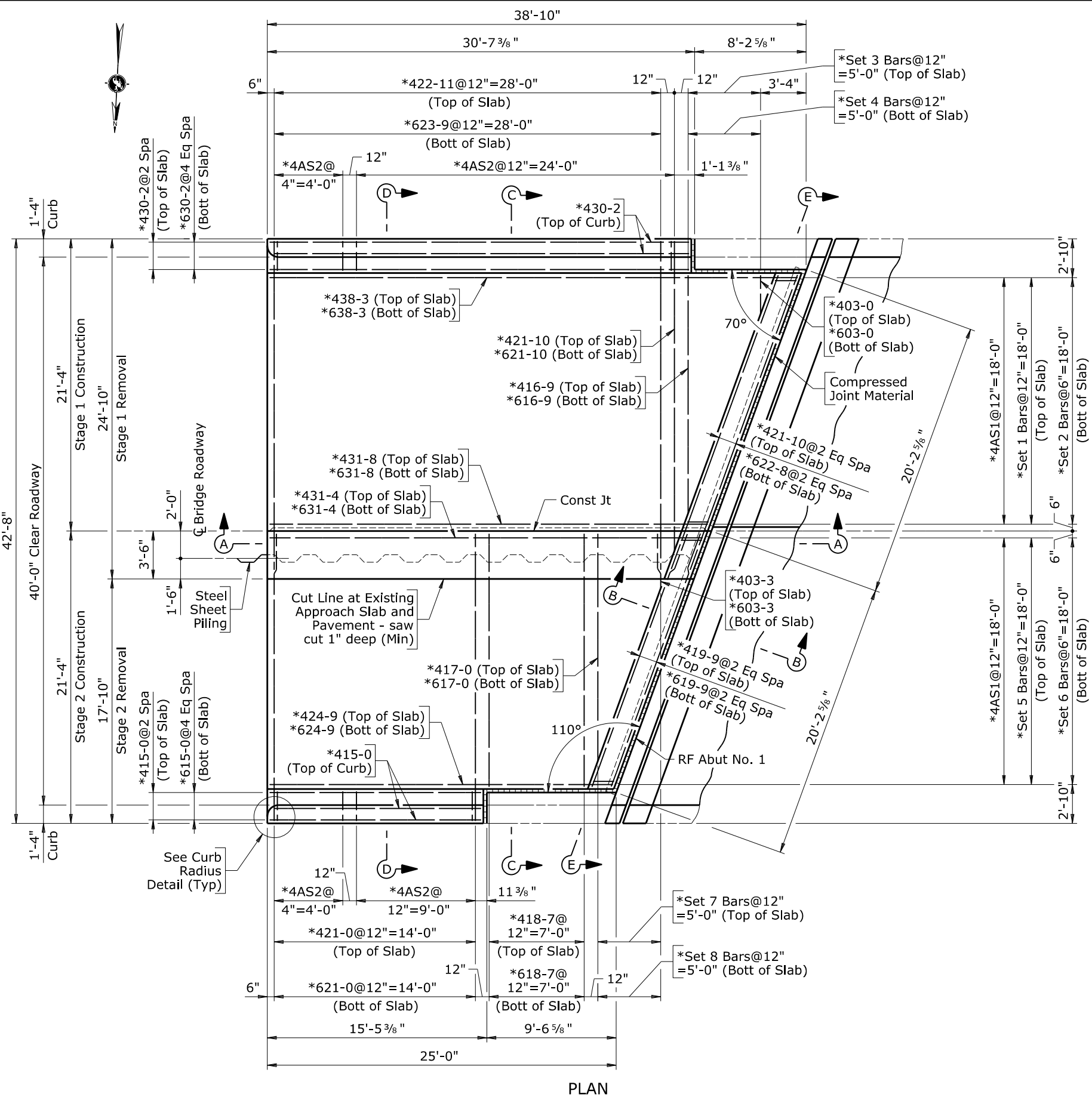


PLAN

END VIEW

RAIL CAP DETAILS

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		BRIDGE RAILING MODIFICATION DETAILS	
BRIDGE REHABILITATION			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	CCC	AAA
	QTY'S	BBB	EEE
		Drwg No. 0010	Sheet 8 of 15



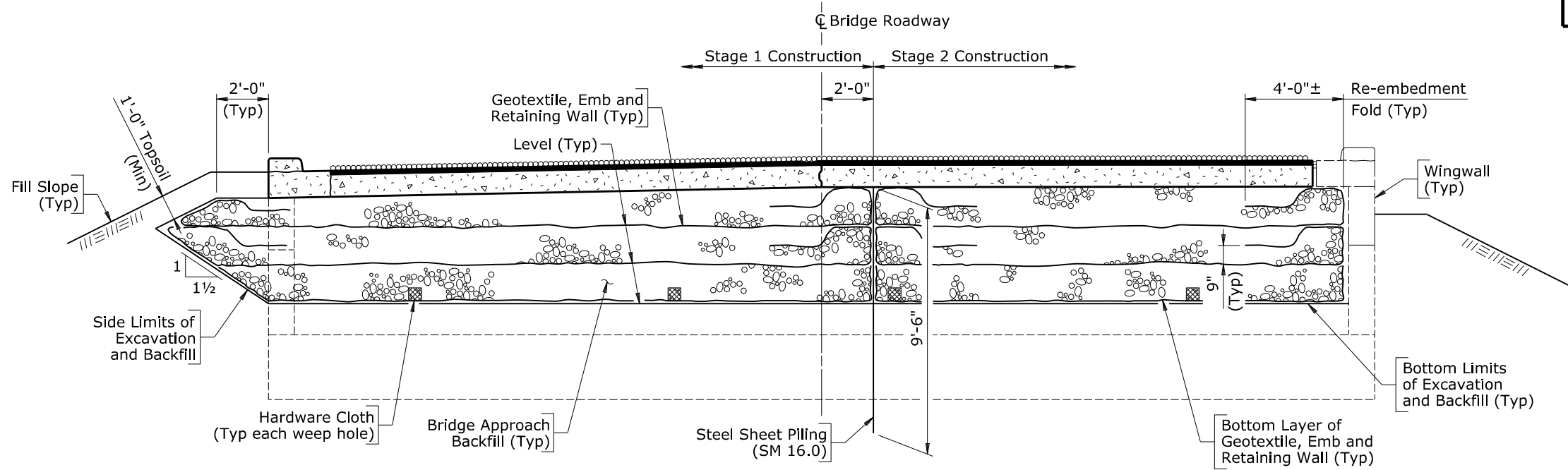
- Note:
- 1) Lap bond breakers 6" minimum.
  - 2) Place \*4AS1 bars parallel with  $\bar{C}$  Bridge Roadway. Extend compressed joint material up front face and across top of curbs.
  - 3) Extend compressed joint material up front face and across top of curbs.
  - 4) For Bridge Railing Modification Details, see Sheets No. 6 thru 8.
  - 5) For Sections A-A and C-C, see Sheet No. 10.
  - 6) For Sections D-D and E-E, see Sheet No. 11.

ABUTMENT NO. 1

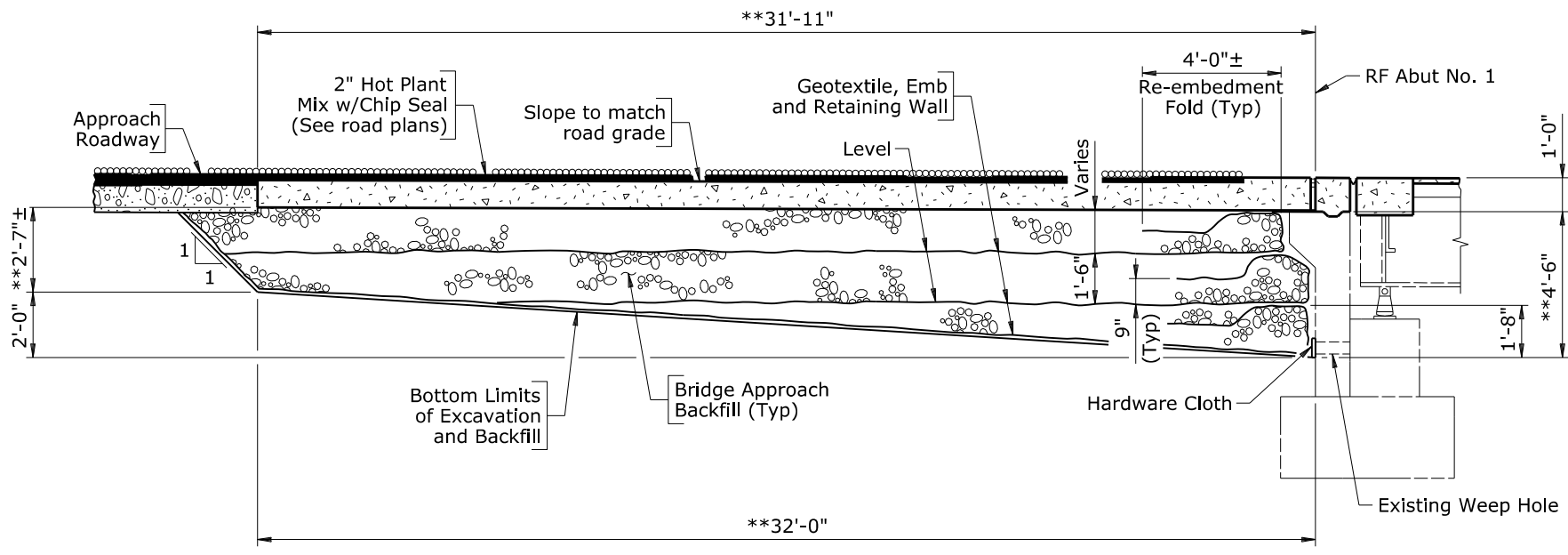
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
APPROACH SLAB DETAILS			
BRIDGE REHABILITATION			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section	L M Nop
DATE	DETAIL	Drwg No.	0010
	QTY'S	Sheet	9 of 15

Sept 2015

4.22 - Example



SECTION C-C



SECTION A-A

- Note:
- 1) Dimensions preceded by a double asterisk (\*\*) are measured at  $\bar{C}$  Bridge Roadway.
  - 2) Extend bottom layer of geotextile up sheet piling and side limits of excavation and backfill to bottom of first layer of geotextile.
  - 3) Clean existing weep holes. Place one 6" x 6" piece of aluminum or galvanized steel wire 4 mesh hardware cloth (Minimum wire diameter 0.03") centered over pipe end and firmly anchor to rear face abutment.
  - 4) For location of Sections A-A and C-C, see Sheet No. 9.

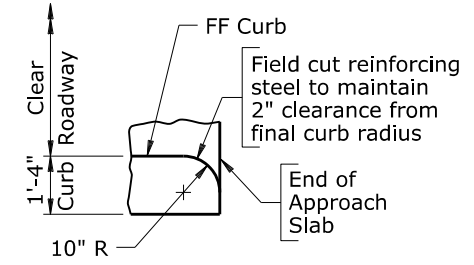
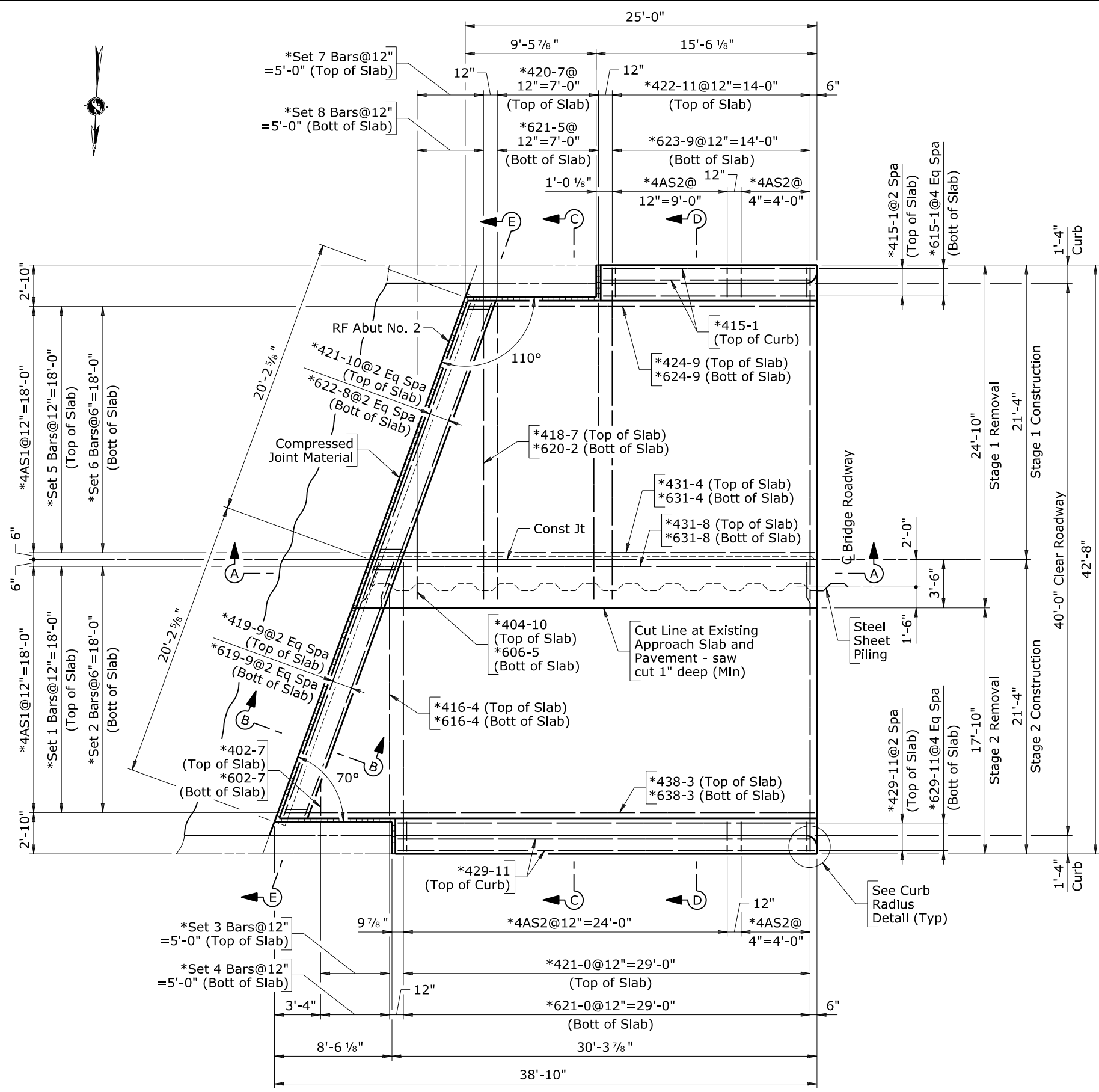
ABUTMENT NO. 1

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
<b>APPROACH SLAB DETAILS</b>			
<b>BRIDGE REHABILITATION</b>			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section	L M Nop
DATE	DETAIL	Drwg No.	0010
	QTY'S	Sheet	10 of 15

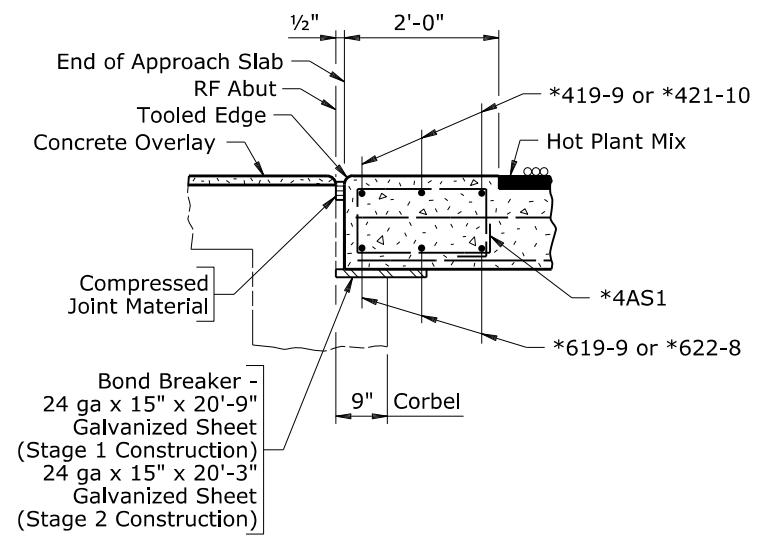
Section 4.22 - Preservation and Rehabilitation







CURB RADIUS DETAIL

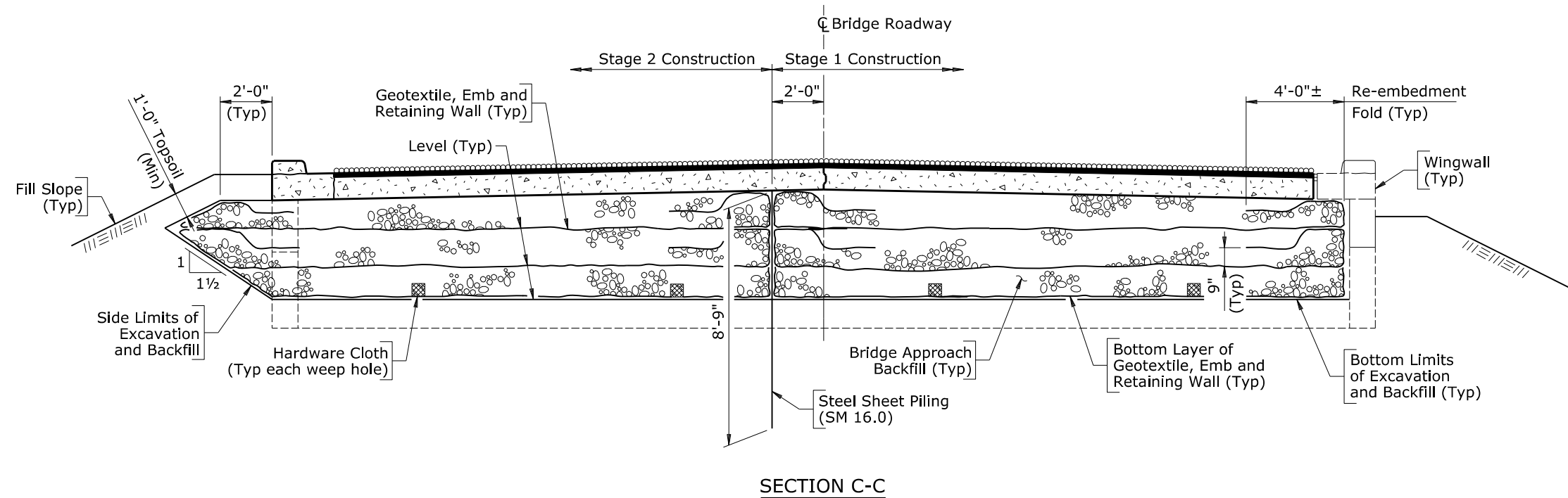


SECTION B-B

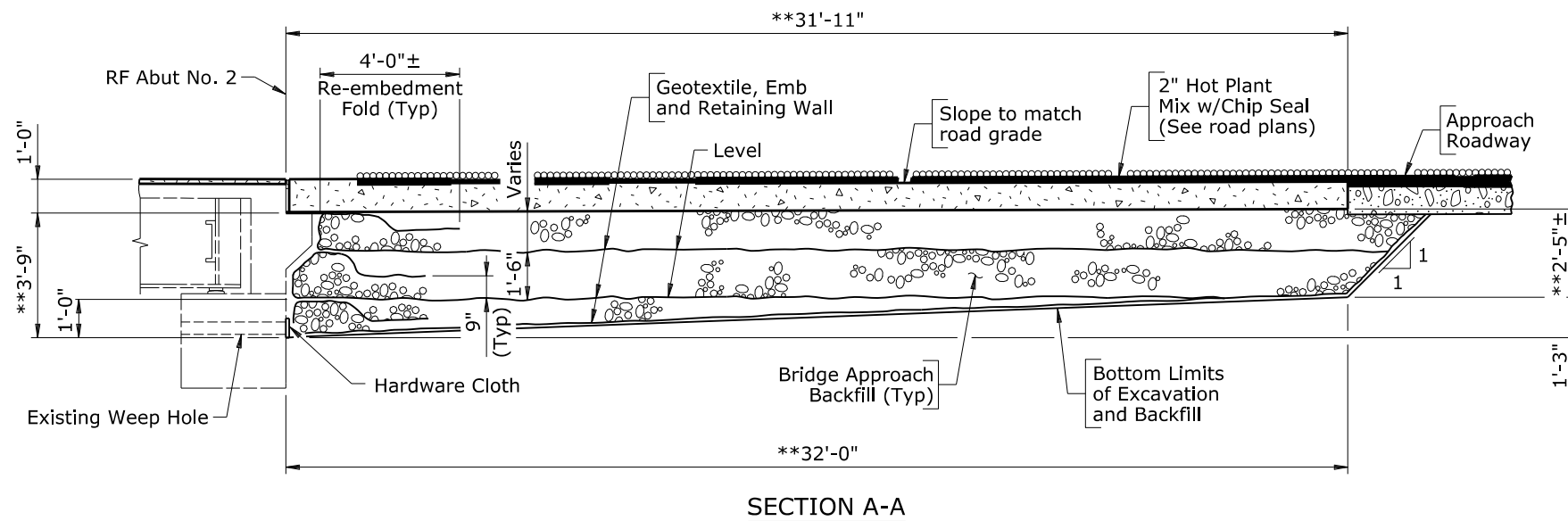
- Note:
- 1) Lap bond breakers 6" minimum.
  - 2) Place \*4AS1 bars parallel with  $\bar{C}$  Bridge Roadway.
  - 3) Extend \*Set 7 Bars 1'-9" past construction joint. Extend \*Set 8 Bars 2'-7" past construction joint.
  - 4) Extend compressed joint material up front face and across top of curbs.
  - 5) For Bridge Railing Modification Details, see Sheets No. 6 thru 8.
  - 6) For Sections A-A and C-C, see Sheet No. 13.
  - 7) For Sections D-D and E-E, see Sheet No. 14.

ABUTMENT NO. 2

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
APPROACH SLAB DETAILS			
BRIDGE REHABILITATION			
STA 197+38			
Cody - Greybull			
Cody East Section			
N311074		Pa	
APPROVED	DESIGN	Design Section	L M Nop
DATE	DETAIL	Drwg No.	0010
	QTY'S	Sheet	12 of 15



SECTION C-C



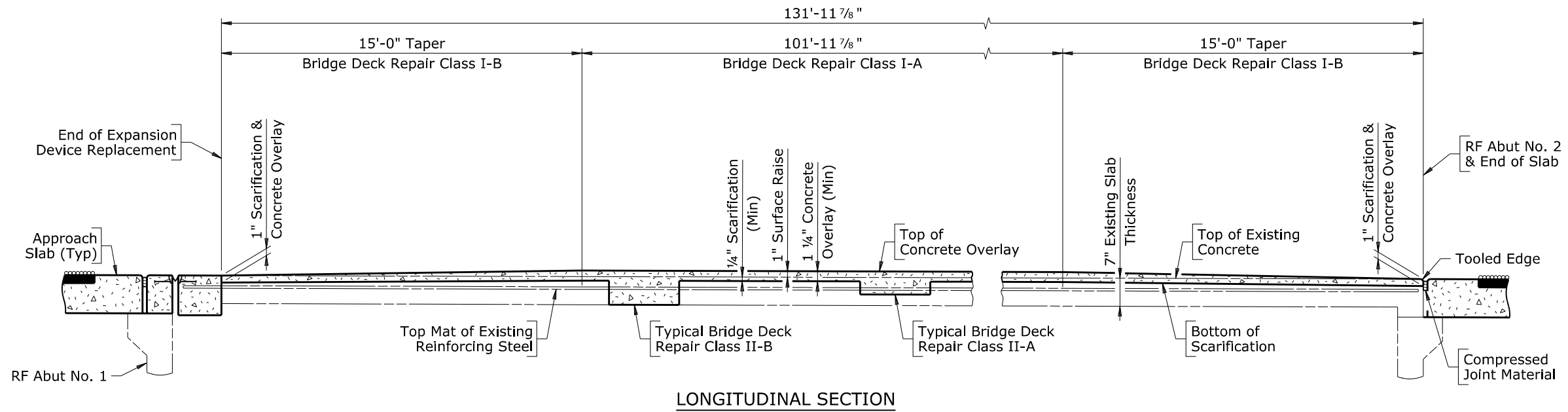
SECTION A-A

- Note: 1) Dimensions preceded by a double asterisk (\*\*) are measured at  $\bar{C}$  Bridge Roadway.  
 2) Extend bottom layer of geotextile up sheet piling and side limits of excavation and backfill to bottom of first layer of geotextile.  
 3) Clean existing weep holes. Place one 6" x 6" piece of aluminum or galvanized steel wire 4 mesh hardware cloth (Minimum wire diameter 0.03") centered over pipe end and firmly anchor to rear face abutment.  
 4) For location of Sections A-A and C-C, see Sheet No. 12.

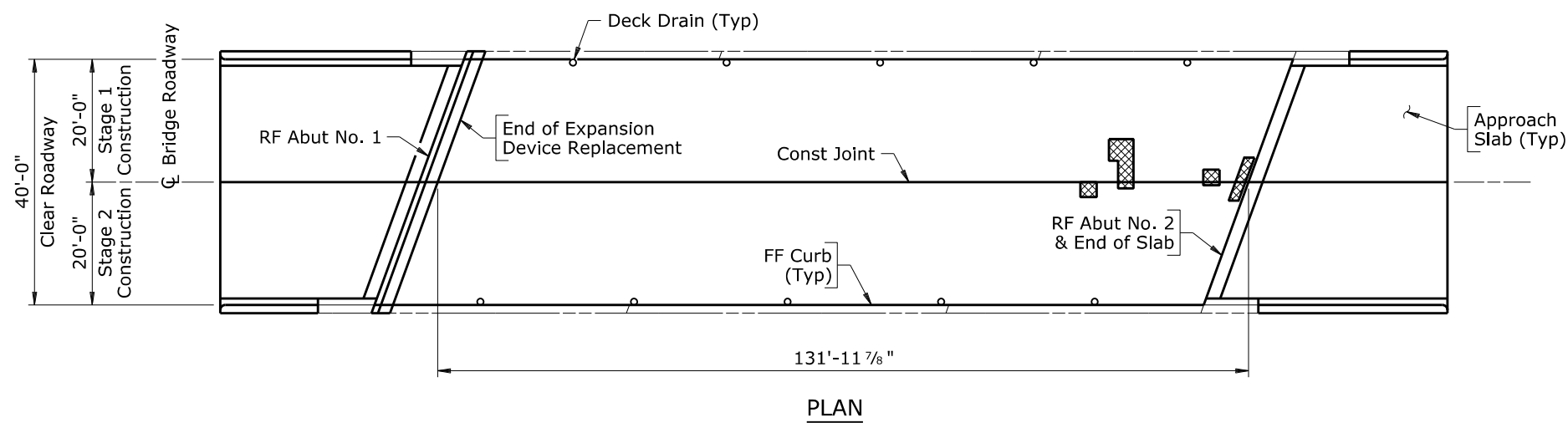
ABUTMENT NO. 2

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS	APPROACH SLAB DETAILS		
	BRIDGE REHABILITATION		
	STA 197+38 Cody - Greybull Cody East Section		
N311074		Pa	
APPROVED	DESIGN	CCC ✓ AAA	Design Section L M Nop
DATE	DETAIL	BBB ✓ EEE	Drwg No. 0010 Sheet 13 of 15
	QTY'S		





LONGITUDINAL SECTION



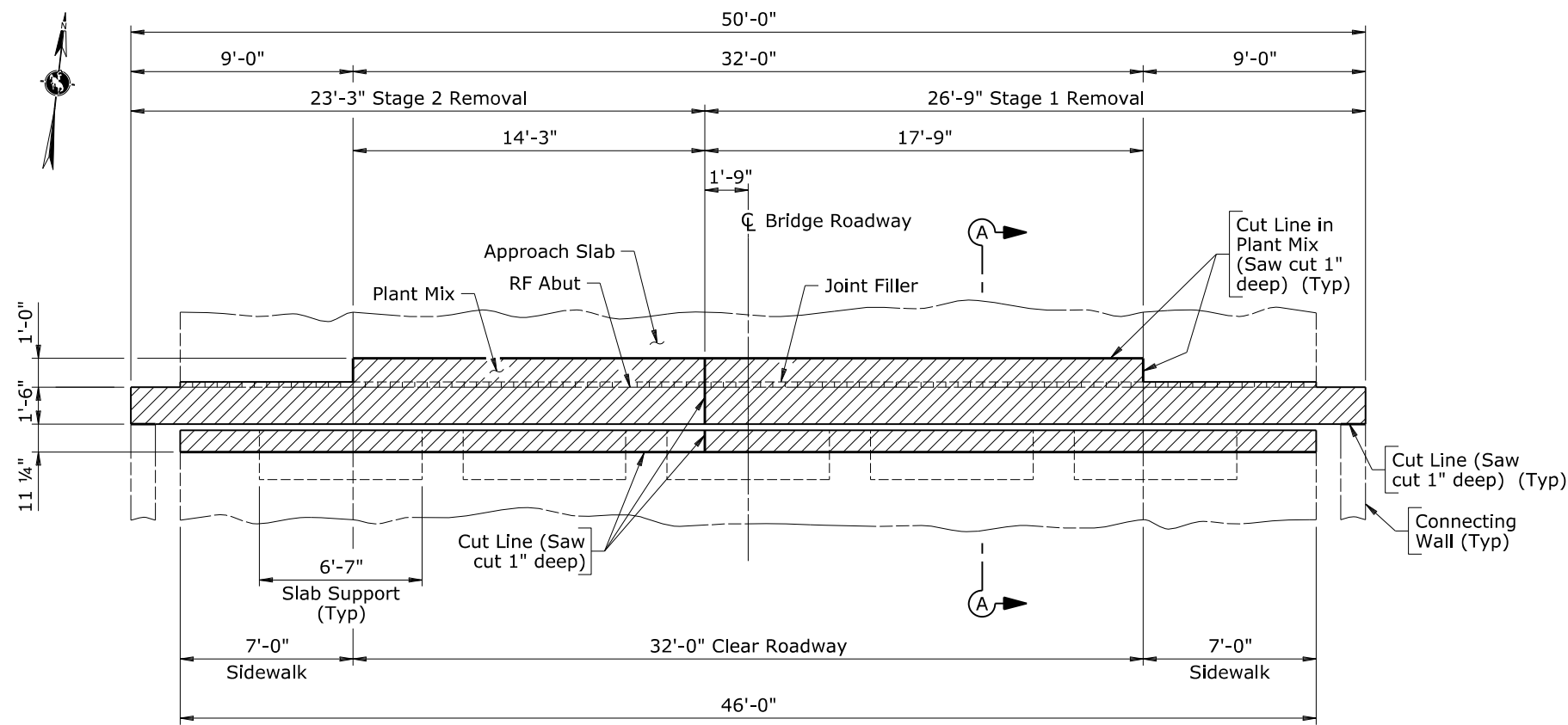
PLAN

- Note:
- 1) Cross-hatched areas indicate approximate locations of unsound concrete as determined by visual inspection and sounding performed in November 2006.
  - 2) After scarification, the engineer will visually inspect and sound the deck to identify areas requiring class II-A or II-B repair. Estimated quantities have been included to secure unit bid prices.
  - 3) Bridge railing may be temporarily removed to place screed rails during resurfacing. If the rails are removed from the posts, use new rail bolt assemblies for reinstallation. For Rail Bolt Detail, see Sheet No. 7.
  - 4) The engineer will provide assistance in setting screed rails to obtain the correct elevations.
  - 5) Do not plug deck drains.

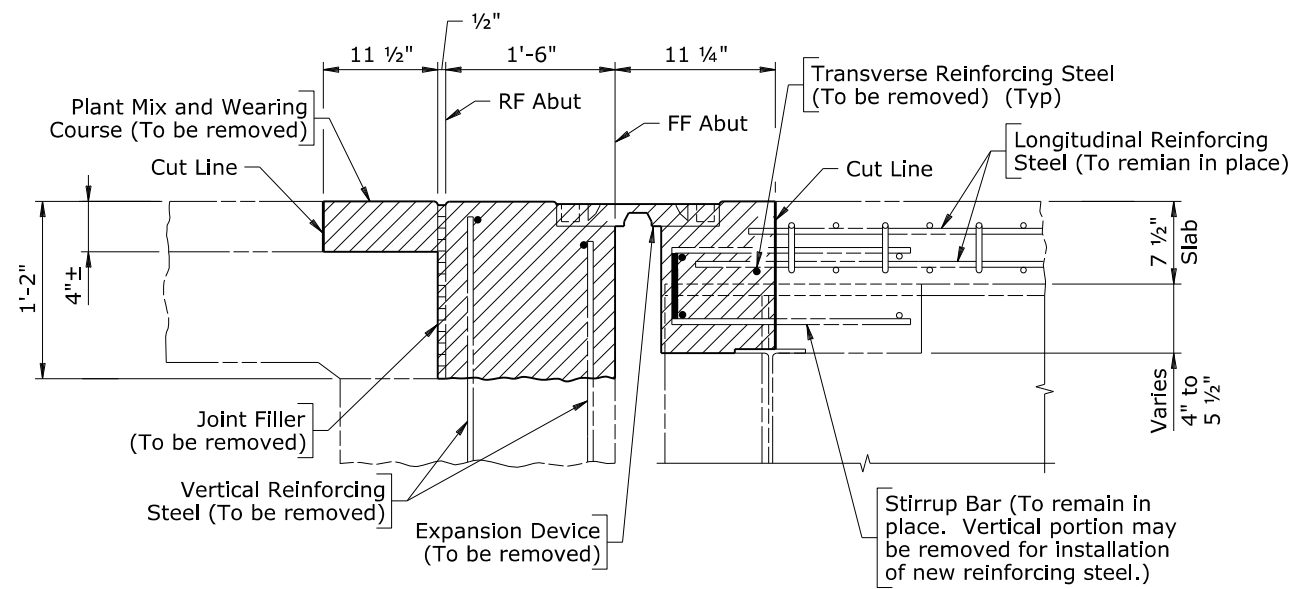
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS	<b>OVERLAY DETAILS</b>		
	<b>BRIDGE REHABILITATION</b>		
	STA 197+38 Cody - Greybull Cody East Section		
	N311074	Pa	
APPROVED	DESIGN	CCC ✓ AAA	Design Section L M Nop
DATE	DETAIL	BBB ✓ EEE	Drwg No. 0010
	QTY'S		Sheet 15 of 15

Sept 2015

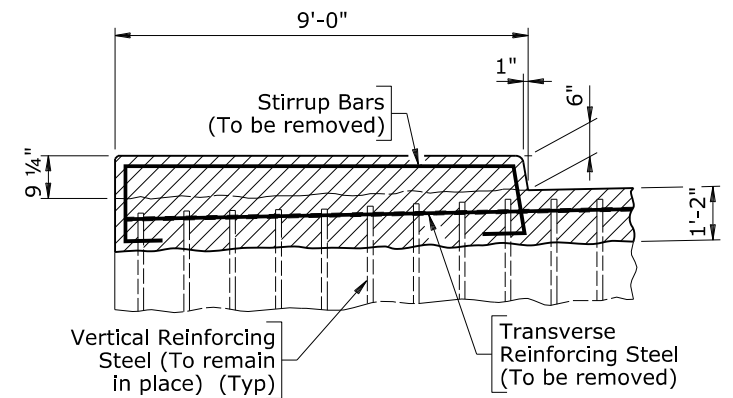
4.22 - Example



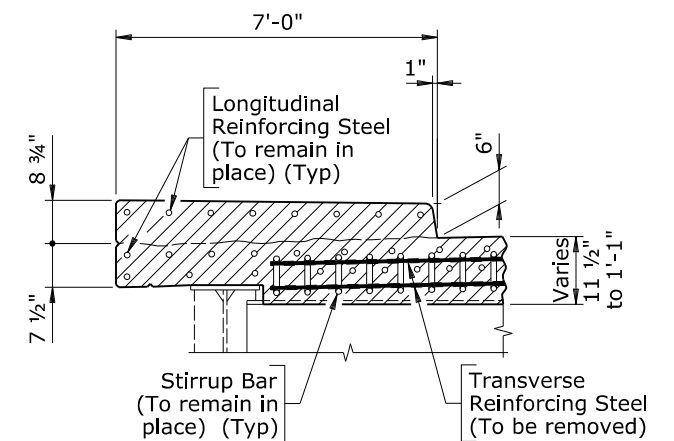
**PLAN**  
 (Showing removal)  
 (Expansion device and reinforcing steel not shown)  
 (Abut. No. 1 shown, Abut. No. 2 similar)



**SECTION A-A**



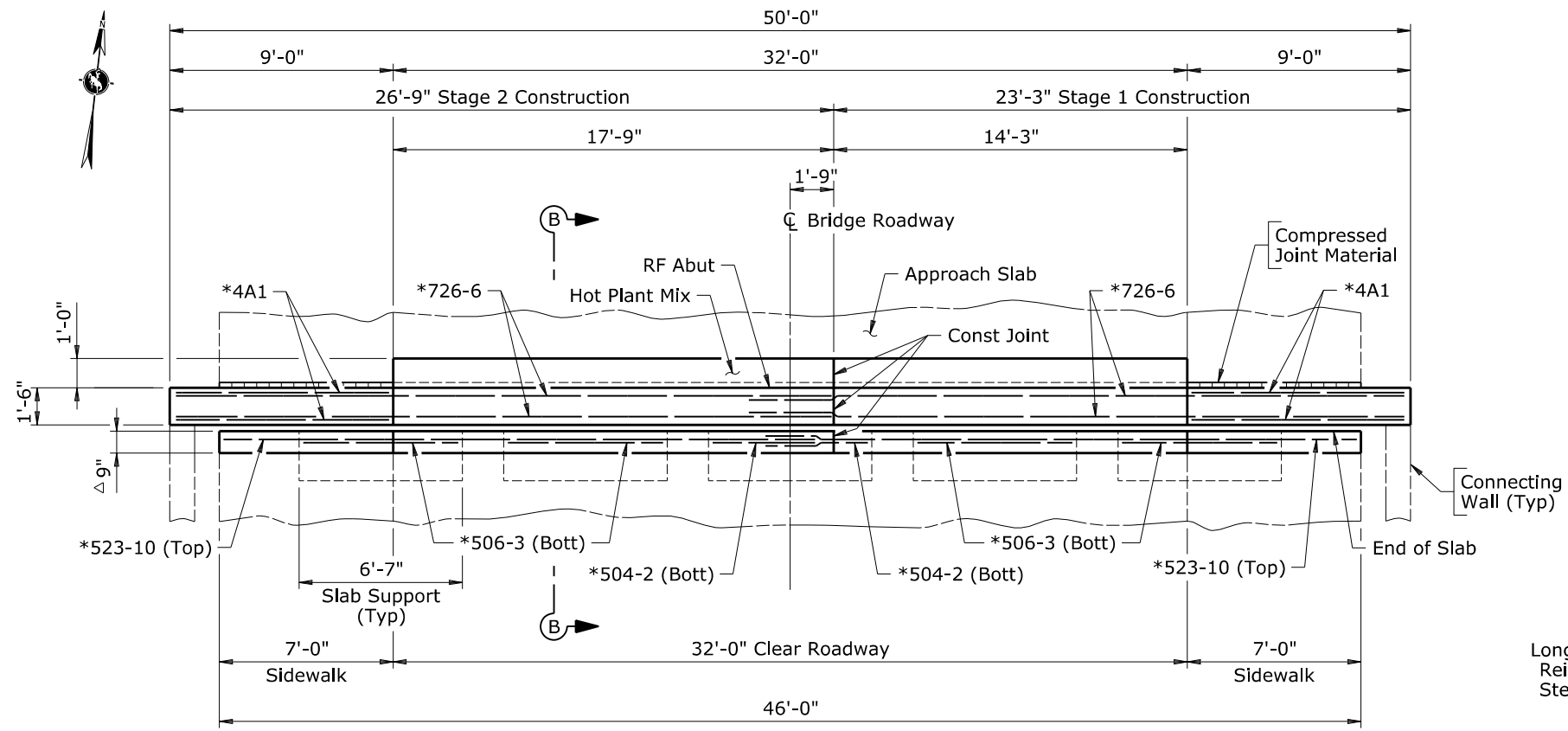
**SECTION AT ABUTMENT SIDEWALKS**



**SECTION AT SLAB SIDEWALKS**

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
EXPANSION DEVICE REPLACEMENT DETAILS			
BRIDGE REHABILITATION			
BRIDGE OVER SUNLIGHT CREEK			
Chief Joseph Highway (WYO 296)			
1507033 Pa			
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	QQQ	TTT
	QTY'S	QQQ	TTT
		Drwg No. 0011	Sheet 2 of 5

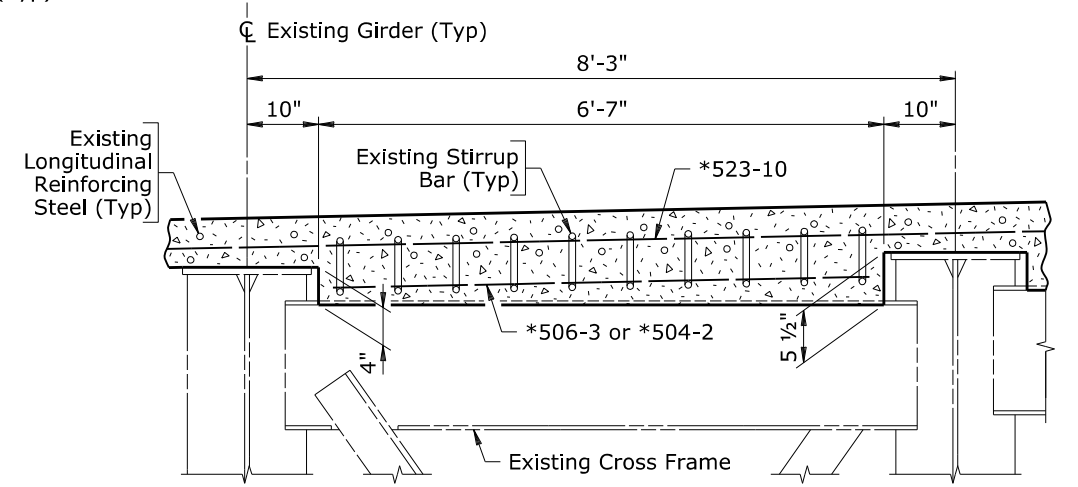
Section 4.22 - Preservation and Rehabilitation



**PLAN**  
(Expansion device steel not shown)  
(Abut No. 1 shown, Abut No. 2 similar)

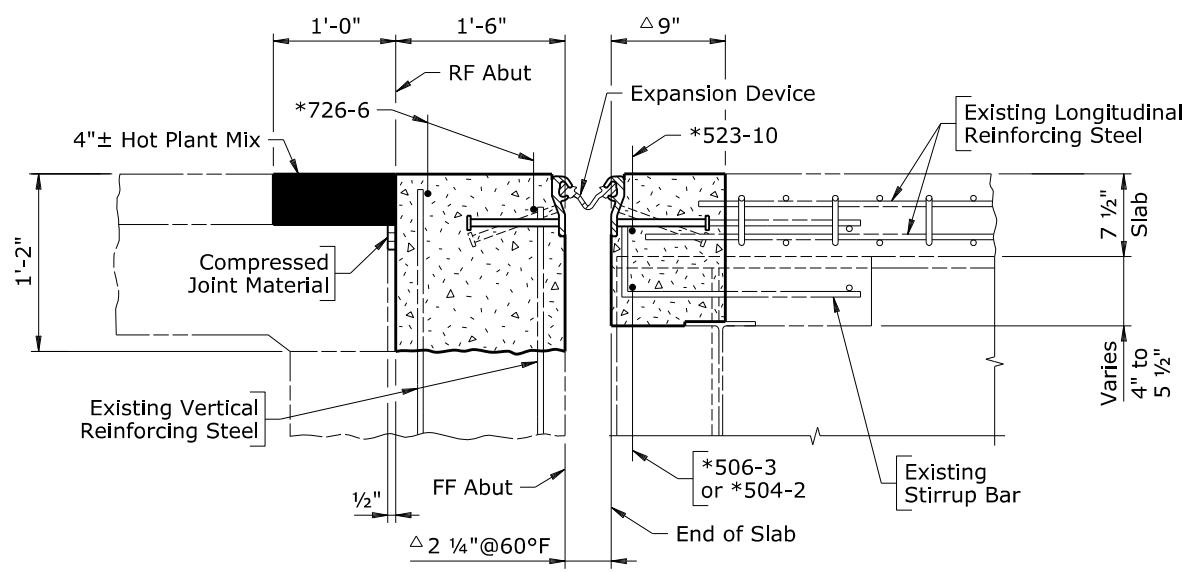
BILL OF REINFORCEMENT			
Location	Mark	Number Required per Abut	
		Stage 1 Construction	Stage 2 Construction
Expansion Device Replacement	*4A1	2	2
	*504-2	1	1
	*506-3	2	2
	*523-10	1	1
	*726-6	2	2
	*Weight	*169 LB	*169 LB

Bending Diagram

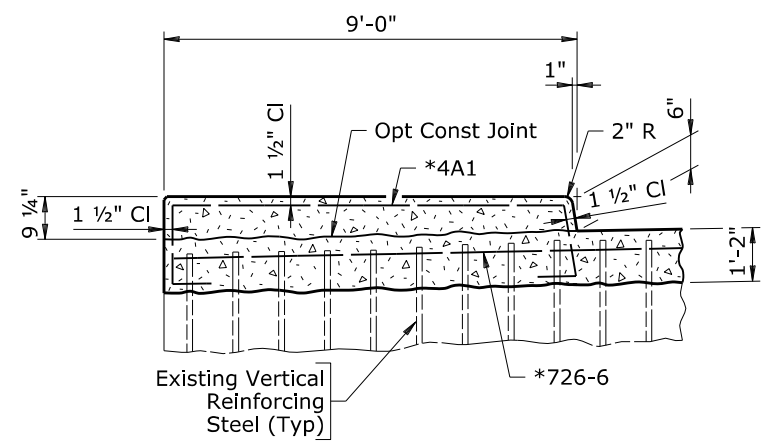


**TYPICAL SECTION AT SLAB SUPPORT**  
(5 req'd)

- Note:
- 1) Construct new sidewalks to match existing sidewalks.
  - 2) Extend compressed joint material up front face and across top of sidewalks.
  - 3) Increase the opening between front face abutment and end of slab  $\frac{1}{8}$ " for each 10° F below 60° F and decrease the opening  $\frac{1}{8}$ " for each 10° F above 60° F. Account for variance in slab forming.
  - 4) The estimated quantity of class B concrete is 5.1 CY for stage 1 construction and 5.5 CY for stage 2 construction.

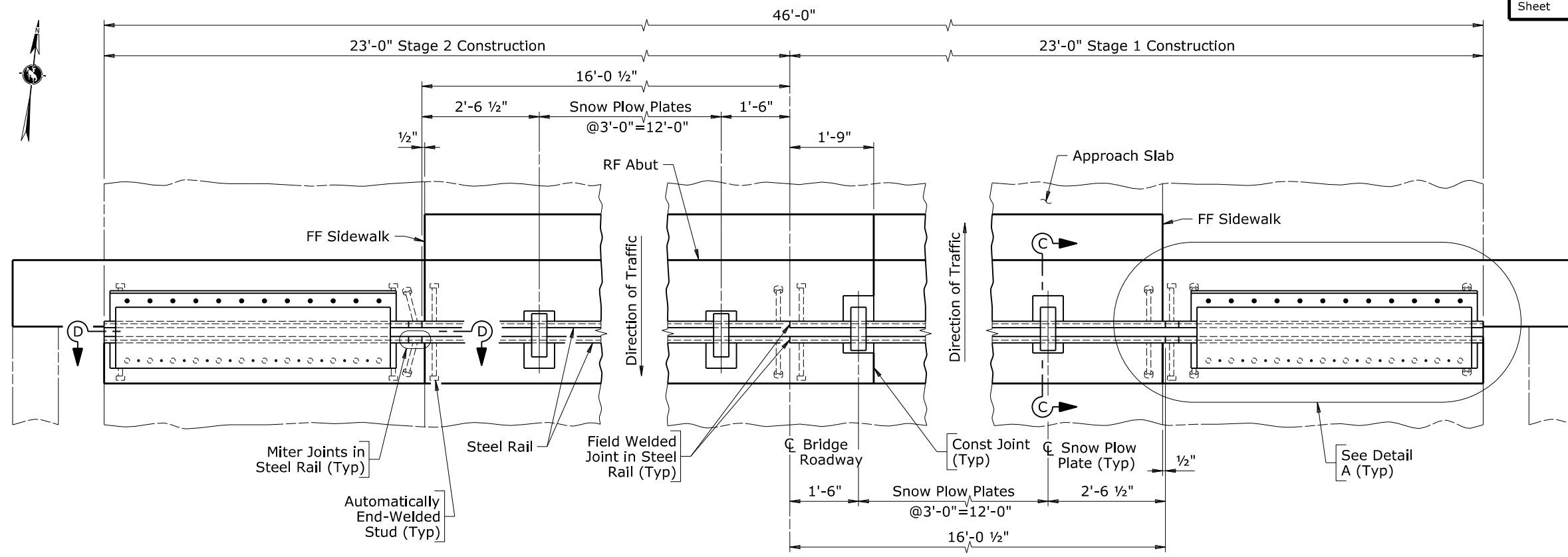


**SECTION B-B**

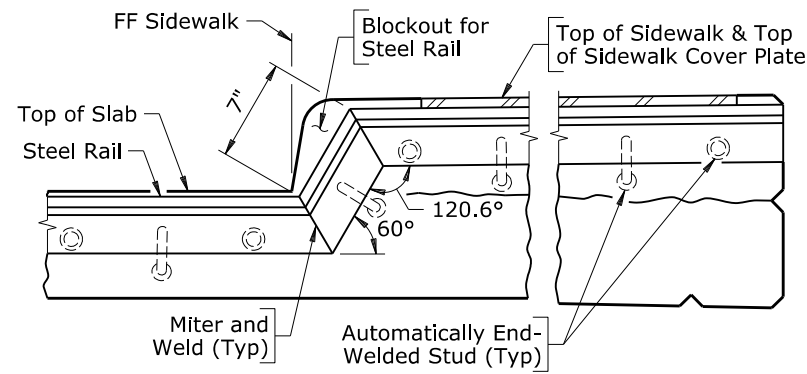


**SECTION AT ABUTMENT SIDEWALKS**

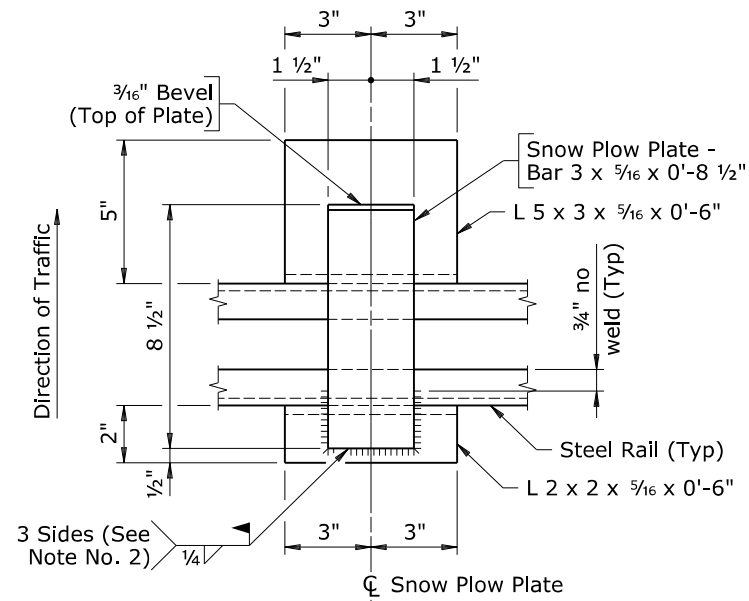
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		EXPANSION DEVICE REPLACEMENT DETAILS	
<b>BRIDGE REHABILITATION</b>			
<b>BRIDGE OVER SUNLIGHT CREEK</b>			
Chief Joseph Highway (WYO 296)			
1507033		Pa	
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	QQQ	TTT
	QTY'S	QQQ	TTT
		Drwg No. 0011	Sheet 3 of 5



**PLAN**  
(Showing expansion device layout)  
(Abut No. 1 shown, Abut No. 2 similar)



**VIEW D-D**  
(Typical each slab sidewalk, abutment sidewalks similar)  
(Gland not shown)

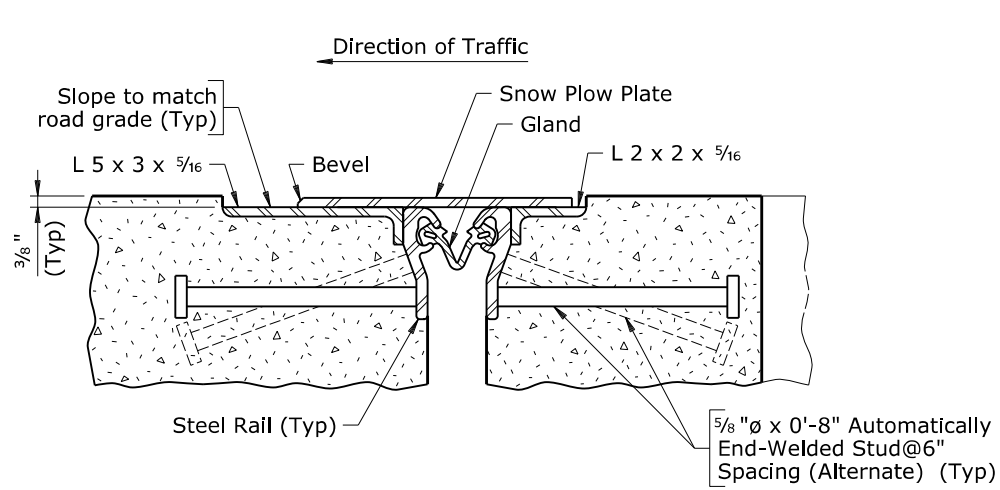


**SNOW PLOW PLATE ASSEMBLY DETAIL**

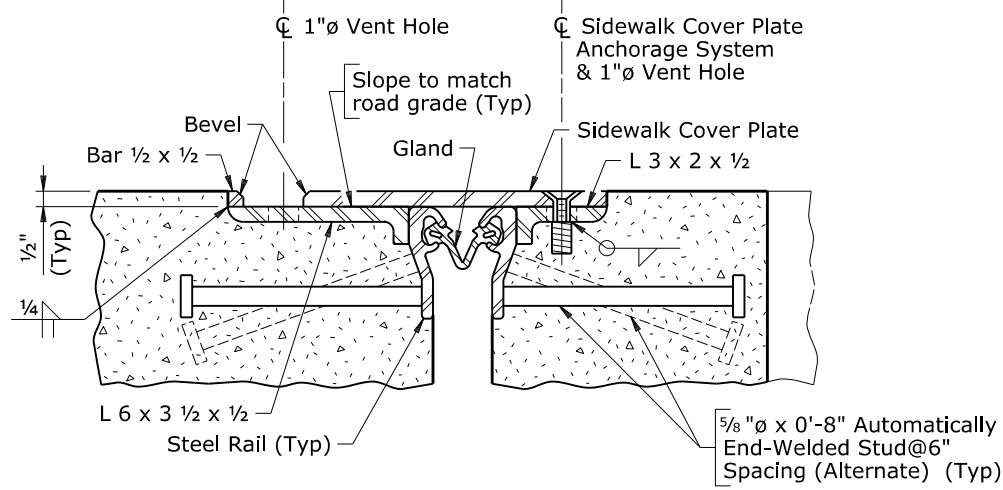
- Note:**
- 1) Ensure the expansion device fabricator includes additional length in steel rails at the field welded joint to account for grade, slope and variances in actual conditions. Field cut steel rails for proper fit in accordance with the fabricator's recommendations.
  - 2) Do not warp snow plow plates or damage gland during welding. Do not exceed 150° F preheat temperature.
  - 3) For Section C-C and Detail A, see Sheet No. 5.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
EXPANSION DEVICE REPLACEMENT DETAILS			
BRIDGE REHABILITATION BRIDGE OVER SUNLIGHT CREEK Chief Joseph Highway (WYO 296)			
1507033 Pa			
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	Drwg No. 0011	Sheet 4 of 5
	QTY'S		

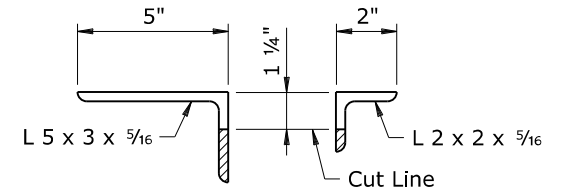




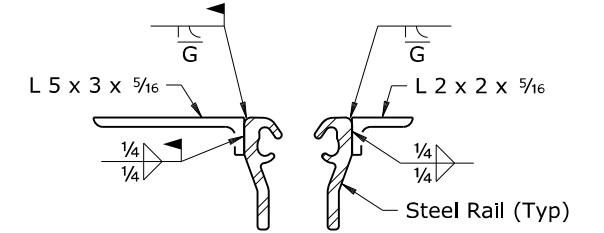
SECTION C-C



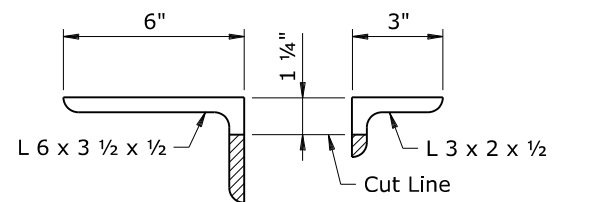
SECTION E-E



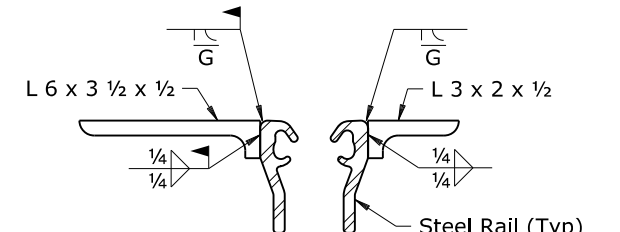
ANGLE CUT DETAIL AT SNOW PLOW PLATE



ANGLE WELD DETAIL AT SNOW PLOW PLATE

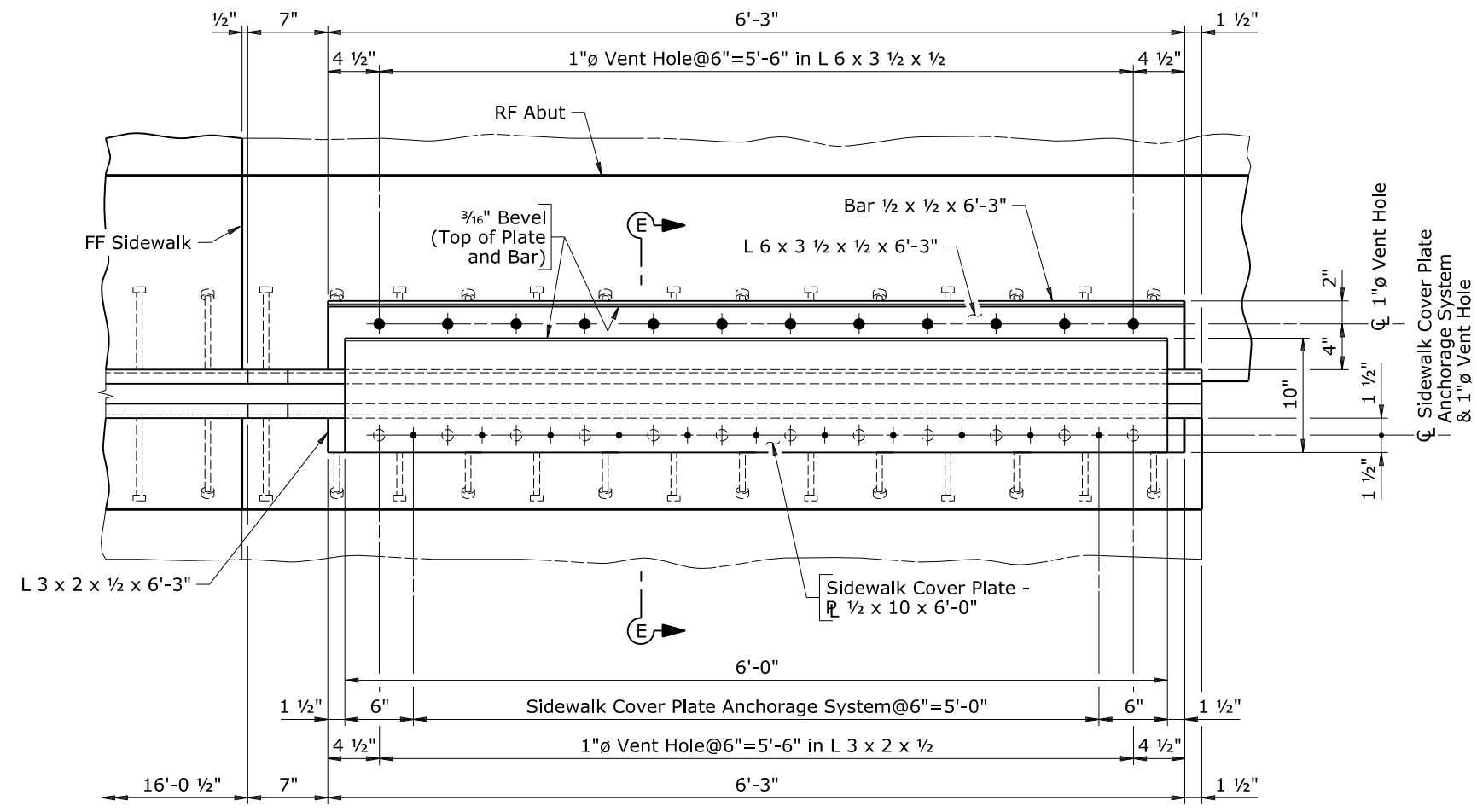


ANGLE CUT DETAIL AT SIDEWALK COVER PLATE



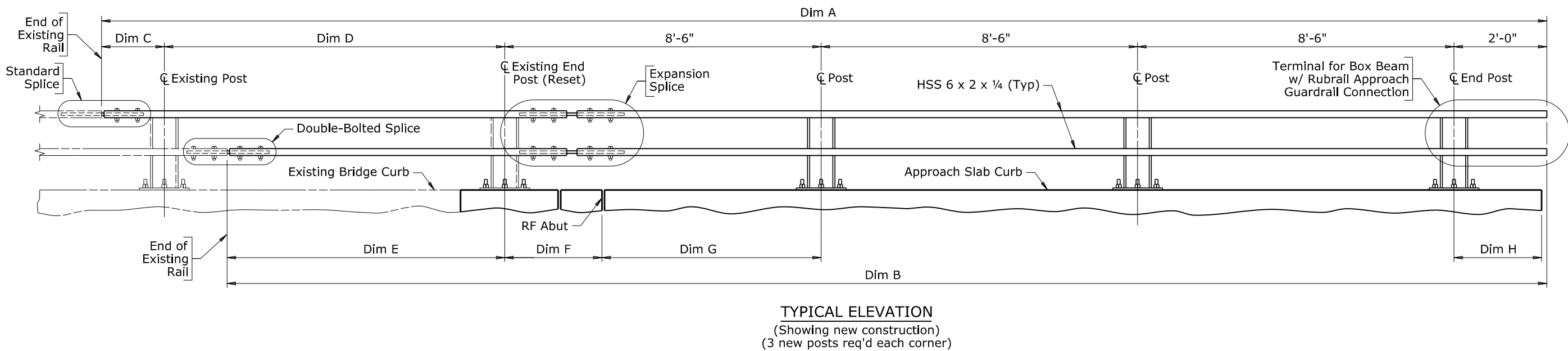
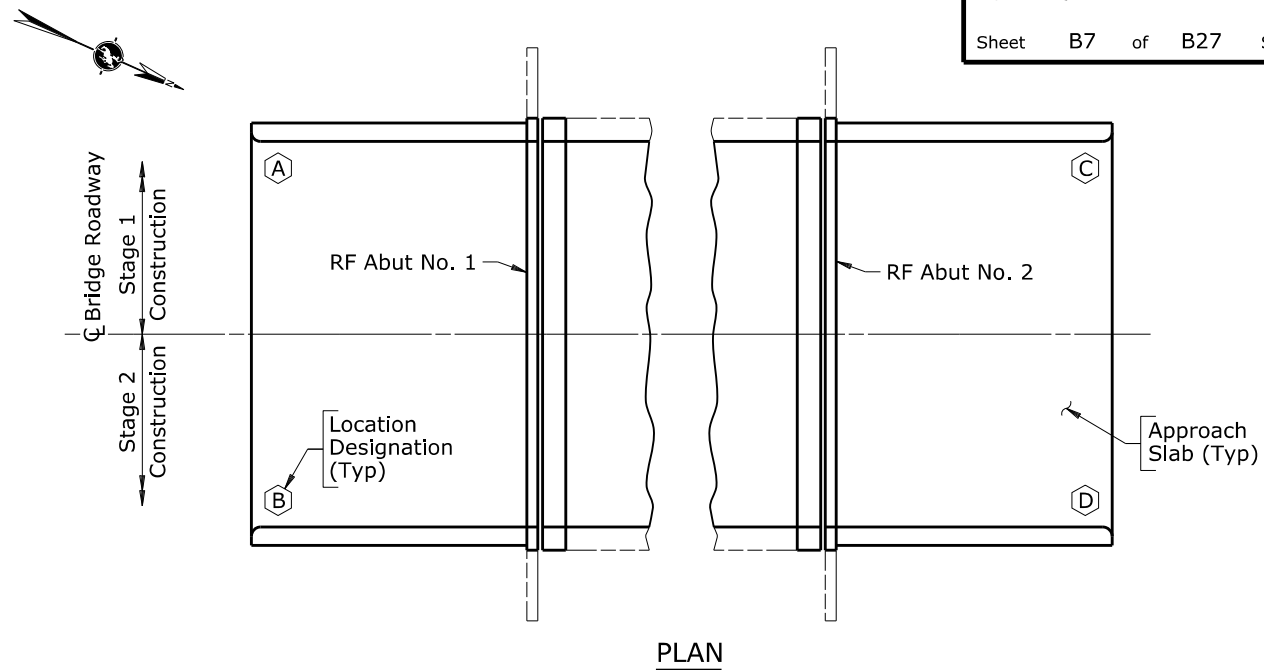
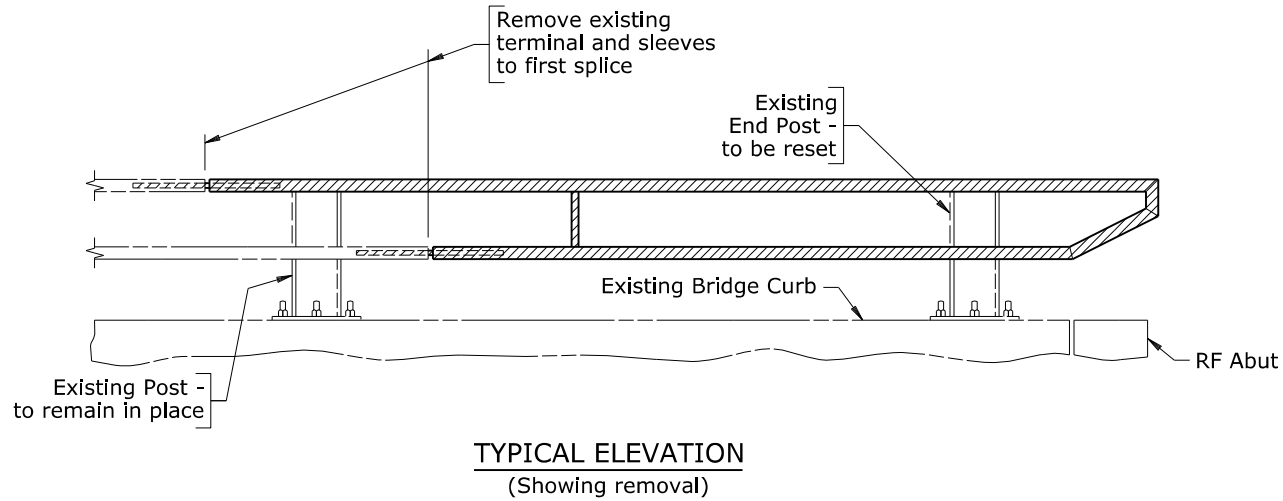
ANGLE WELD DETAIL AT SIDEWALK COVER PLATE

Note: 1) Sidewalk cover plate anchorage system consists of a 1/16 inch hole in sidewalk cover plate, 1/16 inch hole in L 3 x 2 x 1/2, 1/2 inch x 1 1/2 inch socket flat countersunk head cap screw, and ferrule insert or equivalent.  
2) For location of Section C-C and Detail A, see Sheet No. 4.



DETAIL A  
(Cap screws not shown)

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
EXPANSION DEVICE REPLACEMENT DETAILS			
BRIDGE REHABILITATION			
BRIDGE OVER SUNLIGHT CREEK			
Chief Joseph Highway (WYO 296)			
1507033 Pa			
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	QQQ	TTT
	QTY'S	QQQ	TTT
		Drwg No. 0011	Sheet 5 of 5



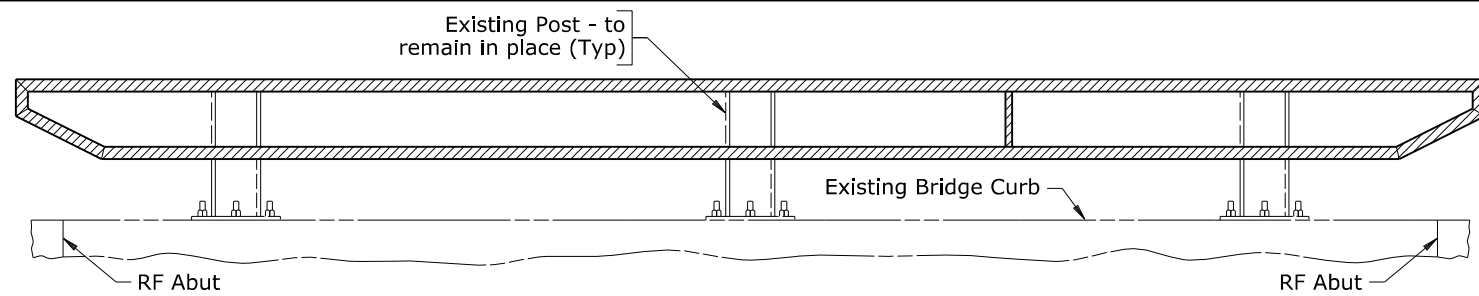
TYPICAL ELEVATION  
(Showing new construction)  
(3 new posts req'd each corner)

BRIDGE OVER LARAMIE RIVER

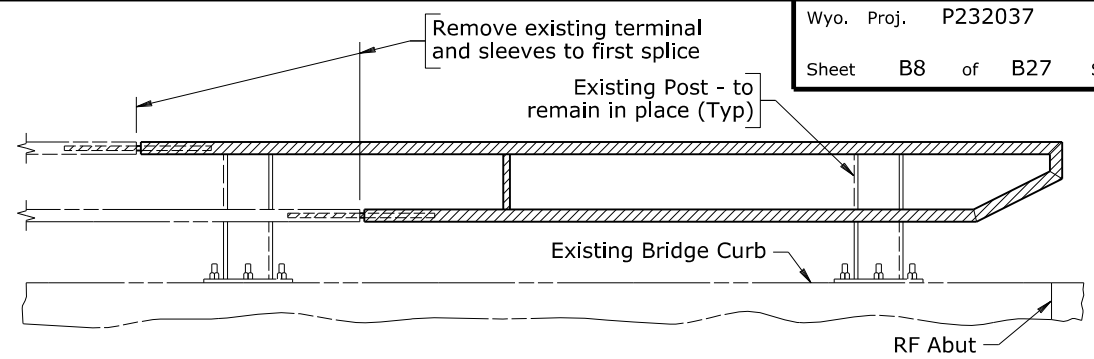
TABLE OF DIMENSIONS								
Location	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim H
(A)	38'-0 1/8"	35'-0 1/8"	1'-6 1/2"	8'-11 5/8"	7'-6 1/8"	2'-5 3/4"	6'-0 1/4"	1'-11 3/4"
(B)	38'-0 3/8"	34'-11 3/4"	1'-6 1/2"	8'-11 7/8"	7'-5 3/4"	2'-6"	6'-0"	2'-0"
(C)	38'-0 3/8"	35'-0 3/8"	1'-6 1/2"	8'-11 7/8"	7'-6 3/8"	2'-6 1/2"	5'-11 1/2"	2'-0 1/2"
(D)	38'-0"	35'-0"	1'-6 1/4"	8'-11 3/4"	7'-6"	2'-6"	6'-0"	2'-0"

- Note:
- 1) Ensure the expansion splice is located in the railing panel which passes over the bridge expansion joint as shown in the Typical Elevation.
  - 2) Field drill existing rails as required for installation of new splices. Grind rough edges of drilled areas.
  - 3) Reset existing end posts in new concrete with new anchorages.
  - 4) The estimated quantity for bridge railing modification is based on the average of dimension A and dimension B at each location.

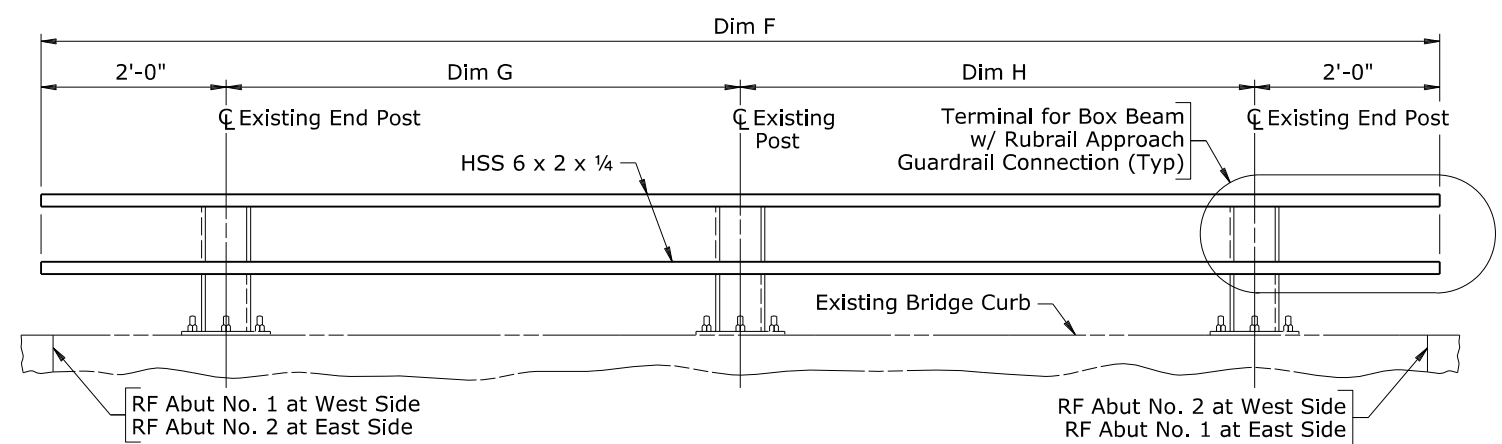
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		BRIDGE RAILING MODIFICATION DETAILS	
BRIDGE REHABILITATION VARIOUS LOCATIONS Rock River - Laramie Bosler South Section			
APPROVED		DESIGN	Design Section Q R Stuv
DATE		DETAIL	Drwg No. 0012 Sheet 7 of 14
		QTY'S	



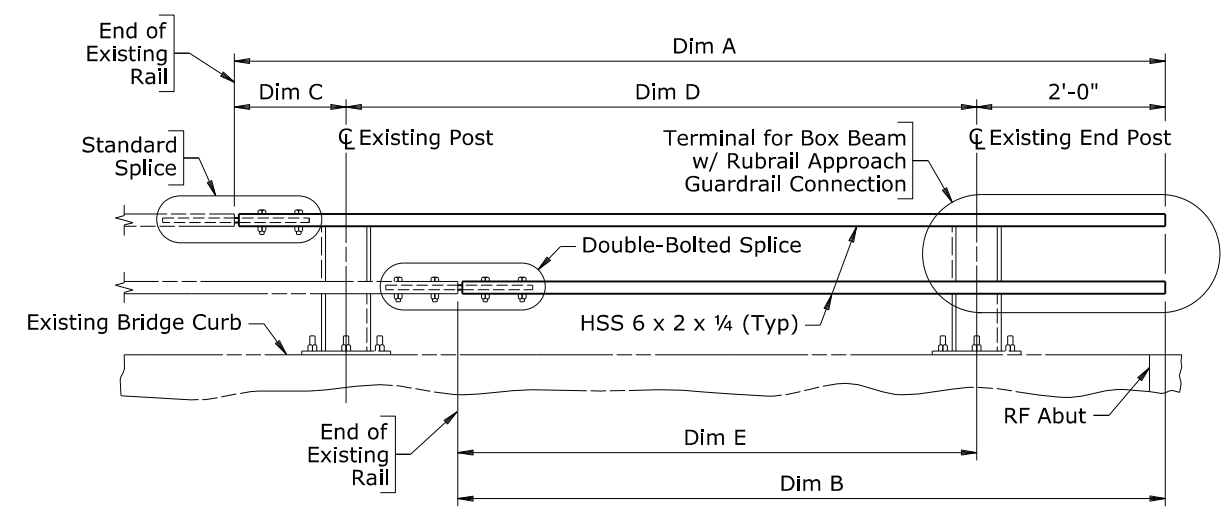
TYPICAL ELEVATION AT BRIDGE OVER OASIS DITCH  
(Showing removal)



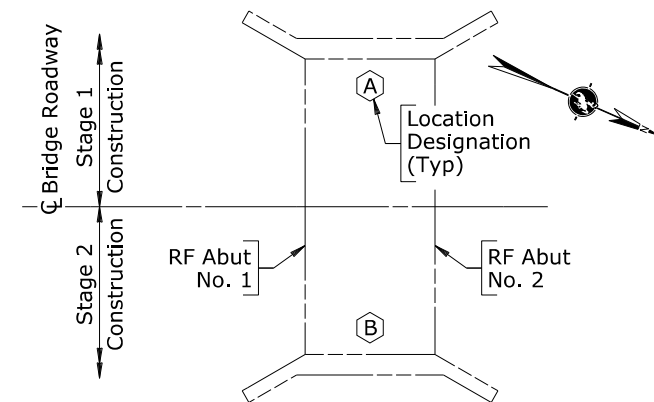
TYPICAL ELEVATION AT BRIDGE OVER FLOODWATER CREEK  
(Showing removal)



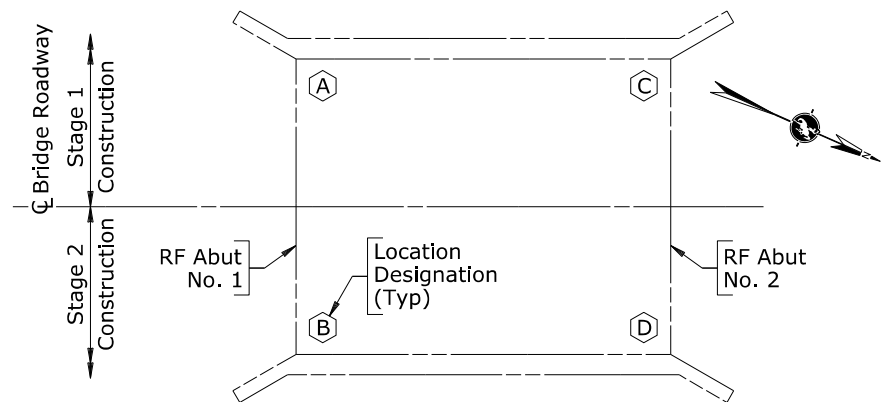
TYPICAL ELEVATION AT BRIDGE OVER OASIS DITCH  
(Showing new construction)



TYPICAL ELEVATION AT BRIDGE OVER FLOODWATER CREEK  
(Showing new construction)



PLAN AT BRIDGE OVER OASIS DITCH



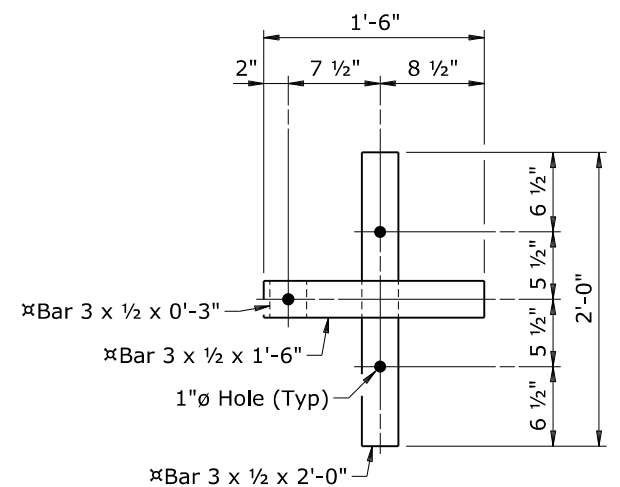
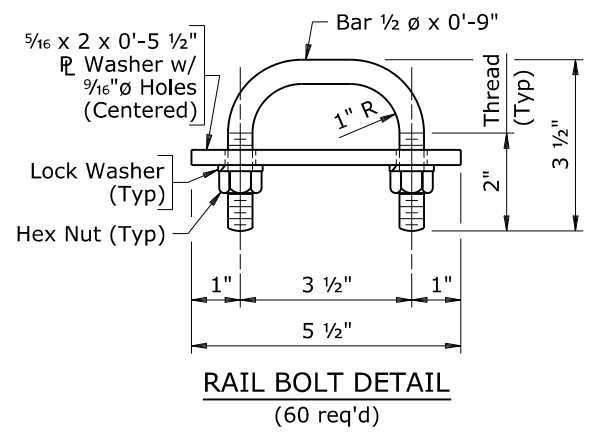
PLAN AT BRIDGE OVER FLOODWATER CREEK

- Note:
- 1) Field drill existing rails as required for installation of new splices. Grind rough edges of drilled areas.
  - 2) The estimated quantity for bridge railing modification at Bridge Over Floodwater Creek is based on the average of dimension A and dimension B at each location.
  - 3) The estimated quantity for bridge railing modification at Bridge Over Oasis Ditch is dimension F at each location.

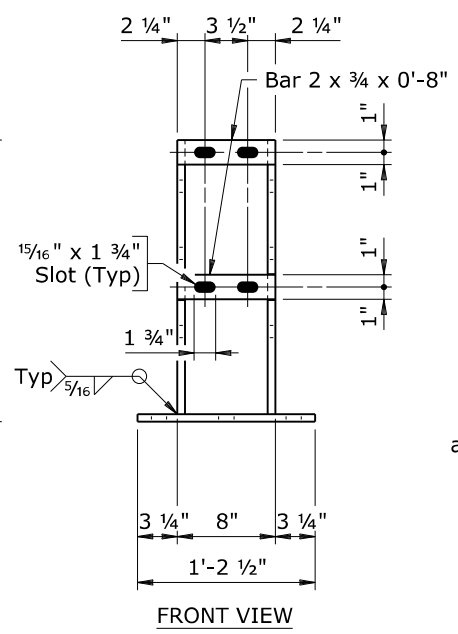
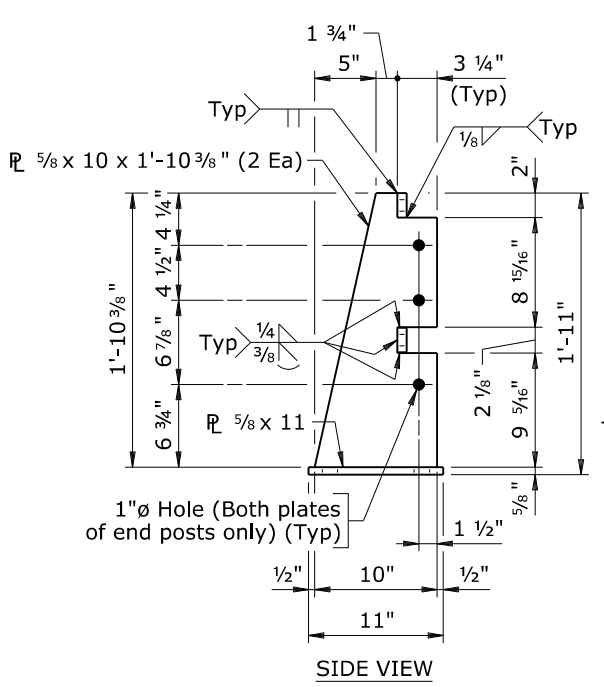
TABLE OF DIMENSIONS								
Location	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim H
Bridge Over Floodwater Creek	(A)	13'-1 1/2"	10'-1 1/2"	1'-6"	9'-7 1/2"	8'-1 1/2"	---	---
	(B)	13'-1 1/2"	10'-1"	1'-6"	9'-7 1/2"	8'-1"	---	---
	(C)	13'-1 1/2"	10'-0 1/2"	1'-6 1/4"	9'-7 1/4"	8'-0 1/2"	---	---
	(D)	13'-1 1/4"	10'-0 5/8"	1'-6 1/2"	9'-6 3/4"	8'-0 5/8"	---	---
Bridge Over Oasis Ditch	(A)	---	---	---	---	18'-0 1/2"	7'-0 1/2"	7'-0"
	(B)	---	---	---	---	18'-0 3/8"	7'-0 1/2"	6'-11 7/8"

BRIDGE OVER FLOODWATER CREEK  
BRIDGE OVER OASIS DITCH

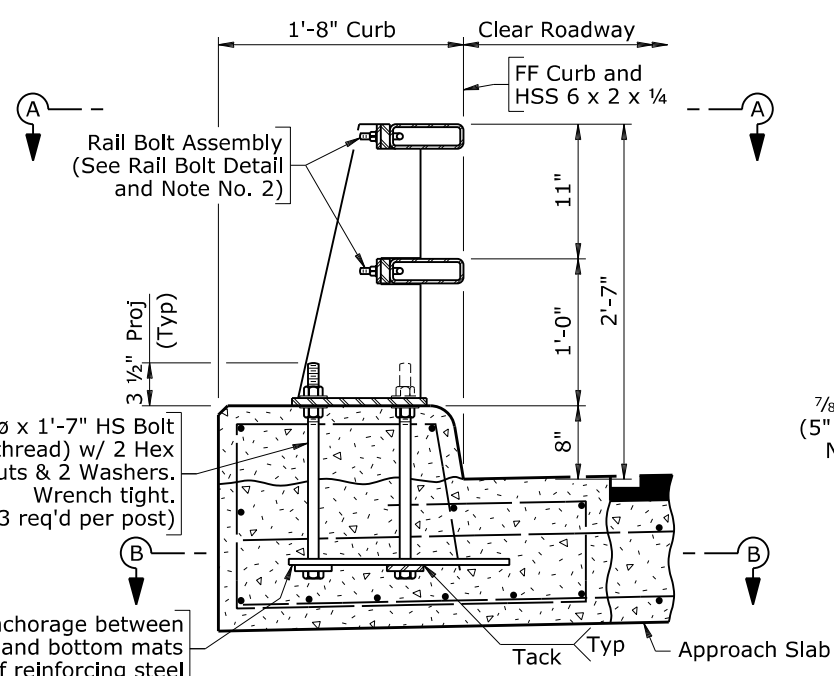
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		BRIDGE RAILING MODIFICATION DETAILS	
BRIDGE REHABILITATION VARIOUS LOCATIONS Rock River - Laramie Bosler South Section			
P232037		AI	
APPROVED	DESIGN	Design Section	Q R Stuv
DATE	DETAIL LLL ✓ HHH	Drwg No. 0012	Sheet 8 of 14
	QTY'S JJJ ✓ OOO		



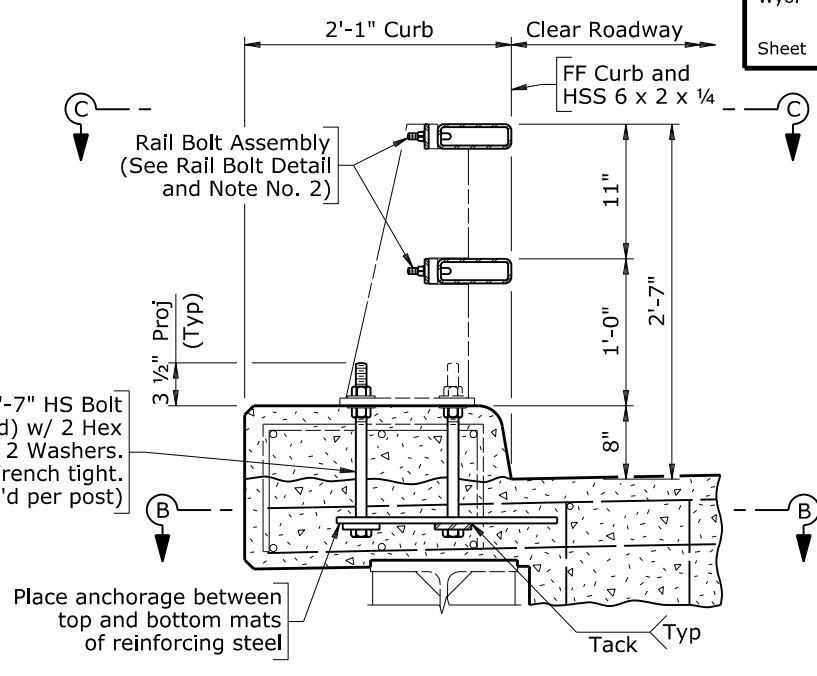
SECTION B-B  
(Not galvanized)  
(Anchor bolts and slab not shown)



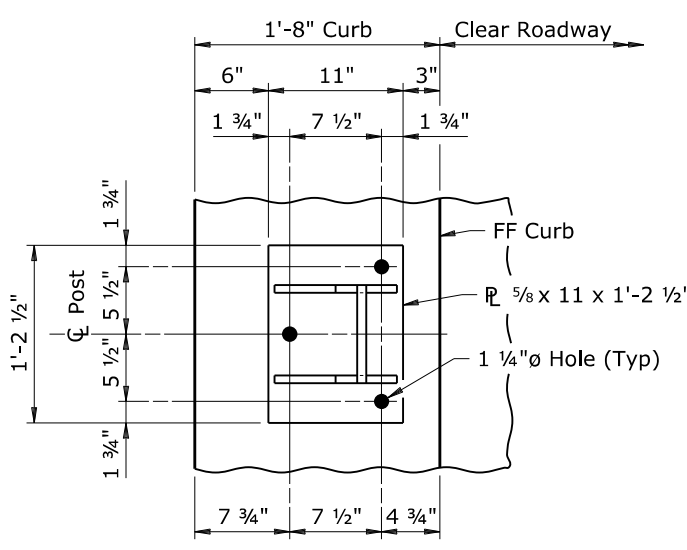
POST DETAILS  
(See View A-A for anchor bolt hole spacing)



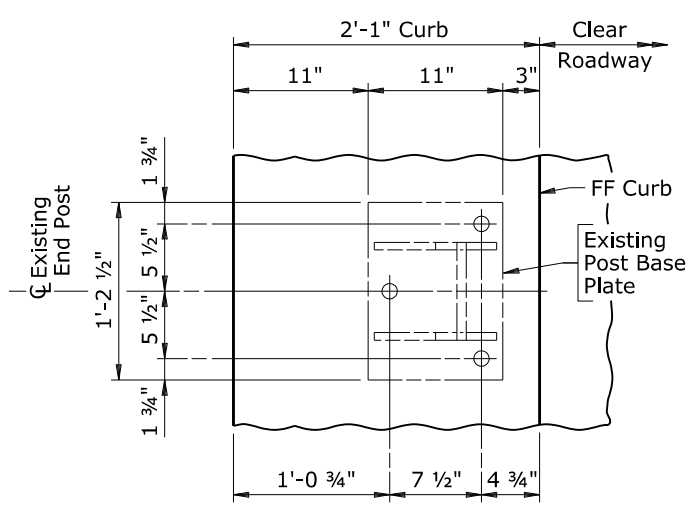
ASSEMBLY DETAIL AT BRIDGE OVER LARAMIE RIVER  
(Shown near Center of New Post)



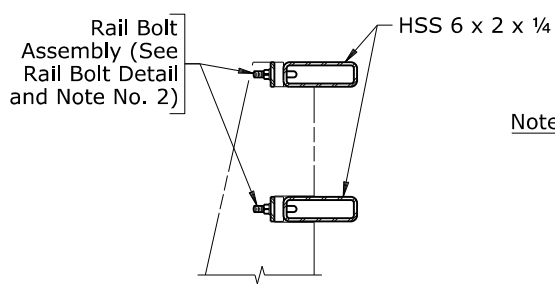
ASSEMBLY DETAIL AT BRIDGE OVER LARAMIE RIVER  
(Shown near Center of Existing End Post)



VIEW A-A  
(Anchor bolts, rails, and rail bolts not shown)



VIEW C-C  
(Anchor bolts, rails, and rail bolts not shown)

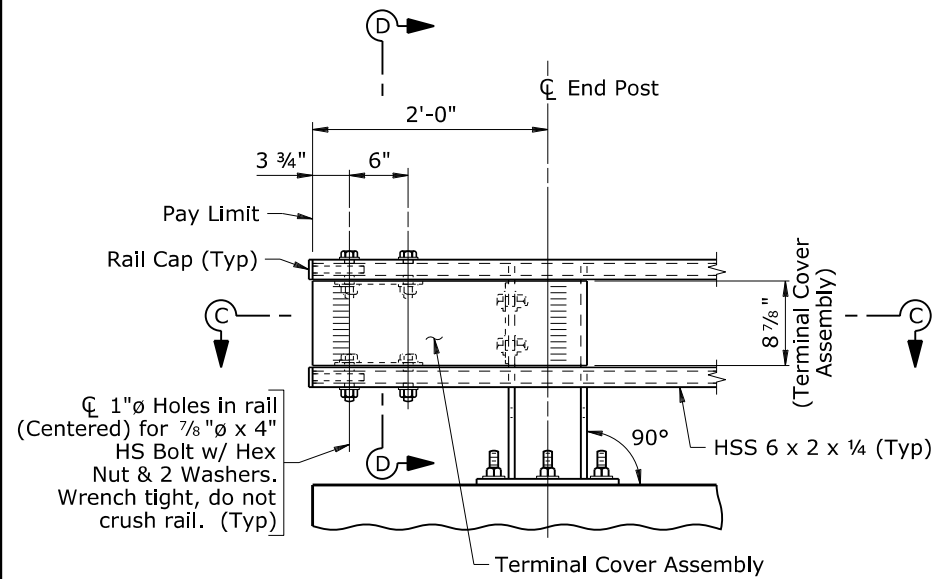


RAIL INSTALLATION DETAIL  
(Showing new rails at existing post)

- Note:
- 1) Anchor bolts may be tack welded to anchorage (Shop or field).
  - 2) At post locations, drill two 1 1/16" diameter holes in the rails to receive rail bolts (Shop or field). See Post Details for hole spacing.
  - 3) Paint surfaces of the railing components that have been cut, drilled, or otherwise damaged with two coats of zinc-rich paint conforming to ASTM A 780.
  - 4) After installing rails, paint exposed bolt threads with two coats of zinc-rich paint conforming to ASTM A 780.

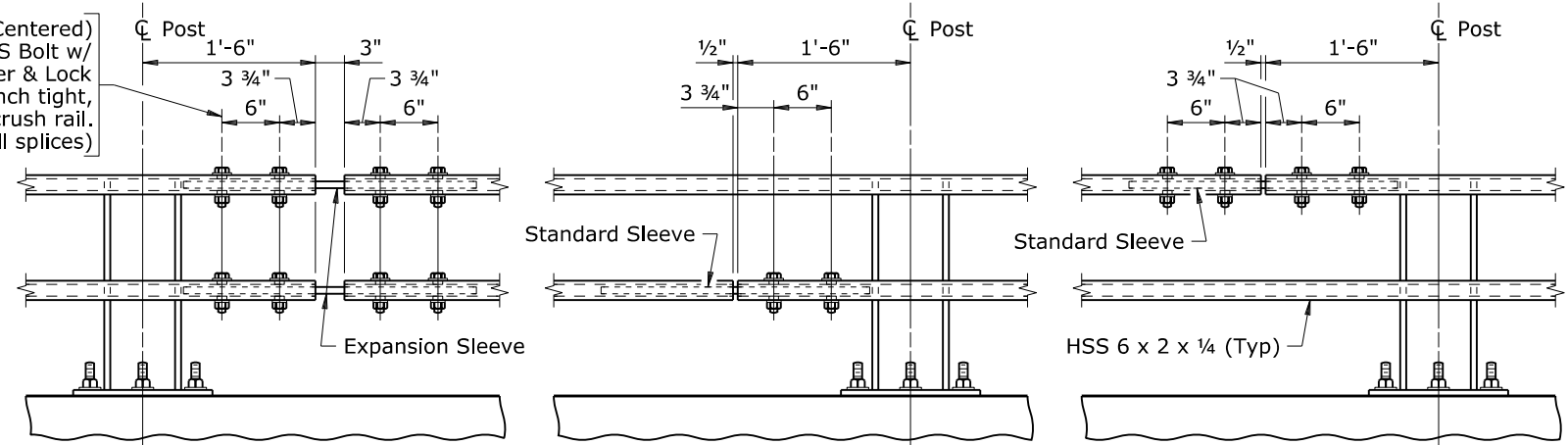
BRIDGE OVER LARAMIE RIVER  
BRIDGE OVER FLOODWATER CREEK  
BRIDGE OVER OASIS DITCH

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING MODIFICATION DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Rock River - Laramie			
Bosler South Section			
P232037		AI	
APPROVED	DESIGN	Design Section Q R Stuv	
DATE	DETAIL LLL ✓ HHH	Drwg No. 0012 Sheet 9 of 14	
	QTY'S JJJ ✓ OOO		



ELEVATION AT TERMINAL

1"Ø Holes in rail (Centered) for 3/4"Ø x 3 1/2" HS Bolt w/ Hex Nut, Washer & Lock Washer. Wrench tight, do not crush rail. (Typ) (All splices)

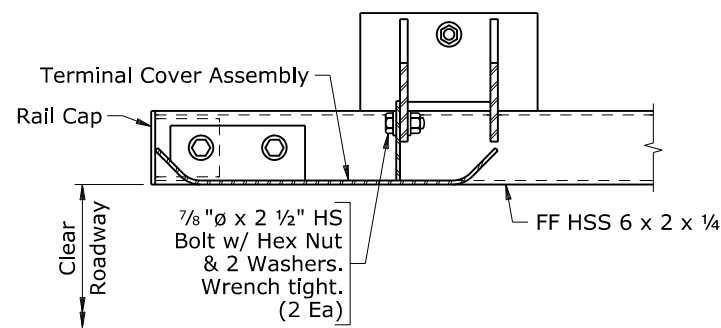


EXPANSION SPLICE (Top and bottom rail)

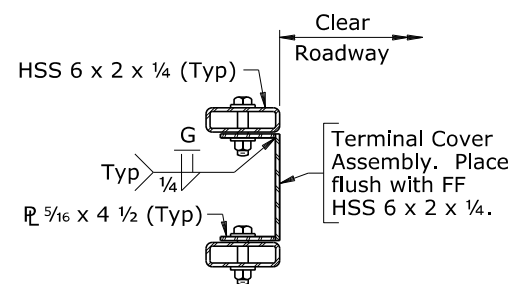
STANDARD SPLICE (Top or bottom rail) SPLICE DETAILS

DOUBLE-BOLTED SPLICE (Top or bottom rail)

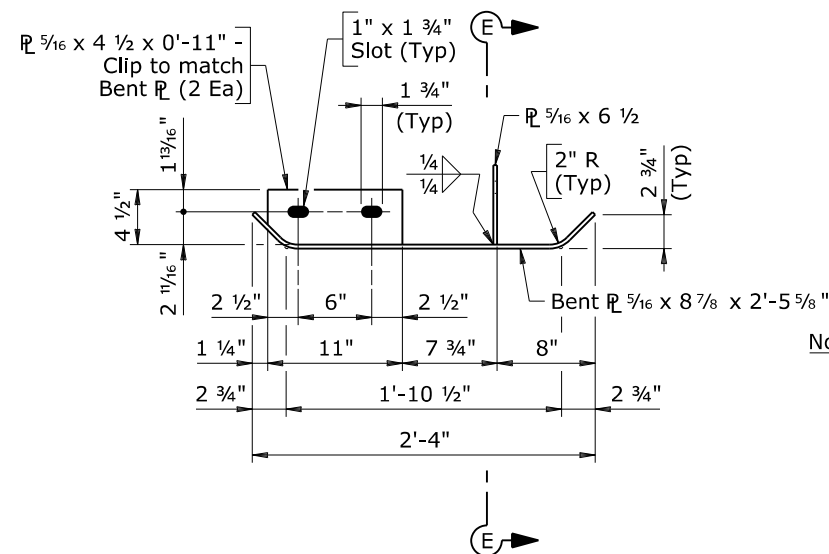
TERMINAL COMPONENT REQUIREMENTS		
Approach Guardrail Connection	Rail Caps Required	Terminal Cover Assembly Required
MGS Approach Guardrail	Yes (Without bolts)	±No
Box Beam w/ Rubrail Approach Guardrail	No	No
No Approach Guardrail	Yes (With bolts)	Yes



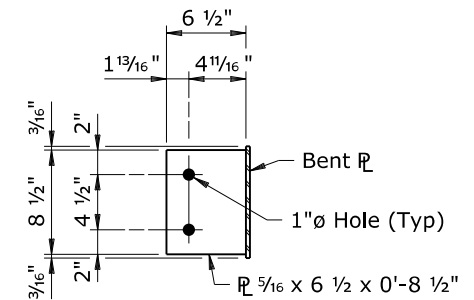
SECTION C-C



SECTION D-D

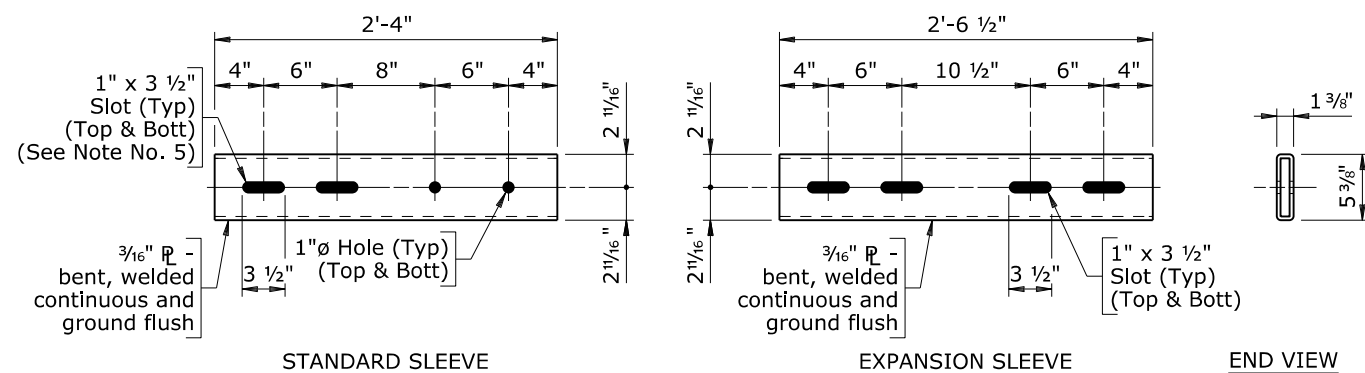


TERMINAL COVER ASSEMBLY DETAIL



SECTION E-E

- Note:
- 1) Ensure each rail length is continuous over a minimum of two posts.
  - 2) In rehabilitation work, ensure railing that cannot feasibly be made continuous over a minimum of two posts has a double-bolted splice.
  - 3) Splices may be located on either side of post.
  - 4) Not more than one splice is permitted per side of post, except at expansion splices.
  - 5) Slots may be omitted in standard sleeves where bolts are required on one side of splice only.
  - 6) Do not shop splice rails.
  - 7) Terminal components removed during rehabilitation work will remain the property of the department.
  - 8) Installation of MGS approach guardrail will require other fabricated assemblies to be connected to end post. See road plans for details and pay item.

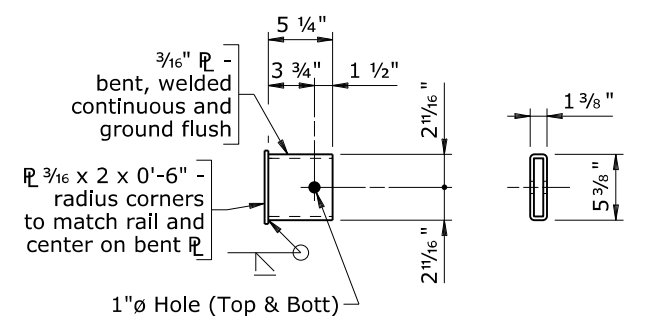


STANDARD SLEEVE

EXPANSION SLEEVE

END VIEW

SLEEVE DETAILS



PLAN

END VIEW (R 3/16 x 2 not shown)

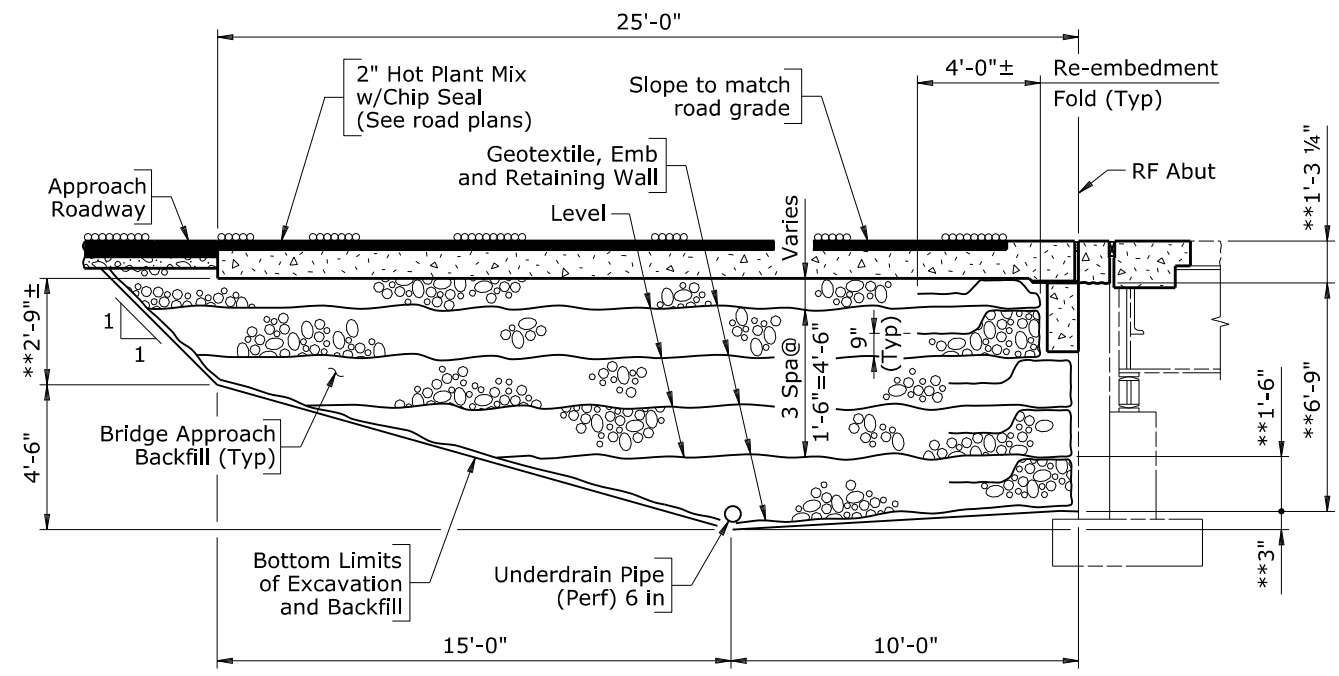
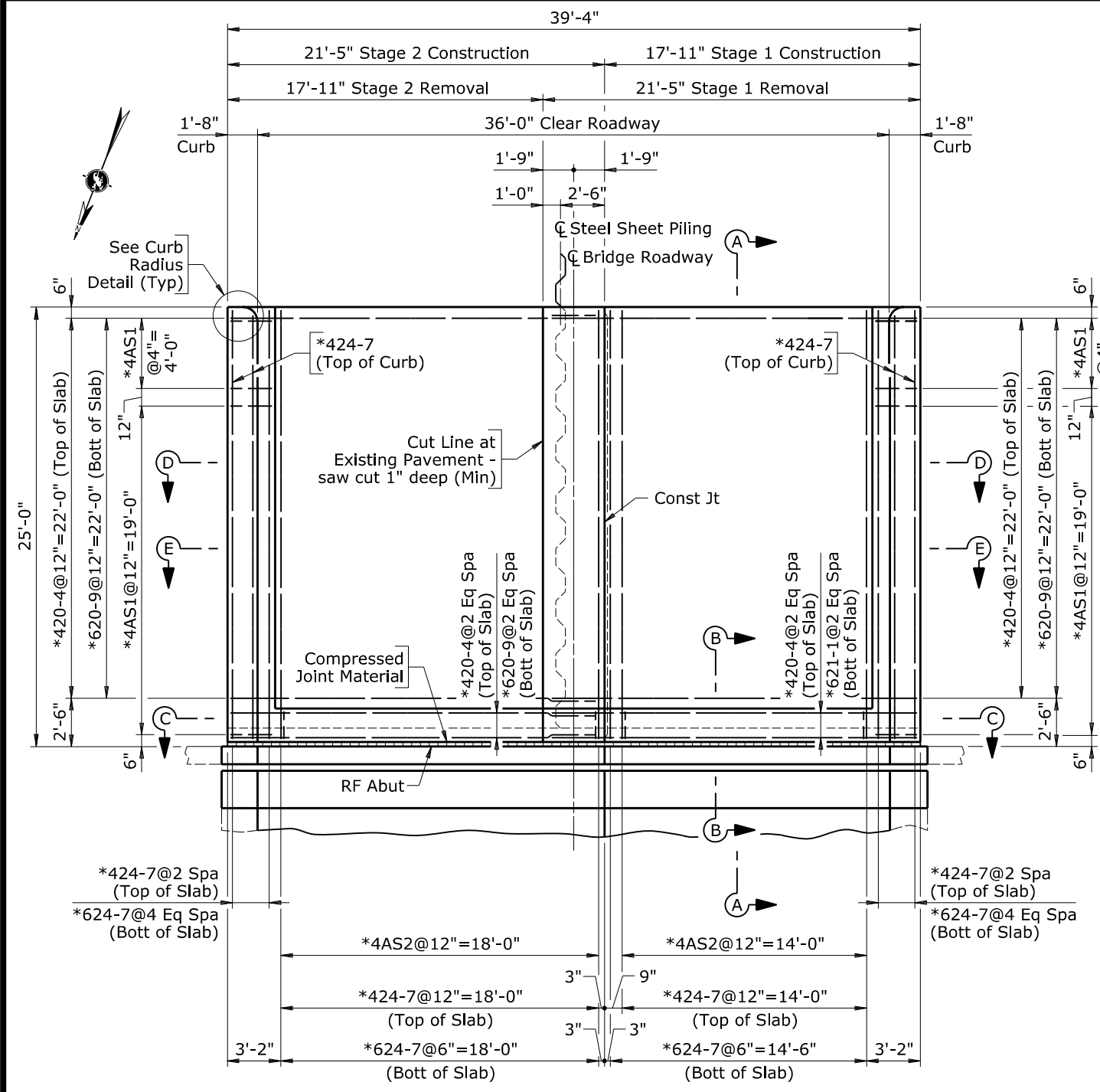
RAIL CAP DETAILS

BRIDGE OVER LARAMIE RIVER  
BRIDGE OVER FLOODWATER CREEK  
BRIDGE OVER OASIS DITCH

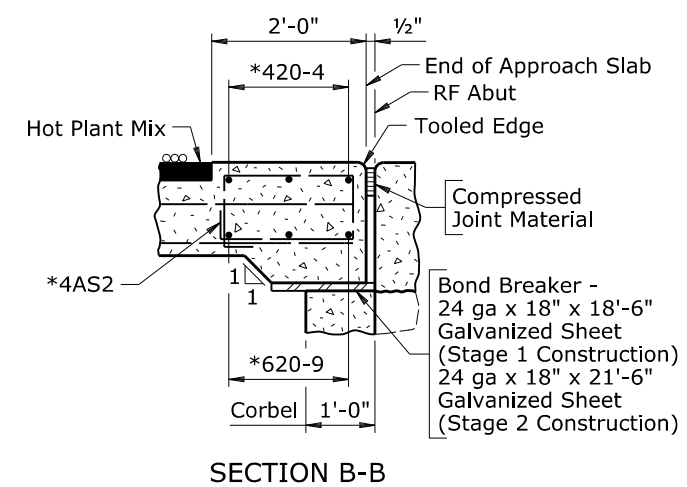
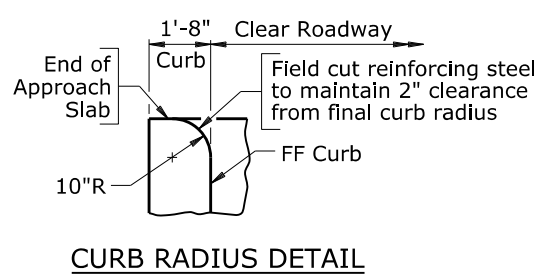
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		BRIDGE RAILING MODIFICATION DETAILS	
BRIDGE REHABILITATION VARIOUS LOCATIONS Rock River - Laramie Bosler South Section			
P232037		AI	
APPROVED	DESIGN	Design Section Q R Stuv	
DATE	DETAIL	Drwg No. 0012 Sheet 10 of 14	
	QTY'S		

Sept 2015

4.22 - Example



- Note: 1) Dimensions preceded by a double asterisk (\*\*) are measured at  $\bar{C}$  Bridge Roadway.  
 2) Lap bond breakers 6" minimum.  
 3) Extend compressed joint material up front face and across top of curbs.  
 4) For Sections C-C, D-D, and E-E, see Sheet No. 12.  
 5) For Bridge Railing Modification Details, see Sheets No. 7, 9, and 10.



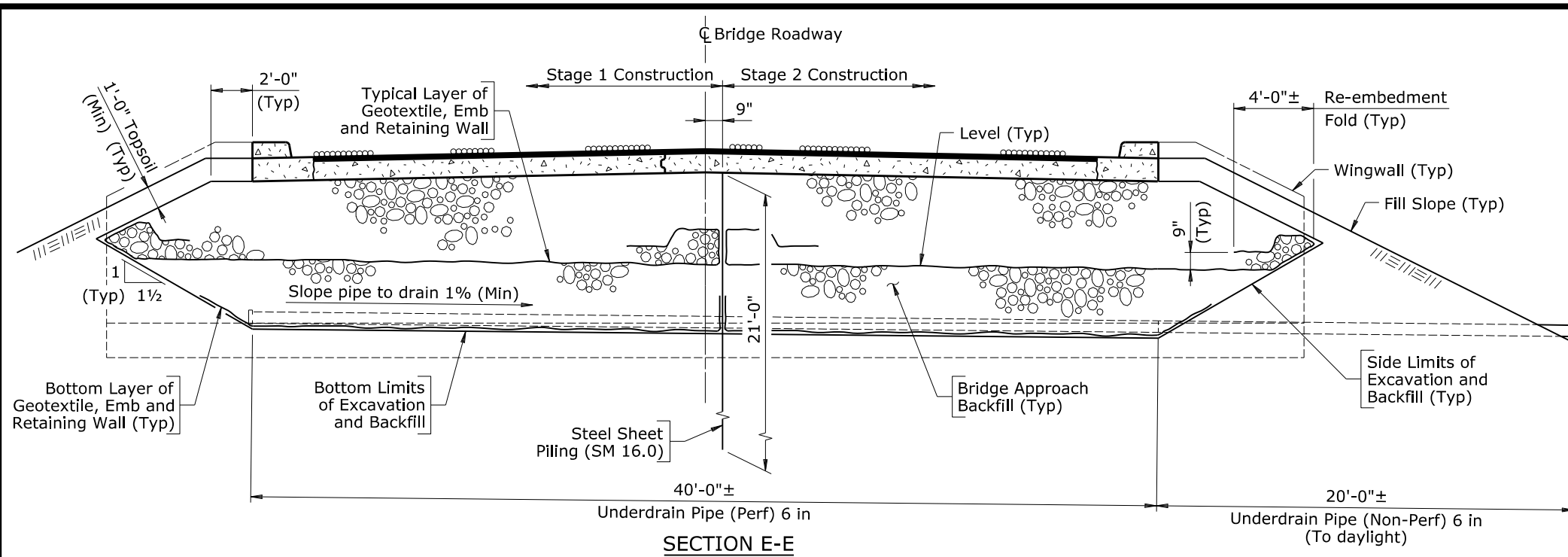
**BRIDGE OVER LARAMIE RIVER**

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
APPROACH SLAB DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Rock River - Laramie			
Bosler South Section			
P232037		AI	
APPROVED	DESIGN	Design Section	Q R Stuv
DATE	DETAIL	Drwg No.	0012
	QTY'S	Sheet	11 of 14

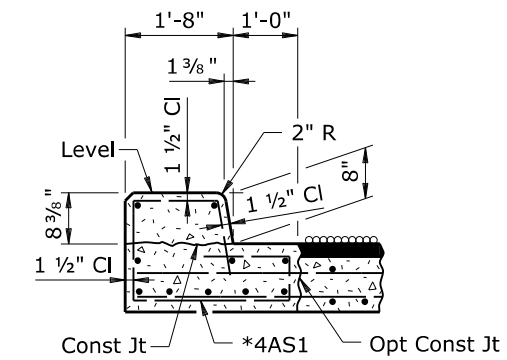
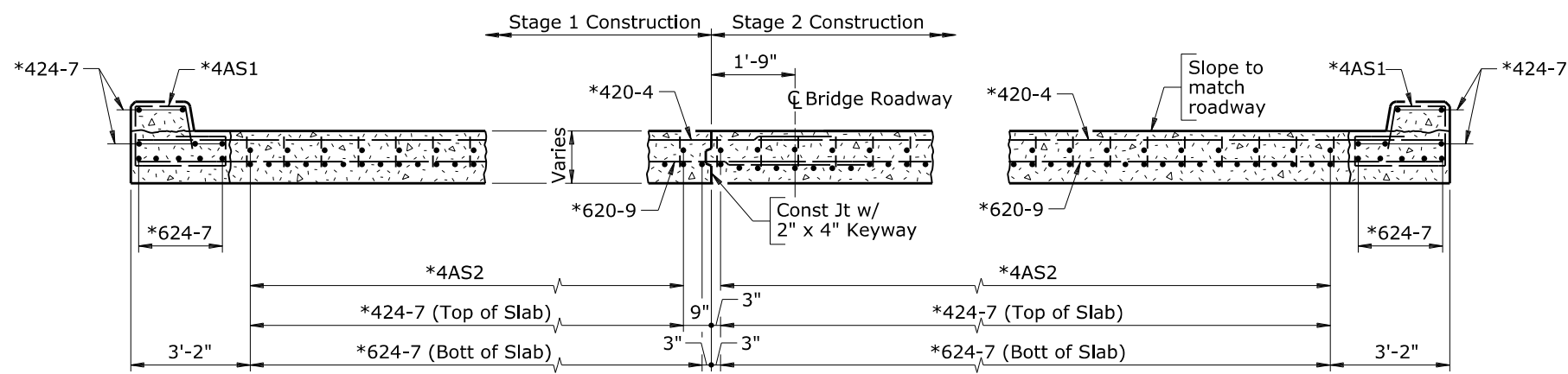
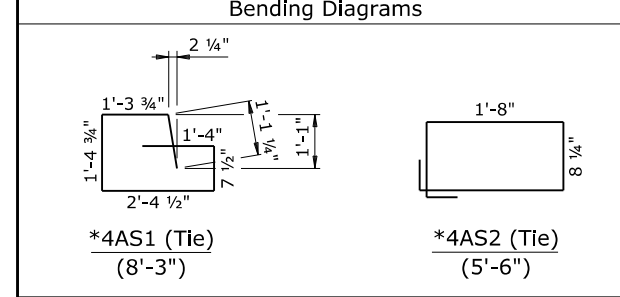
Section 4.22 - Preservation and Rehabilitation

Sept 2015

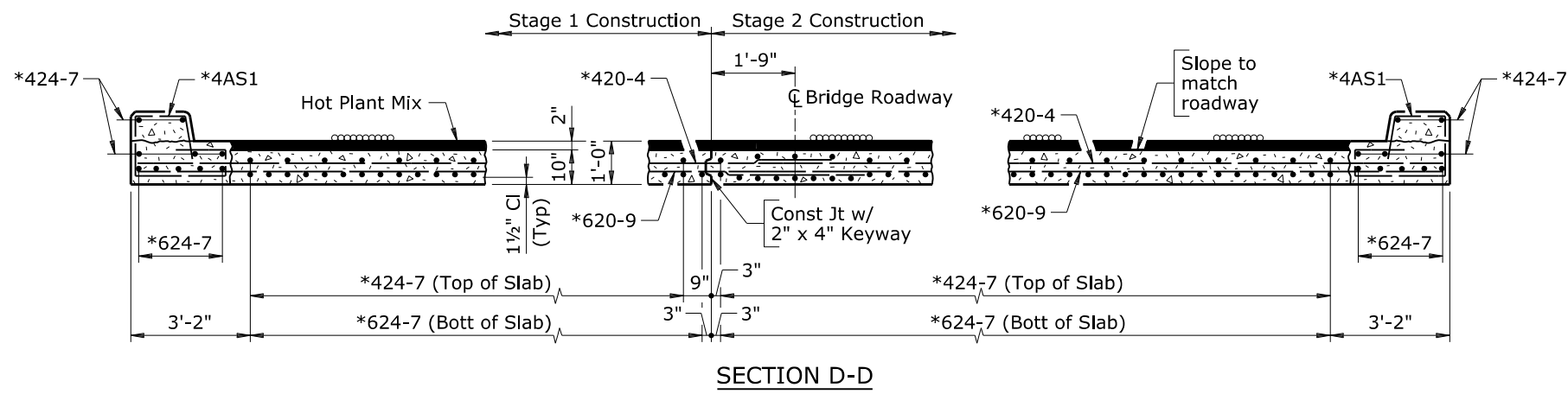
4.22 - Example



BILL OF REINFORCEMENT			
Location	Mark	Number Required Per Approach Slab	
		Stage 1 Construction	Stage 2 Construction
Approach Slab and Curbs	*4AS1	33	33
	*4AS2	15	19
	*420-4	26	26
	*424-7	20	24
	*620-9	26	26
	*624-7	35	42
**Weight		*3022 LB	*3361 LB



- Note:
- 1) Ensure the reinforcing steel fabricator prefixes approach slab bar marks with numeral 6 at Abutment No. 1 and numeral 7 at Abutment No. 2.
  - 2) Approach slab reinforcing steel is not included in the quantity of reinforcing steel.
  - 3) Extend bottom layer of geotextile up sheet piling and side limits of excavation and backfill to bottom of first layer of geotextile.
  - 4) For location of Sections C-C, D-D, and E-E, see Sheet No. 11.



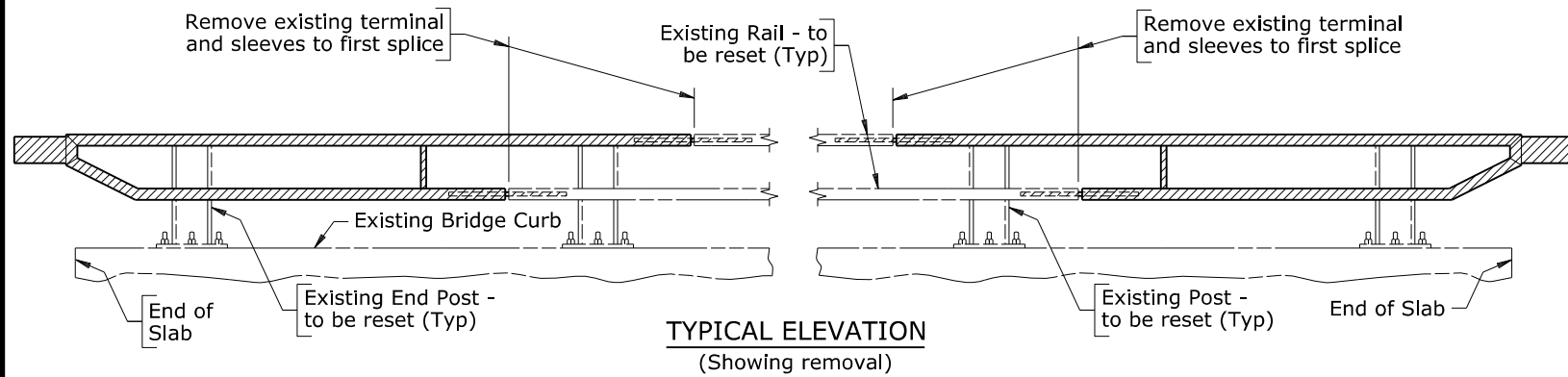
**BRIDGE OVER LARAMIE RIVER**

WYOMING DEPARTMENT OF TRANSPORTATION  
 BRIDGE PROGRAM

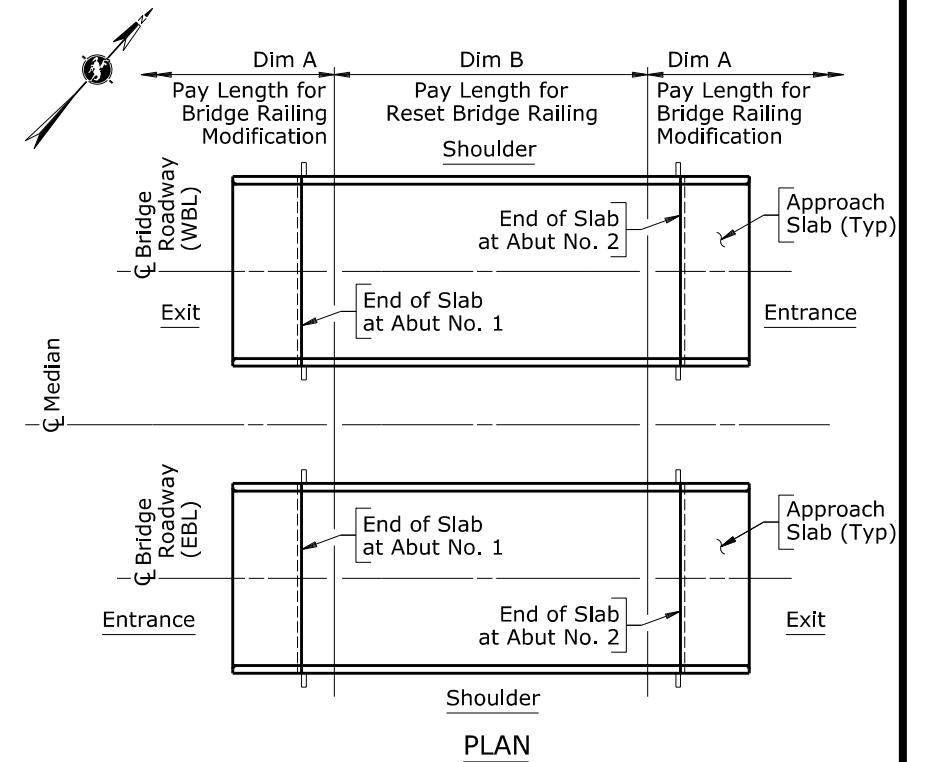
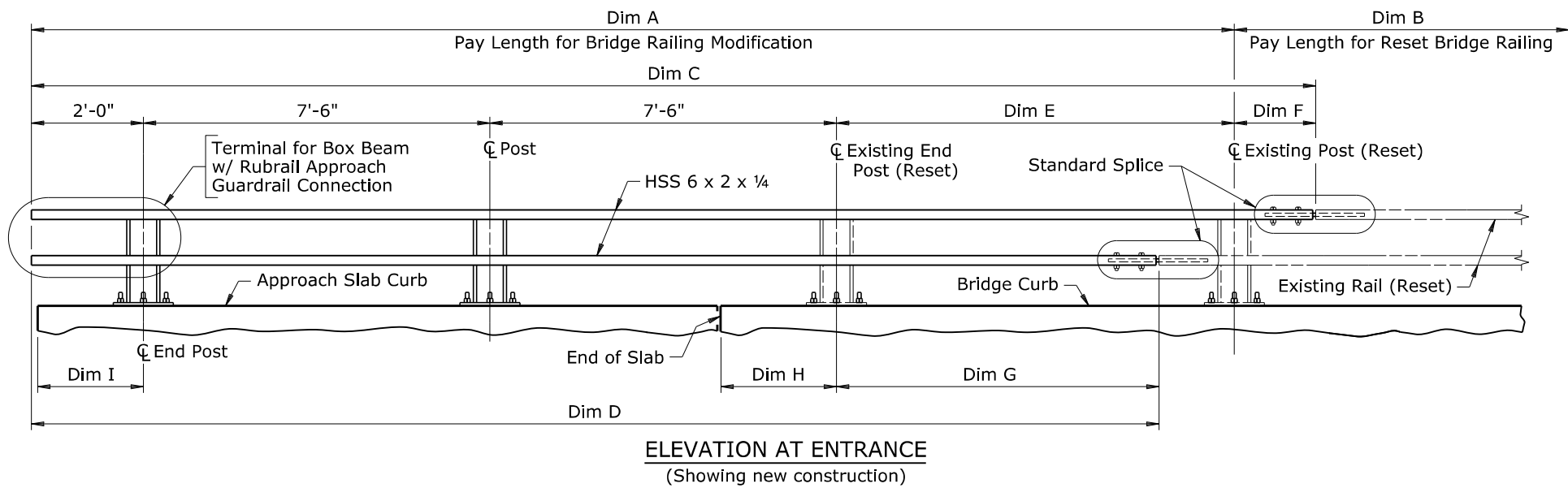
REVISIONS	<b>APPROACH SLAB DETAILS</b>	
	<b>BRIDGE REHABILITATION</b>	
	<b>VARIOUS LOCATIONS</b>	
	Rock River - Laramie	
	Bosler South Section	
	P232037	AI
APPROVED	DESIGN <input checked="" type="checkbox"/> JJJ <input checked="" type="checkbox"/> HHH	Design Section Q R Stuv
DATE	DETAIL <input checked="" type="checkbox"/> JJJ <input checked="" type="checkbox"/> OOO	Drwg No. 0012 Sheet 12 of 14
	QTY'S	

Section 4.22 - Preservation and Rehabilitation

Sept 2015



Location		Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim H	Dim I	
EBL	Entrance	Shoulder	25'-9 1/8"	61'-0"	27'-3 1/4"	24'-2 1/4"	8'-9 1/8"	1'-6 1/8"	7'-2 1/4"	1'-10 1/2"	1'-10 1/2"
		Median	25'-9 1/4"	60'-11 3/4"	27'-3 1/8"	24'-2 1/4"	8'-9 1/4"	1'-5 7/8"	7'-2 1/4"	1'-10 5/8"	1'-10 5/8"
	Exit	Shoulder	25'-9 1/8"	—	27'-2 3/4"	24'-2"	8'-9 1/8"	1'-5 5/8"	7'-2"	1'-10 3/8"	1'-10 3/8"
		Median	25'-9 1/4"	—	27'-3"	24'-1 3/4"	8'-9 1/4"	1'-5 3/4"	7'-1 3/4"	1'-10 1/2"	1'-10 1/2"
WBL	Entrance	Shoulder	25'-9"	61'-3 1/4"	27'-3 1/4"	24'-1 3/4"	8'-9"	1'-6 1/4"	7'-1 3/4"	1'-10 1/2"	1'-10 1/2"
		Median	25'-8 3/4"	61'-3 1/4"	27'-2 1/2"	24'-2 1/4"	8'-8 3/4"	1'-5 3/4"	7'-2 1/4"	1'-10 3/8"	1'-10 3/8"
	Exit	Shoulder	25'-8 3/4"	—	27'-2 3/4"	24'-2"	8'-8 3/4"	1'-6"	7'-2"	1'-10 1/2"	1'-10 1/2"
		Median	25'-9"	—	27'-3 1/8"	24'-1 3/4"	8'-9"	1'-6 1/8"	7'-2 1/4"	1'-10 5/8"	1'-10 5/8"



Note: Reset existing posts at original spacing using new anchorages.

BLAIR ROAD SEPARATION

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING MODIFICATION DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Laramie - Cheyenne			
(Vedauwoo West Section)			
I805130		AI	
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	Drwg No. 0013	Sheet 3 of 14
	QTY'S		

4.22 - Example

Section 4.22 - Preservation and Rehabilitation



Sept 2015

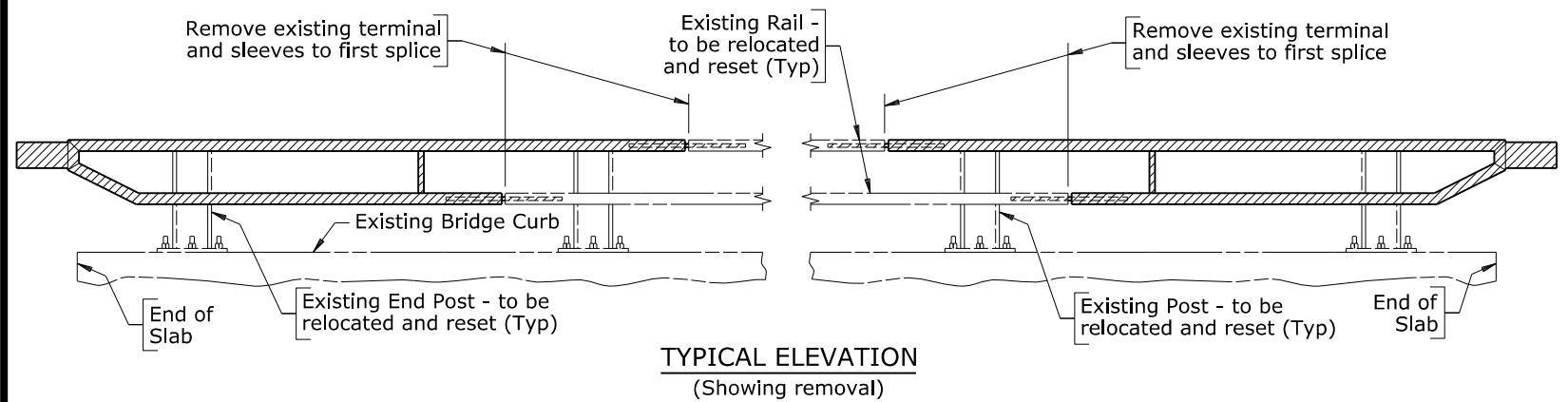
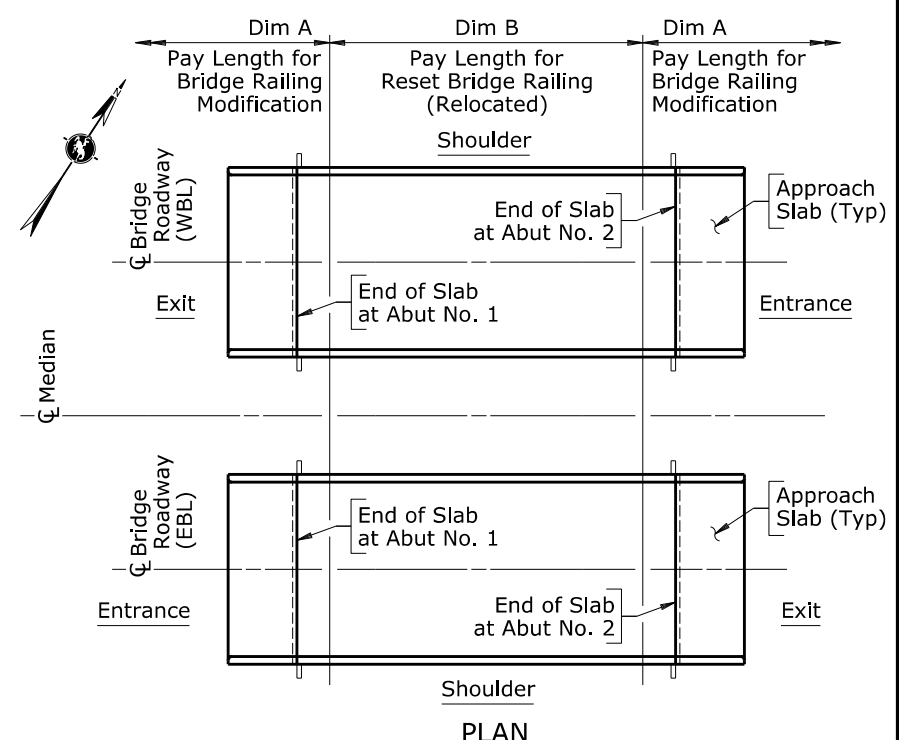
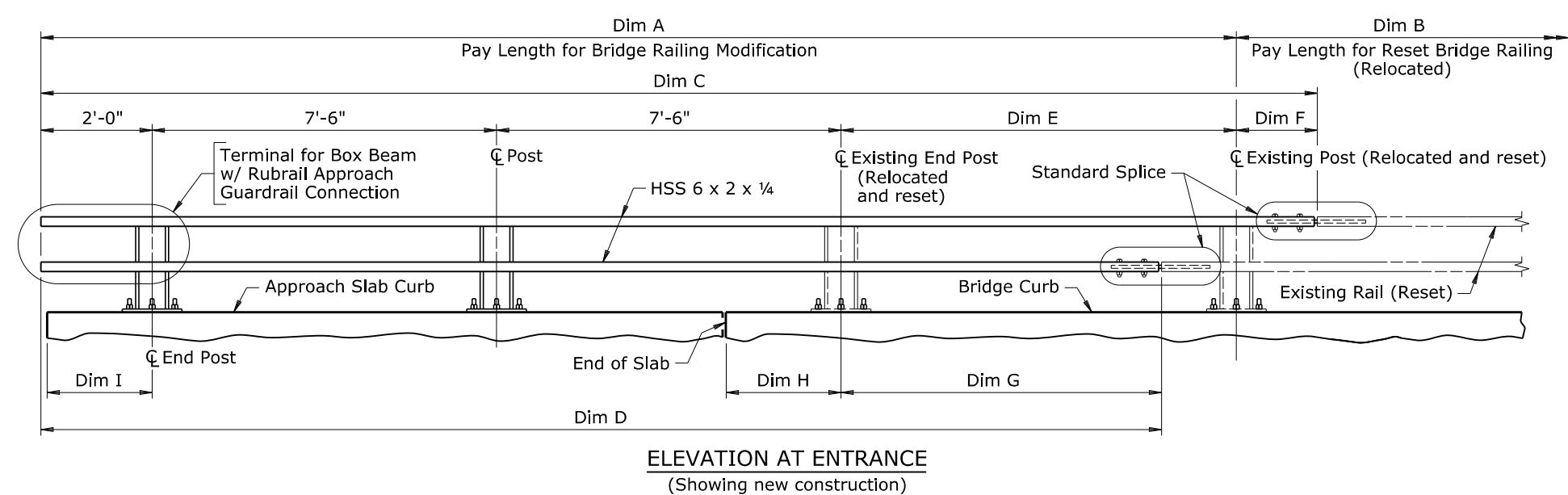
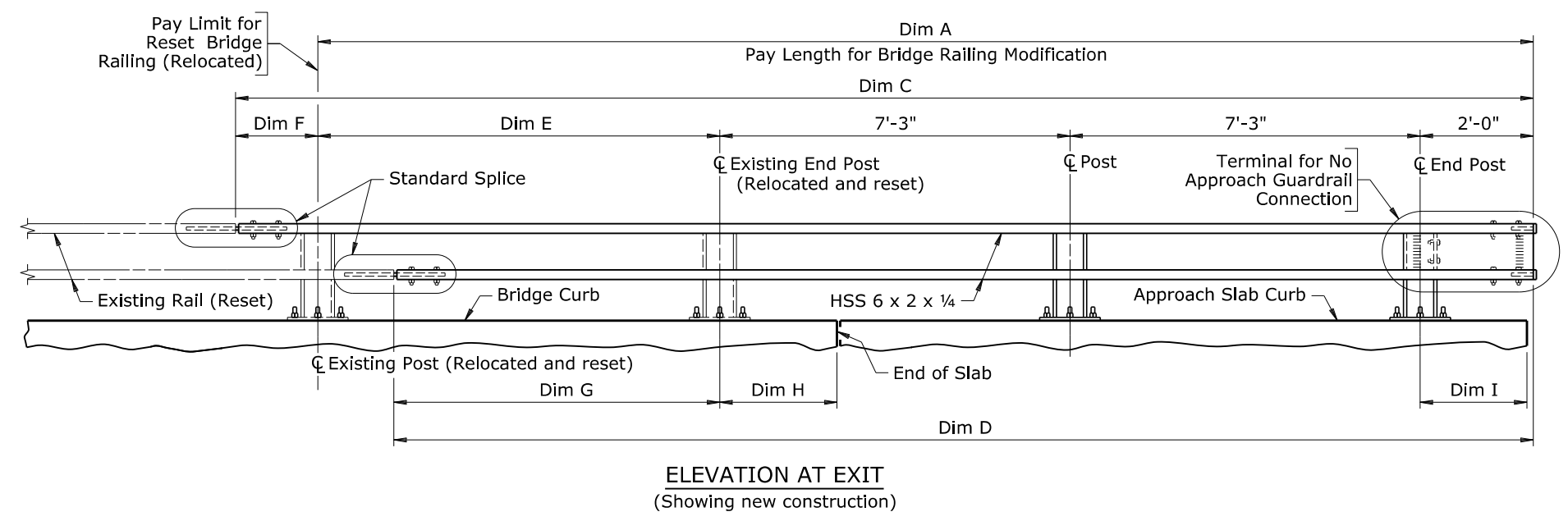


TABLE OF DIMENSIONS											
Location		Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim H	Dim I	
EBL	Entrance	Shoulder	26'-3"	61'-0"	27'-9 1/4"	24'-8 1/2"	8'-9"	1'-6 1/4"	7'-2 1/2"	2'-6"	2'-0"
		Median	26'-3 1/8"	60'-11 3/4"	27'-8 5/8"	24'-7 3/4"	8'-9 1/8"	1'-5 1/2"	7'-1 3/4"	2'-6 1/8"	2'-0 1/8"
	Exit	Shoulder	25'-3 1/8"	—	26'-8 5/8"	23'-7 3/4"	8'-9 1/8"	1'-5 1/2"	7'-1 3/4"	1'-5 7/8"	1'-11 7/8"
		Median	25'-3"	—	26'-9 3/8"	23'-8 1/8"	8'-9"	1'-6 3/8"	7'-2 1/8"	1'-6"	2'-0"
WBL	Entrance	Shoulder	26'-3"	61'-0 1/4"	27'-9 5/8"	24'-7 1/4"	8'-9"	1'-6 5/8"	7'-1 1/4"	2'-6"	2'-0"
		Median	26'-2 3/4"	61'-0 1/4"	27'-9"	24'-8 1/4"	8'-8 3/4"	1'-6 1/4"	7'-2 1/4"	2'-5 7/8"	1'-11 7/8"
	Exit	Shoulder	25'-2 3/4"	—	26'-8 3/4"	23'-8 1/2"	8'-8 3/4"	1'-6"	7'-2 1/2"	1'-6"	2'-0"
		Median	25'-3"	—	26'-8 5/8"	23'-8 5/8"	8'-9"	1'-5 5/8"	7'-2 5/8"	1'-6 1/8"	2'-0 1/8"



Note: Relocate existing posts 7 1/2" toward the exit. Reset existing posts using new anchorages.



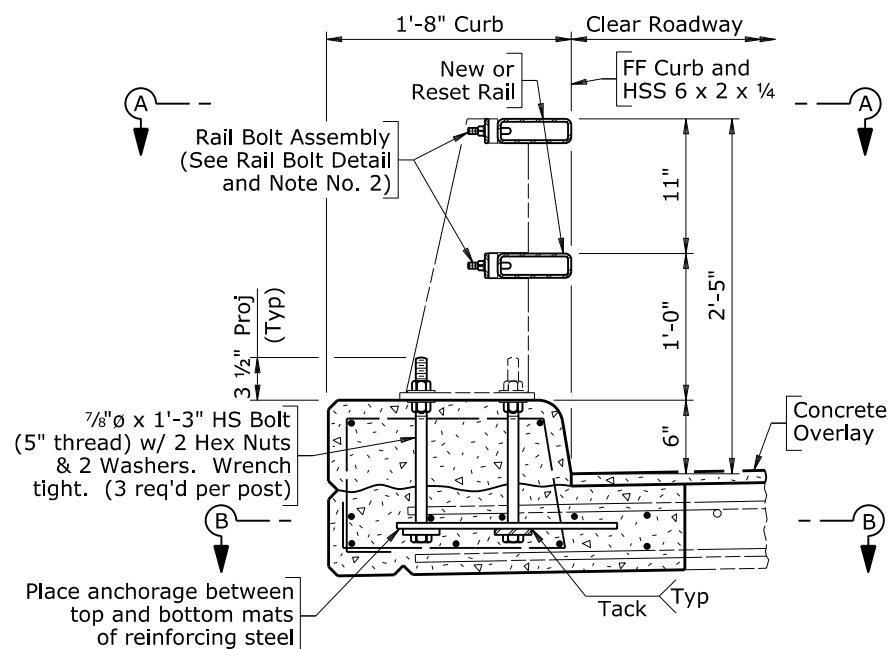
**VEDAUWOO INTERCHANGE**

WYOMING DEPARTMENT OF TRANSPORTATION  
BRIDGE PROGRAM

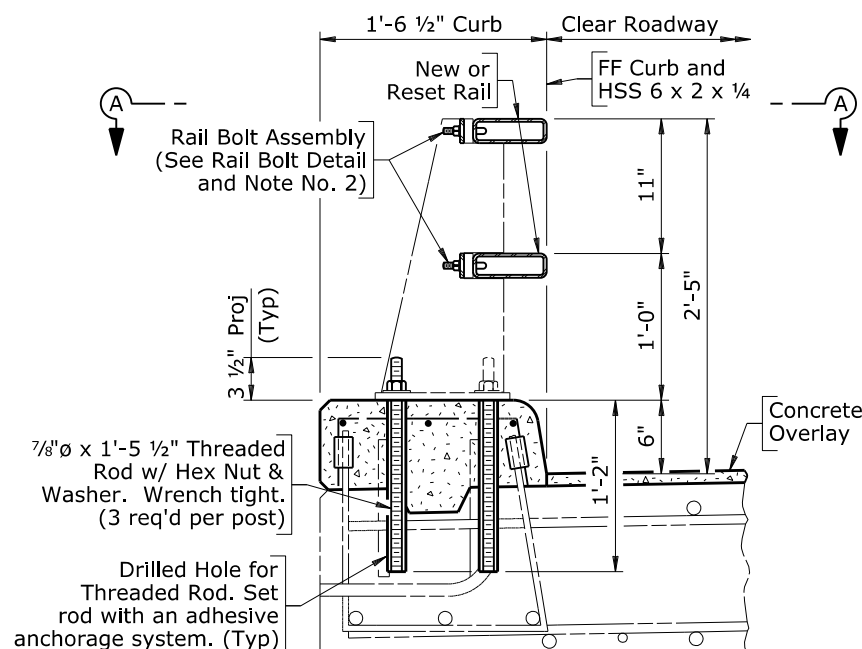
REVISIONS	<b>BRIDGE RAILING MODIFICATION DETAILS</b>	
	<b>BRIDGE REHABILITATION</b>	
<b>VARIOUS LOCATIONS</b>		
Laramie - Cheyenne		
(Vedauwoo West Section)		
I805130		AI
APPROVED	DESIGN	Design Section B C Def
DATE	DETAIL RRR ✓ TTT	Drwg No. 0013
	QTY'S YYY ✓ TTT	Sheet 4 of 14

4.22 - Example

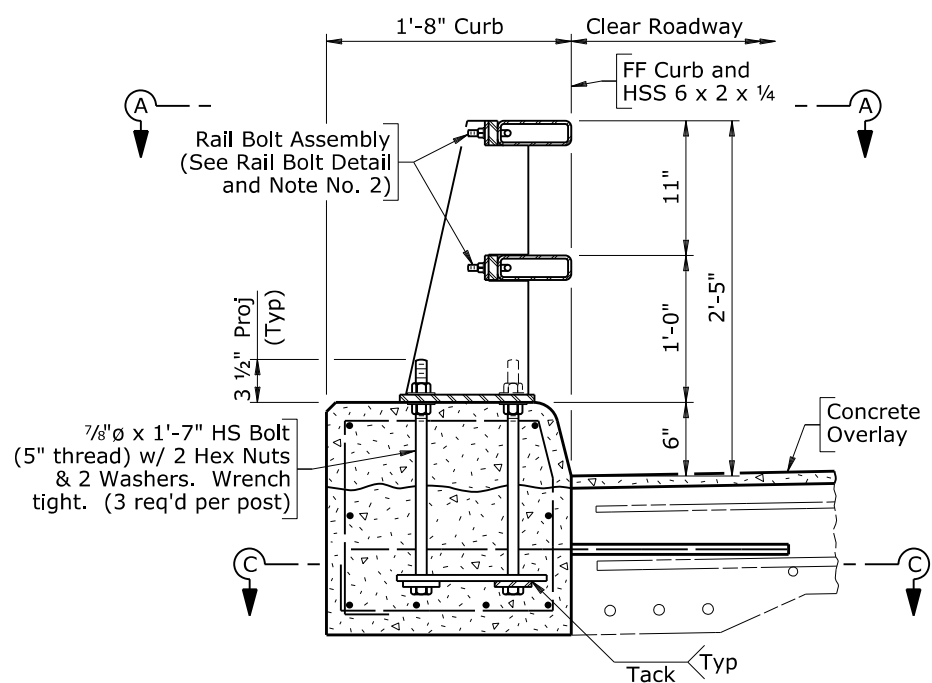
Section 4.22 - Preservation and Rehabilitation



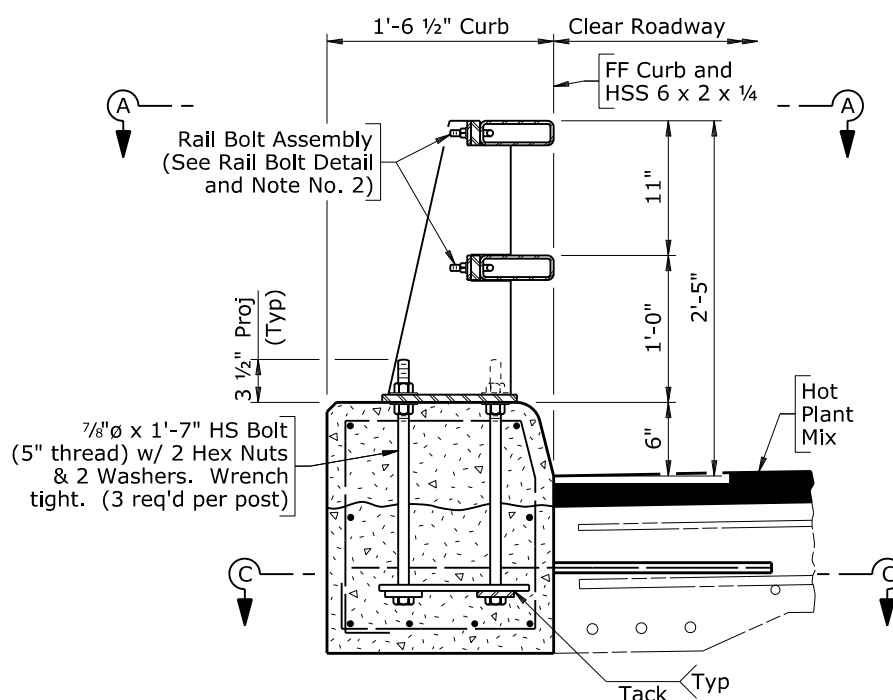
**ASSEMBLY DETAIL AT BLAIR ROAD SEPARATION**  
(Shown near  $\phi$  Existing Post on bridge slab)  
(20 anchorages req'd per lane)



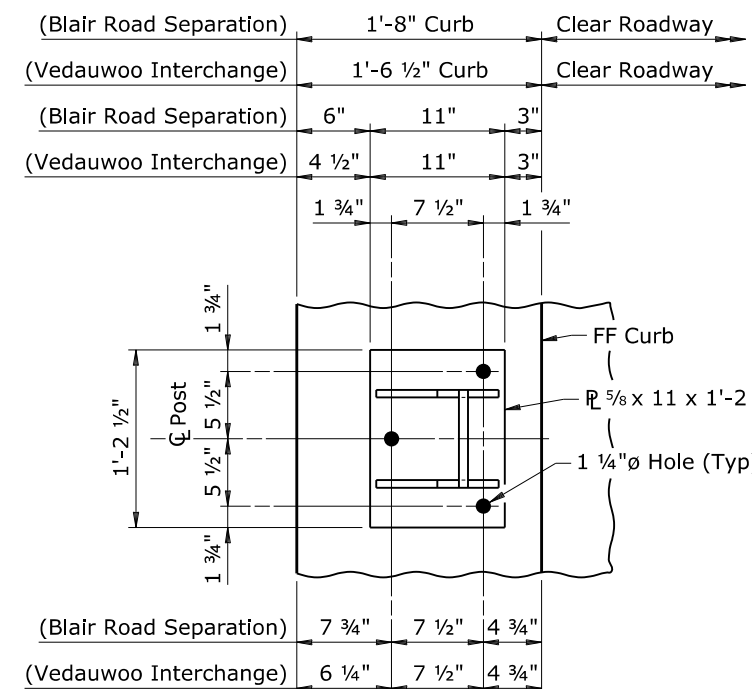
**ASSEMBLY DETAIL AT VEDAUWOO INTERCHANGE**  
(Shown near  $\phi$  Existing Post on bridge slab)  
(20 post locations req'd per lane)



**ASSEMBLY DETAIL AT BLAIR ROAD SEPARATION**  
(Shown near  $\phi$  Post on approach slab)  
(8 posts and anchorages req'd per lane)



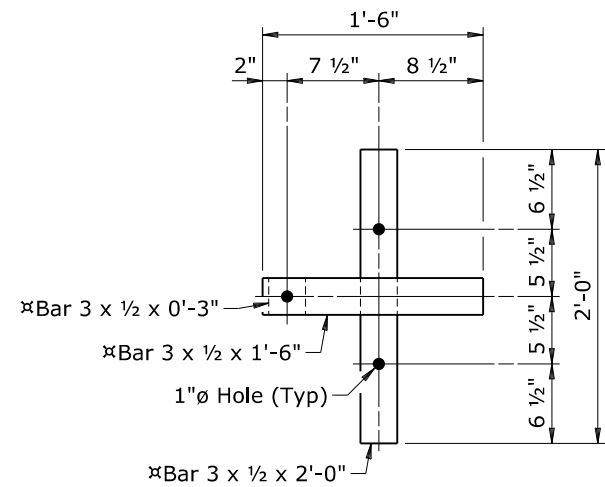
**ASSEMBLY DETAIL AT VEDAUWOO INTERCHANGE**  
(Shown near  $\phi$  Post on approach slab)  
(8 posts and anchorages req'd per lane)



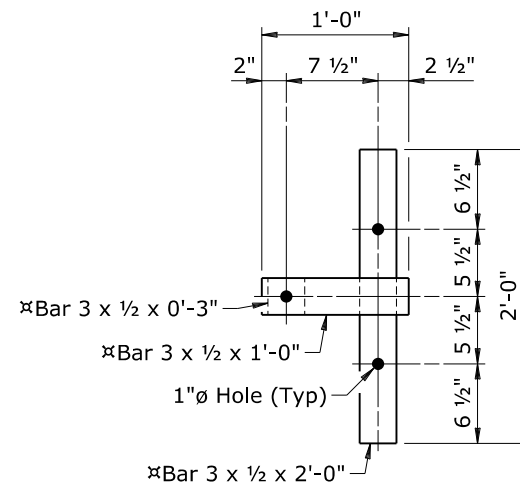
- Note:
- 1) Anchor bolts may be tack welded to anchorage (Shop or field).
  - 2) At post locations, drill two 1 1/16" holes in the new rails to receive rail bolts (Shop or field). See Post Details, Sheet No. 6, for hole spacing.
  - 3) Place and properly align reset posts at Vedauwoo Interchange after placing new concrete.
  - 4) Before installing rails, paint cut, drilled, or otherwise damaged surface areas of the railing components with two coats of zinc rich paint conforming to ASTM A 780.
  - 5) After installing the rails, paint exposed bolt threads with two coats of zinc rich paint conforming to ASTM A 780.
  - 6) For Sections B-B and C-C and Rail Bolt Detail, see Sheet No. 13.

**ALL LOCATIONS**

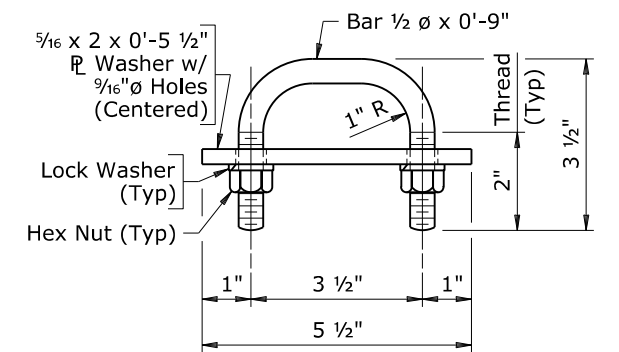
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING MODIFICATION DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Laramie - Cheyenne			
(Vedauwoo West Section)			
I805130		AI	
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	RRR	TTT
	QTY'S	YYY	TTT
Drwg No. 0013		Sheet 5 of 14	



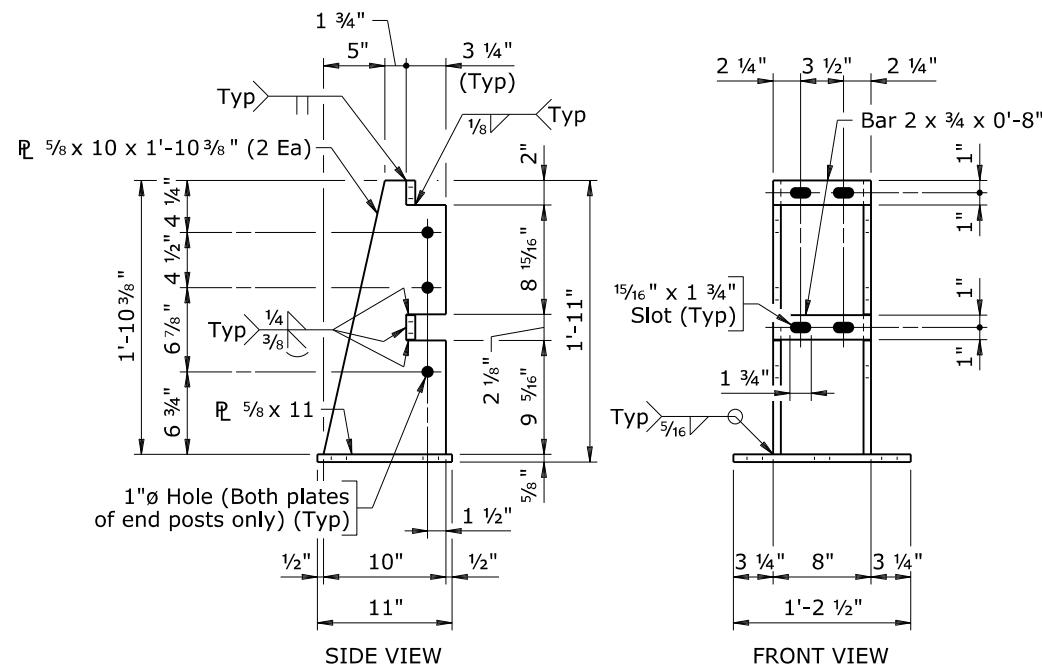
**SECTION B-B**  
(Not galvanized)  
(Anchor bolts and slab not shown)



**SECTION C-C**  
(Not galvanized)  
(Anchor bolts and slab not shown)



**RAIL BOLT DETAIL**  
(56 req'd per lane at Blair Road Separation)  
(56 req'd per lane at Vedauwoo Interchange)

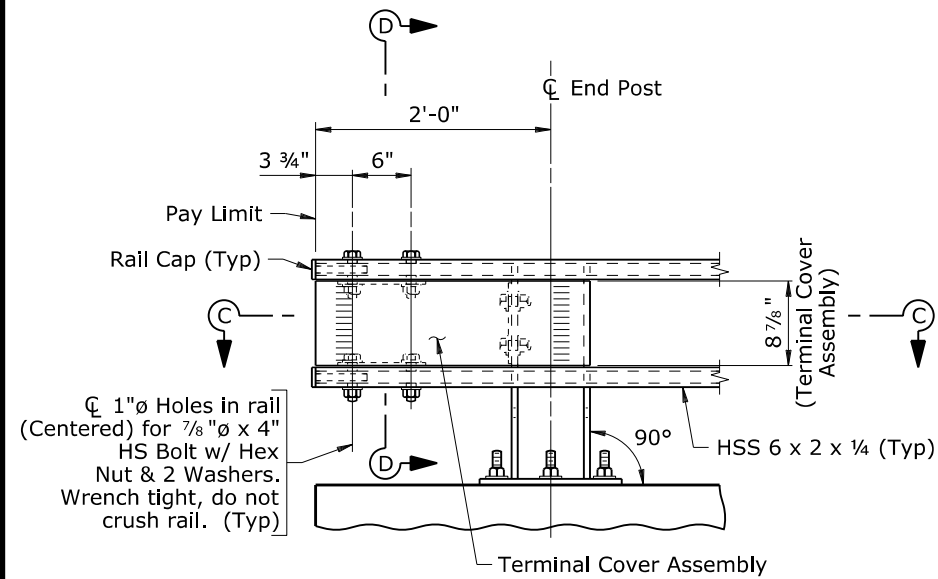


**POST DETAILS**  
(See View A-A for anchor bolt hole spacing)

Note: For View A-A and location of Sections B-B and C-C, see Sheet No. 5.

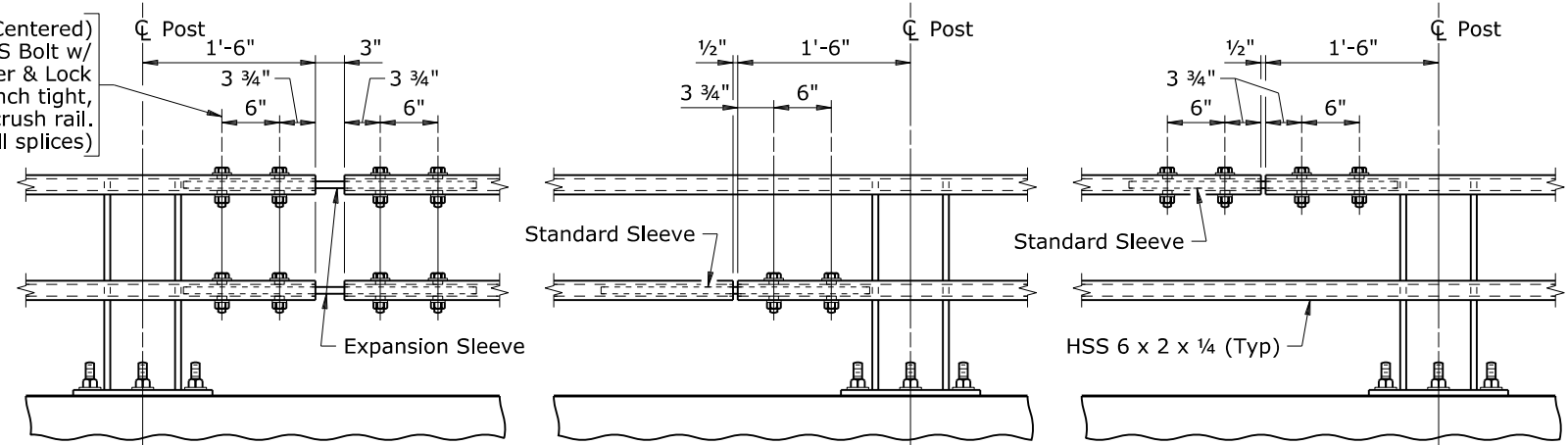
**ALL LOCATIONS**

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING MODIFICATION DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Laramie - Cheyenne			
(Vedauwoo West Section)			
I8050130			AI
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	RRR	TTT
	QTY'S	YYY	TTT
		Drwg No. 0013	Sheet 6 of 14



ELEVATION AT TERMINAL

1"  $\phi$  Holes in rail (Centered) for 3/4"  $\phi$  x 3 1/2" HS Bolt w/ Hex Nut, Washer & Lock Washer. Wrench tight, do not crush rail. (Typ) (All splices)

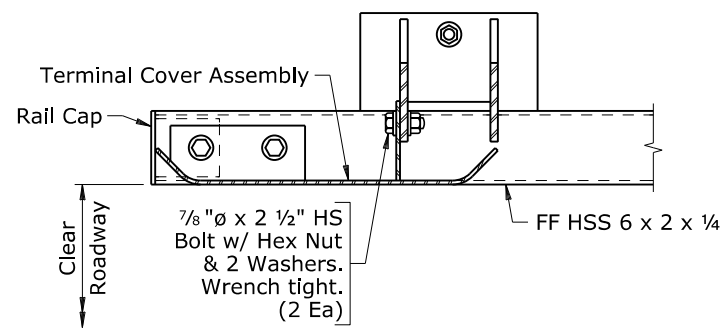


EXPANSION SPLICE (Top and bottom rail)

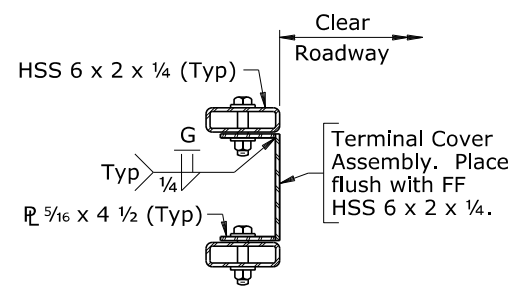
STANDARD SPLICE (Top or bottom rail)

DOUBLE-BOLTED SPLICE (Top or bottom rail)

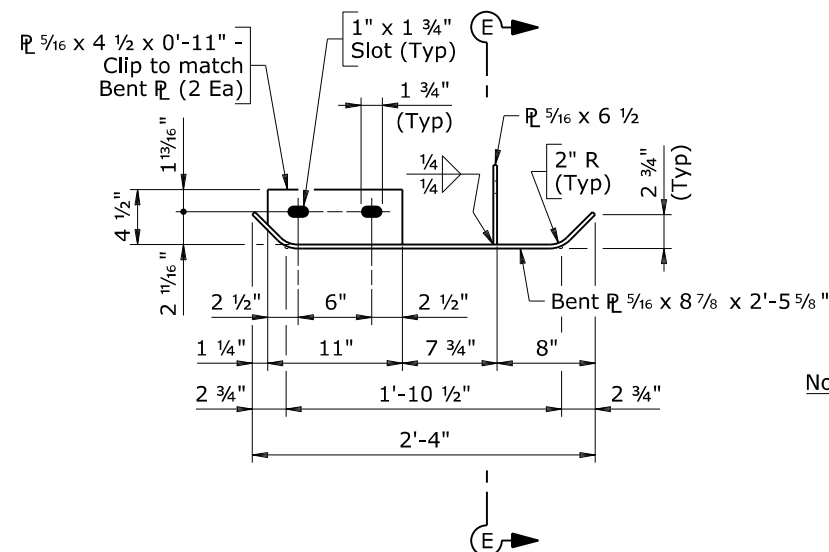
TERMINAL COMPONENT REQUIREMENTS		
Approach Guardrail Connection	Rail Caps Required	Terminal Cover Assembly Required
MGS Approach Guardrail	Yes (Without bolts)	±No
Box Beam w/ Rubrail Approach Guardrail	No	No
No Approach Guardrail	Yes (With bolts)	Yes



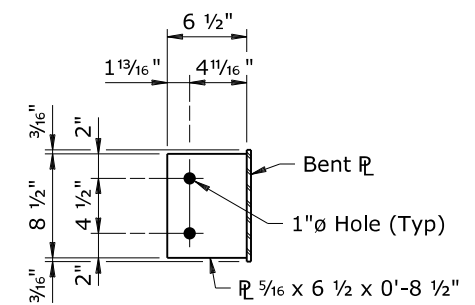
SECTION C-C



SECTION D-D

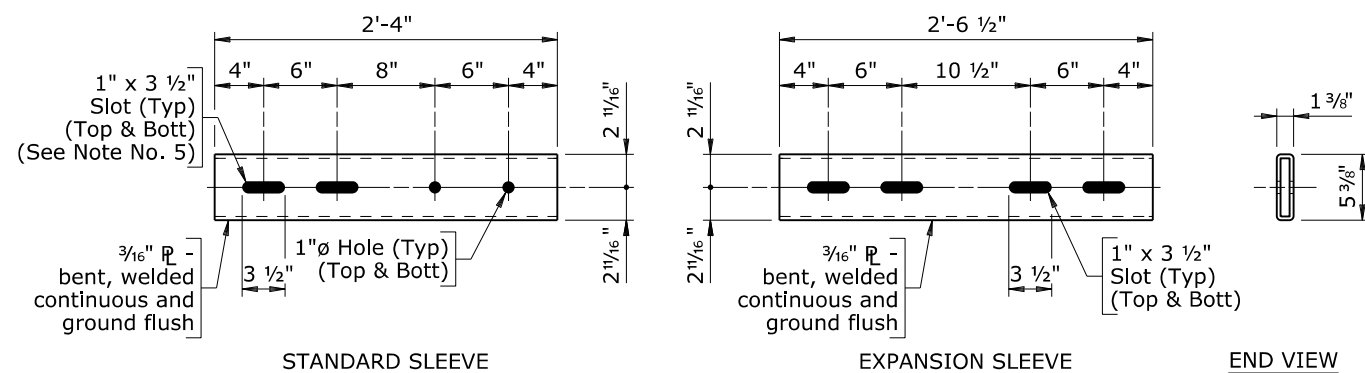


TERMINAL COVER ASSEMBLY DETAIL



SECTION E-E

- Note:
- 1) Ensure each rail length is continuous over a minimum of two posts.
  - 2) In rehabilitation work, ensure railing that cannot feasibly be made continuous over a minimum of two posts has a double-bolted splice.
  - 3) Splices may be located on either side of post.
  - 4) Not more than one splice is permitted per side of post, except at expansion splices.
  - 5) Slots may be omitted in standard sleeves where bolts are required on one side of splice only.
  - 6) Do not shop splice rails.
  - 7) Terminal components removed during rehabilitation work will remain the property of the department.
  - ±8) Installation of MGS approach guardrail will require other fabricated assemblies to be connected to end post. See road plans for details and pay item.

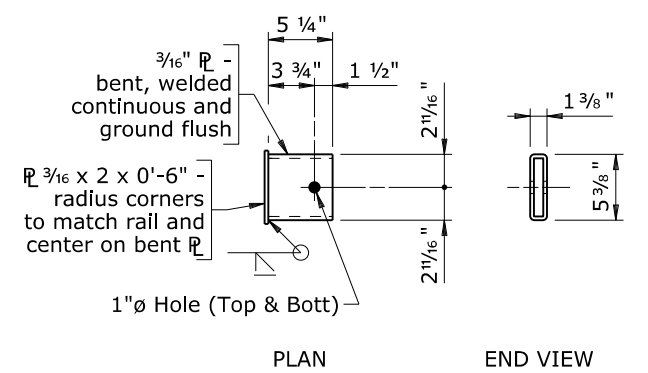


STANDARD SLEEVE

EXPANSION SLEEVE

END VIEW

SLEEVE DETAILS



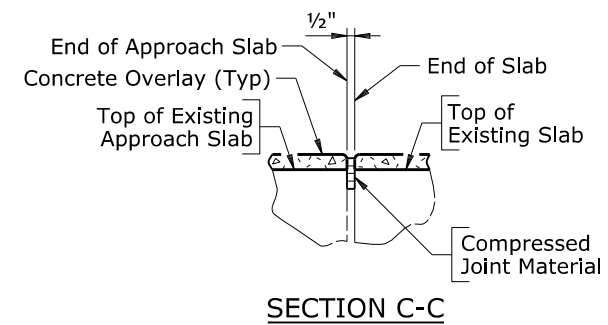
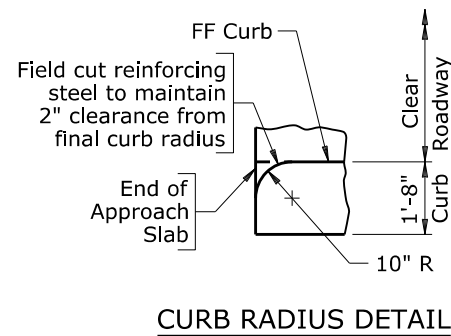
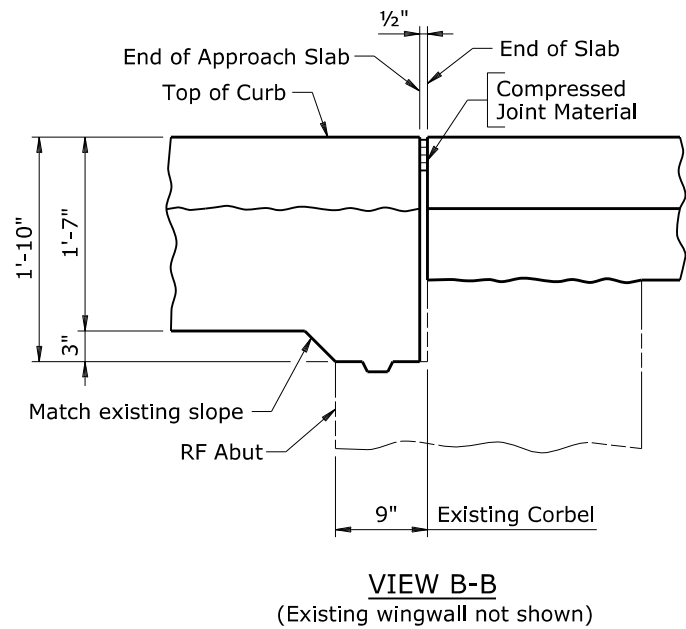
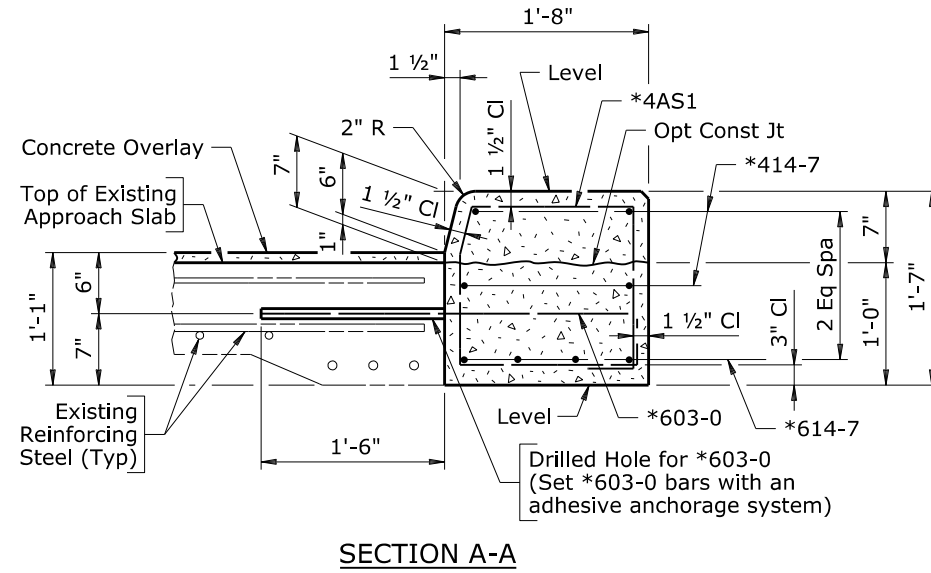
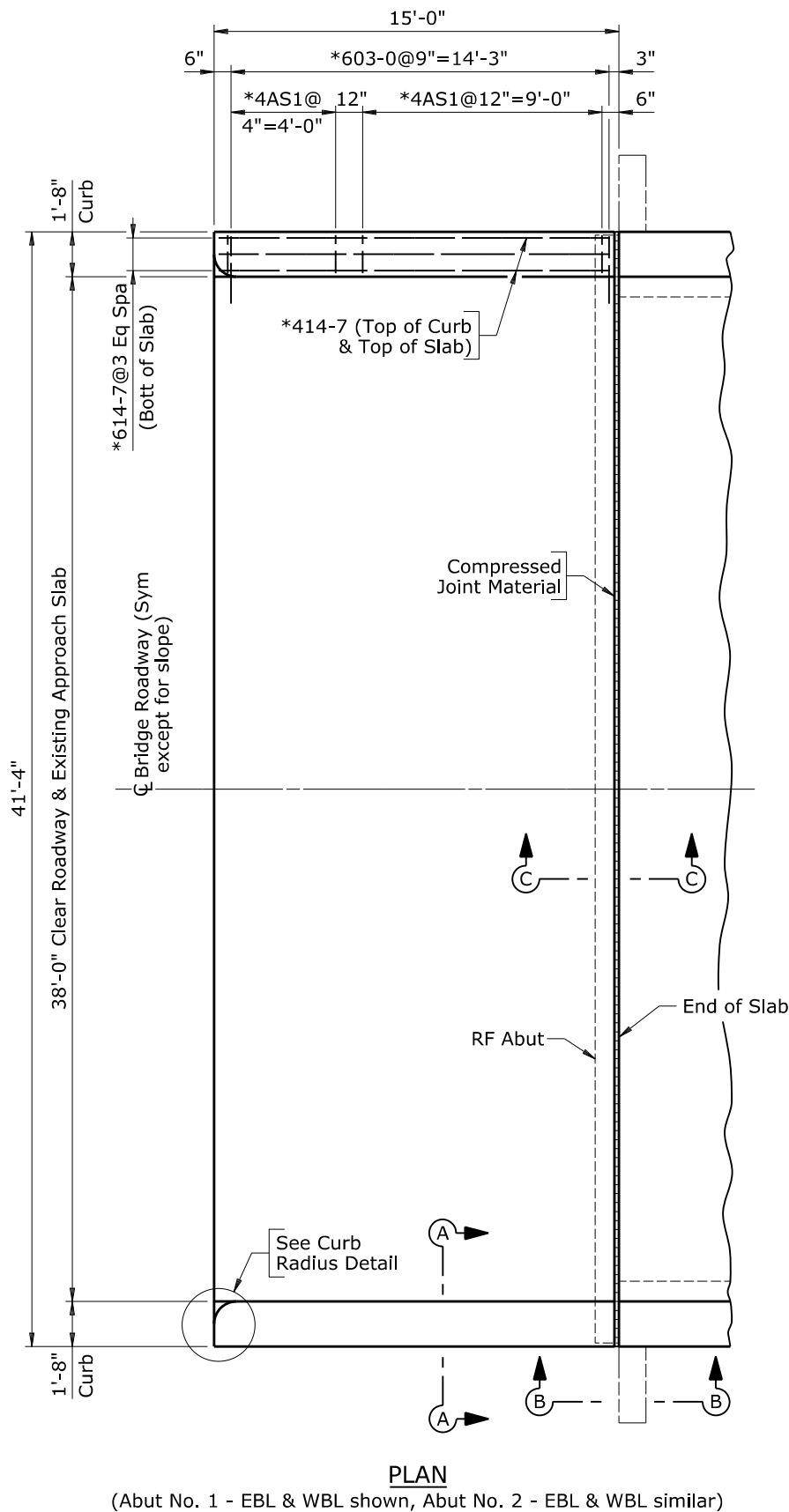
PLAN

END VIEW (PL 3/16 x 2 not shown)

RAIL CAP DETAILS

ALL LOCATIONS

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING MODIFICATION DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Laramie - Cheyenne			
(Vedauwoo West Section)			
I805130		AI	
APPROVED	DESIGN	Design Section	B C Def
DATE	DETAIL	Drwg No.	0013
	QTY'S	Sheet	7 of 14



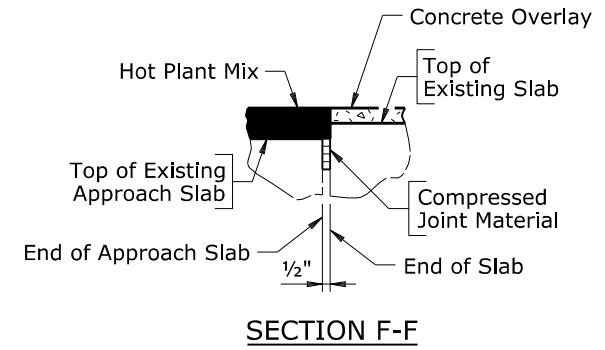
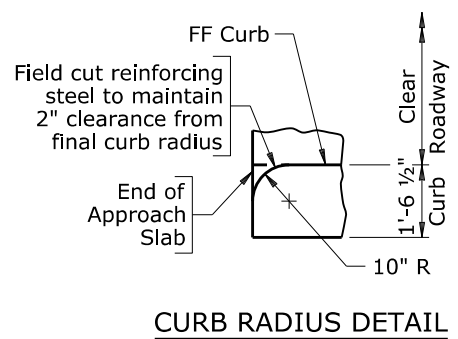
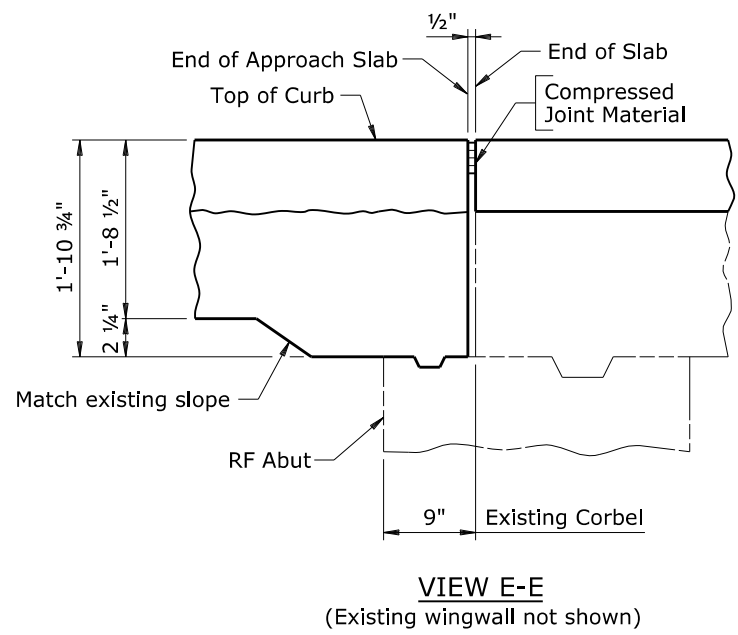
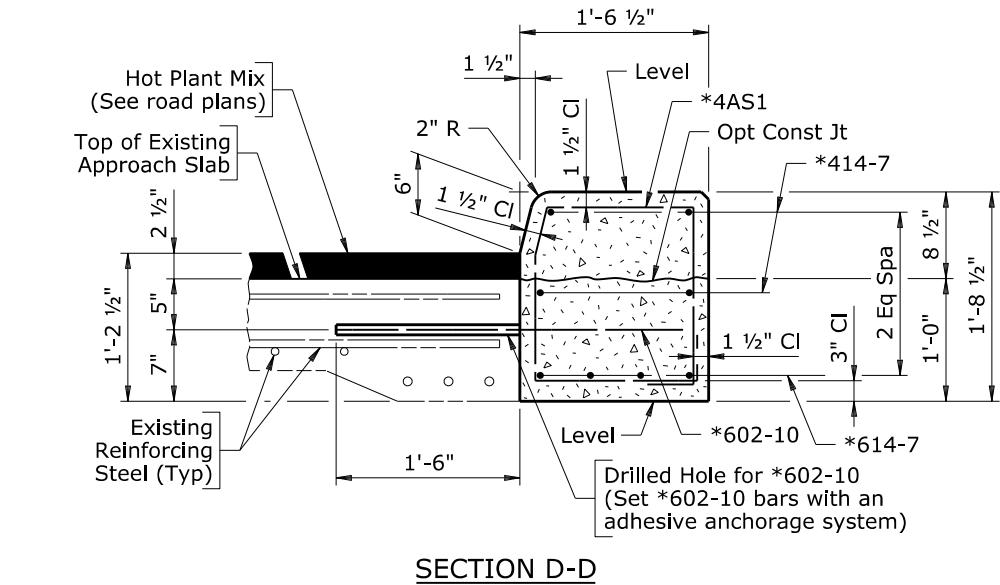
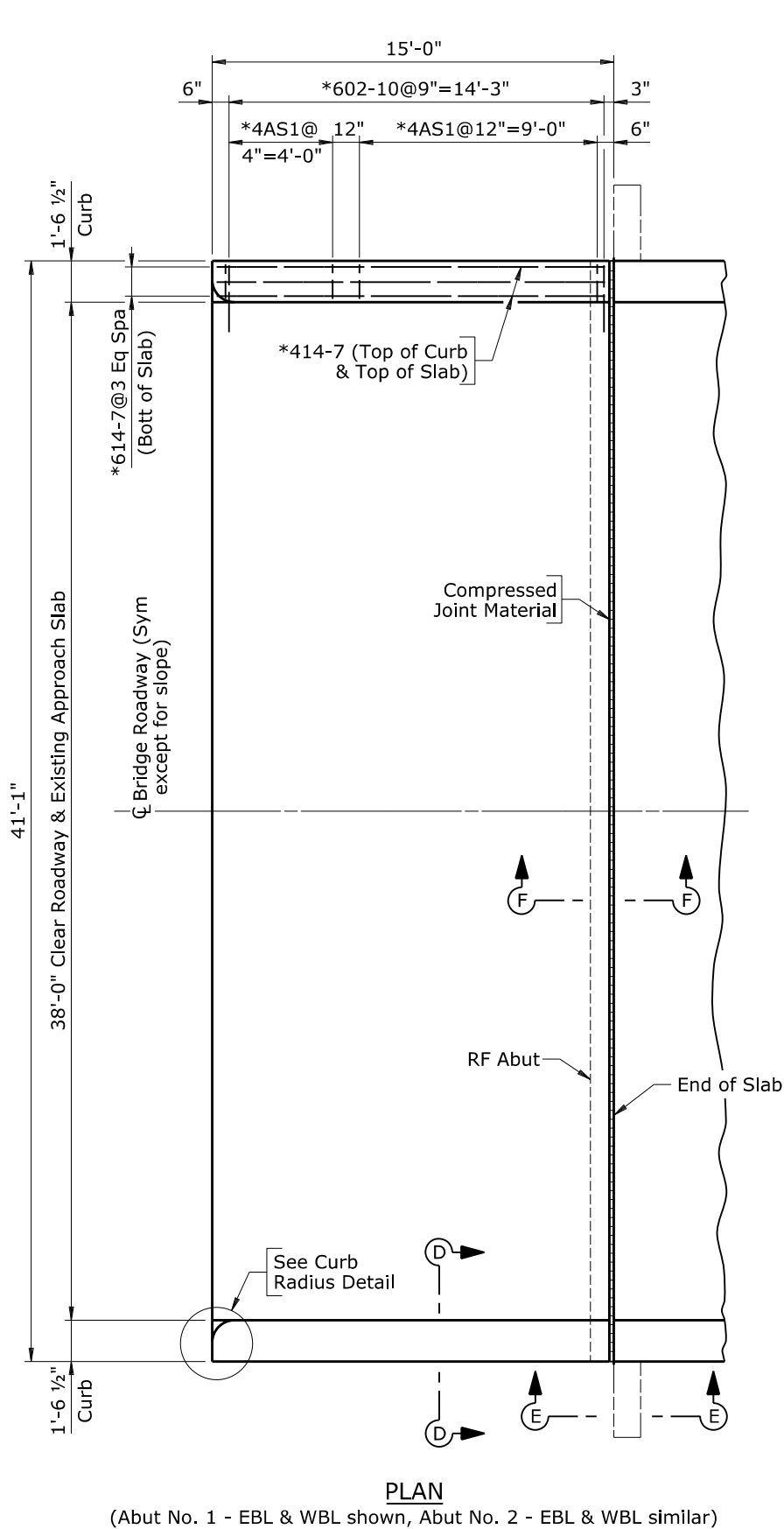
BILL OF REINFORCEMENT		
Location	Mark	Number Required Per Approach Slab
Approach Slab and Curbs	*4AS1	46
	*414-7	8
	*603-0	40
	*614-7	8
	*Weight	*616 LB

Bending Diagram

\*4AS1 (Tie)  
(5'-11")

- Note: 1) Ensure the reinforcing steel fabricator prefixes bar marks this sheet as follows:  
 Numeral 5 - Abutment No. 1 - EBL  
 Numeral 6 - Abutment No. 2 - EBL  
 Numeral 7 - Abutment No. 1 - WBL  
 Numeral 8 - Abutment No. 2 - WBL  
 2) Extend compressed joint material up front face and across top of curbs.  
 3) The estimated quantity of class B concrete for curbs is 5.8 CY per approach slab.  
 4) For Bridge Railing Modification Details, see Sheets No. 3 thru 7.

BLAIR ROAD SEPARATION			
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		APPROACH SLAB MODIFICATION DETAILS	
BRIDGE REHABILITATION VARIOUS LOCATIONS Laramie - Cheyenne (Vedauwoo West Section)			
I805130		AI	
APPROVED	DESIGN	Design Section	B C Def
DATE	DETAIL	Drwg No.	0013
	QTY'S	Sheet	11 of 14



- Note:**
- 1) Ensure the reinforcing steel fabricator prefixes bar marks this sheet as follows:  
 Numeral 9 - Abutment No. 1 - EBL  
 Numeral 10 - Abutment No. 2 - EBL  
 Numeral 11 - Abutment No. 1 - WBL  
 Numeral 12 - Abutment No. 2 - WBL
  - 2) Extend compressed joint material up front face and across top of curbs.
  - 3) The estimated quantity of class B concrete for curbs is 5.8 CY per approach slab.
  - 4) For Bridge Railing Modification Details, see Sheets No. 3 thru 7.

BILL OF REINFORCEMENT		
Location	Mark	Number Required Per Approach Slab
Approach Slab and Curbs	*4AS1	46
	*414-7	8
	*602-10	40
	*614-7	8
	*Weight	*606 LB
Bending Diagram		
*4AS1 (Tie) (5'-11")		

VEDAUWOO INTERCHANGE			
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
APPROACH SLAB MODIFICATION DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Laramie - Cheyenne			
(Vedauwoo West Section)			
I805130		AI	
APPROVED	DESIGN	Design Section	B C Def
DATE	DETAIL	Drwg No.	0013
	QTY'S	Sheet	12 of 14

# BRIDGE REHABILITATION

## VARIOUS LOCATIONS

### WHEATLAND - GLENDON ROAD

#### (CASSA NORTH SECTION)

I252137

PLATTE COUNTY

**DESIGN DATA**

SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 17th Edition

REINFORCED CONCRETE: Load Factor Design -  
Class B Concrete  $f'_c = 3250$  psi  
Reinforcing Steel  $f_y = 60,000$  psi (Grade 60)  
 $f_y = 40,000$  psi (Grade 40)

**INDEX OF DRAWINGS**

Drawing:	Sheet No.
Title Sheet -----	1
General Notes -----	2
Abutment Modification Details -----	3-4
Wingwall Modification Details -----	5
Expansion Device Replacement Details -----	6
Bridge Railing Details -----	7-10
Curb Modification Details -----	11-12
Approach Slab Details -----	13-20
Resurfacing Details -----	21-23
Bridge Concrete Repair Details -----	24
Retaining Wall Details -----	25-27
Slope Paving Details -----	28-30

Reference Sheets:	Sheet No.
Sta 119+05 -----	B31-B37 & B49-B50
Sta 384+32 -----	B38-B40 & B49-B55
Sta 386+96 -----	B41-B48 & B49-B55

ESTIMATED QUANTITIES - CODE 14										
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	STA 119+05		STA 384+32		STA 386+96		ESTIMATE
				NBL	SBL	NBL	SBL	NBL	SBL	
109.04000	FORCE ACCOUNT WORK	\$\$	\$1000	---	---	---	---	\$500	\$500	6 SY
199.00000	CONTROLS FOR LEAD PAINT REMOVAL	LS	LUMP SUM	3 SY	3 SY	---	---	---	---	
202.03251	REMOVAL OF BRIDGE RAILING	FT	856	---	---	187	187	241	241	
202.03410	REMOVAL OF SURFACING	TON	280	---	---	41	56	111	72	
202.03465	REMOVAL OF CONCRETE	CY	82	4	4	13	13	24	24	
212.02100	DRY EXCAVATION	CY	5790	2320	1430	490	430	560	560	
212.03900	PERVIOUS BACKFILL MATERIAL	CY	40	30	---	10	---	---	---	
217.01010	GEOTEXTILE, EROSION CONTROL	SY	1150	1150	---	---	---	---	---	
217.01030	GEOTEXTILE, EMB AND RETAINING WALL	SY	9560	1580	1580	1380	1380	1820	1820	
503.01000	BRIDGE RAILING	FT	1256	---	---	287	287	341	341	
503.01100	BRIDGE RAILING MODIFICATION	FT	222	111	111	---	---	---	---	
507.01000	REINFORCED CONC APPROACH SLABS	SY	1442	256	256	236	236	229	229	
507.01100	BRIDGE APPROACH BACKFILL	CY	4280	1330	1330	330	330	480	480	
508.01000	REINFORCED CONC SLOPE PAVING	SY	1942	885	---	1057	---	---	---	
512.01040	COMPRESSED JOINT MATERIAL	FT	602	131	131	85	85	85	85	
512.01050	ELASTOMERIC COMP JOINT SEAL	FT	338	---	---	---	---	169	169	
513.00005	CLASS A CONCRETE	LS	LUMP SUM	---	---	---	---	8.2 CY	8.2 CY	16.4 CY 288.8 CY 32,370 LB 9040 LB
513.00015	CLASS B CONCRETE	LS	LUMP SUM	242.5 CY	4.1 CY	20.2 CY	6.2 CY	7.9 CY	7.9 CY	
514.00015	REINFORCING STEEL	LS	LUMP SUM	31,370 LB	---	1000 LB	---	---	---	
514.00025	REINFORCING STEEL (COATED)	LS	LUMP SUM	380 LB	380 LB	2260 LB	2260 LB	1880 LB	1880 LB	
515.02710	BRIDGE DECK REPAIR CLASS I-A	SY	2308	326	326	368	368	460	460	
515.02730	BRIDGE DECK REPAIR CLASS II-A	SY	114	16	16	18	18	23	23	
515.02740	BRIDGE DECK REPAIR CLASS II-B	SY	12	2	2	2	2	2	2	
515.02800	SILICA FUME MODIFIED CONCRETE	CY	102	14	14	17	17	20	20	
516.42020	PAINT REPAIR - BRIDGE RAILING	LS	LUMP SUM	140 FT	140 FT	---	---	---	---	280 FT
599.00080	BRIDGE CONCRETE REPAIR	SF	21	---	---	---	3	13	5	
605.10006	UNDERDRAIN PIPE (PERF) 6 in	FT	512	90	90	83	83	83	83	
605.20006	UNDERDRAIN PIPE (NON-PERF) 6 in	FT	174	30	30	25	25	32	32	
900.60000	CONTRACTOR QUALITY CONTROL (CONCRETE)	LS	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	

INDEX OF STRUCTURES					
Feature Intersected	Station	Route	RM	Structure Number	Lane
Machinery Pass	119+05	ML25	109.12	AFF	NBL
				AFG	SBL
Middle Bear Interchange	384+32	ML25	104.04	AFD	NBL
				AFE	SBL
Middle Bear Creek	386+96	ML25	103.99	AFB	NBL
				AFC	SBL

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM REVISIONS			
APPROVED	DESIGN <input checked="" type="checkbox"/> <input type="checkbox"/>	Design Section L M Nop	
DATE	DETAIL <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Drwg No. 0014 Sheet 1 of 30	
	QTY'S <input checked="" type="checkbox"/> <input type="checkbox"/>		

**GENERAL NOTES**

**SPECIFICATIONS:** WYDOT Standard Specifications for Road and Bridge Construction, 2003 Edition

**DIMENSIONS:** Longitudinal dimensions are horizontal and include no correction for grade. Slopes are vertical : horizontal.

**FIELD MEASUREMENTS:** Field verify dimensions before ordering materials.

**CONSTRUCTION SAFETY REQUIREMENTS:** At Sta 384+32, to ensure safety of the users below, employ removal and reconstruction methods to prevent debris from falling onto the roadway below the structures. Use warning signs and a debris containment system. Work necessary for these requirements is incidental to the contract pay items Removal of Concrete and Bridge Deck Repair Class II-B.

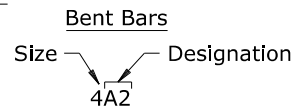
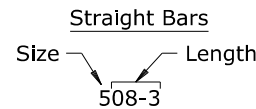
**LINE STYLE DESIGNATION:** Phantom lines indicate existing structure, solid lines indicate new construction, hatched areas indicate removal.

**HAZARDOUS MATERIALS:** The paint systems on the steel components of the existing structures may contain materials including lead and chromium that are hazardous if ingested, inhaled, or otherwise absorbed.

**CONCRETE:** Use class A concrete for the expansion device replacement at Sta 386+96. Use silica fume modified concrete for the bridge deck repairs and resurfacings. Use class B concrete at all other locations.

**REINFORCING STEEL:** Concrete cover to face of reinforcing steel is 2" unless noted. Dimensions for bent bars are out to out. Ensure bars marked with an asterisk (\*) are coated.

**BAR MARKS**



**ELASTOMERIC COMP JOINT SEAL:** Use one of the following products:  
CV-3500 as manufactured by The D.S. Brown Co.  
WJ-350 as manufactured by Watson Bowman Acme Corp.

**COMPRESSED JOINT MATERIAL:** Use 2" wide (uncompressed) by 2" deep compressed joint material. Use one of the following products:  
Willseal 600 as manufactured by Willseal, LLC  
Illmod 600 as manufactured by Tremco Commercial Sealants & Waterproofing.

**WEEP HOLE ASSEMBLIES:** Work necessary for the retaining wall weep hole assemblies at Sta 119+05 and Sta 384+32 is incidental to the contract pay item Class B Concrete.

**PREFORMED EXPANSION JOINT FILLER:** Work necessary for the preformed expansion joint filler at Sta 119+05 and Sta 384+32 is incidental to the contract pay item Reinforced Conc Slope Paving.

**SLOPE PAVING AND RETAINING WALLS:** Work necessary for the slope paving and retaining walls at Sta 119+05 and Sta 384+32 is paid for under the NBL's respective contract pay items.

**BRIDGE RAILING ANCHOR BOLTS:** Use threaded rods conforming to ASTM F 1554 (Grade 105).

**ADHESIVE ANCHORAGE SYSTEM:** Use one of the following products to set bridge railing anchor bolts:  
CIA Gel System as manufactured by USP Structural Connectors  
Epcon System as manufactured by ITW Red Head  
Sure-Anchor I (J-51) as manufactured by Dayton Superior  
HIT-RE 500 System as manufactured by Hilti, Inc.  
Drill and prepare holes for the anchorage system and install threaded rods in accordance with the manufacturer's recommendations. Ensure pullout strength of equal or greater capacity to the corresponding threaded rods. Work necessary for the adhesive anchorage system is incidental to the contract pay item Bridge Railing.

**DRY EXCAVATION:** The estimated quantity of dry excavation at the approach slab replacements is calculated below existing finished grade to the limits shown and includes removal of the existing approach slabs. The estimated quantity of dry excavation at the retaining walls is calculated below existing ground line.

**REMOVAL OF ASPHALT:** Remove the existing asphalt overlays from the bridge decks listed below by cold milling to approximately 1/2" above the original concrete surface. Do not damage the bridge decks while removing the remaining 1/2" of asphalt. The approximate depth of existing asphalt is as follows:

- Sta 384+32 - NBL ---- 2"
- SBL ---- 2 3/4"
- Sta 386+96 - NBL ---- 4 1/4"
- SBL ---- 2 3/4"

**REMOVAL OF CONCRETE:** Remove portions of the existing structures to the limits shown. Thoroughly clean concrete from reinforcing steel to remain in place and straighten as required. Remove and replace damaged reinforcing steel with the same size bar and weld-splice where necessary at no additional cost to the department.

**EPOXY RESIN BONDING COMPOUND:** At replacement and repair locations using class A or class B concrete, clean the roughened surfaces of the existing concrete and coat with epoxy resin bonding compound. If the bonding compound gels before concrete placement, remove by sandblasting and reapply. Use bonding compound conforming to Subsection 810.6, Epoxy Resin. Mix and apply in accordance with manufacturer's recommendations. Work necessary for the epoxy resin bonding compound is incidental to the contract pay items Class A Concrete and Class B Concrete.

**WEEP HOLE GROUTING:** At Sta 119+05, fill existing weep holes with nonshrink grout before placing reinforced bridge approach fills. Work necessary for grouting the weep holes is incidental to the contract pay item Bridge Approach Backfill.

**RESURFACING:** Complete resurfacing operations within two working days after completion of the scarifying, chipping, and flush cleaning activities. Only equipment required for the resurfacing operations will be allowed on the bridge after flush cleaning.

**EROSION REPAIR:** Repair eroded areas on the berm slopes with roadway fill material compacted to 95% density. Work necessary for the erosion repair at Sta 119+05 and Sta 384+32 is incidental to the contract pay item Reinforced Conc Slope Paving. Work necessary for the erosion repair at Sta 386+96 is paid for under the contract pay item Force Account Work.

**PAINT REPAIR:** Paint the existing bridge railing remaining in place at Sta 119+05 with epoxy-mastic paint.

**LEAD PAINT REMOVAL:** The estimated quantity of controls for lead paint removal is 5% of the area of existing bridge railing remaining in place at Sta 119+05.

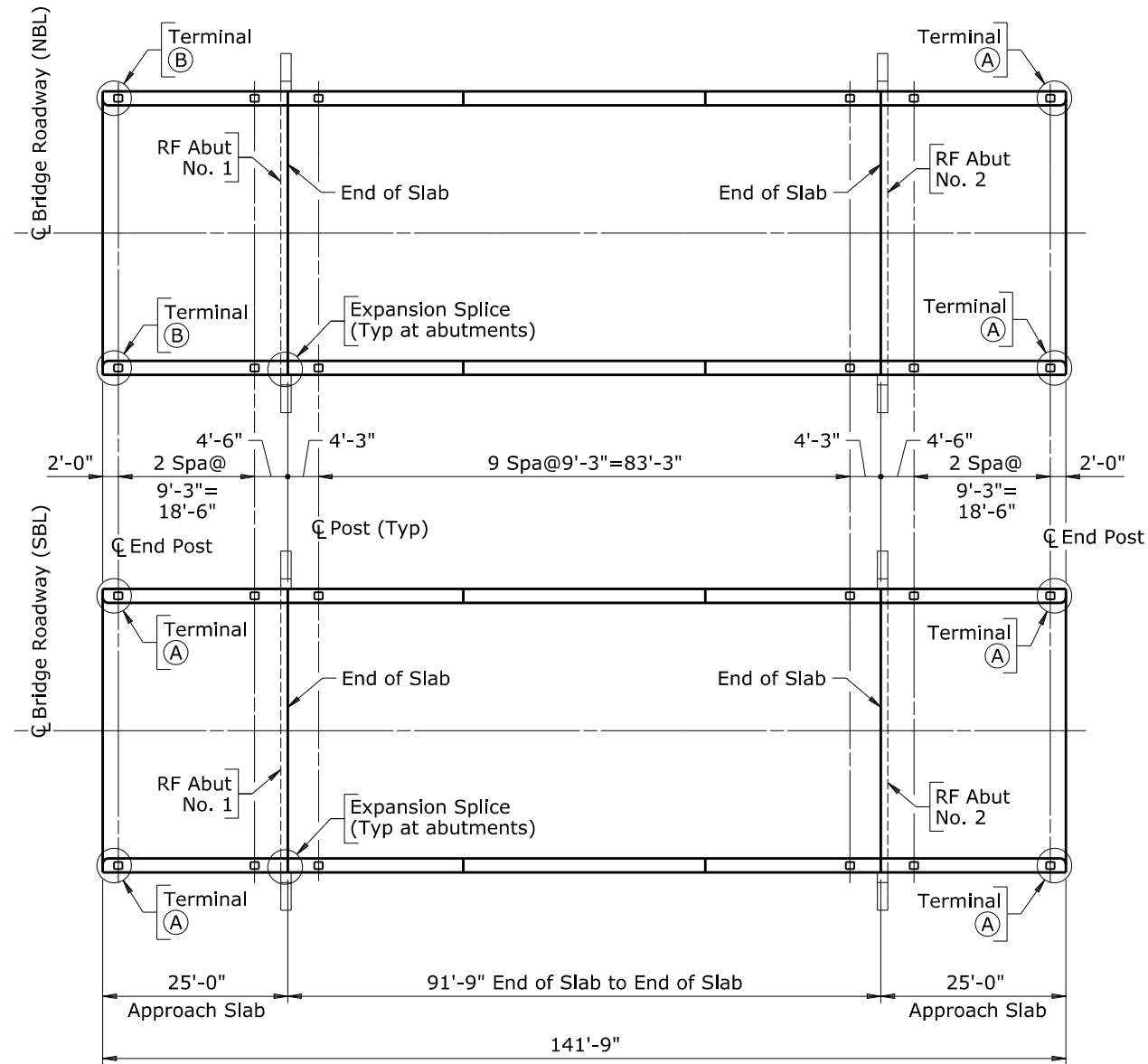
**BRIDGE OFFICE NOTIFICATION:** The engineer will notify the State Bridge Engineer in writing within 14 calendar days after work has been completed at each structure.

**REFERENCES**

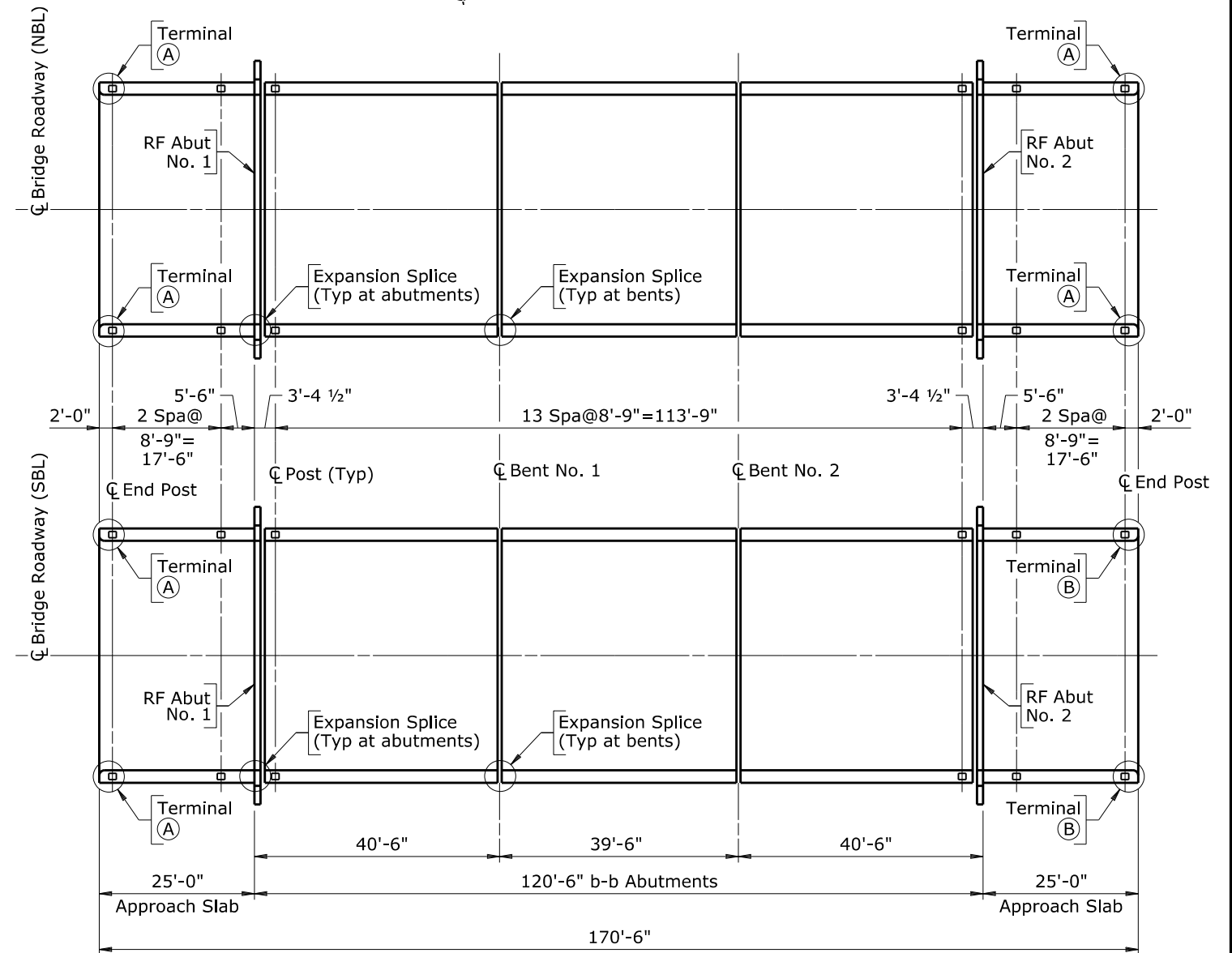
Special Provisions:	Dated
SP-500R Bridge Concrete Repair -----	6-15-04
Supplementary Specifications:	Dated
SS-100G Worker and Environmental Controls	
for Lead Paint Removal -----	1-6-04
SS-100K Adjustment for Structural Steel -----	Rev. 10-1-09
SS-500G Structural Concrete with Quality	
Control and Quality Acceptance -----	Rev. 1-1-09
WYDOT Plans:	Sheet No.
Sta 119+05	
Bridge Drwg No. 4526 -----	2 & 4-8 of 8
Bridge Drwg No. 5522 -----	2 of 4
Sta 384+32	
Bridge Drwg No. 3378 -----	1 of 1
Bridge Drwg No. S-546 -----	1 & 2 of 2
Sta 386+96	
Bridge Drwg No. 3379 -----	1-5 of 5
Bridge Drwg No. S-538 -----	1 of 1
Bridge Drwg No. 5255 -----	1 & 2 of 2
All Locations	
Bridge Drwg No. 6169 -----	4 & 6 of 6
Bridge Drwg No. 4173 -----	1, 3 & 4 of 4
Bridge Drwg No. 3518 -----	1 & 2 of 2

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS	<b>GENERAL NOTES</b>		
	<b>BRIDGE REHABILITATION</b>		
	<b>VARIOUS LOCATIONS</b> Wheatland - Glendo Road (Cassa North Section)		
	I252137	PI	
APPROVED	DESIGN <input checked="" type="checkbox"/> <input type="checkbox"/>	Design Section L M Nop	
DATE	DETAIL <b>BBB</b> <input checked="" type="checkbox"/> <b>AAA</b> <input type="checkbox"/>	Drwg No. 0014	Sheet 2 of 30
	QTY'S <input checked="" type="checkbox"/> <input type="checkbox"/>		





**PLAN AT STA 384+32**  
(20 posts with adhesive anchorage system req'd per structure on bridge)  
(12 posts with full anchorages req'd per structure on approach slabs)



**PLAN AT STA 386+96**  
(28 posts with adhesive anchorage system req'd per structure on bridge)  
(12 posts with full anchorages req'd per structure on approach slabs)

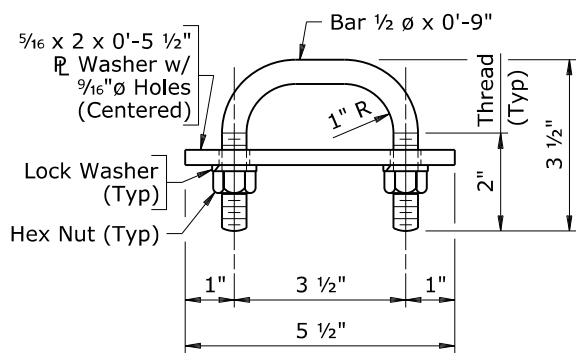
TERMINAL DESIGNATIONS	
Terminal Designation	Approach Guardrail Connection
(A)	Box Beam w/ Rubrail Approach Guardrail
(B)	No Approach Guardrail

Note: Ensure the expansion splice is located in the railing panel which passes over the bridge expansion joint as indicated on the plan.

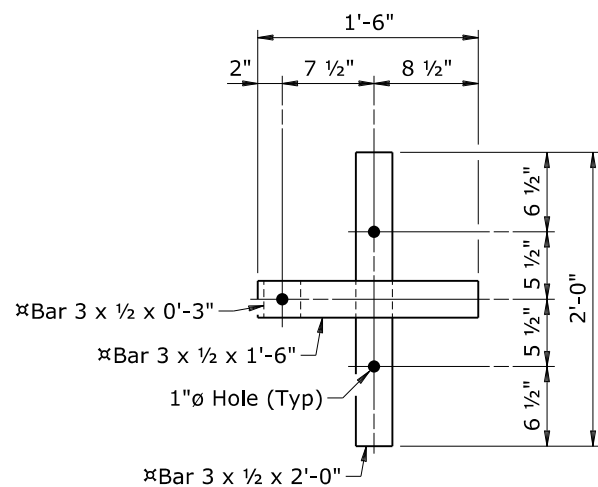
STA 384+32  
STA 386+96

WYOMING DEPARTMENT OF TRANSPORTATION  
BRIDGE PROGRAM

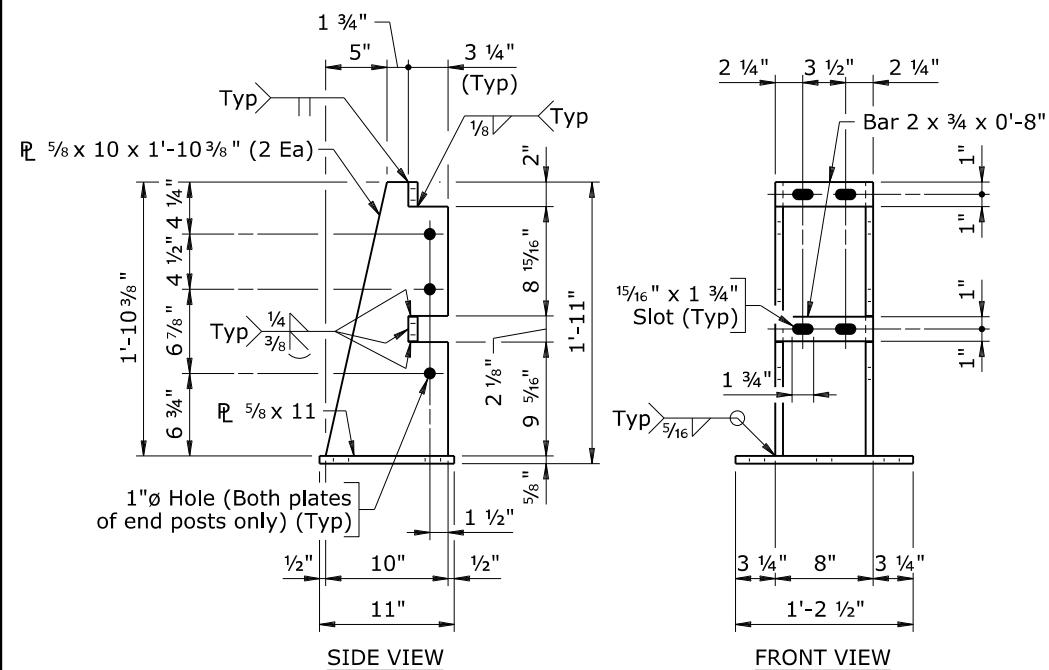
REVISIONS	<b>BRIDGE RAILING DETAILS</b>	
	<b>BRIDGE REHABILITATION</b>	
<b>VARIOUS LOCATIONS</b>		
Wheatland - Glendo Road (Cassa North Section)		
I252137		PI
APPROVED	DESIGN <input type="checkbox"/> <input checked="" type="checkbox"/>	Design Section L M NOP
DATE	DETAIL <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Drwg No. 0014
	QTY'S <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Sheet 8 of 30



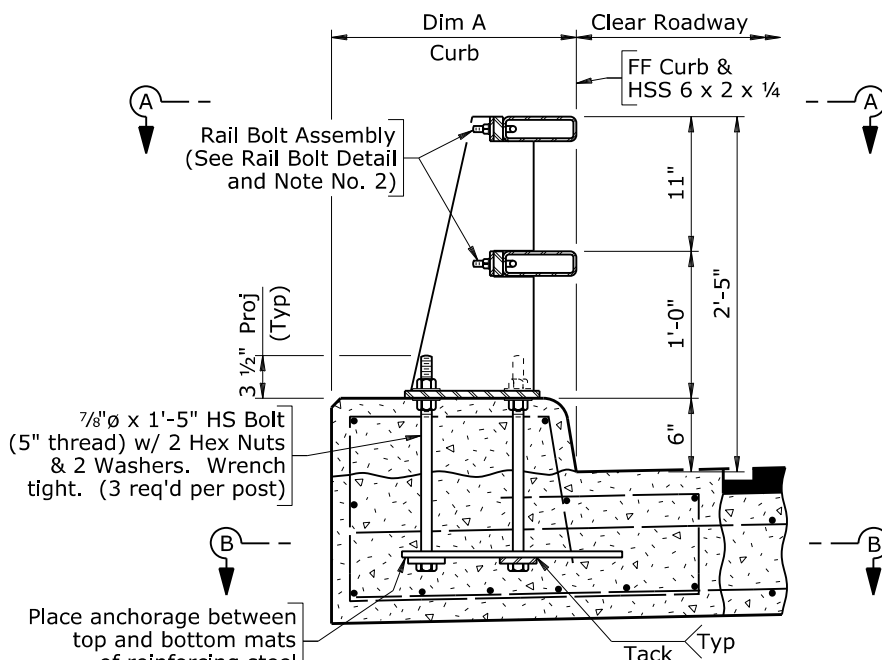
RAIL BOLT DETAIL



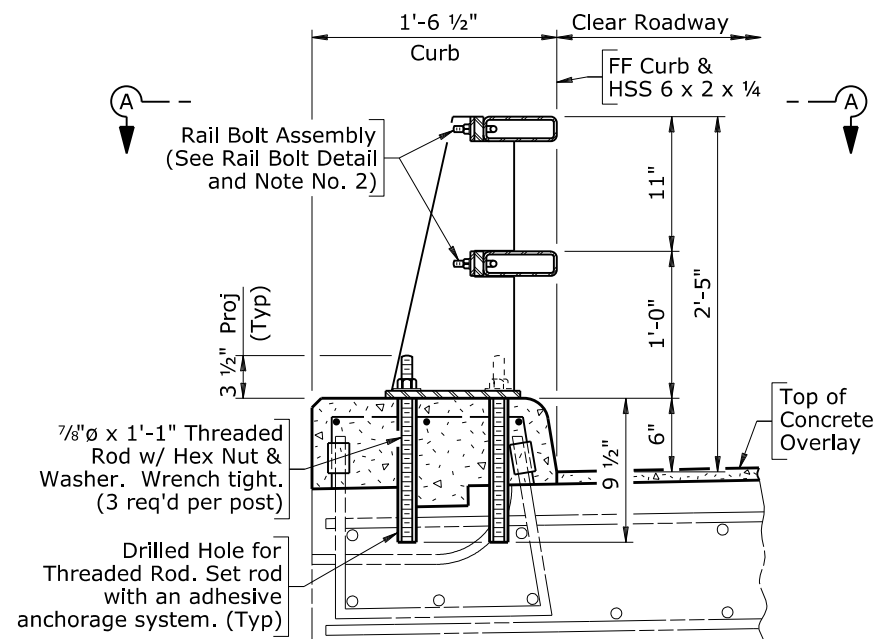
SECTION B-B  
(Not galvanized)  
(Anchor bolts and slab not shown)



POST DETAILS  
(See View A-A for anchor bolt hole spacing)

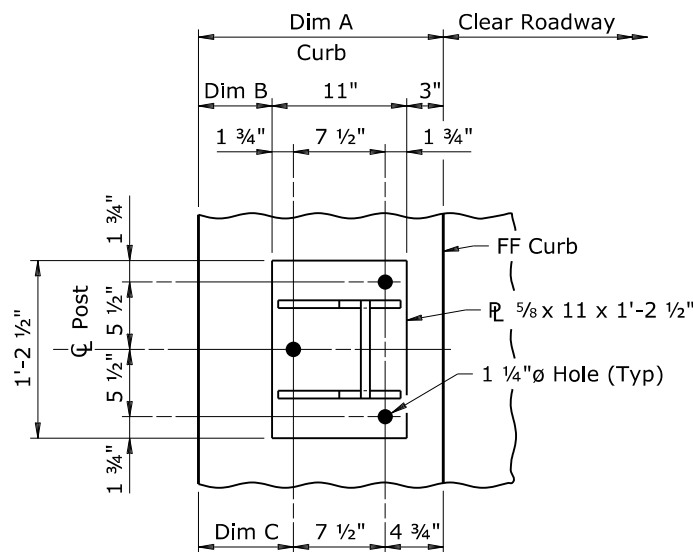


ASSEMBLY DETAIL  
(Shown near C Post on approach slab)



TYPICAL SECTION  
(Shown near C Post on bridge slab at Sta 384+32 and Sta 386+96)

TABLE OF DIMENSIONS			
Location	Dim A	Dim B	Dim C
Sta 119+05	1'-4"	2"	3 3/4"
Sta 384+32	1'-6 1/2"	4 1/2"	6 1/4"
Sta 386+96	1'-6 1/2"	4 1/2"	6 1/4"

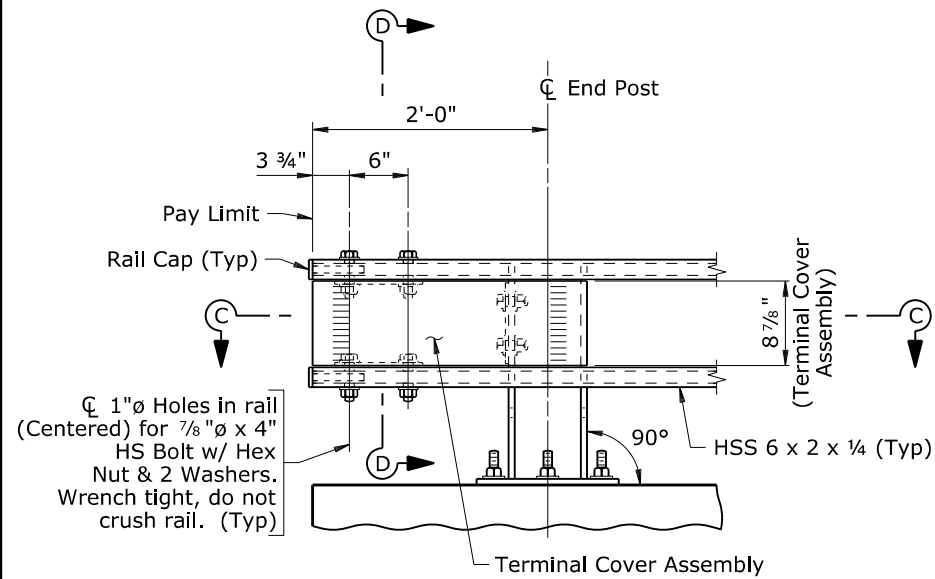


VIEW A-A  
(Anchor bolts, rails, and rail bolts not shown)

- Note:
- 1) Anchor bolts may be tack welded to anchorage (Shop or field).
  - 2) At post locations, drill two 1 1/16" holes in the rails to receive rail bolts (Shop or field). See Post Details for hole spacing.
  - 3) Paint surfaces of the railing components that have been cut, drilled, or otherwise damaged with two coats of zinc-rich paint conforming to ASTM A 780.
  - 4) After installing rails, paint exposed bolt threads with two coats of zinc-rich paint conforming to ASTM A 780.

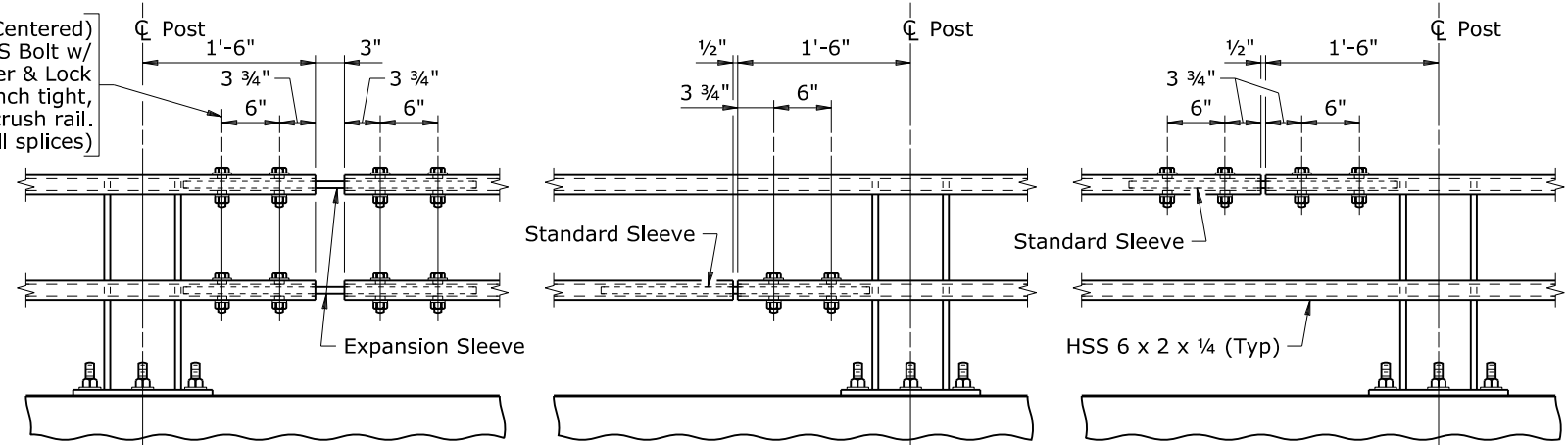
ALL LOCATIONS

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Wheatland - Glendo Road (Cassa North Section)			
I252137		PI	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	Drwg No. 0014 Sheet 9 of 30	
	BBB ✓ AAA		
	GGG ✓ DDD		



ELEVATION AT TERMINAL

1"  $\phi$  Holes in rail (Centered) for 3/4"  $\phi$  x 3 1/2" HS Bolt w/ Hex Nut, Washer & Lock Washer. Wrench tight, do not crush rail. (Typ) (All splices)

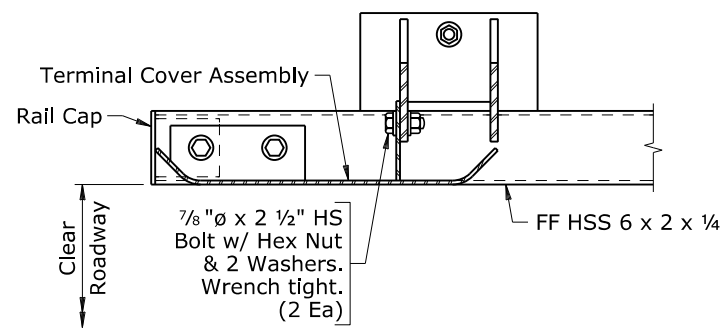


EXPANSION SPLICE (Top and bottom rail)

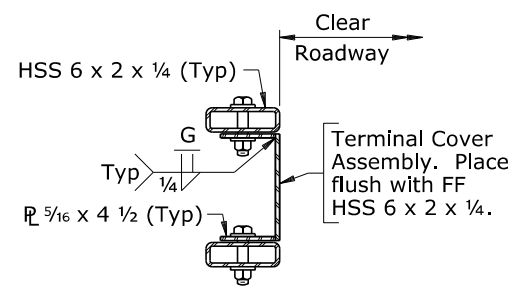
STANDARD SPLICE (Top or bottom rail)

DOUBLE-BOLTED SPLICE (Top or bottom rail)

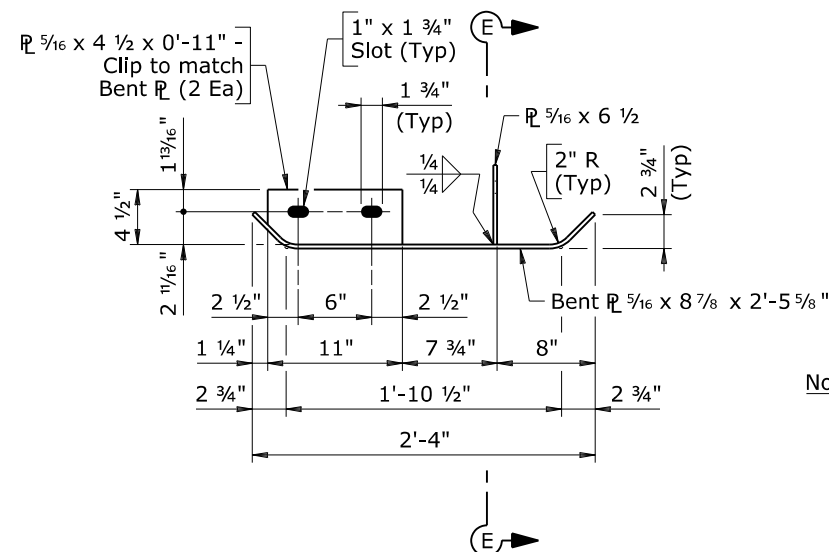
TERMINAL COMPONENT REQUIREMENTS		
Approach Guardrail Connection	Rail Caps Required	Terminal Cover Assembly Required
MGS Approach Guardrail	Yes (Without bolts)	±No
Box Beam w/ Rubrail Approach Guardrail	No	No
No Approach Guardrail	Yes (With bolts)	Yes



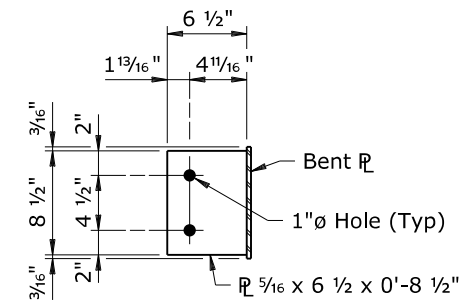
SECTION C-C



SECTION D-D

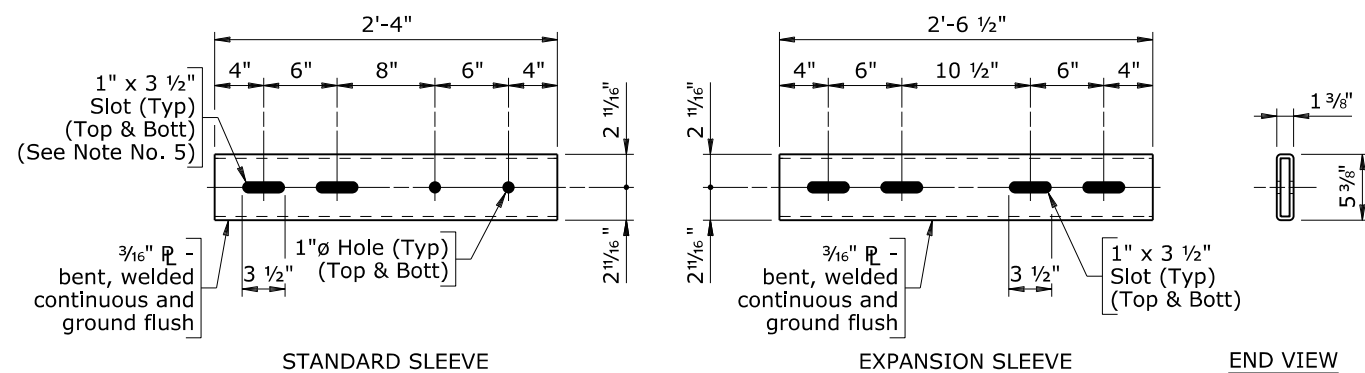


TERMINAL COVER ASSEMBLY DETAIL



SECTION E-E

- Note:
- 1) Ensure each rail length is continuous over a minimum of two posts.
  - 2) In rehabilitation work, ensure railing that cannot feasibly be made continuous over a minimum of two posts has a double-bolted splice.
  - 3) Splices may be located on either side of post.
  - 4) Not more than one splice is permitted per side of post, except at expansion splices.
  - 5) Slots may be omitted in standard sleeves where bolts are required on one side of splice only.
  - 6) Do not shop splice rails.
  - 7) Terminal components removed during rehabilitation work will remain the property of the department.
  - ±8) Installation of MGS approach guardrail will require other fabricated assemblies to be connected to end post. See road plans for details and pay item.

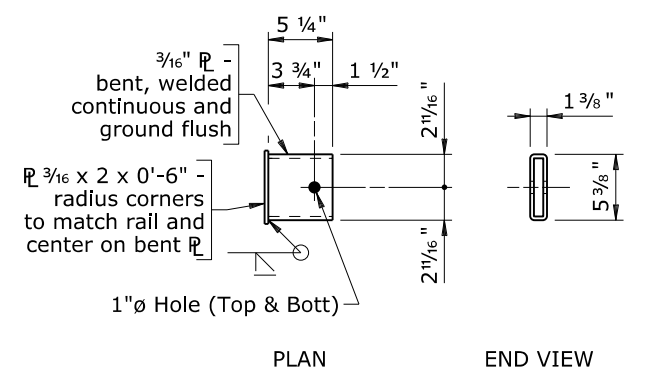


STANDARD SLEEVE

EXPANSION SLEEVE

END VIEW

SLEEVE DETAILS



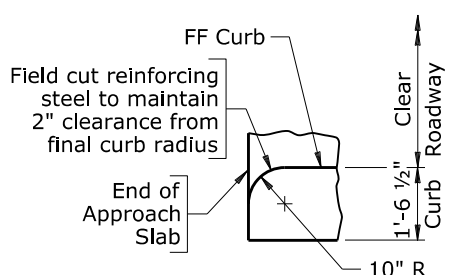
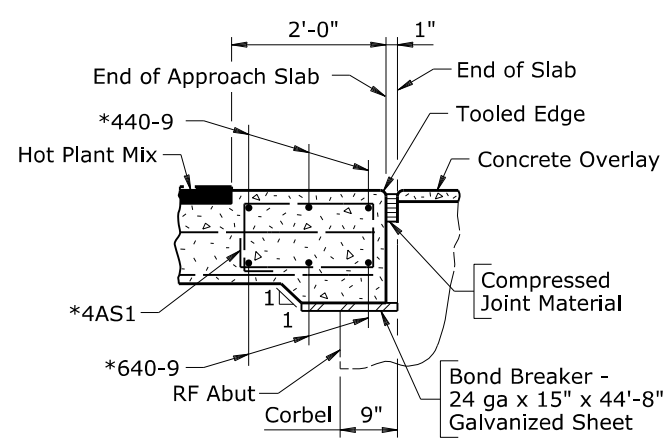
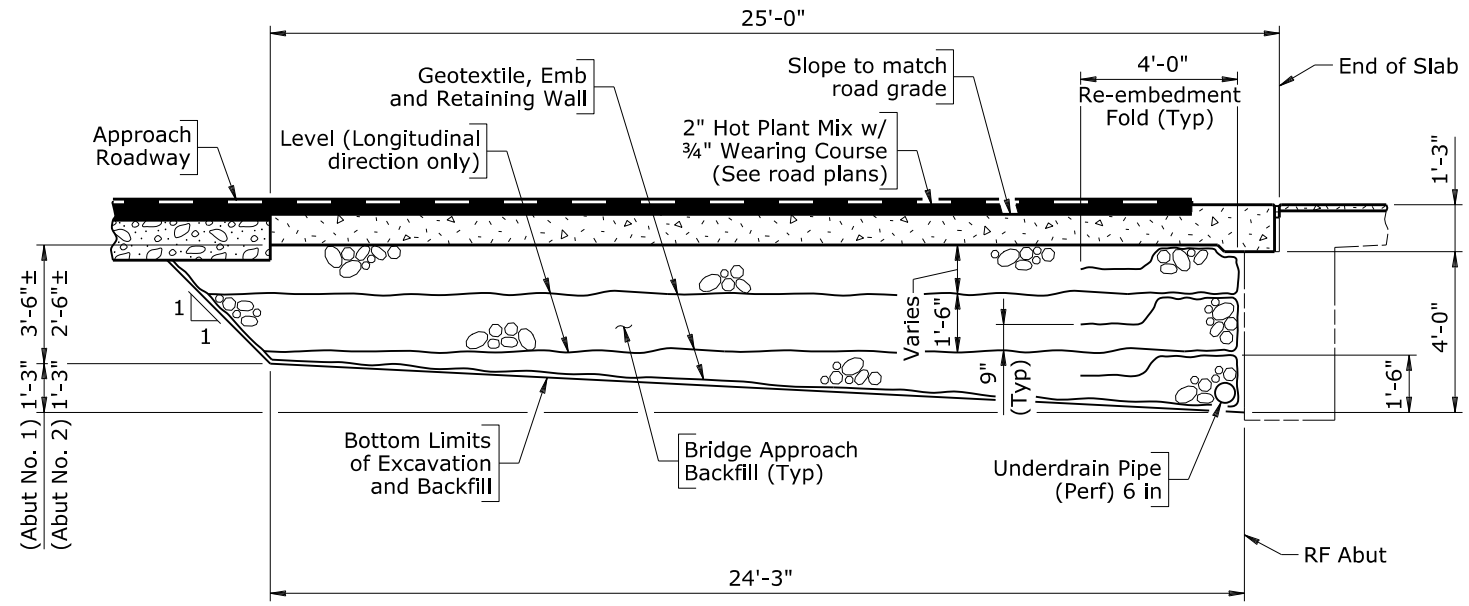
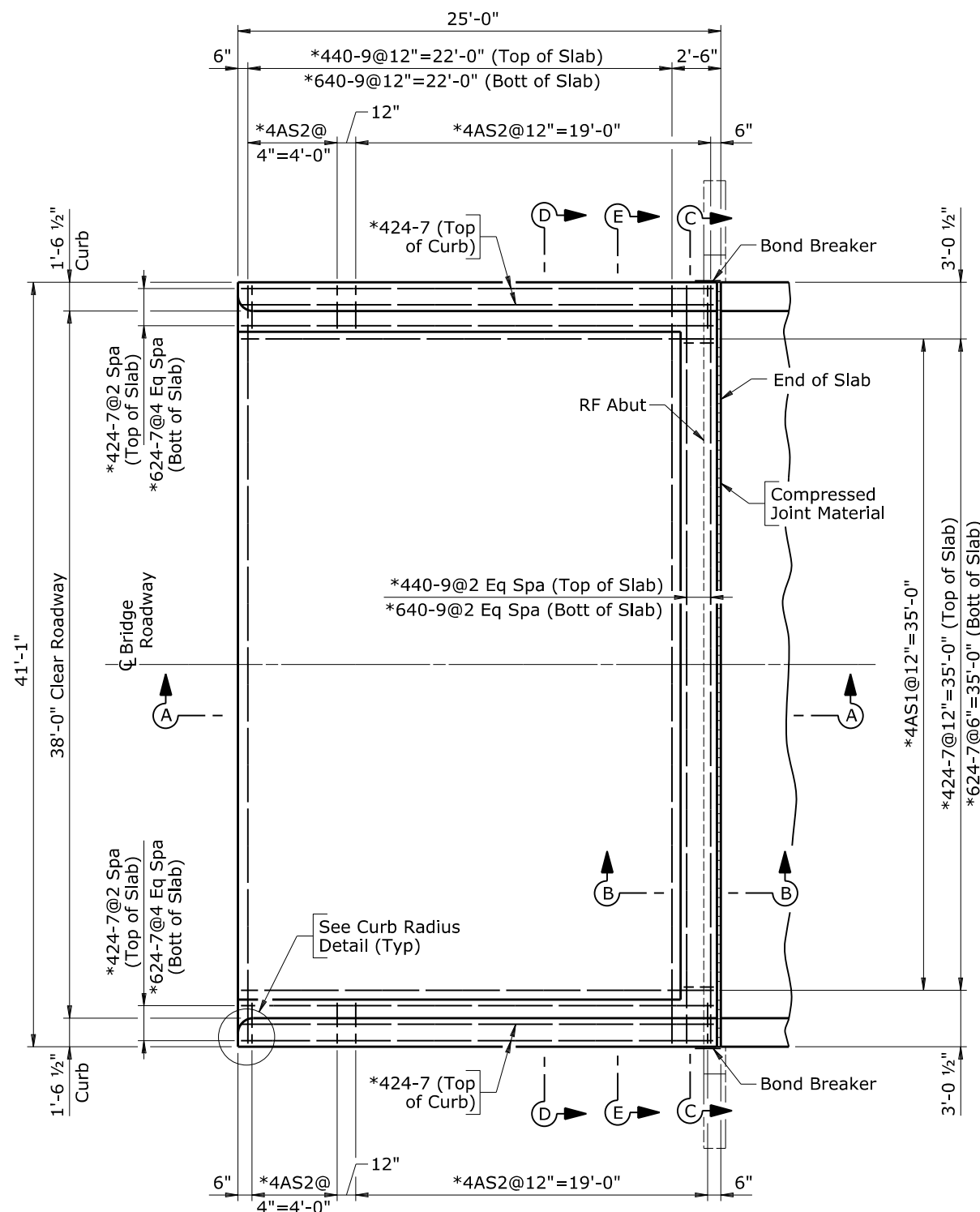
PLAN

END VIEW

RAIL CAP DETAILS

ALL LOCATIONS

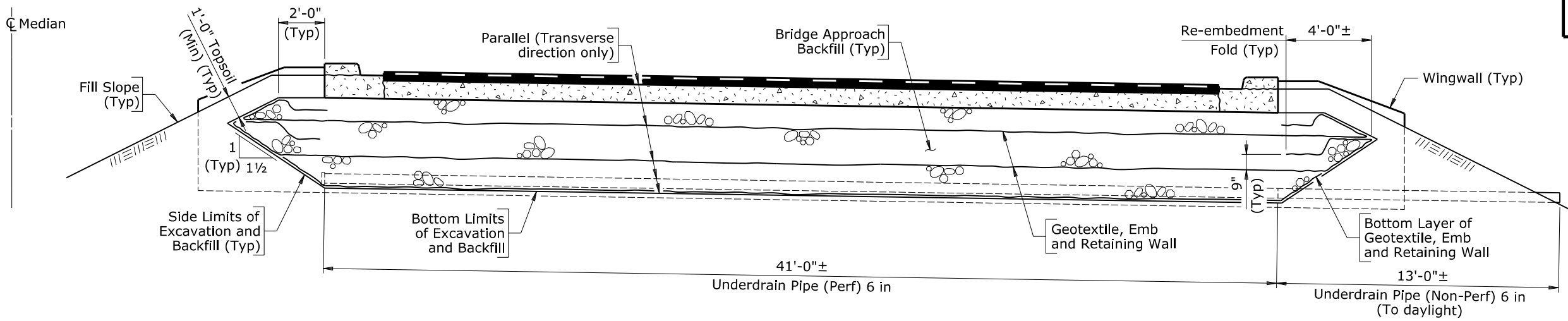
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING DETAILS		BRIDGE REHABILITATION	
BRIDGE REHABILITATION		VARIOUS LOCATIONS	
Wheatland - Glendo Road		(Cassa North Section)	
I252137		PI	
APPROVED	DESIGN	Design Section	L M Nop
DATE	DETAIL	Drwg No.	0014
	QTY'S	Sheet	10 of 30



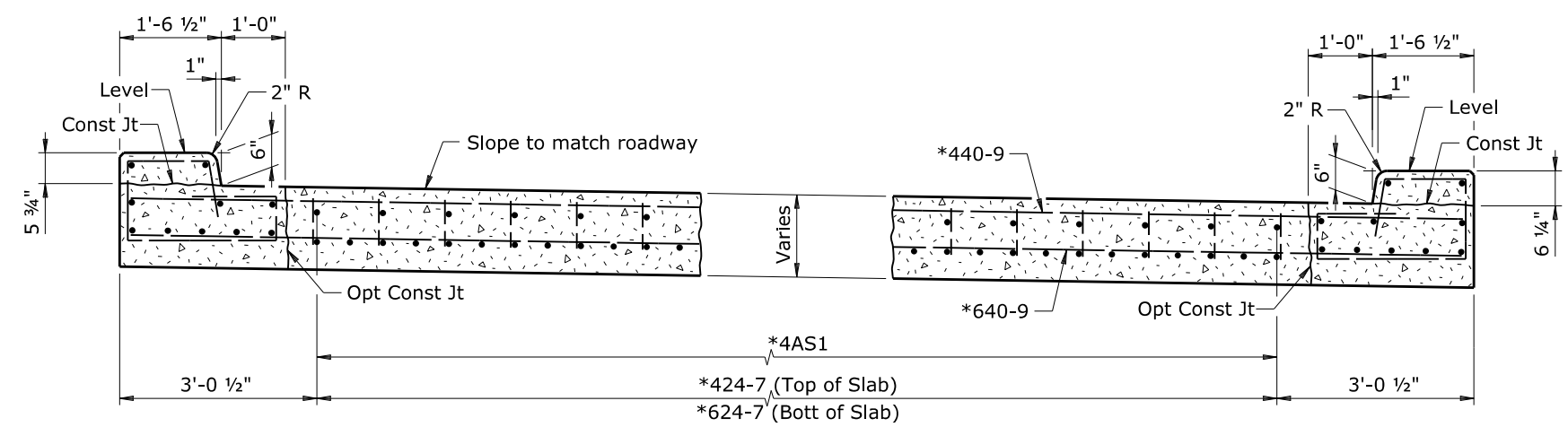
- Note:**
- 1) Extend bond breaker up sides of approach slabs to top of wingwalls.
  - 2) Extend compressed joint material up front face and across top of curbs.
  - 3) For Sections C-C, D-D, and E-E, see Sheet No. 18.
  - 4) For Bridge Railing Details, see Sheets No. 8 thru 10.

**STA 384+32**

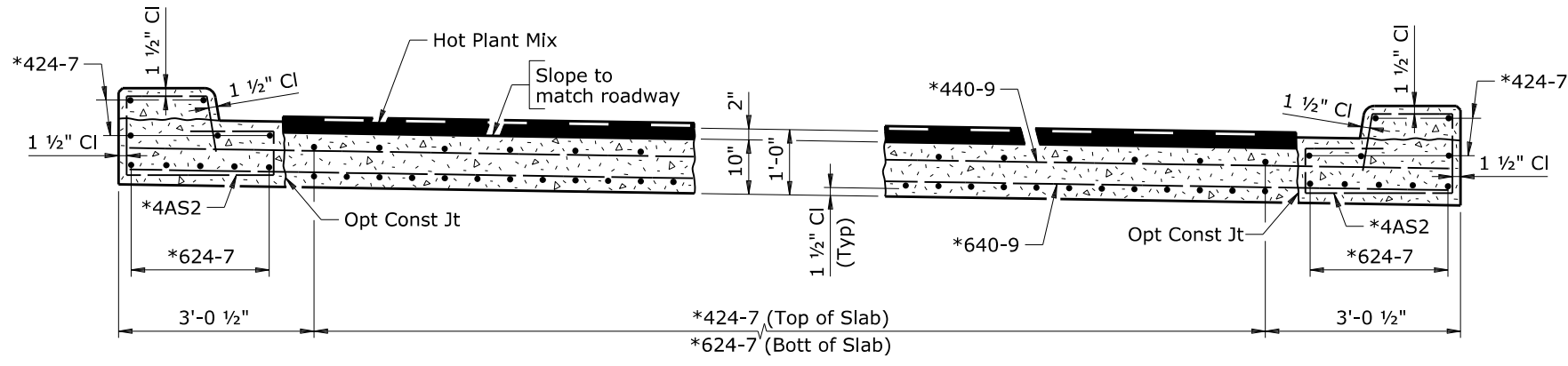
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		<b>APPROACH SLAB DETAILS</b>	
<b>BRIDGE REHABILITATION</b>			
<b>VARIOUS LOCATIONS</b>			
Wheatland - Glendo Road (Cassa North Section)			
I252137		PI	
APPROVED	DESIGN	Design Section	L M Nop
DATE	DETAIL	Drwg No.	0014
	QTY'S	Sheet	17 of 30



SECTION E-E



SECTION C-C  
(Showing typical curb and gutter dimensions)

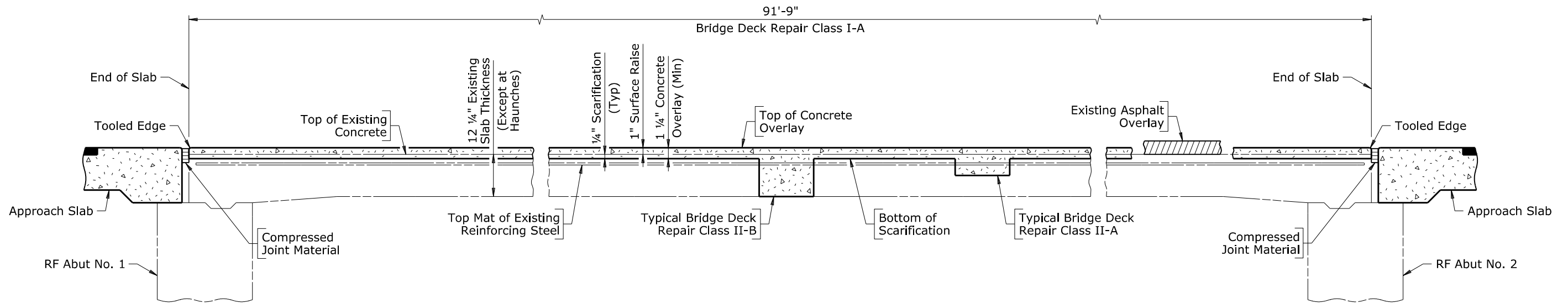


SECTION D-D  
(Showing typical curb and gutter reinforcing steel)

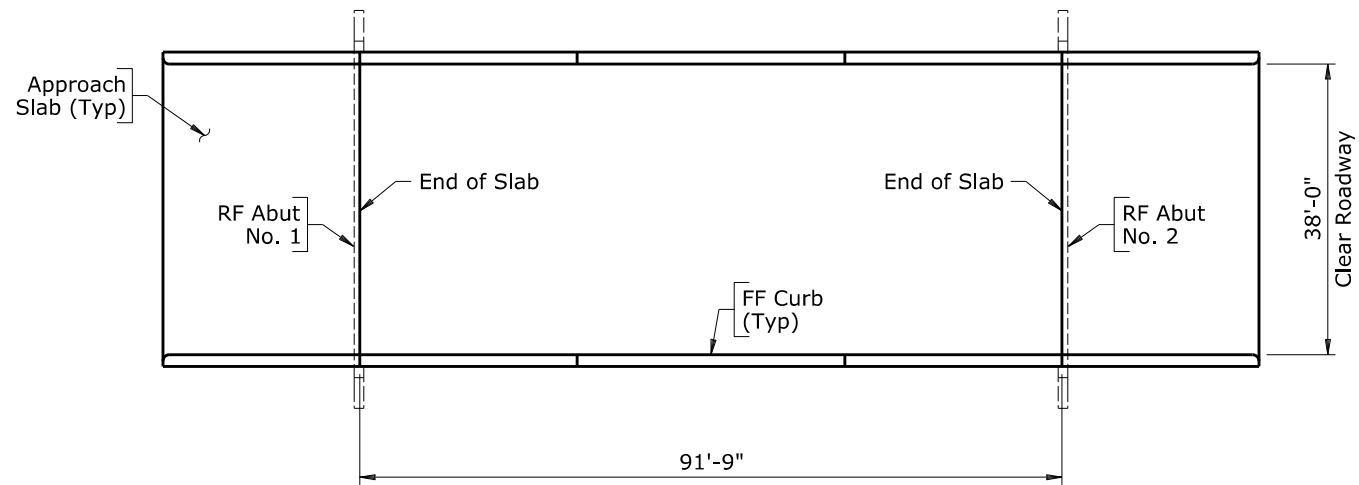
BILL OF REINFORCEMENT		
Location	Mark	Number Required Per Approach Slab
Approach Slab and Curbs	*4AS1	36
	*4AS2	66
	*424-7	46
	*440-9	27
	*624-7	81
	*640-9	27
Σ *Weight		*6601 LB
Bending Diagrams		
*4AS1 (Tie) (5'-6")	*4AS2 (Tie) (7'-7")	

- Note: 1) Ensure the reinforcing steel fabricator prefixes bar marks this sheet as follows:  
 Abutment No. 1 - NBL ----- Numeral 15  
 Abutment No. 2 - NBL ----- Numeral 16  
 Abutment No. 1 - SBL ----- Numeral 17  
 Abutment No. 2 - SBL ----- Numeral 18
- 2) Approach slab reinforcing steel is not included in the quantity of reinforcing steel.
- 3) Extend bottom layer of geotextile up side limits of excavation and backfill to bottom of first layer of geotextile.
- 4) For locations of Sections C-C, D-D, and E-E, see Sheet No. 17.

STA 384+32			
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
APPROACH SLAB DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Wheatland - Glendo Road (Cassa North Section)			
I252137		PI	
APPROVED	DESIGN	Design Section	L M Nop
DATE	DETAIL	Drwg No.	0014
	QTY'S	Sheet	18 of 30



LONGITUDINAL SECTION

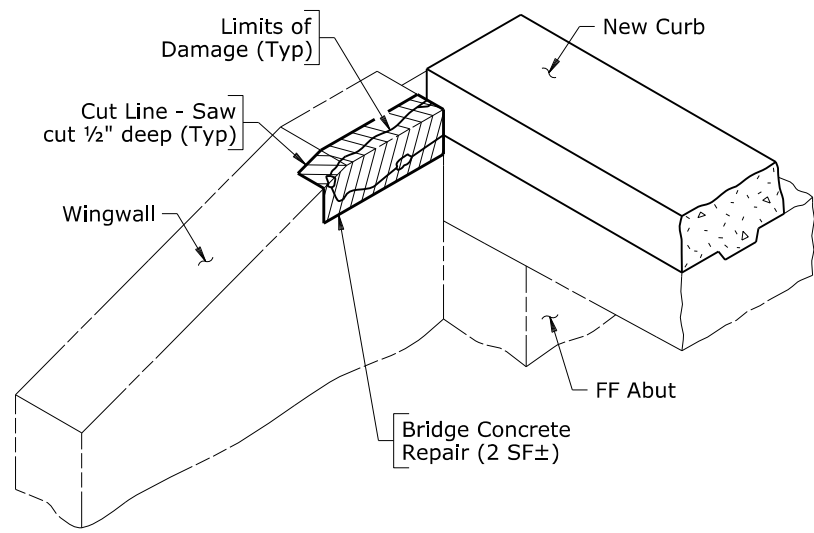


PLAN  
(NBL shown, SBL similar)

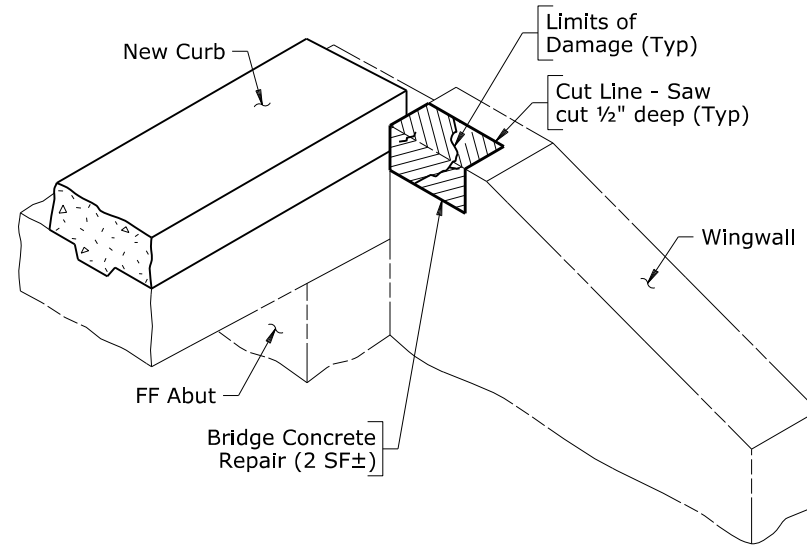
- Note:**
- 1) After scarification, the engineer will visually inspect and sound the deck to identify areas requiring class II-A or II-B repair. Estimated quantities have been included to secure unit bid prices.
  - 2) Bridge railing may be temporarily removed to place screed rails during resurfacing. If the rails are removed from the posts, use new rail bolt assemblies for reinstallation. For Rail Bolt Detail, see Sheet No. 9.
  - 3) The engineer will provide assistance in setting screed rails to obtain the correct elevations.

STA 384+32

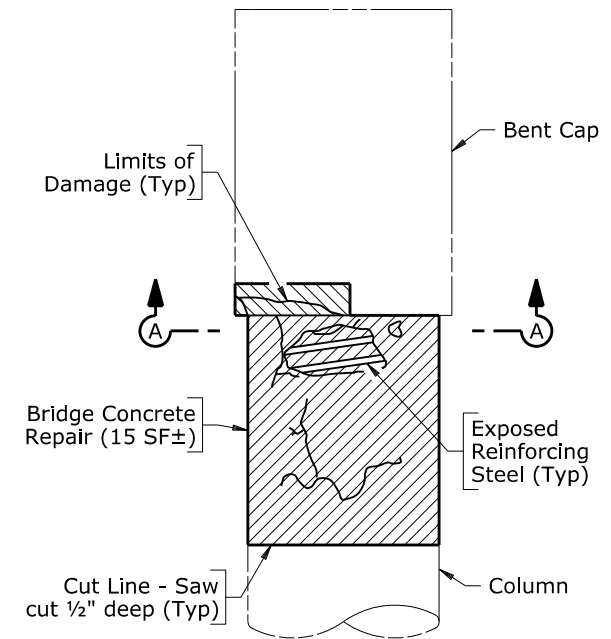
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS	OVERLAY DETAILS		
	BRIDGE REHABILITATION		
	VARIOUS LOCATIONS Wheatland - Glendo Road (Cassa North Section)		
	I252137		PI
APPROVED	DESIGN <input checked="" type="checkbox"/> <input type="checkbox"/>	Design Section L M Nop	
DATE	DETAIL <input checked="" type="checkbox"/> <input type="checkbox"/>	Drwg No. 0014	Sheet 22 of 30
	QTY'S <input checked="" type="checkbox"/> <input type="checkbox"/>		



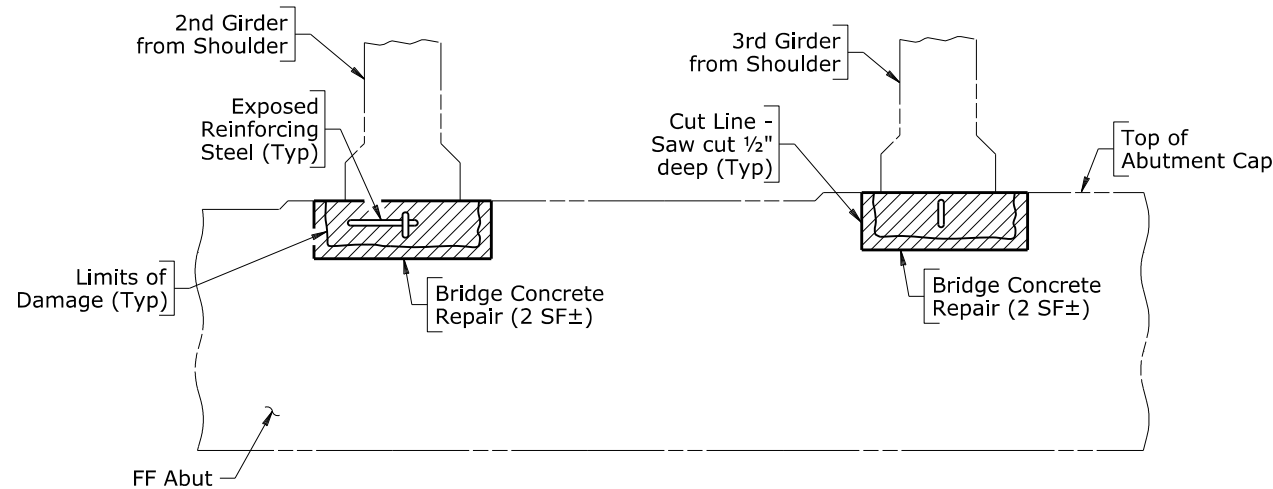
**WINGWALL REPAIR DETAIL**  
(Sta 384+32 (SBL) - Abut No. 1 - Shoulder)



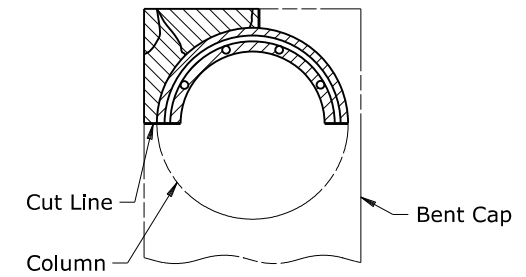
**WINGWALL REPAIR DETAIL**  
(Sta 384+32 (SBL) - Abut No. 2 - Shoulder)



**BENT REPAIR DETAIL**  
(Sta 386+96 (NBL) - Bent No. 1 - Shoulder)



**ABUTMENT REPAIR DETAIL**  
(Sta 386+96 (SBL) - Abut No. 1)

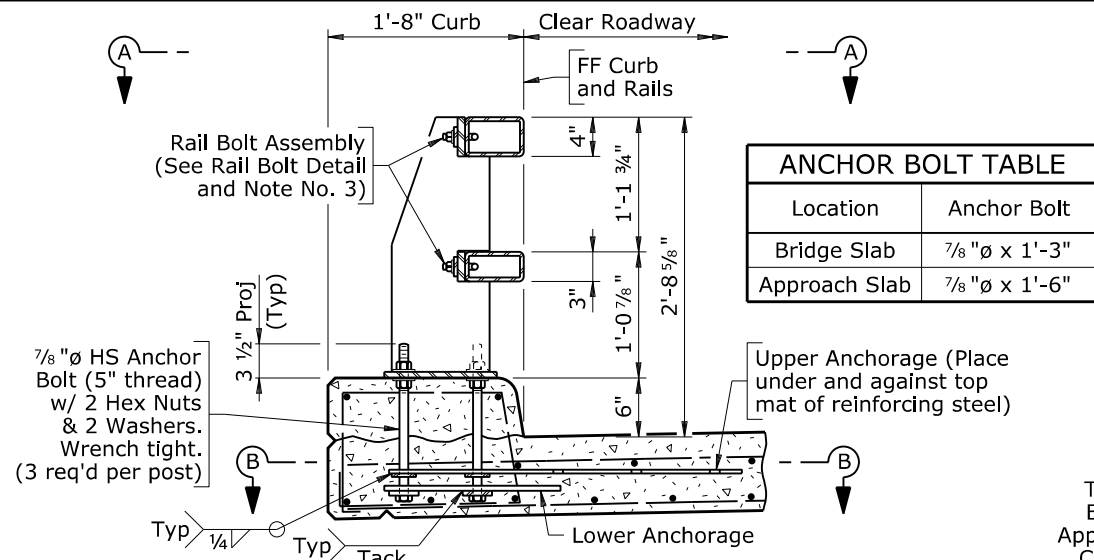


**SECTION A-A**

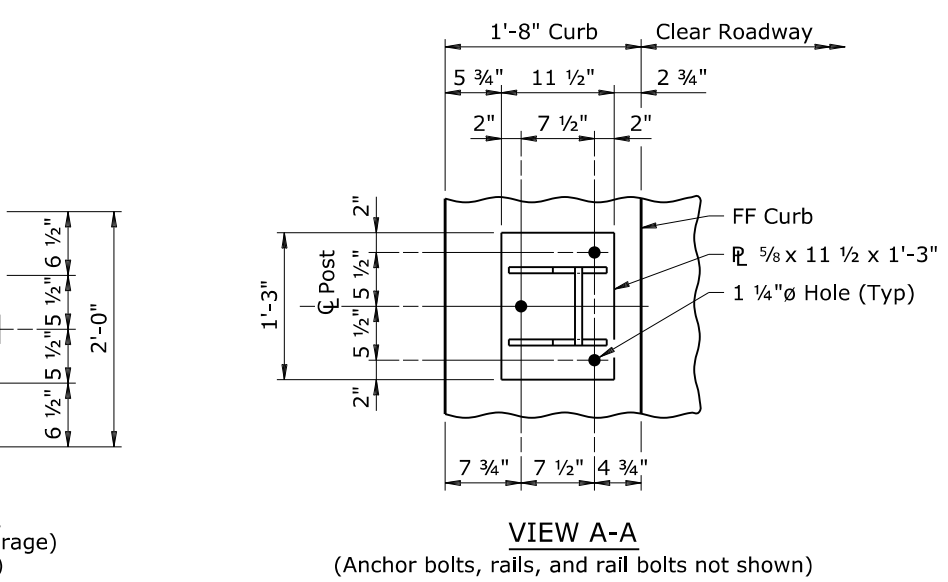
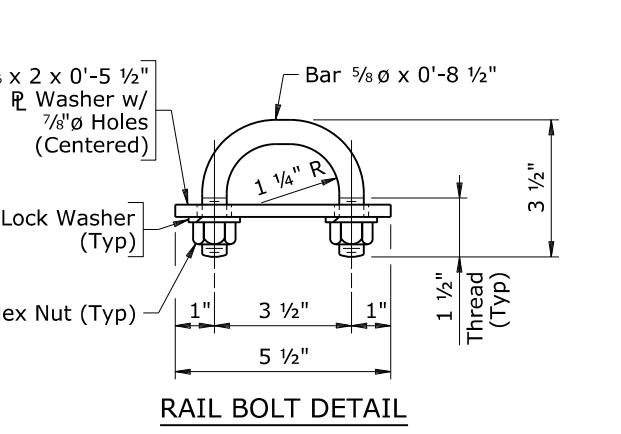
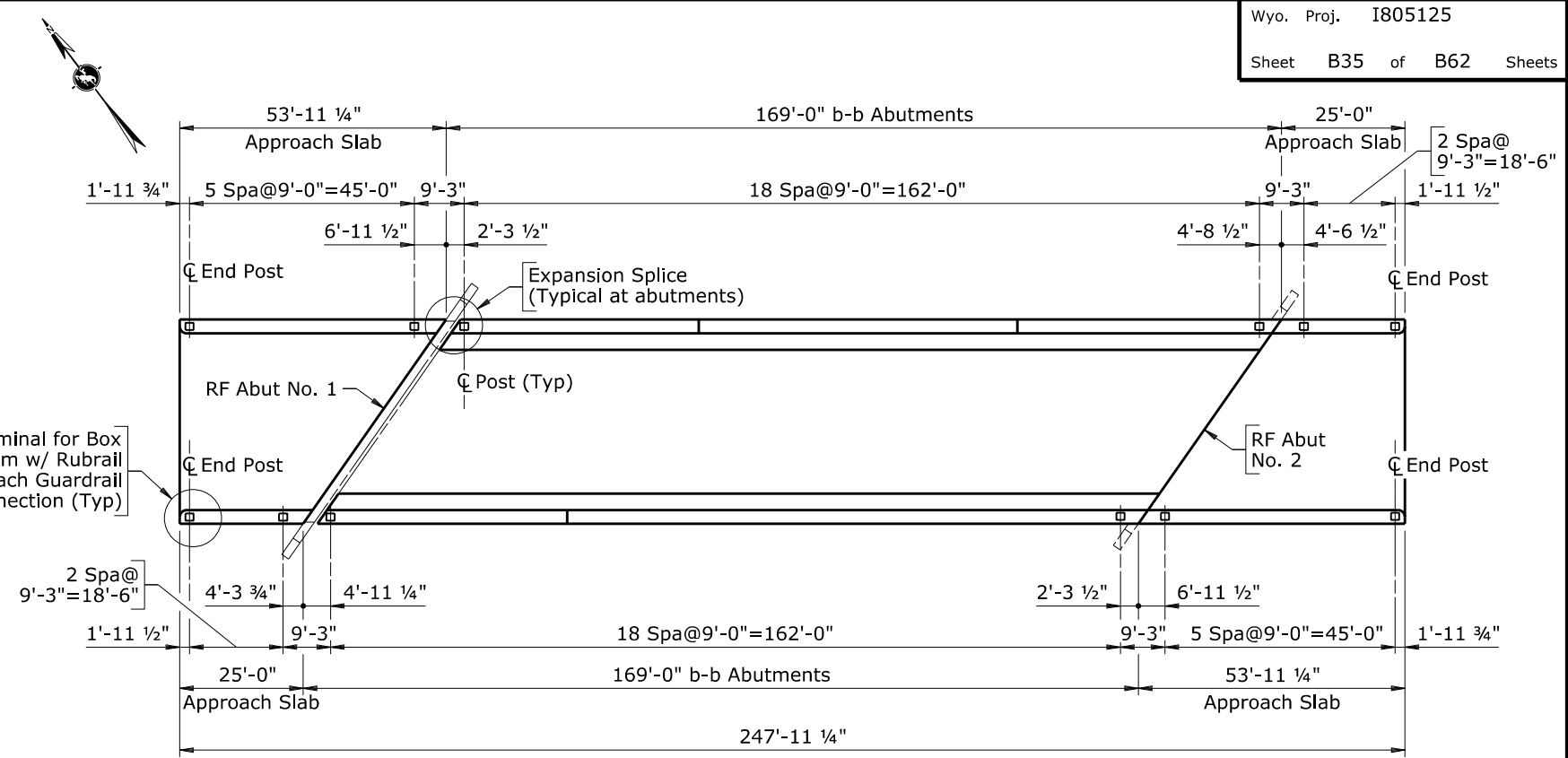
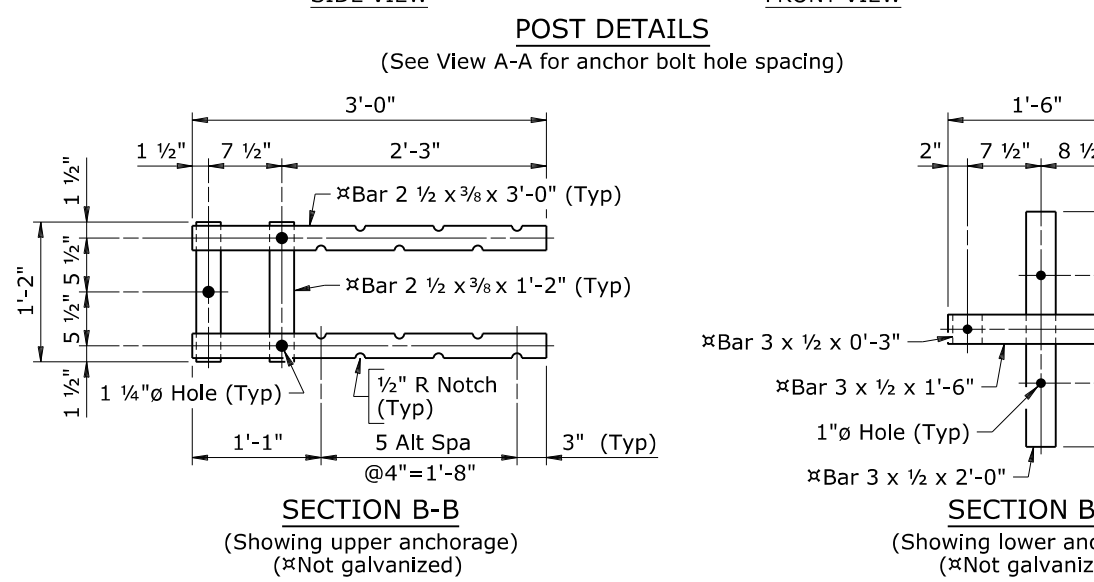
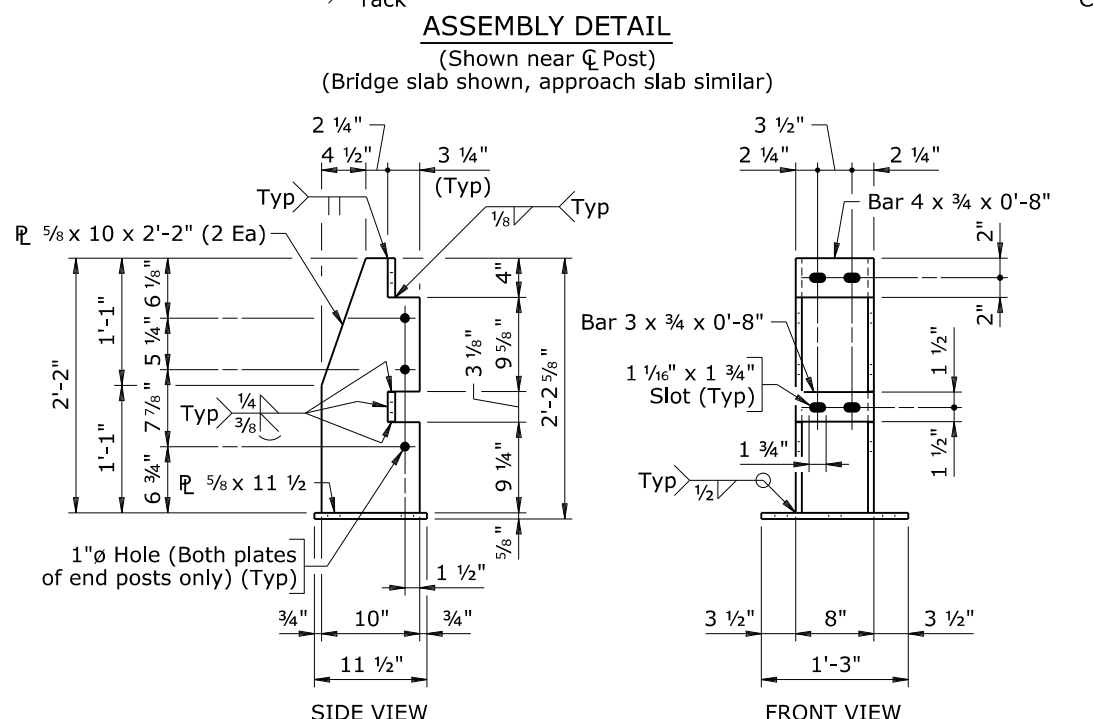
**STA 384+32 (SBL)**  
**STA 386+96**

Note: Repair hatched areas to original lines of construction.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
CONCRETE REPAIR DETAILS			
BRIDGE REHABILITATION			
VARIOUS LOCATIONS			
Wheatland - Glendo Road			
(Cassa North Section)			
I252137		PI	
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	Drwg No. 0014	Sheet 24 of 30
	QTY'S		



ANCHOR BOLT TABLE	
Location	Anchor Bolt
Bridge Slab	7/8" $\phi$ x 1'-3"
Approach Slab	7/8" $\phi$ x 1'-6"

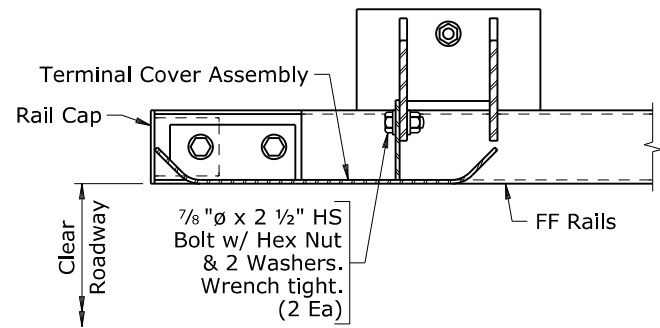


- Note:
- 1) Ensure the expansion splice is located in the railing panel which passes over the bridge expansion joint as indicated on the plan.
  - 2) Anchor bolts may be tack welded to lower anchorage (Shop or field).
  - 3) At post locations, drill two 1 1/8"  $\phi$  holes in the rails to receive rail bolts (Shop or field). See Post Details for hole spacing.
  - 4) Paint surfaces of the railing components that have been cut, drilled, or otherwise damaged with two coats of zinc-rich paint conforming to ASTM A 780.
  - 5) After installing rails, paint all exposed bolt threads with two coats of zinc rich-paint conforming to ASTM A 780.

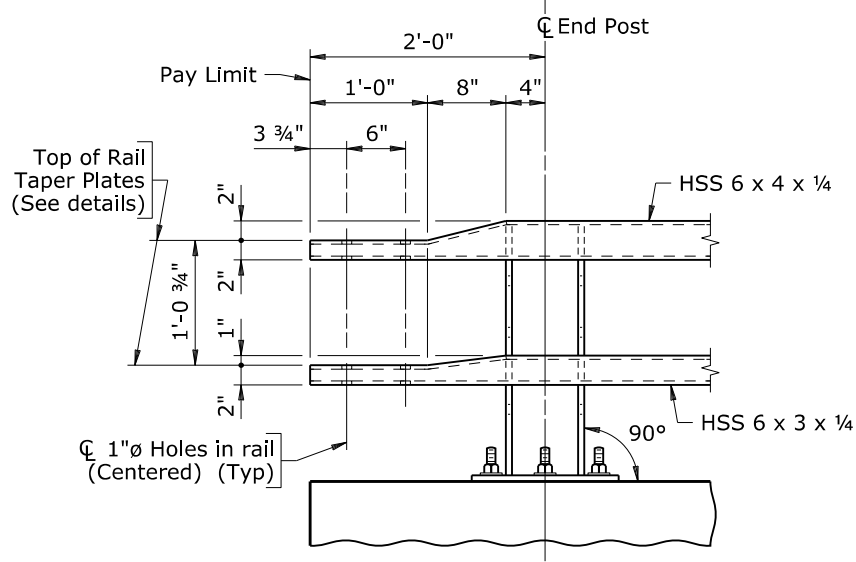
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
<b>BRIDGE RAILING DETAILS</b>			
<b>BRIDGE REHABILITATION</b>			
STA 3439+13			
Walcott Jct. - Laramie Road			
Herrick Lane Section			
I805125		AI	
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	Drwg No. 0015	Sheet 3 of 12
	QTY'S		



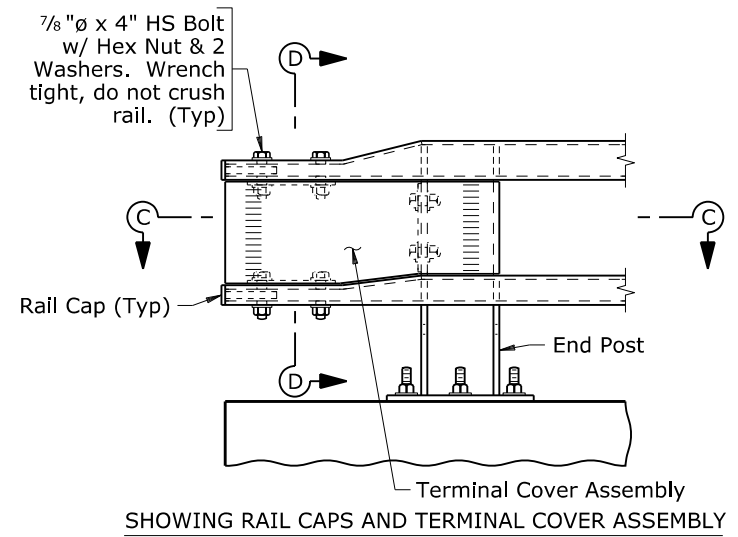
TERMINAL COMPONENT REQUIREMENTS		
Approach Guardrail Connection	Rail Caps Required	Terminal Cover Assembly Required
MGS Approach Guardrail	Yes (Without bolts)	≠No
Box Beam w/ Rubrail Approach Guardrail	No	No
No Approach Guardrail	Yes (With bolts)	Yes



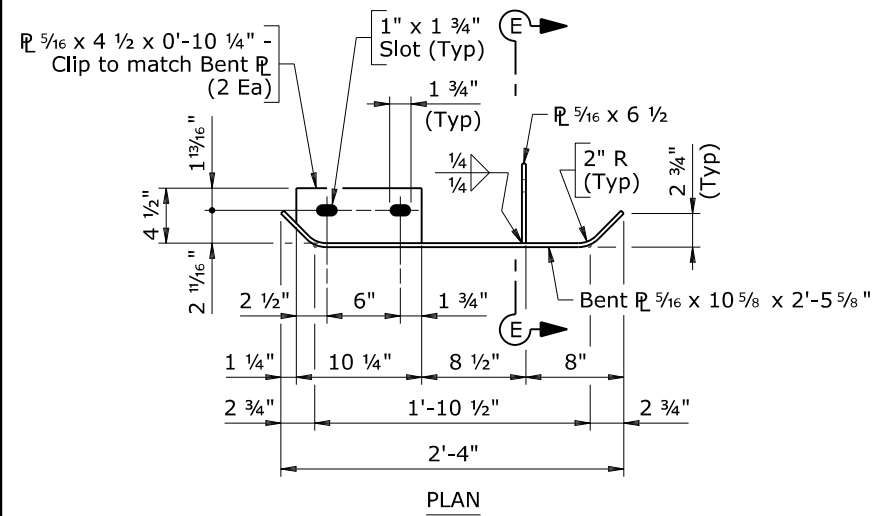
SECTION C-C



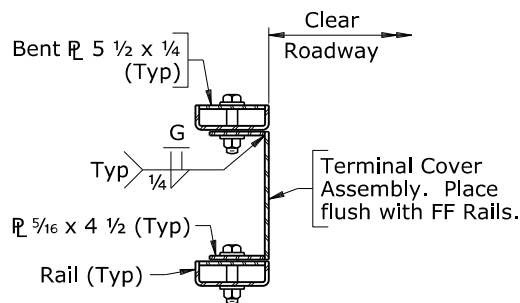
SHOWING RAILS



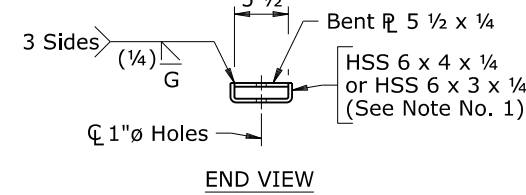
ELEVATIONS AT TERMINAL



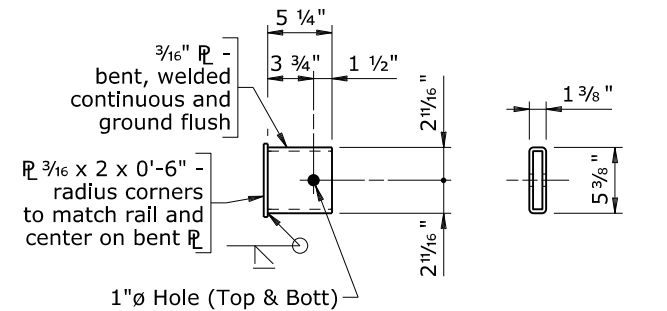
PLAN



SECTION D-D



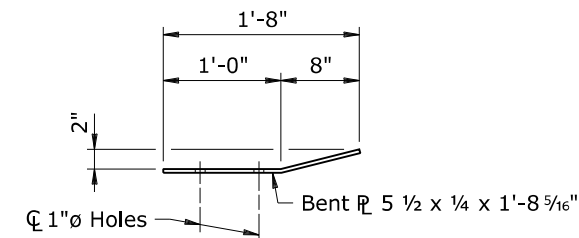
END VIEW



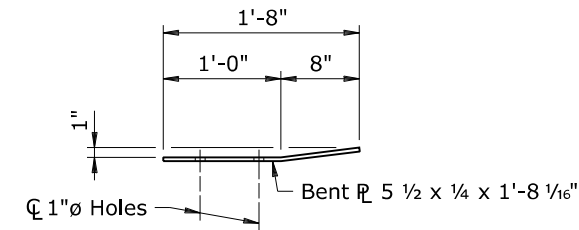
PLAN

END VIEW

RAIL CAP DETAILS



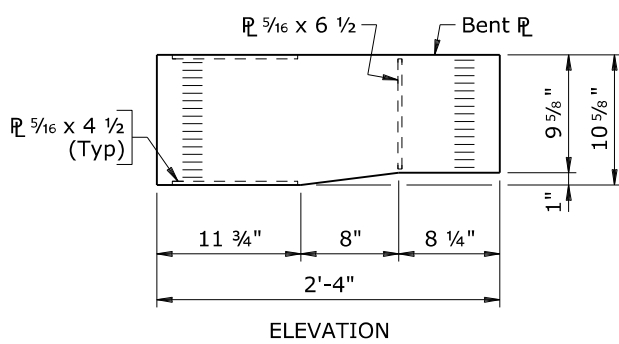
ELEVATION OF BENT PLATE FOR TOP RAIL  
(HSS 6 x 4 x 1/4 not shown)



ELEVATION OF BENT PLATE FOR BOTTOM RAIL  
(HSS 6 x 3 x 1/4 not shown)

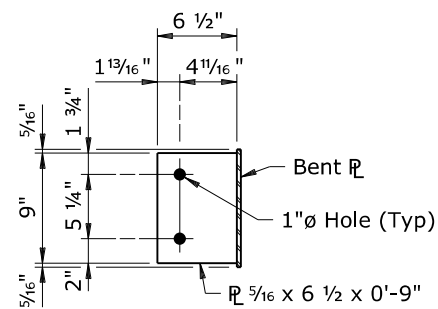
RAIL TAPER PLATE DETAILS

- Note: 1) Cut top and bottom rails as required for fabrication of tapered end sections.  
2) Installation of MGS approach guardrail will require other fabricated assemblies to be connected to end post. See road plans for details and pay item.



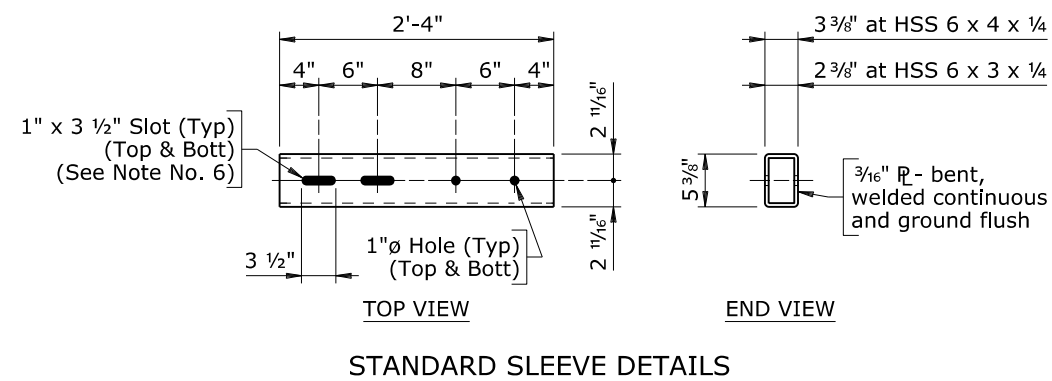
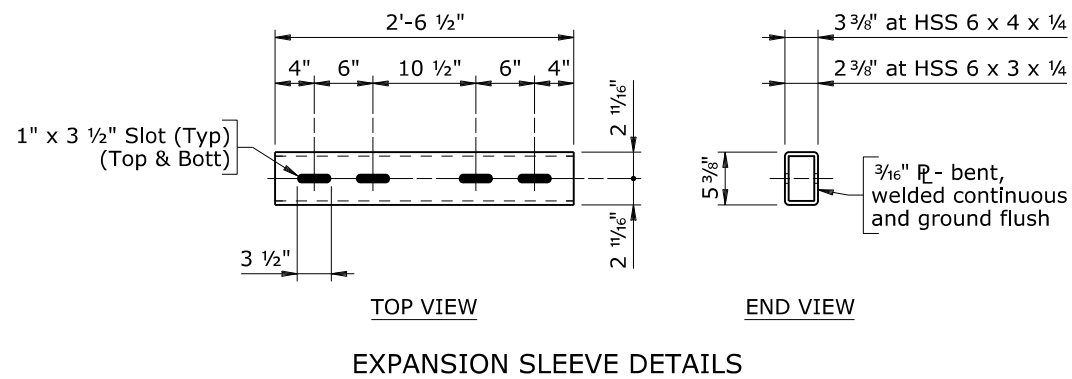
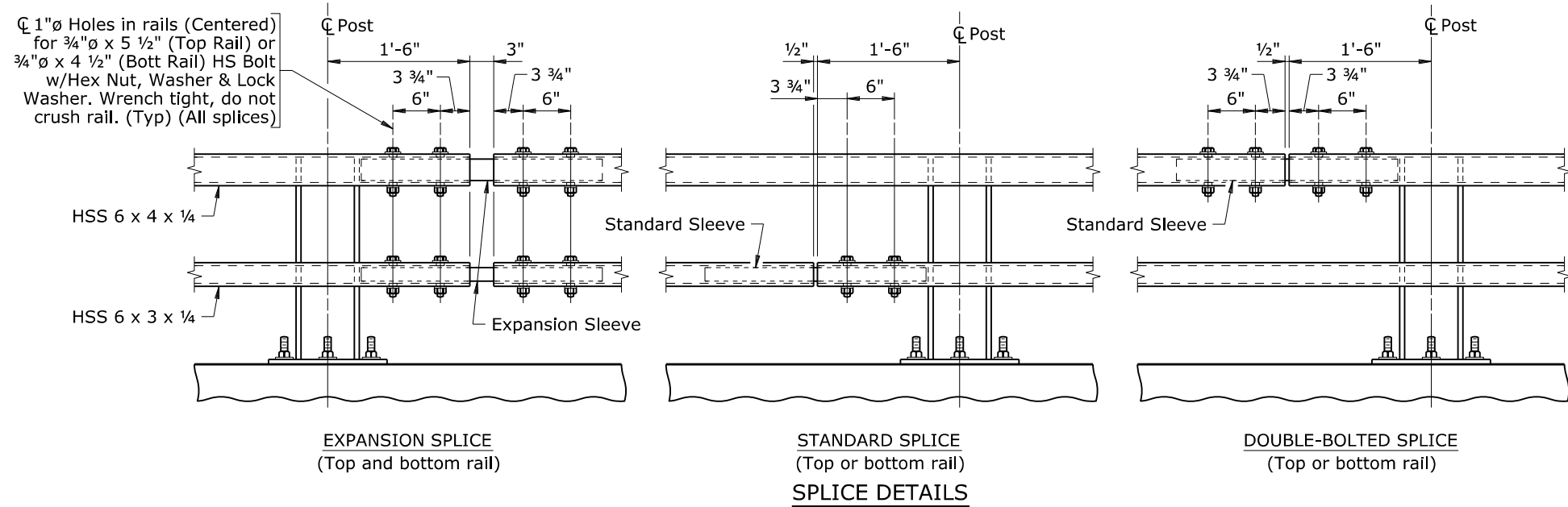
ELEVATION

TERMINAL COVER ASSEMBLY DETAILS



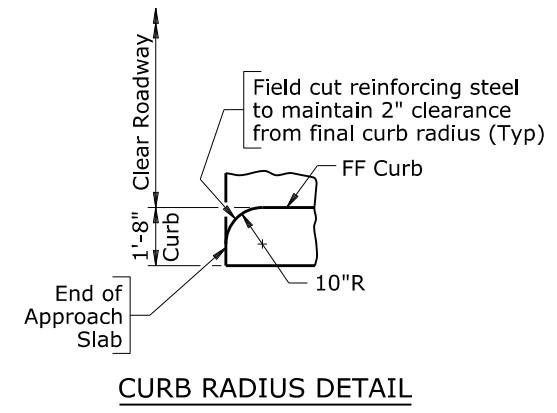
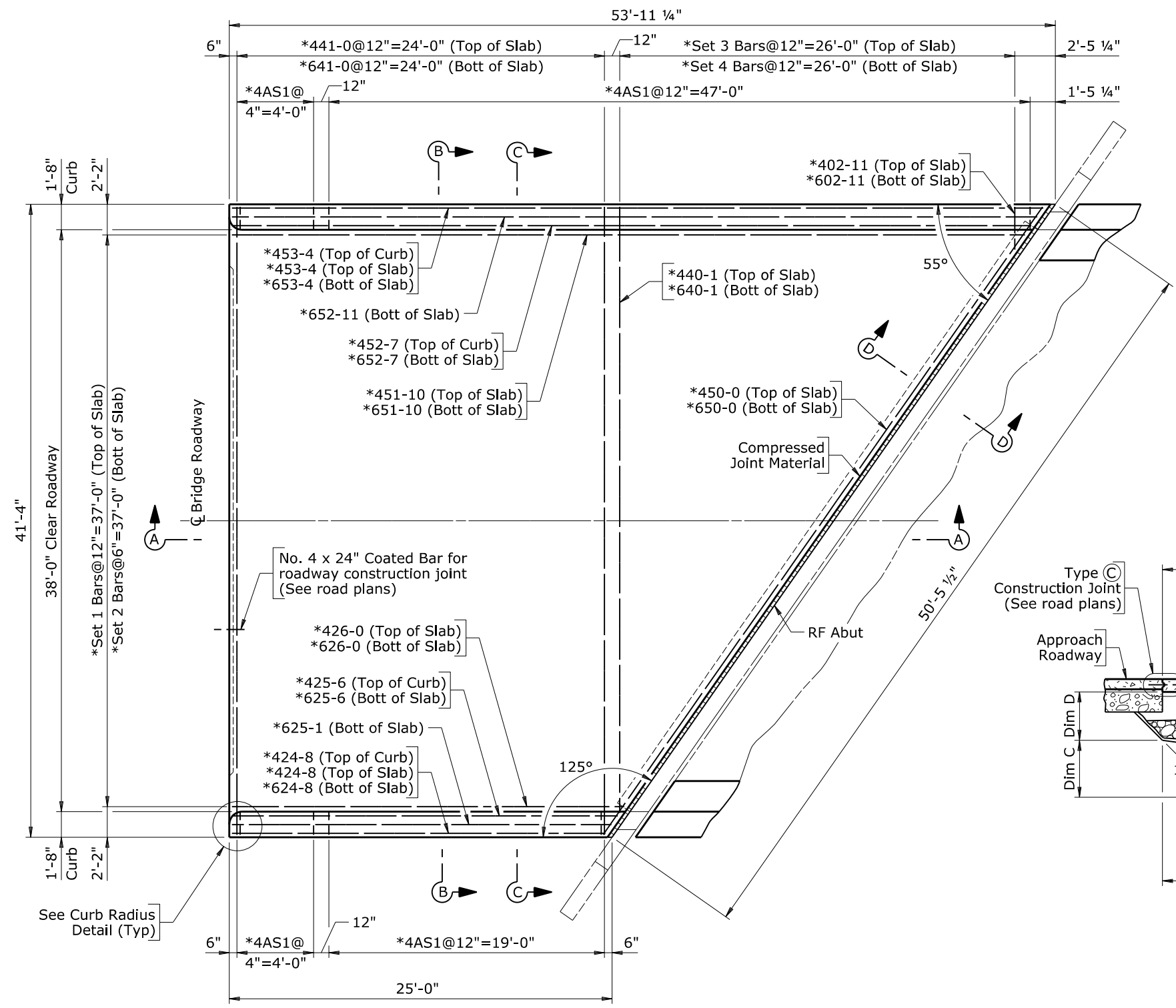
SECTION E-E

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING DETAILS		BRIDGE REHABILITATION	
STA 3439+13			
Walcott Jct. - Laramie Road			
Herrick Lane Section			
I805125		AI	
APPROVED	DESIGN	Design Section	B C Def
DATE	DETAIL	Drwg No. 0015	Sheet 4 of 12
	QTY'S		

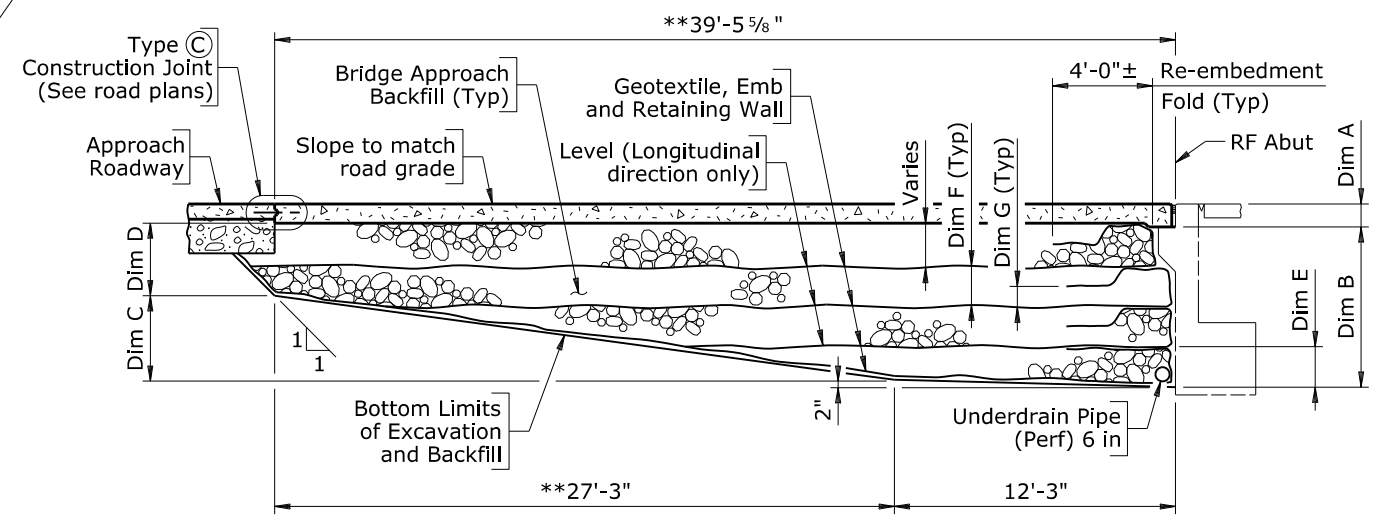


- Note:**
- 1) Ensure each rail length is continuous over a minimum of two posts.
  - 2) In rehabilitation work, ensure railing that cannot feasibly be made continuous over a minimum of two posts has a double-bolted splice.
  - 3) Splices may be located on either side of post.
  - 4) Not more than one splice is permitted per side of post, except at expansion splices.
  - 5) Do not shop splice rails.
  - 6) Slots may be omitted in standard sleeves where bolts are required on one side of splice only.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
<b>BRIDGE RAILING DETAILS</b>			
<b>BRIDGE REHABILITATION</b>			
STA 3439+13			
Walcott Jct. - Laramie Road			
Herrick Lane Section			
I805125			AI
APPROVED	DESIGN	Design Section B C Def	
DATE	DETAIL	Drwg No. 0015	Sheet 5 of 12
	QTY'S		



Dimension	EBL		WBL	
	Abut No. 1	Abut No. 2	Abut No. 1	Abut No. 2
A	1'-2 7/8"	1'-2 7/8"	1'-2"	1'-2"
B	6'-9"	5'-9"	6'-9"	5'-9"
C	3'-9"	4'-0"	3'-6"	3'-9"
D	2'-10"±	2'-0"±	3'-1"±	2'-2"±
E	1'-9"	1'-6"	1'-9"	1'-6"
F	1'-9"	1'-6"	1'-9"	1'-6"
G	10 1/2"	9"	10 1/2"	9"

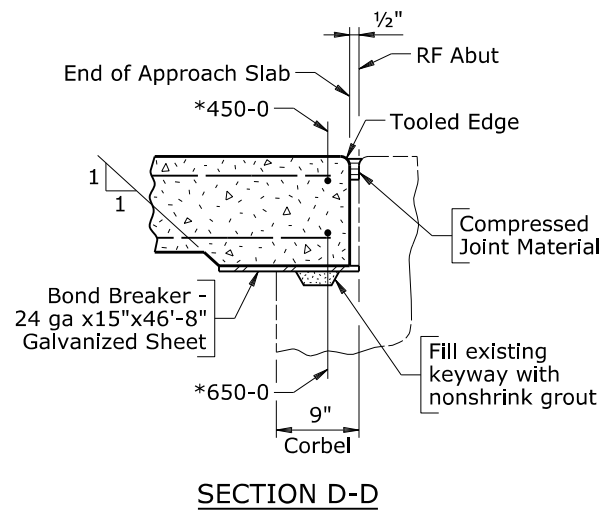
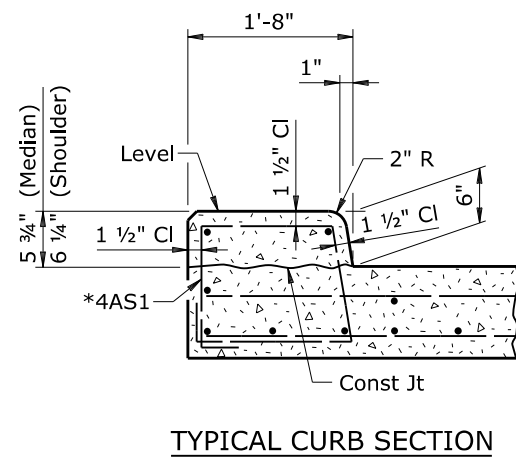
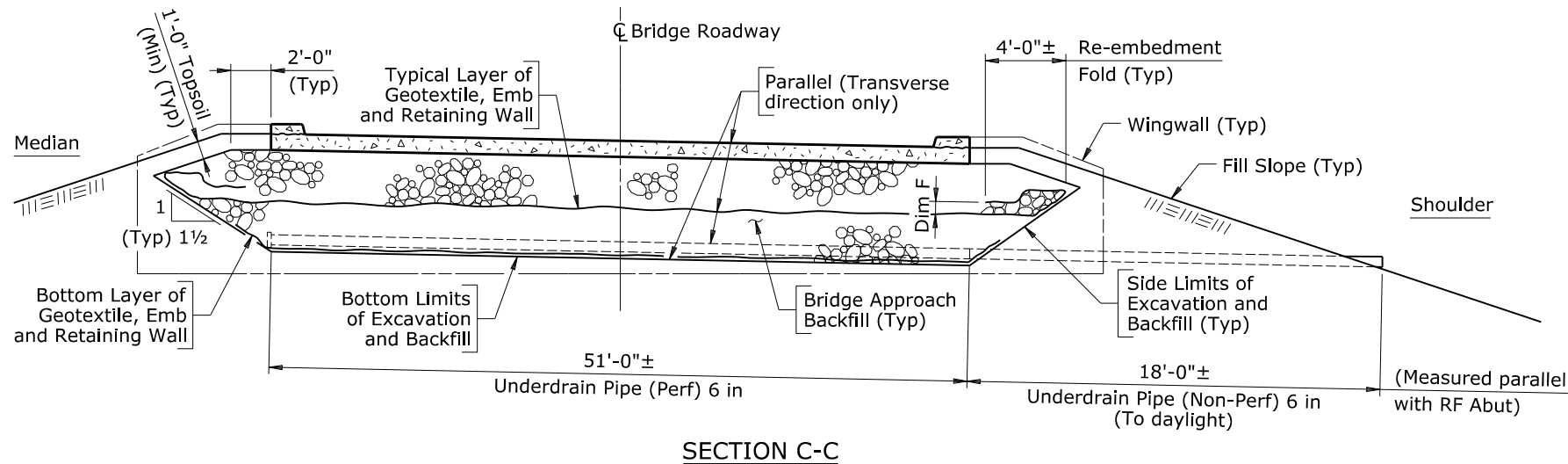
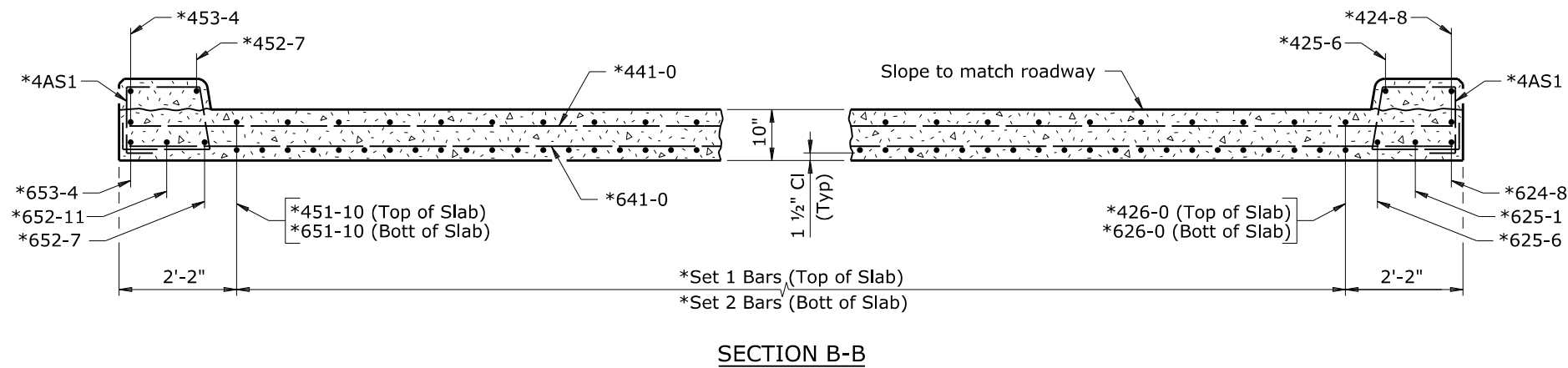


**PLAN**  
(Abut No. 1 - EBL shown, Abut No. 2 - EBL, Abut No. 1 - WBL, and Abut No. 2 - WBL similar)

**SECTION A-A**

- Note:**
- 1) Dimensions preceded by a double asterisk (\*\*) are measured at  $\bar{C}$  Bridge Roadway.
  - 2) Extend compressed joint material up front face and across top of curbs.
  - 3) For Bridge Railing Details, see Sheets No. 3 thru 5.
  - 4) For Sections B-B, C-C, and D-D, see Sheet No. 10.

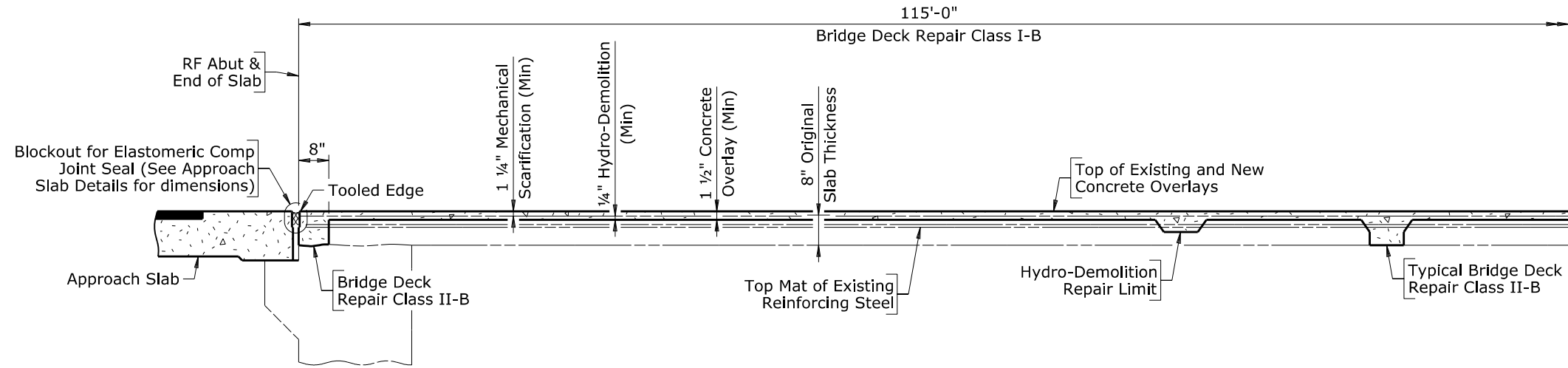
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		APPROACH SLAB DETAILS	
<b>BRIDGE REHABILITATION</b>			
STA 3439+13			
Walcott Jct. - Laramie Road			
Herrick Lane Section			
I805125		AI	
DESIGN	SSS	Design Section	B C Def
DATE	TTT	Drwg No.	0015
		Sheet	9 of 12



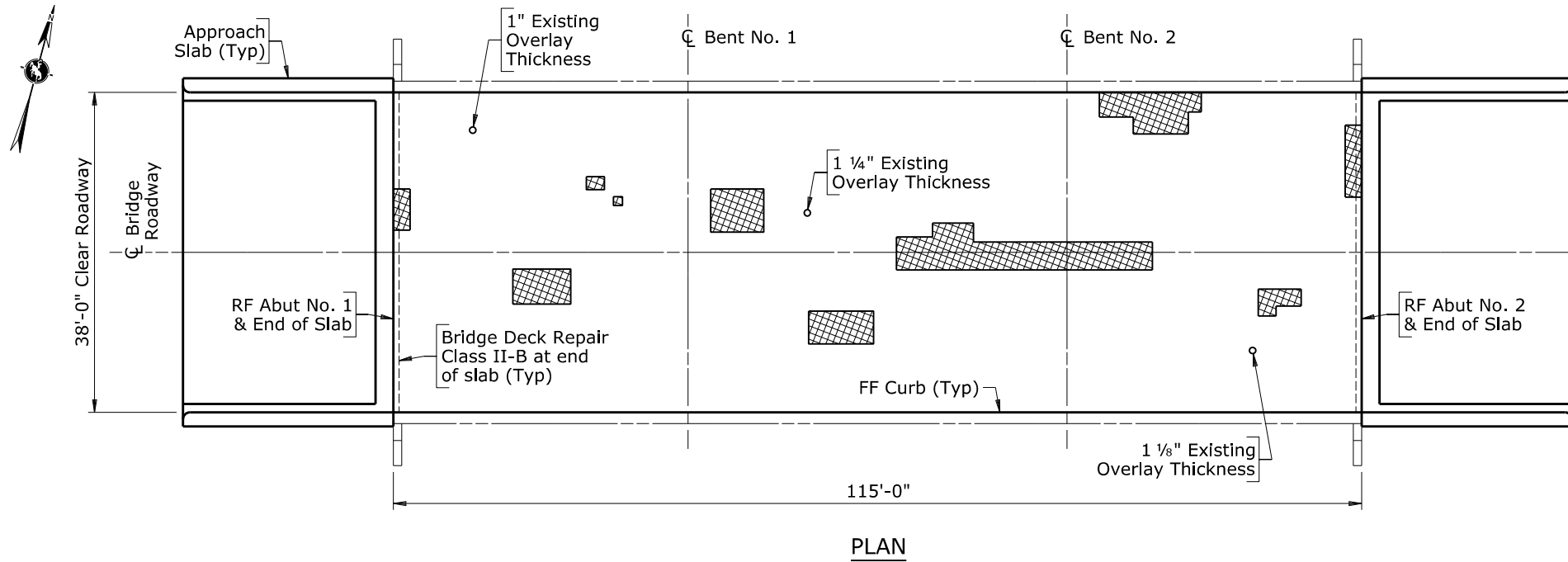
BILL OF REINFORCEMENT			
Location	Mark	Number Required Per Approach Slab	Set Diagrams
Approach Slab and Curbs	*4AS1	94	
	*424-8	2	
	*425-6	1	
	*441-0	25	
	*450-0	1	
	*452-7	1	
	*453-4	2	
	*Set 1 Bars	1	
	*Set 3 Bars	1	
	*624-8	1	
	*625-1	1	
	*625-6	1	
	*641-0	25	
	*650-0	1	
	*652-7	1	
	*653-4	1	
*Set 2 Bars	1		
*Set 4 Bars	1		
±*Weight	*9611 LB		
Bending Diagram			

- Note: 1) Ensure the reinforcing steel fabricator prefixes approach slab bar marks as follows:  
 Abutment No. 1 - EBL ----- Numeral 3  
 Abutment No. 2 - EBL ----- Numeral 4  
 Abutment No. 1 - WBL ----- Numeral 5  
 Abutment No. 2 - WBL ----- Numeral 6
- ±2) Approach slab reinforcing steel is not included in the quantity of reinforcing steel.  
 3) Extend bottom layer of geotextile up side limits of excavation and backfill to bottom of first layer of geotextile.  
 4) For Table of Dimensions and locations of Sections B-B, C-C, and D-D, see Sheet No. 9.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		APPROACH SLAB DETAILS	
BRIDGE REHABILITATION			
STA 3439+13			
Walcott Jct. - Laramie Road			
Herrick Lane Section			
I805125		AI	
APPROVED	DESIGN	Design Section	B C Def
DATE	DETAIL	Drwg No.	0015
	QTY'S	Sheet	10 of 12



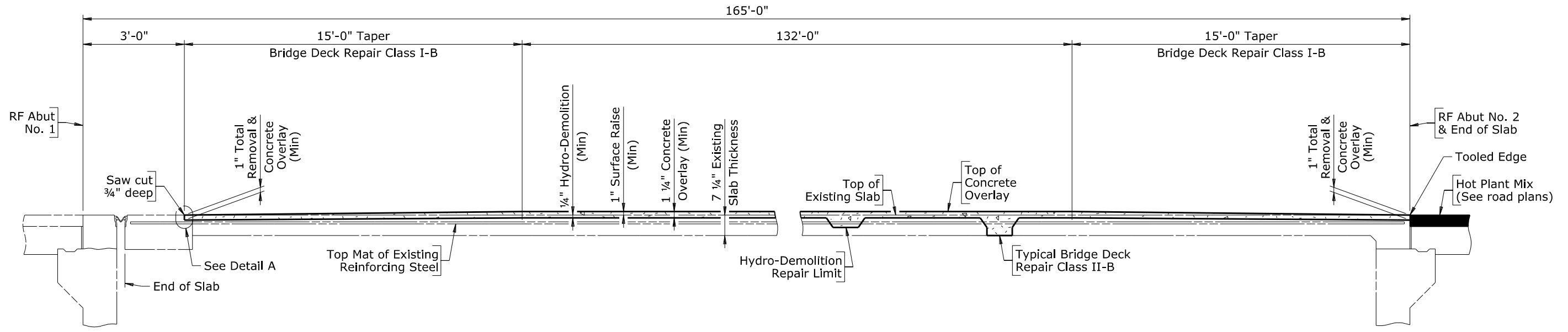
**PART LONGITUDINAL SECTION**  
(Abut No. 1 shown, Abut No. 2 typical)



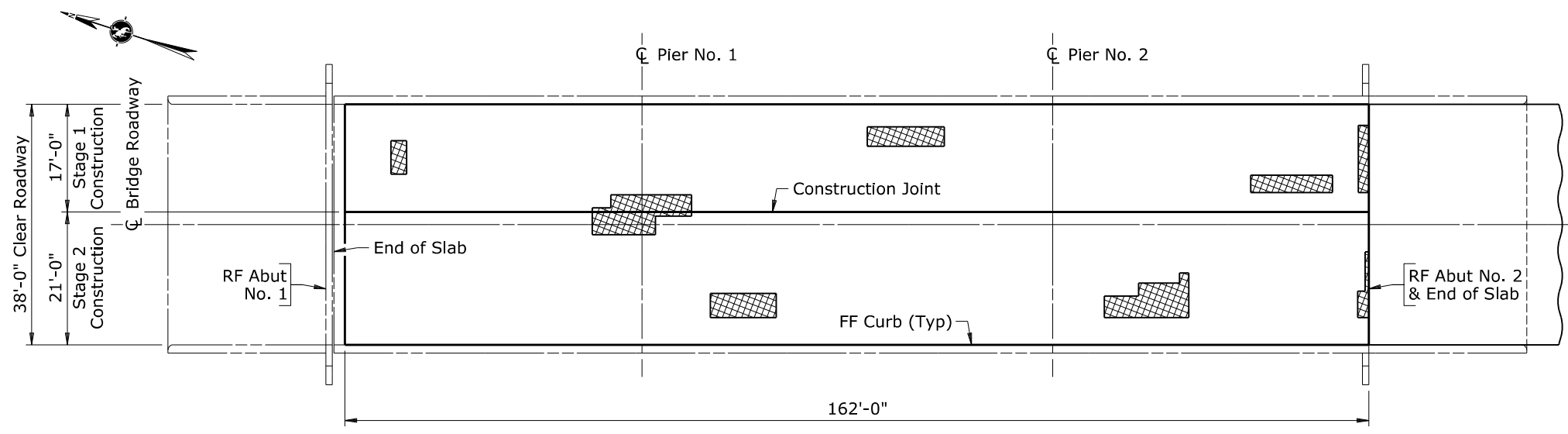
- Note:**
- 1) Cross-hatched areas indicate approximate locations of unsound concrete as determined by visual inspection and sounding performed in August 2013.
  - 2) Completely remove the existing modified concrete overlay using class I-B scarification. After scarification, use hydro-demolition to remove an additional 1/4" of the original bridge deck and unsound concrete up to one-half the original deck thickness.
  - 3) After hydro-demolition operations are complete, the engineer will visually inspect and sound the deck to identify areas requiring additional repair. An estimated quantity of class II-B repair has been included to secure a unit bid price.
  - 4) Bridge railing may be temporarily removed to place screed rails during resurfacing. If rails are removed from the posts, use new rail bolt assemblies for reinstallation. For Rail Bolt Detail, see Sheet No. X.
  - 5) The engineer will provide assistance in setting screed rails to obtain the correct elevations.
  - 6) For Approach Slab Details, see Sheets No. X-X.

**BRIDGE OVER DONKEY CREEK (EBL)**

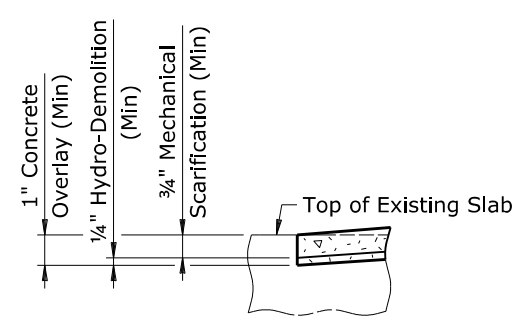
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS	OVERLAY DETAILS		
APPROVED	DESIGN		Design Section X
DATE	DETAIL	X	Drwg No. 0016
	QTY'S	X	Sheet 1 of 3



LONGITUDINAL SECTION



PLAN

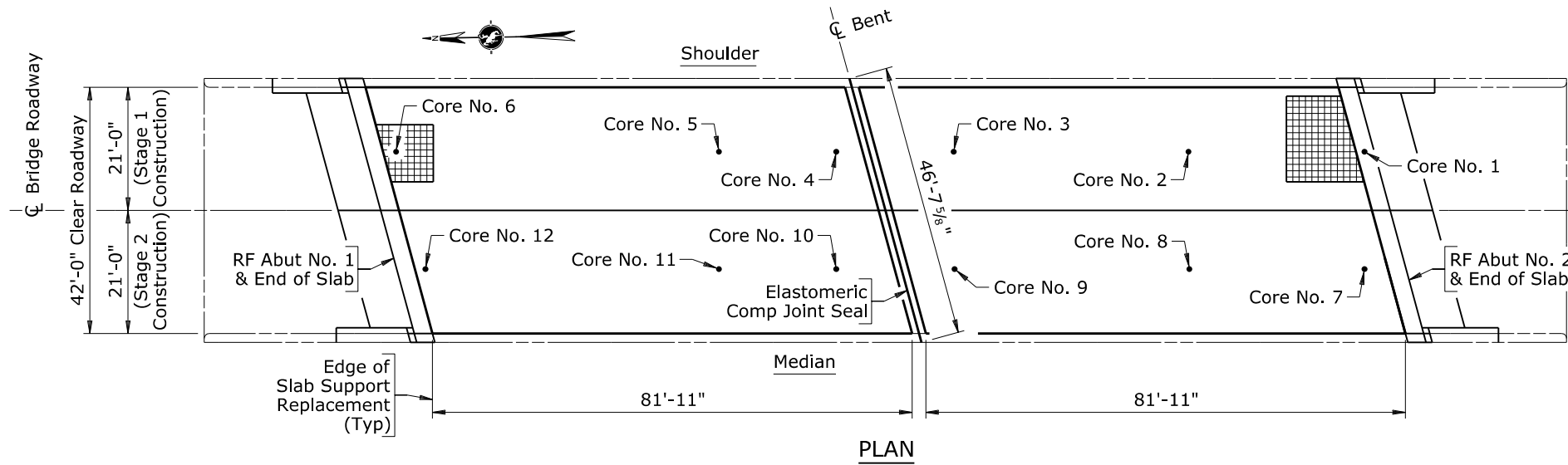


DETAIL A  
(Near Abut No. 1 shown, end of slab at Abut No. 2 similar)

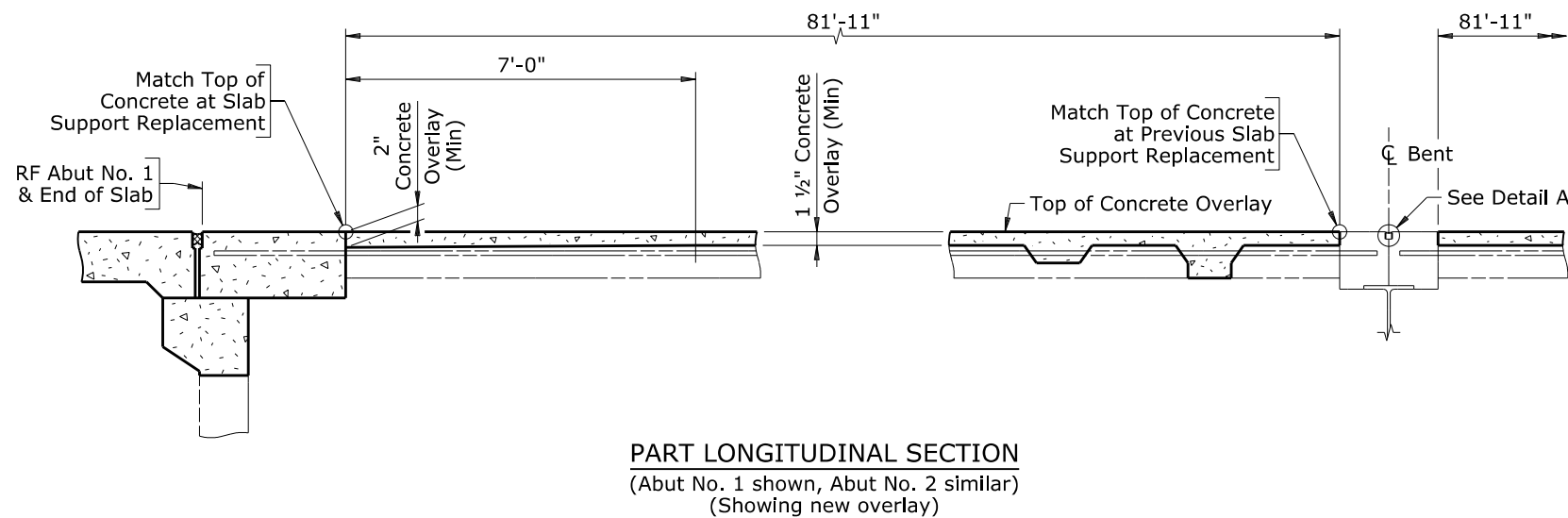
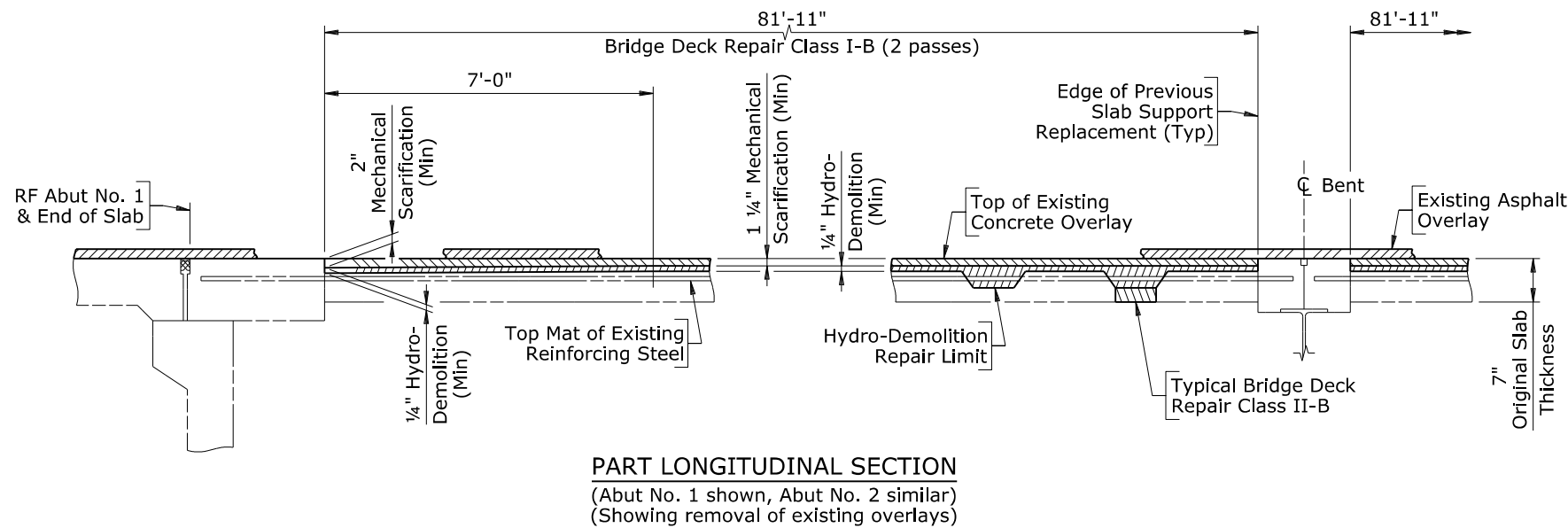
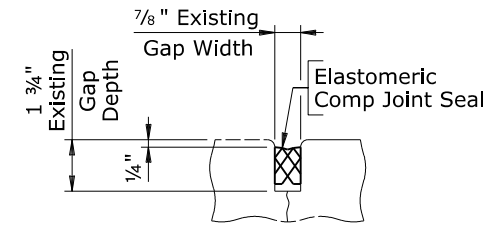
RM 387.00 (SBL)

- Note: 1) Cross-hatched areas indicate approximate locations of unsound concrete as determined by visual inspection and sounding performed in August 2013.
- 2) Use class I-B scarification in the taper areas. After scarification, use hydro-demolition to remove 1/4" of the entire bridge deck and unsound concrete up to one-half the deck thickness.
- 3) After hydro-demolition operations are complete, the engineer will visually inspect and sound the deck to identify areas requiring additional repair. An estimated quantity of class II-B repair has been included to secure a unit bid price.
- 4) Ensure the construction joint will not be in a wheel path of normal traffic flow. Location of the joint may be adjusted as approved by the engineer.
- 5) Bridge railing may be temporarily removed to place screed rails during resurfacing. If rails are removed from the posts, use new rail bolt assemblies for reinstallation. For Rail Bolt Detail, see Sheet No. X.
- 6) The engineer will provide assistance in setting screed rails to obtain the correct elevations.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		OVERLAY DETAILS	
APPROVED	DESIGN	_____	Design Section X
DATE	DETAIL	X ✓ X	Drwg No. 0016 Sheet 2 of 3
	QTY'S	X ✓ X	



Location	Existing Modified Concrete Overlay Thickness	Location	Existing Modified Concrete Overlay Thickness
Core No. 1	1"	Core No. 7	2"
Core No. 2	1 1/2"	Core No. 8	1"
Core No. 3	2 1/2"	Core No. 9	1 1/4"
Core No. 4	1 3/4"	Core No. 10	1 1/2"
Core No. 5	2"	Core No. 11	2"
Core No. 6	1 3/4"	Core No. 12	1 1/2"



- Note:
- 1) Completely remove the existing modified concrete overlay using class I-B scarification. After scarification, use hydro-demolition to remove an additional 1/4" of the original bridge deck and unsound concrete up to one-half the original deck thickness.
  - 2) After hydro-demolition operations are complete, the engineer will visually inspect and sound the deck to identify areas requiring additional repair. An estimated quantity of class II-B repair has been included to secure a unit bid price.
  - 3) Cross-hatched areas indicate known locations requiring class II-B repair as determined by visual inspection and sounding performed in September 2014.
  - 4) Bridge railing may be temporarily removed to place screed rails during resurfacing. If rails are removed from the posts, use new rail bolt assemblies for reinstallation. For Rail Bolt Detail, see Sheet No. X.
  - 5) The engineer will provide assistance in setting screed rails to obtain the correct elevations.
  - 6) Extend elastomeric compression joint seal at bent up front face and across top of curbs. The exposed curb height is 6".

ML25I, RM 8.84 (NBL)

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		OVERLAY DETAILS	
APPROVED	DESIGN	DESIGN SECTION	X
DATE	DETAIL	DRWG NO.	0016
	QTY'S	SHEET	3 of 3