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Designed By	NLS	2/14	2/14	Quantities By	RAO
Checked By	ARK	3/14	3/14	Checked By	CAO

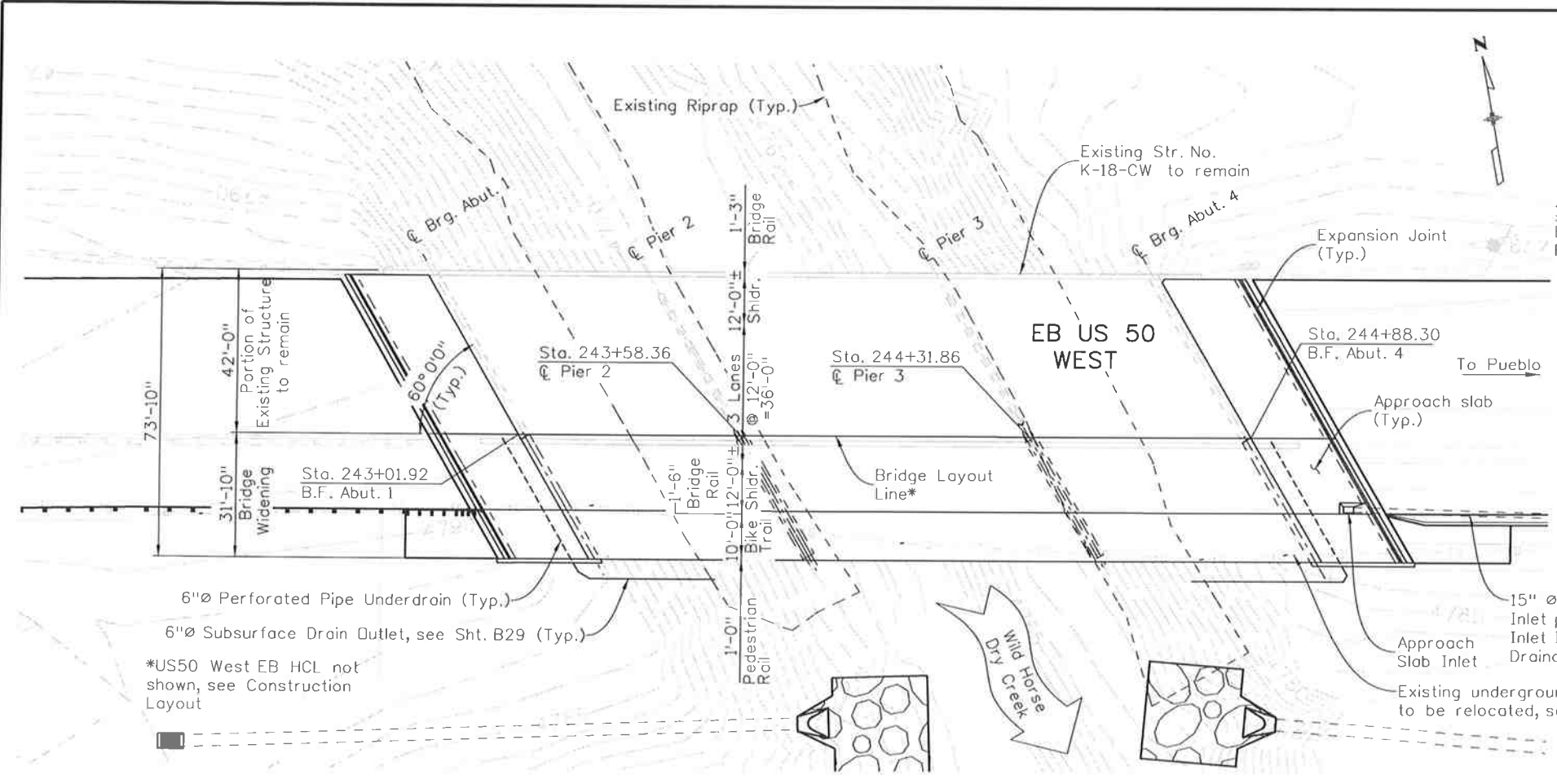
SUMMARY OF QUANTITIES									
ITEM NO.	DESCRIPTION	UNIT	SUPERSTRUCTURE	ABUTMENT 1	PIER 2	PIER 3	ABUTMENT 4	APPROACH SLABS (2)	TOTALS
202-00410	REMOVAL OF MAT FROM BRIDGE	SY	844						844
202-00495	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	LS							1
203-00400	RCCK EXCAVATION	CY			12	12			24
206-00000	STRUCTURE EXCAVATION	CY		296	526	542	280		1,644
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY		265	471	488	267		1,491
206-00360	MECHANICAL REINFORCEMENT OF SOIL	CY		203			201		404
206-01781	SHORING (AREA 1)	LS							1
206-01782	SHORING (AREA 2)	LS							1
① 210-02900	RELAY RIPRAP	CY		230			230		460
403-34871	HCT MIX ASPHALT (GRADING SX1 (100) (PG 76-28)	TON	202					41	243
420-00102	GEOTEXTILE (EROSION CONTROL) (CLASS 1)	SY		1,970	302	302	1,625		4,199
502-00100	DRILLING HOLE TO FACILITATE PILE DRIVING	LF					95		95
502-11253	STEEL PILING (HP 12x53)	LF		178			148		326
506-00218	RIPRAP (18 INCH)	CY		1,650	280	280	1,380		3,590
513-00600	BRIDGE DRAIN	EA						1	1
514-00201	PEDESTRIAN RAILING (STEEL) (SPECIAL)	LF	186					41	227
515-00120	WATERPROOFING (MEMBRANE)	SY	400					260	660
518-01004	BRIDGE EXPANSION DEVICE (0-4 INCH)	LF						168	168
601-03040	CCONCRETE CLASS D (BRIDGE)	CY	340.8	16.8	109.5	108.5	18.2	133.0	756.8
602-00000	REINFORCING STEEL	LB		115	9,220	9,195	115		18,645
602-00020	REINFORCING STEEL (EPOXY COATED)	LB	33,840	4,120	1,080	1,080	3,970	22,295	96,385
603-50015	15 INCH PLASTIC PIPE	LF						166	166
606-11005	BRIDGE RAIL TYPE 10 (SPECIAL)	LF	187					38	225
613-00200	2 INCH ELECTRICAL CONDUIT	LF	187					54	241
618-00142	PRESTRESSED CONCRETE I (BT42)	LF	730						730

① Relay Riprap assumes 75% usable material of existing Riprap (18 Inch). Existing material is assumed to be Riprap (18 Inch) at least one layer (1.5') thick and measured from the limits provided in the topography.

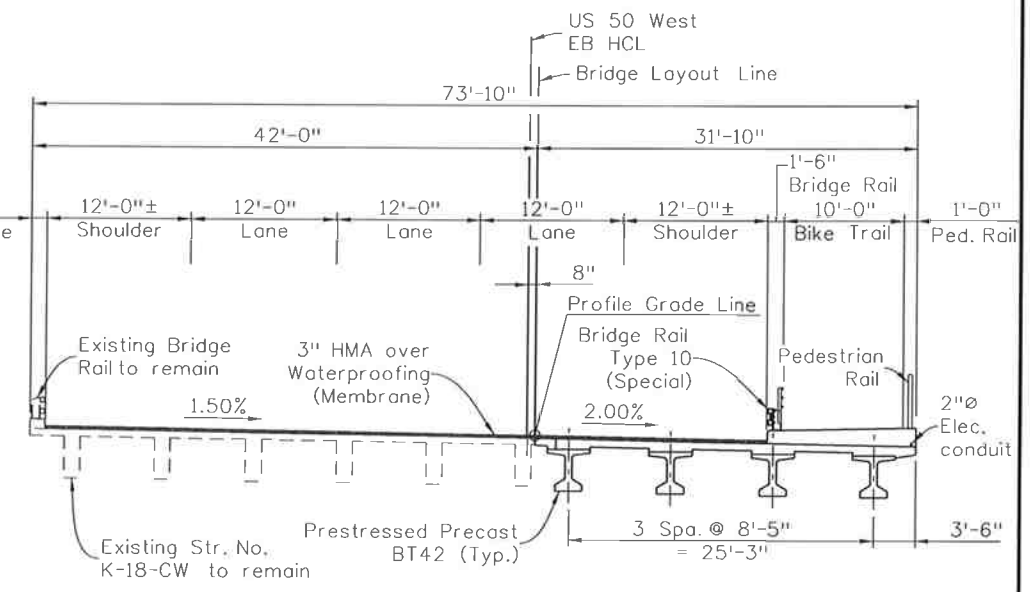
Print Date: 9/24/2014	 Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2	As Constructed No Revisions: Revised: Void:	US 50 WEST EB OVER WILD HORSE DRY CREEK SUMMARY OF QUANTITIES		Project No./Code FSA 0503-081 19751 Sheet Number 148
File Name: 19506BRDG_SAQ.dgn			Designer: N. Sass Detailer: R. Dillon	Structure: K-18-CW Subsets: B02 of 32	
Horiz. Scale: 1:1 Staff Bridge Branch - Unit 0226 Unit Leader DDG			Date: _____ Comments: _____ Init.: _____	Vertical Scale: As Noted Connecting and enhancing communities	

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 8/4/2014

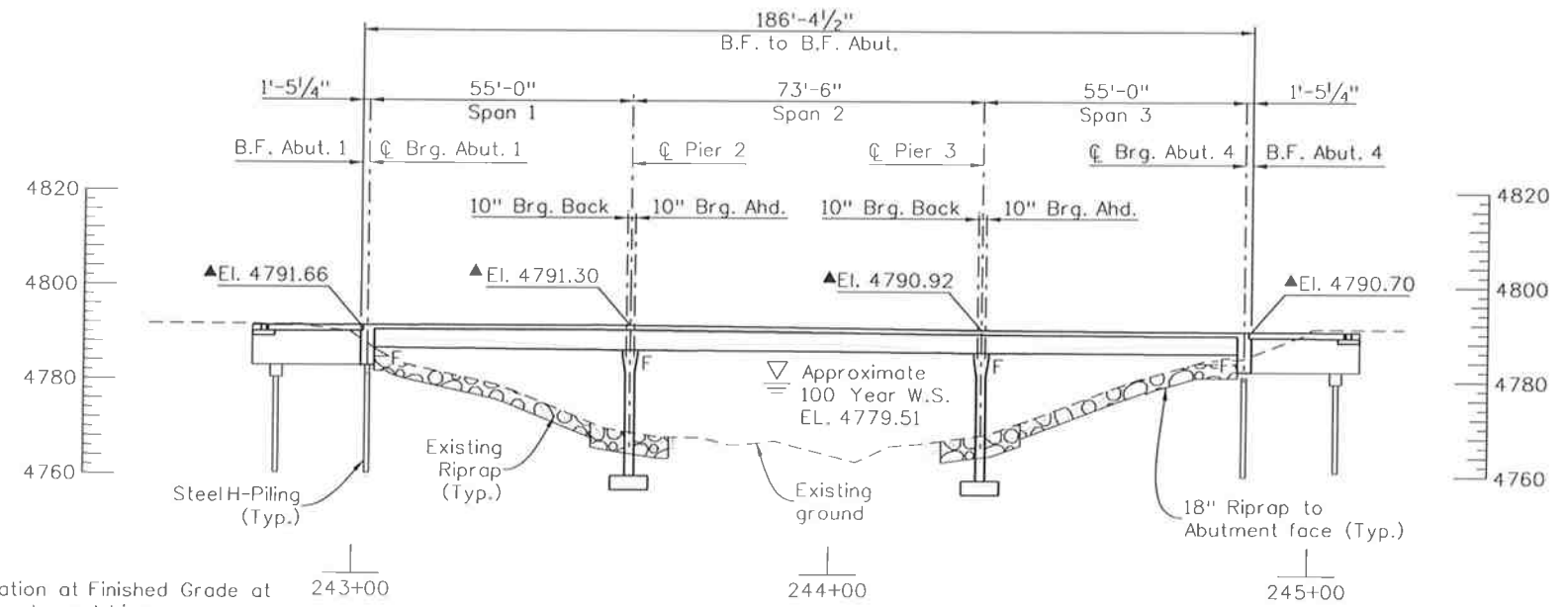
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Designed By	Checked By	INITIAL	DATE	INITIAL	DATE
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Checked By	Checked By	Checked By	Checked By	Checked By	Checked By
			3/14		3/14
					5/14



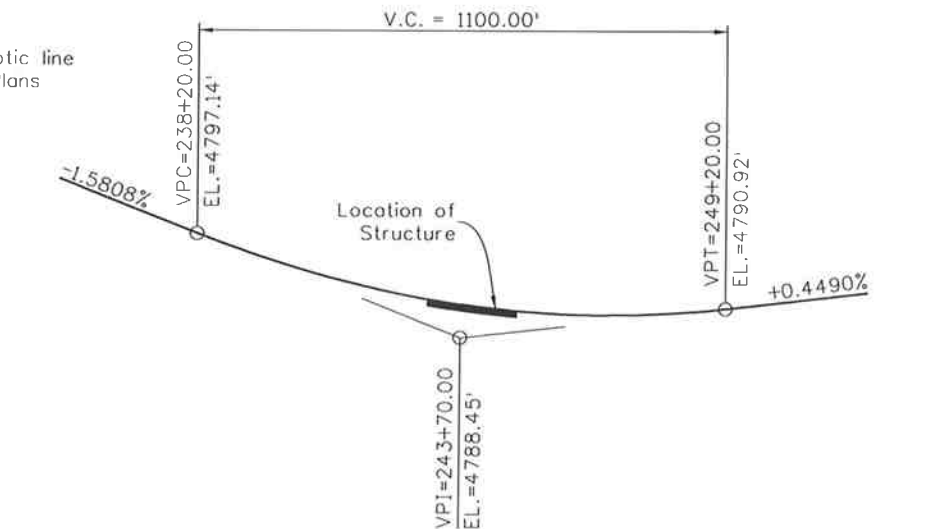
PLAN



TYPICAL SECTION



ELEVATION

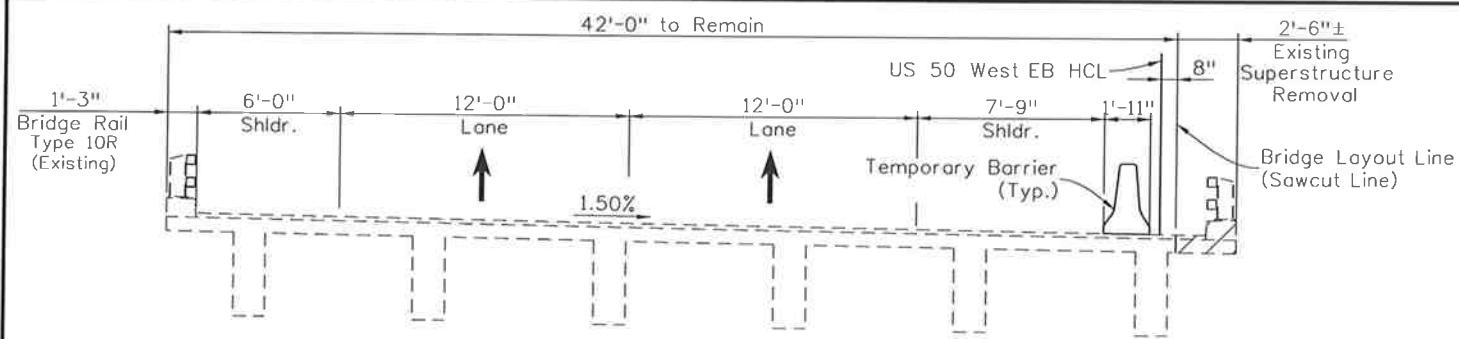


PROFILE GRADE AT BRIDGE LAYOUT LINE (SAW CUT LINE)

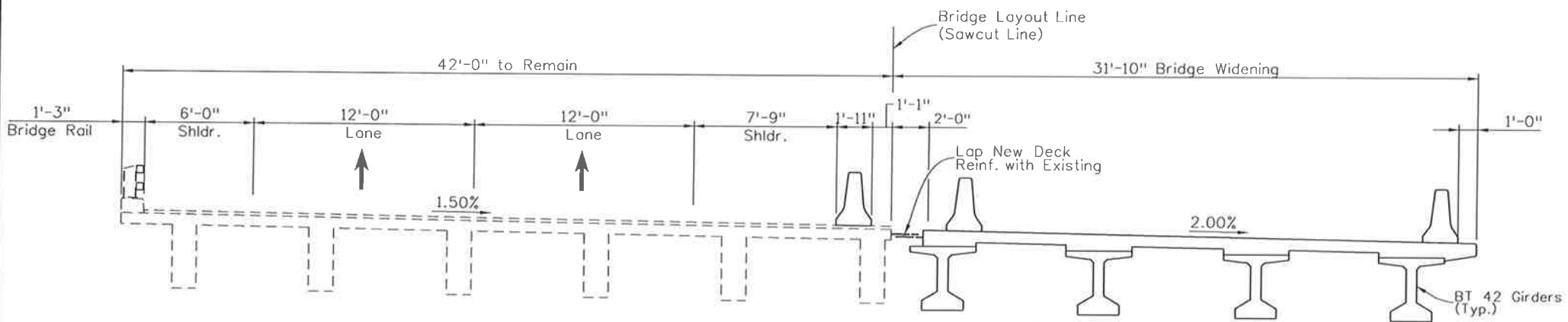
NOTES:

1. Bridge profile was established based on recent field survey data along the sawcut line measured 2'-6" off the south edge of the existing bridge. These survey elevations have been used to develop the "best fit" vertical profile. This profile only applies to bridge construction. See roadway plans for approach roadway vertical profile.
2. The accuracy of this information is not guaranteed. It is the Contractor's responsibility to verify all dimensions and elevations in the field prior to ordering or fabricating any material, and before setting the final screed elevations for the bridge deck. The engineer shall be notified in writing of any discrepancies between the plans and actual field conditions.

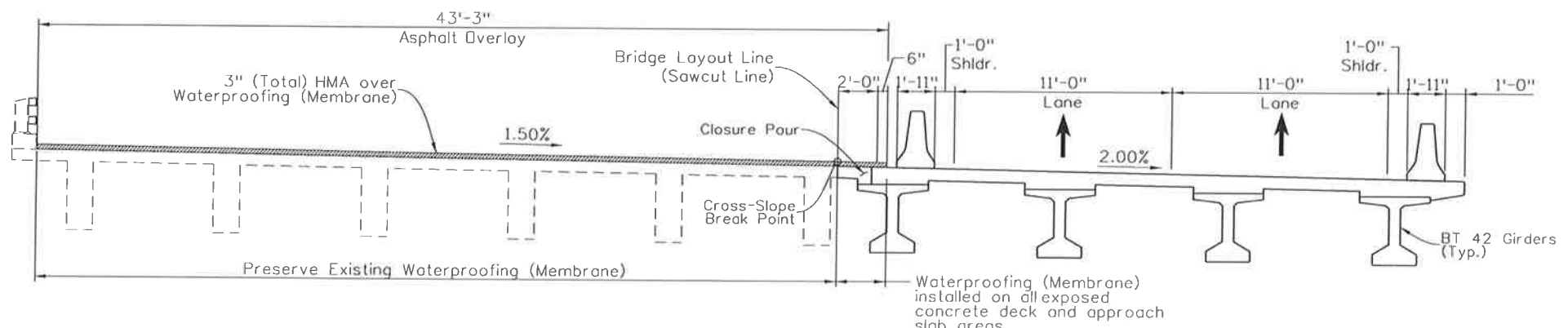
Print Date: 8/4/2014		Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST EB OVER WILD HORSE DRY CREEK GENERAL LAYOUT		Project No./Code	
File Name: 19506BRDG_GeneralLayout.dgn		Date:	Comments:	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		FSA 0503-081		
Horiz. Scale: 1:40 Vert. Scale: As Noted					Region 2		Revised:		19751		
Staff Bridge Branch - Unit 0226 Unit Leader DDG					DTD		Void:		Sheet Number 149		
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities								Designer: C. Dtegui Structure: K-18-CW Detailer: V. Miranda Numbers:		Sheet Subset: Bridge Subset Sheets: B03 of 32	



EXISTING STAGE 1 - STRUCTURE
(Looking Upstation)



STAGE 2
(Looking Upstation)



STAGE 3
(Looking Upstation)

STAGE 1 NOTES

1. Construct temporary shoring to retain roadway behind existing abutments.
2. Maintain traffic on existing bridge during construction of bridge substructure widening and girder erection.
3. Install temporary barrier (See Detail on Sht. B05) on south side of existing bridge.
4. Remove existing south bridge rail and portion of bridge deck. All existing transverse deck reinforcing shall be preserved.

STAGE 2 NOTES

1. Construct Bridge widening as shown.
2. Install temporary barriers (See Detail on Sht. B05) on new structure.

STAGE 3 NOTES

1. Shift traffic to new structure.
2. Construct approach slabs and install expansion joint at existing bridge.
3. Place closure pour.
4. Remove approx. 3" of existing asphalt overlay from end of bridge to end of bridge, leaving 1" of overlay remaining. Contractor shall verify existing asphalt thickness prior to commencement of asphalt removal.
5. Install waterproofing membrane on exposed concrete deck areas, and complete asphalt overlay to limits shown.

Design		Detail		Quantities	
Designed By	Checked By	INITIAL	DATE	INITIAL	DATE
NLS	ARK	RAD	2/14	RAD	3/14
Checked By		Checked By	3/14	Checked By	5/14

Print Date: 8/4/2014
 File Name: 19506BRDG_ConstPhasing.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DDG

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702

Region 2 DTD

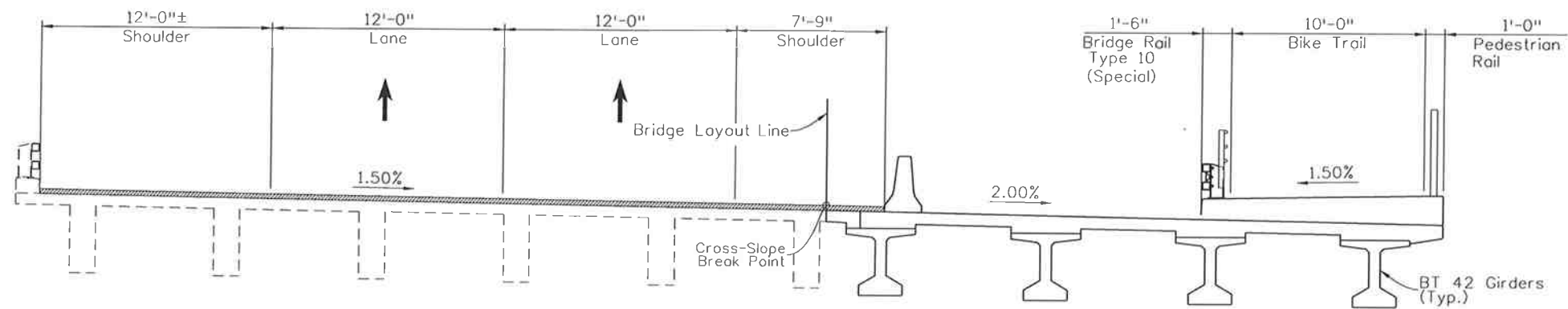
As Constructed
No Revisions:
Revised:
Void:

**US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 SUGGESTED CONST. STAGING (1 of 2)**

Designer:	C. Dtegui	Structure	K-18-CW
Detailer:	V. Miranda	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B04 of 32

Project No./Code
FSA 0503-081
19751
Sheet Number 150

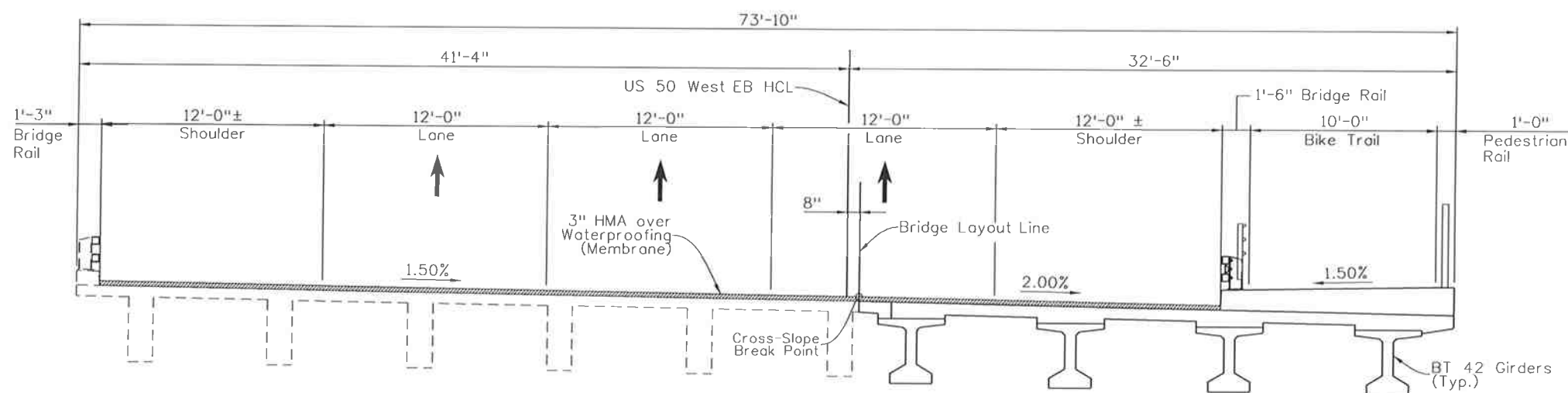
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STAGE 4
(Looking Upstation)

STAGE 4 NOTES

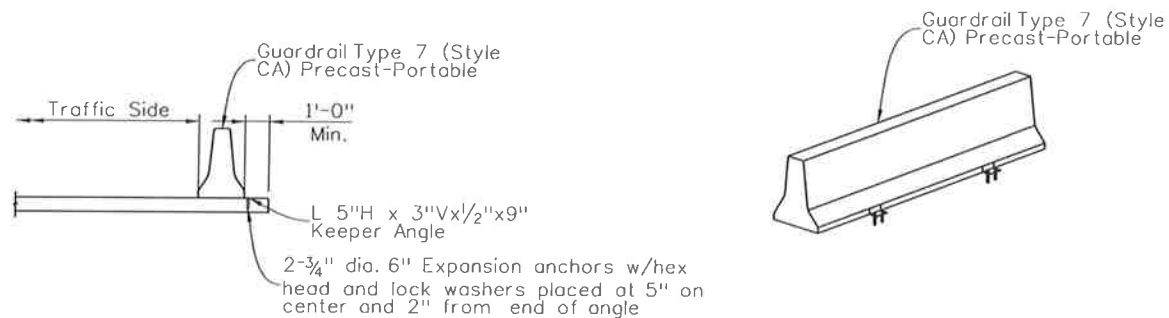
1. Install temporary barrier (see Details this sheet).
2. Shift traffic to North side of bridge.
3. Construct Bridge Rail Type 10 (Special), raised Bike Trail and Pedestrian Rail.



STAGE 5 - COMPLETED BRIDGE
(Looking Upstation)

STAGE 5 NOTES

1. Remove temporary barrier from bridge.
2. Pave remaining bridge and open entire structure to traffic.
3. See striping plan for final pavement, marking and details.



SECTION

ISOMETRIC VIEW

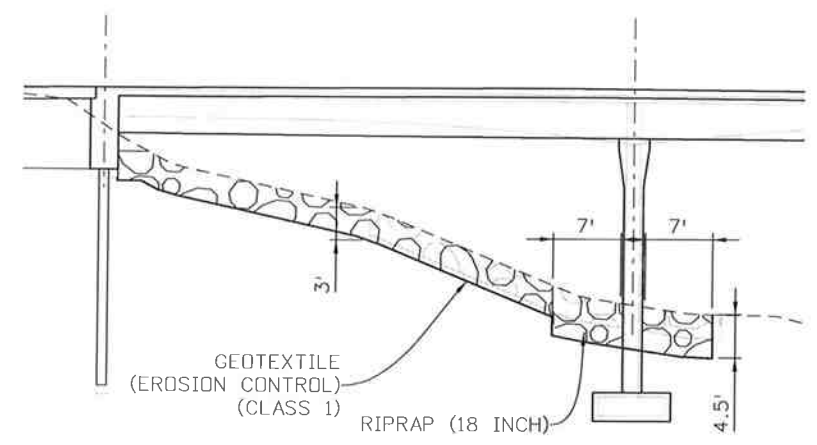
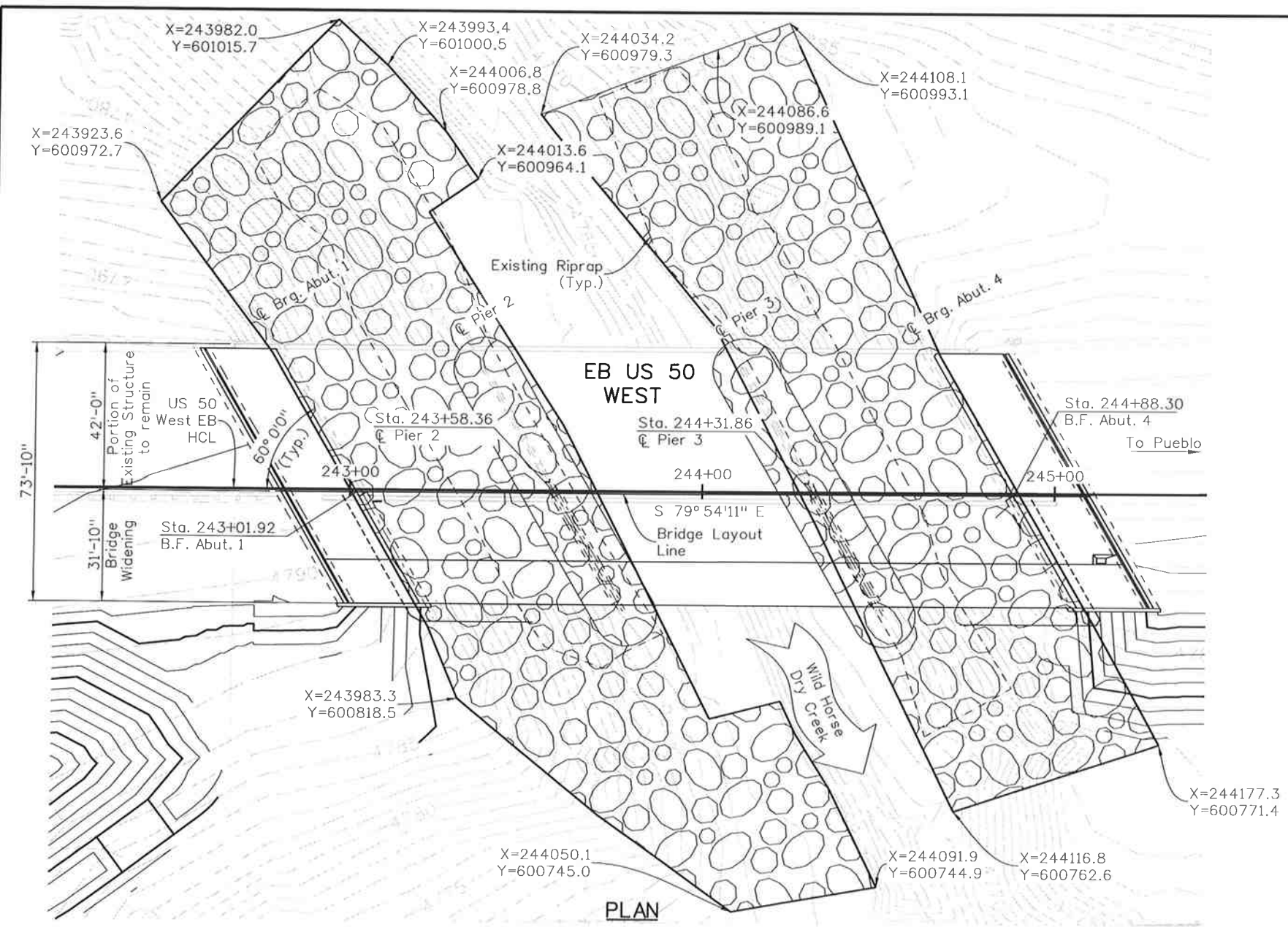
TEMPORARY CONCRETE BARRIER DETAILS

1. Space keeper angles 2'-6" from each end of each 10' precast barrier section.
2. Expansion anchors shall be approved by Engineer prior to installation.
3. After expansion anchors are removed, the remaining holes shall be filled with non-shrink grout.
4. The cost for angles, expansion anchors epoxy etc. and all work necessary to install and remove these items shall be included in the cost of item 630 Guardrail Type 7 (Temporary) in the detour plans.

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	NLS	2/14	RAO	2/14	RAO
Checked By	ARK	3/14	NLS	3/14	CAO
Designed By	NLS	2/14	RAO	2/14	RAO
Checked By	ARK	3/14	NLS	3/14	CAO

Print Date: 8/4/2014		Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST		Project No./Code		
File Name: 19506BRDG_ConstPhasing.dgn		Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		EB OVER WILD HORSE DRY CREEK		FSA 0503-081	
Horiz. Scale: 1:1					Region 2		Revised:		SUGGESTED CONST. STAGING (2 of 2)		19751	
Vert. Scale: As Noted					DTD		Void:		Designer: C. Dtegui		Structure Numbers	
Staff Bridge Branch - Unit 0226									Detailer: V. Miranda		K-18-CW	
Unit Leader DDG									Sheet Subset: Bridge		Subset Sheets: B05 of 32	
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities									Sheet Number		151	

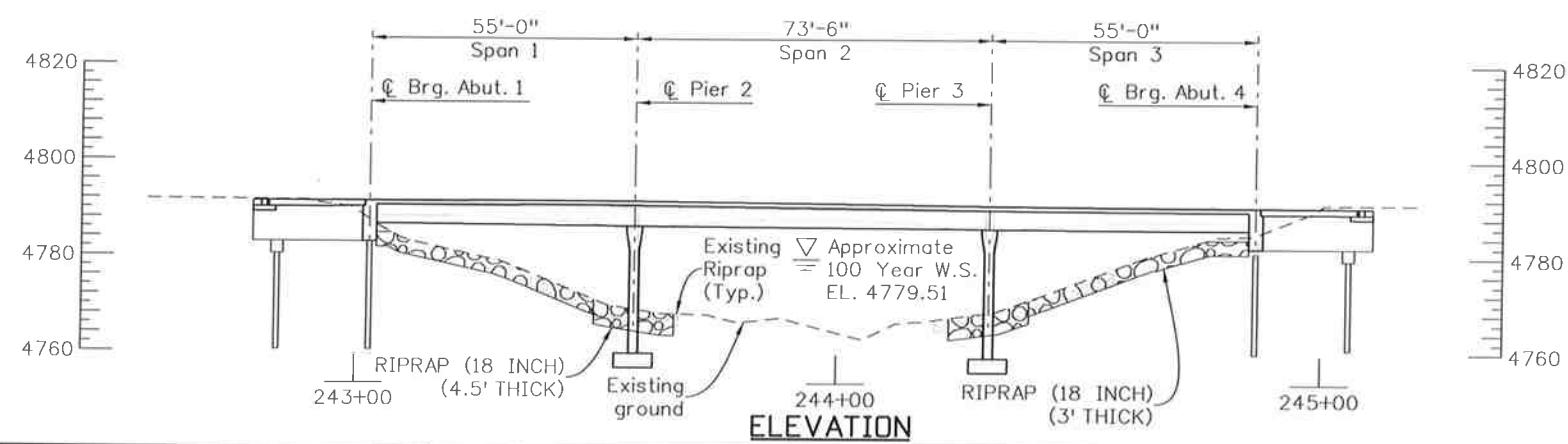
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 8/4/2014



ABUTMENT AND PIER RIPRAP SECTION (TYP.)
SCALE: 1"=20'

For Information Only

I.D.	Riprap (18") (CY)	Geotextile (Erosion Control) (Class 1) (SY)	Relay Riprap (CY)
Abut. 1	1650	1970	230
Pier 2	280	302	
Pier 3	280	302	
Abut. 4	1380	1625	230



Print Date: 8/4/2014
 File Name: 19506HYDR_Hydraulics01.dgn
 Horiz. Scale: 1:40 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DDG

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 Region 2 DTD

As Constructed
 No Revisions:
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US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 HYDRAULIC INFORMATION (1 OF 2)
 Designer: K. Gabbert Structure: K-18-CW
 Detailer: K. Turner Numbers:
 Sheet Subset: Bridge Subset Sheets: B07 of 32

Project No./Code
 FSA 0503-081
 19751
 Sheet Number 153

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100-YEAR RECURRENCE INTERVAL
 FLOW UPSTREAM OF BRIDGE = 11,500 cfs
 DRAINAGE AREA = 55 SQ. MI.

CHANNEL DESCRIPTION

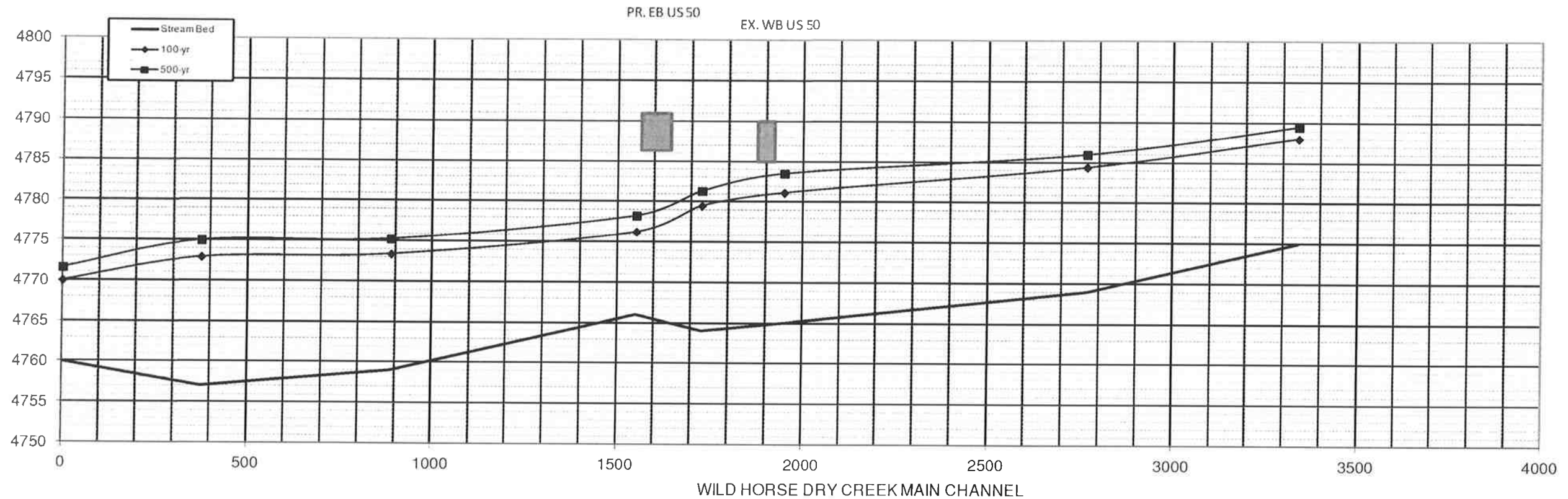
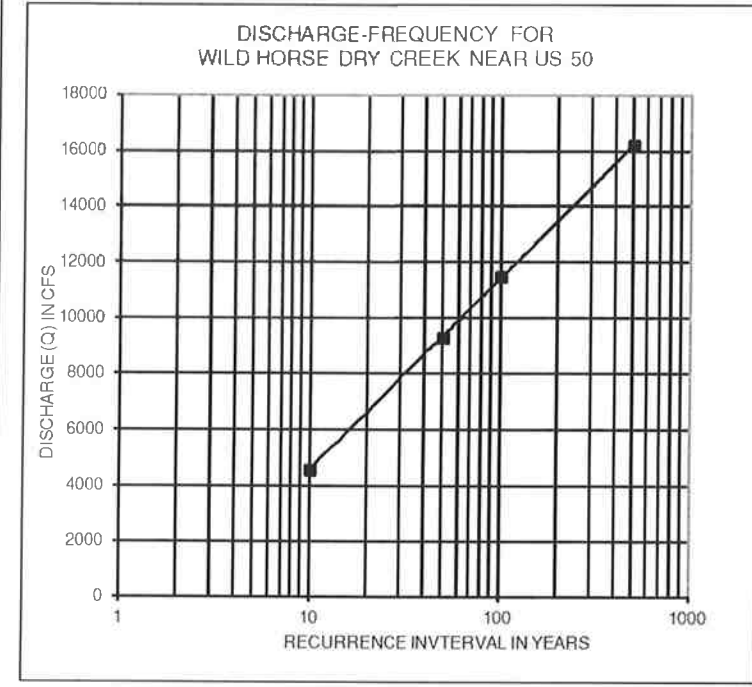
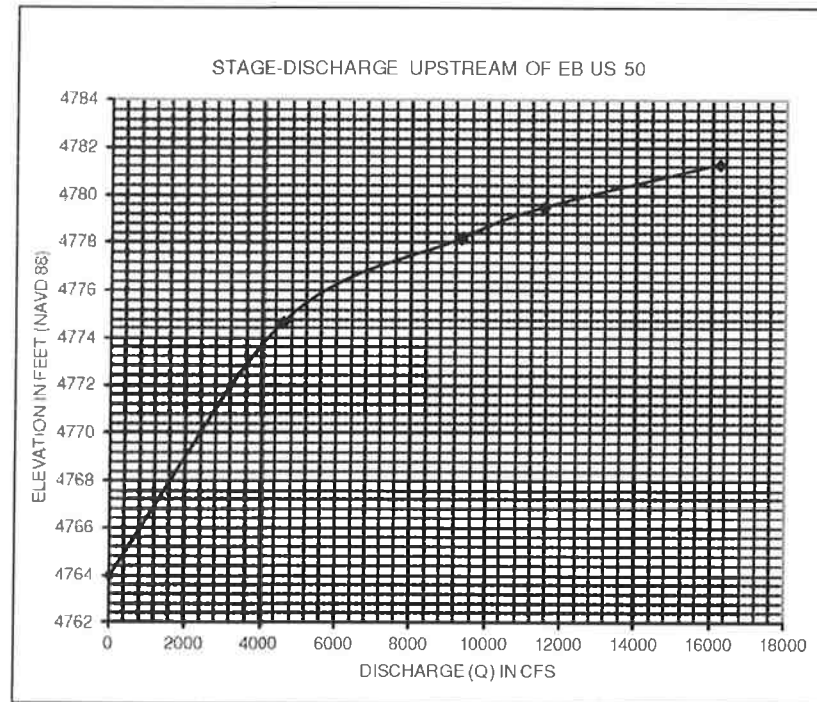
BOTTOM MATERIAL: COHESIVE NONCOHESIVE
 BOTTOM MAT. SIZE: CLAY SILT SAND GRAVEL COBBLES OTHERS _____
 STREAM FORM: STRAIGHT MEANDERING BRAIDED
 MANNING'S "n" FOR DESIGN: CHANNEL 0.040 OVERBANK 0.05
 DEBRIS: BRUSH TREES ICE OTHER _____

COMPARISON HYDRAULICS (100 YEAR EVENT)
 AT SECTION 1161 LOCATED 56 FT UPSTREAM OF PROPOSED US50 BRIDGE

	VELOCITY (fps)		WS EL. (ft.)	MAX BACKWATER (ft.)	FROUDE NO.
	AVERAGE	CHANNEL			
EXISTING CONDITIONS	8.99	8.99	4779.32		0.52
PROPOSED CONDITIONS	8.81	8.81	4779.51	0.19	0.51

HYDRAULIC DATA

LOCATION	LOW CHORD ELEVATION AT ABUT. FRONT FACE		100-YEAR WATER SURFACE ELEVATION
	ABUT. 1	ABUT. 4	
US50 BRIDGE, N. SIDE (DOWNSTREAM)	4786.68	4785.88	4776.52
US50 BRIDGE, S. SIDE (UPSTREAM)	4789.44	4788.62	4779.04



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 6300 South Syracuse Way
 Centennial, CO 80111
 connecting and enhancing communities

Sheet Revisions		
Date:	Comments	Init.

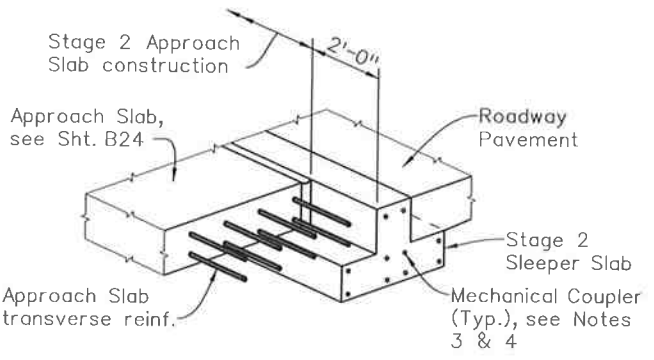
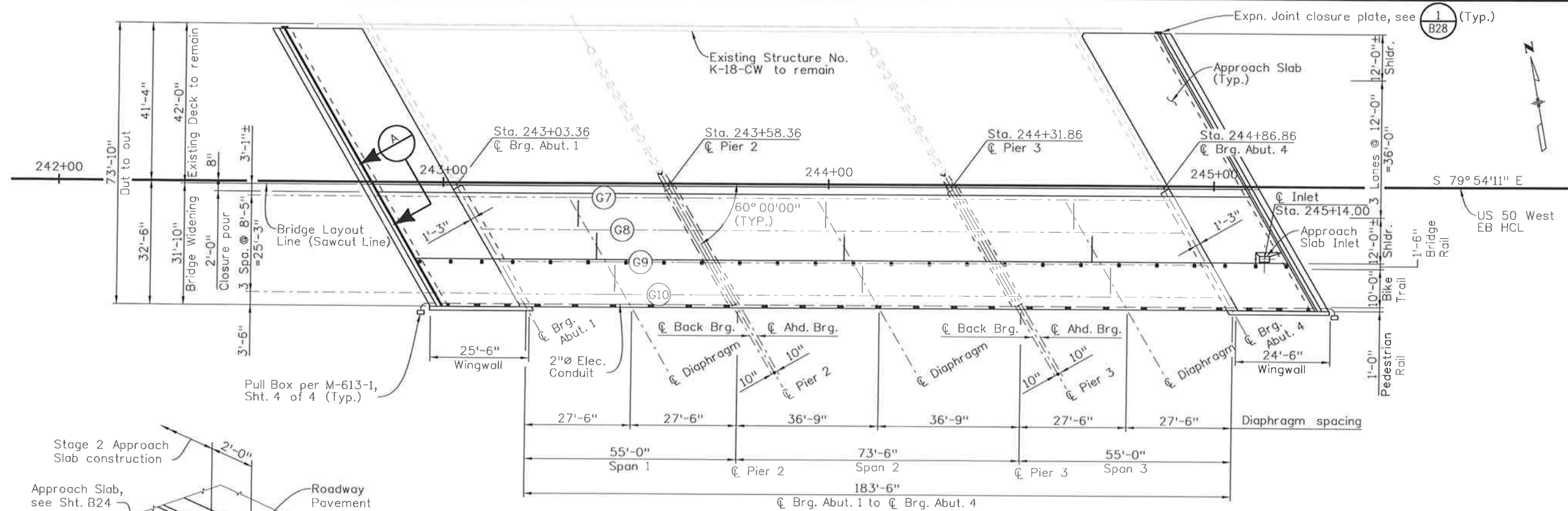
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 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

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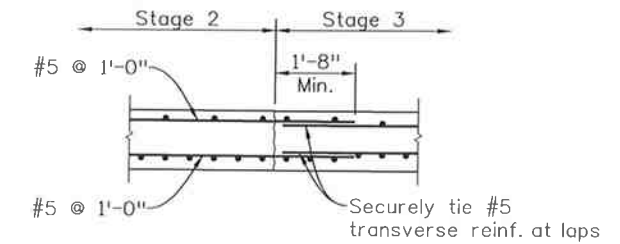
US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 HYDRAULIC INFORMATION (2 OF 2)
 Designer: K. Gobbert Structure Numbers K-18-CW
 Detailer: K. Gobbert
 Sheet Subset: Bridge Subset Sheets: B08 of 32

Project No./Code
 FSA 0503-081
 19751
 Sheet Number 154

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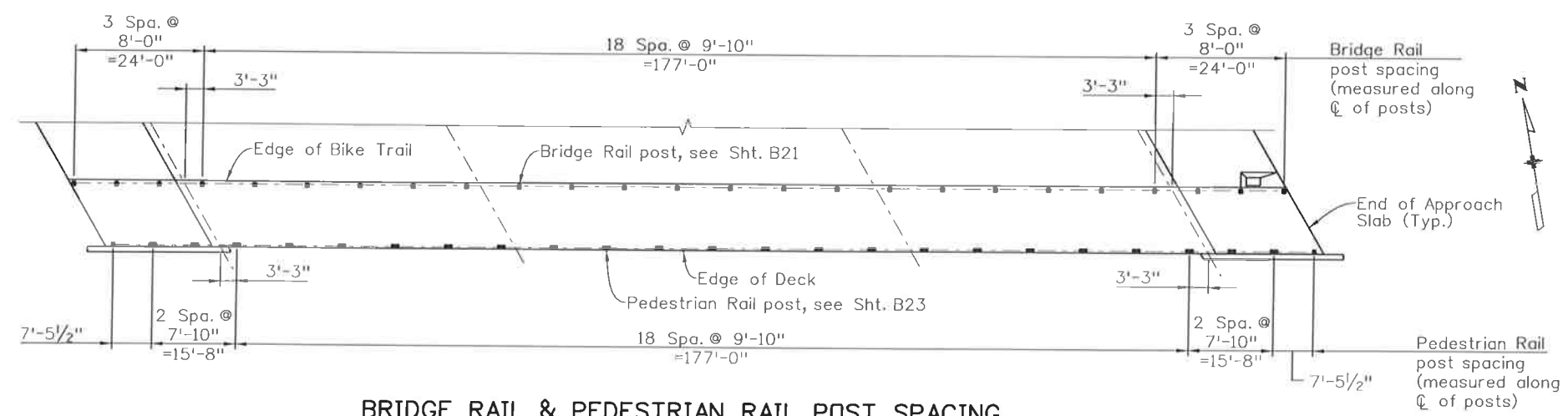
SLEEPER SLAB ISOMETRIC



SECTION A
(Approach Slab)

NOTES:

1. Pull Boxes will not be paid for separately, but shall be included in the cost of Item 613 - 2 Inch Electrical Conduit.
2. For Construction Staging See Sht. B04 & B05.
3. All approved Mechanical Couplers shall be capable of developing 125% of the reinforcing steel tensile strength. The Contractor shall submit a certification of Mechanical Coupler to the engineer prior to installation.
4. The cost of the Mechanical Couplers shall be included in the cost of Item 602 Reinforcing Steel. Plan quantities include lap splices.
5. Stationing shown is along Bridge Layout Line which parallels US50 West EB HCL Stationing.



BRIDGE RAIL & PEDESTRIAN RAIL POST SPACING

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	2/14	Detailed By	2/14	Quantities By	3/14
Checked By	ARK	Checked By	NLS	Checked By	CAO
					5/14

Print Date: 9/24/2014
 File Name: 19506BRDG_ConstLayout.dgn
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 Staff Bridge Branch - Unit 0226 Unit Leader DGD

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 **DTD**

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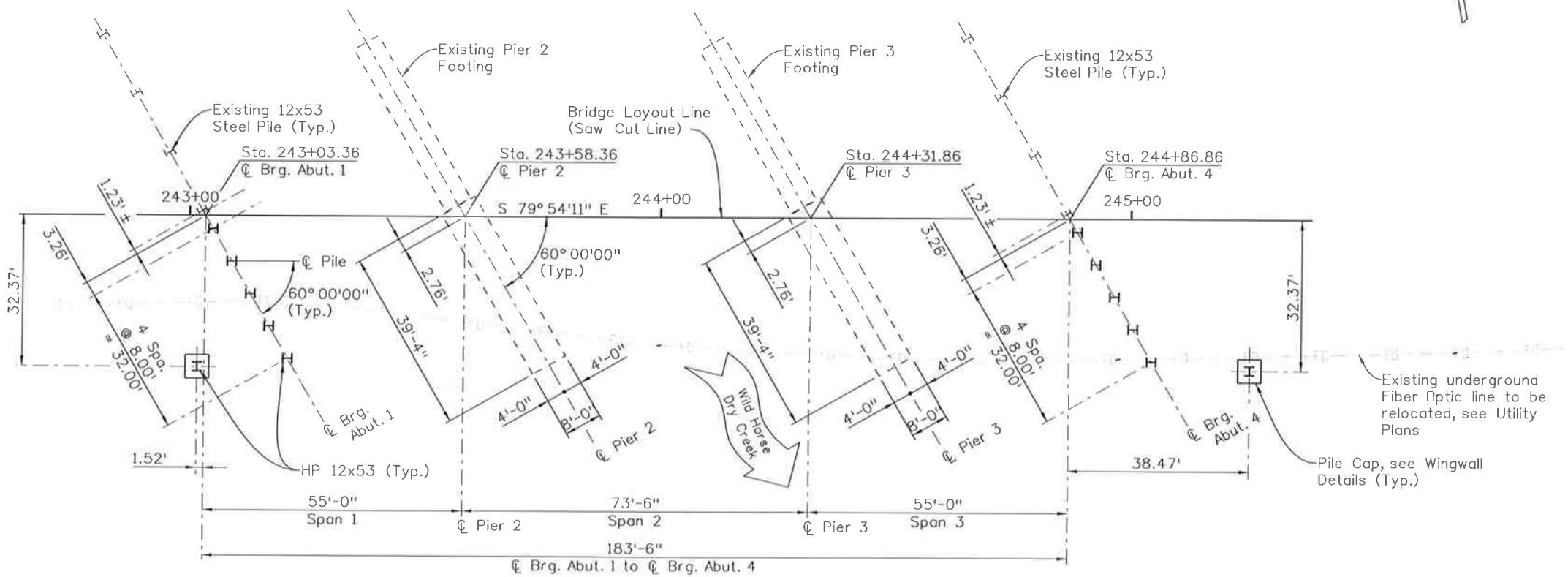
**US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 CONSTRUCTION LAYOUT**

Designer:	N. Sass	Structure Numbers	K-18-CW
Detailer:	R. Dillon		

Sheet Subset: Bridge Subset Sheets: B09 of 32

Project No./Code
 FSA 0503-081
 19751
 Sheet Number 155

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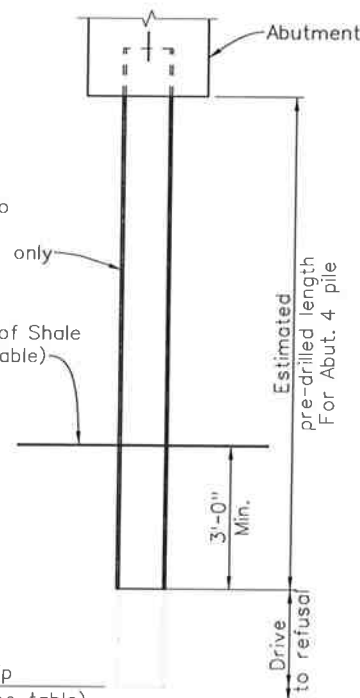


FOUNDATION LAYOUT

PILE DATA					
Location	Max. Load (Unfactored) (kips)	Max. Load (Factored) (kips)	Estimated top of Shale Bedrock Elev.	Estimated Tip Elev.	As-Built Tip Elev.
Abutment 1	137	193	4759	4754	
Abutment 4	142	201	4763	4758	

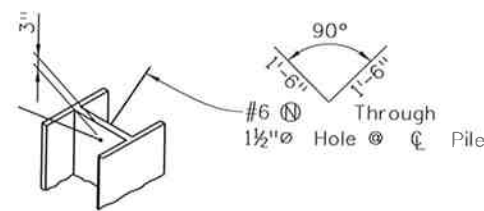
NOTES:

- All Piles are End Bearing HP12x53.
Nominal Bearing Resistance in bedrock = 40 ksi (Grade 50 steel)
Resistance Factor for bearing resistance = 0.65
- All Piles shall be driven vertical. The web & flanges shall be aligned per the foundation layout shown.
- Pile Driving Analyzer (PDA) is required for this project. The PDA monitoring shall be performed by CDDT on one pile at each abutment in accordance with Section 502 of the Standard Specifications.
- Contractor shall fill void area of pre-drilled holes for Abutment 4 Piles in small lifts with sand or pea gravel. Wingwall pile need not be pre-drilled.
- Pier Shallow Foundations:
Nominal bearing resistance in bedrock = 40,000 psf
Resistance factor for bearing resistance = 0.45
Bearing resistance at service limit state = 7,500 psf
- The estimated top of shale bedrock at Piers 2 & 3 is 4758. Pier foundations shall be embedded into sound shale bedrock a minimum of 1 foot.
- Elevations shown shall be verified at time of construction by the Geotechnical Engineer.



ABUTMENT 4 PILING PRE-DRILLING DETAIL

(See Note 4)

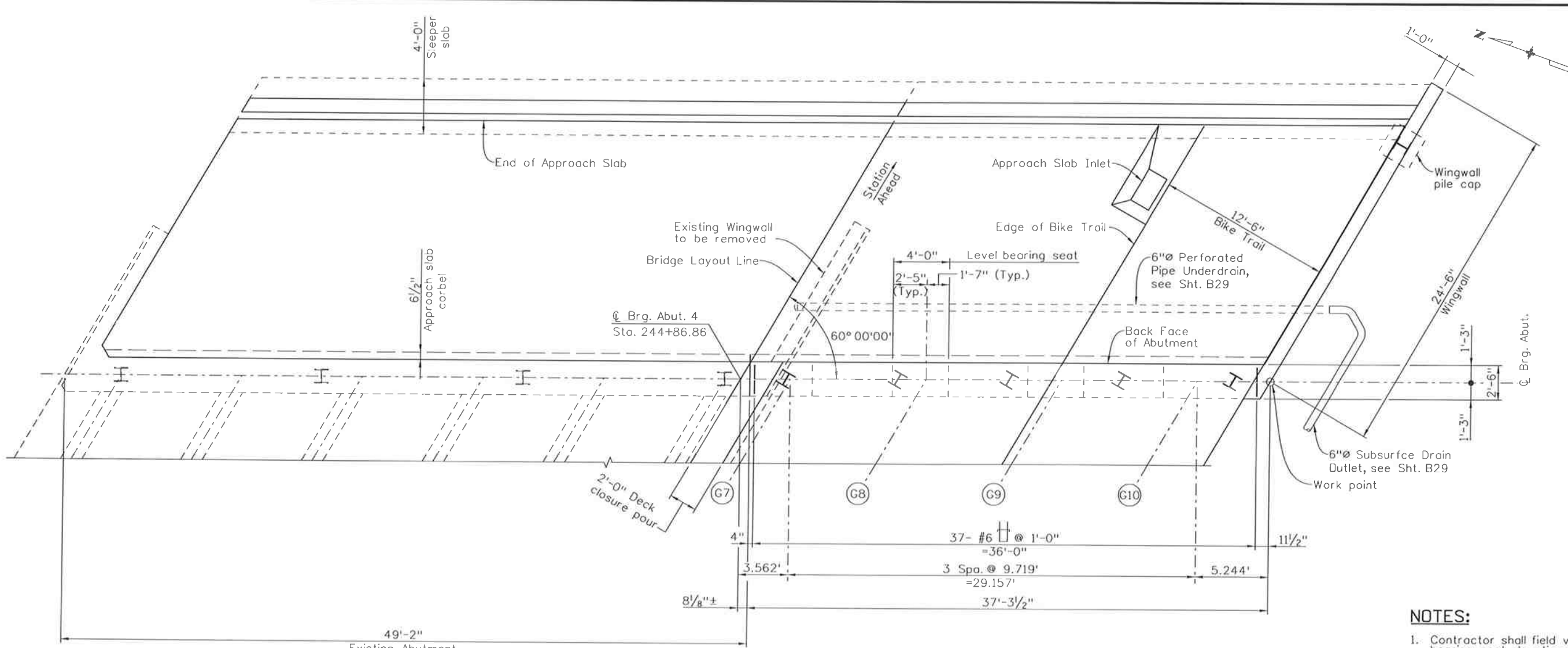


PILE ANCHORAGE DETAIL

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
ARK	2/14	RAD	2/14	RAD	3/14
Checked By	Checked By	Checked By	Checked By	Checked By	Checked By
CAO	3/14	NLS	3/14	CAO	5/14

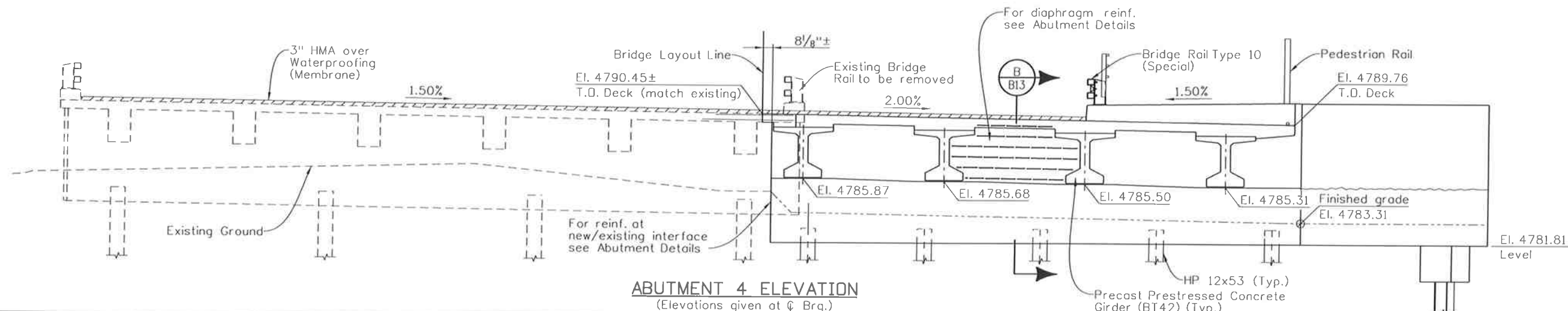
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Horiz. Scale: 1:30 Vert. Scale: As Noted					Region 2		Revised:		FOUNDATION LAYOUT & DETAILS		19751	
Staff Bridge Branch - Unit 0226 Unit Leader DDG					DTD		Void:		Designer: A. Kreisa Structure Numbers K-18-CW		19751	
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities									Detailer: R. Dillon		Sheet Number 156	
									Sheet Subset: Bridge		Subset Sheets: B10 of 32	

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ABUTMENT 4 PLAN

NOTES:
 1. Contractor shall field verify bearing seat elevations prior to concrete placement, based on field survey at actual cut line.



ABUTMENT 4 ELEVATION
 (Elevations given at \bar{C} Brg.)

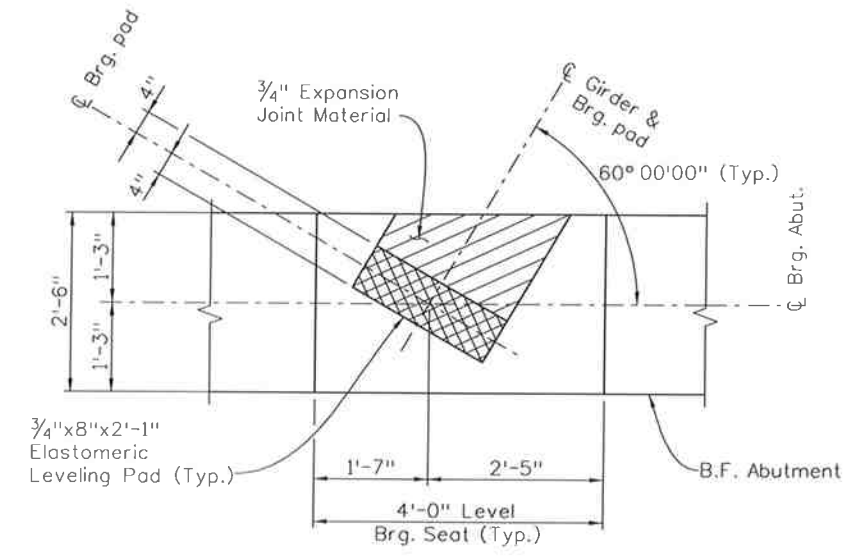
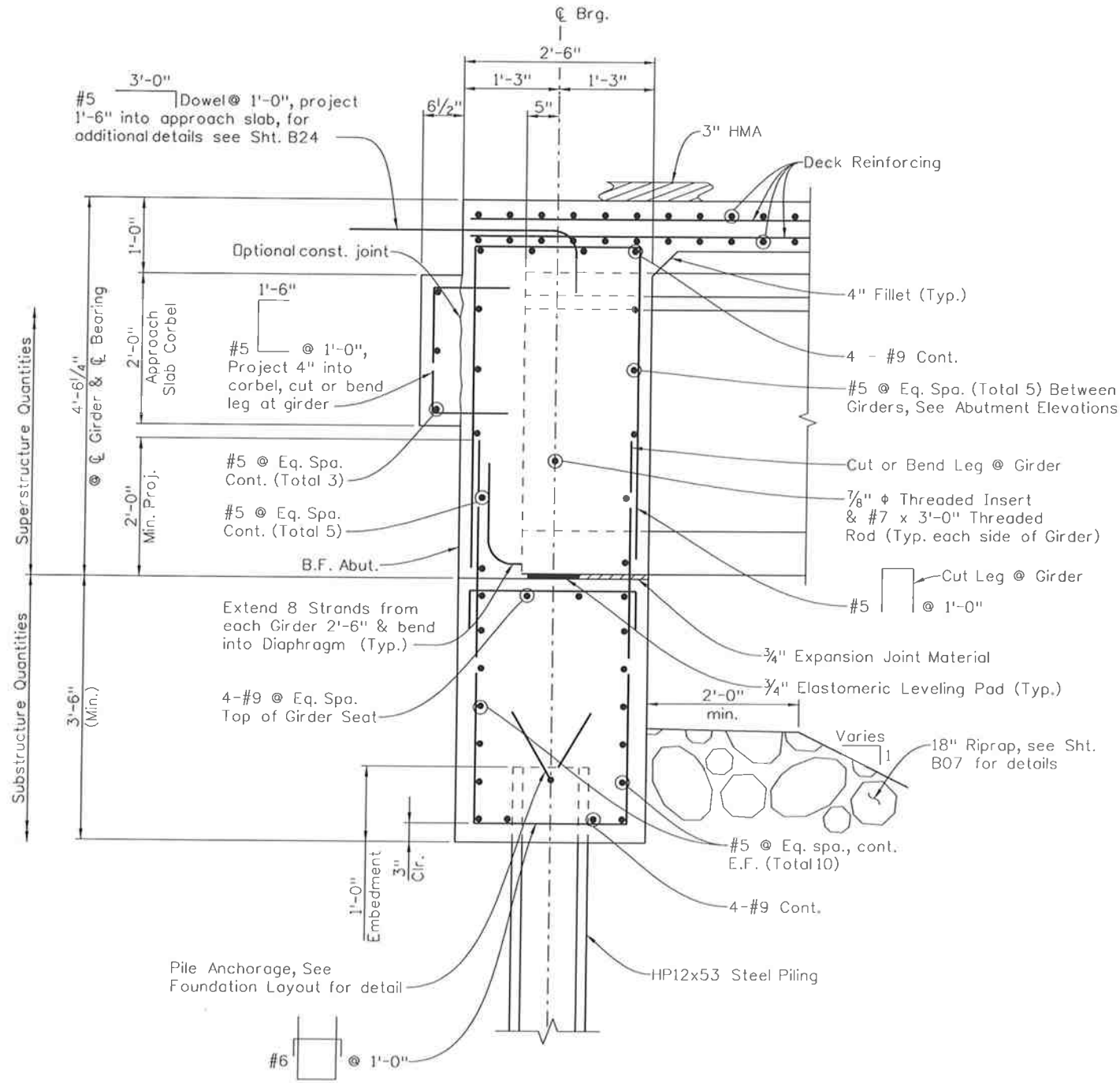
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INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	ARK	2/14	2/14	Quantities By	RAO
Checked By	NLS	3/14	3/14	Checked By	CAO
					5/14

Print Date: 8/4/2014		Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST		Project No./Code	
File Name: 19506BRDG_Abut4Plan-Elev.dgn		Date:	Comments:	Init.	No Revisions:		EB OVER WILD HORSE DRY CREEK		FSA 0503-081		
Horiz. Scale: 1:1 Vert. Scale: As Noted					Revised:		ABUTMENT 4 PLAN & ELEVATION		19751		
Staff Bridge Branch - Unit 0226 Unit Leader DDG					Void:		Designer: A. Kreiso Structure: K-18-CW		19751		
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities		902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		Region 2		DTD		Detailer: R. Dillon Numbers:		Sheet Number 158	
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 8/4/2014

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ARK	2/14	RAD	2/14	RAO	3/14
Checked By	NLS	Checked By	NLS	Checked By	CAQ
	3/14		3/14		5/14



ABUTMENT BEARING DETAIL

NOTES:

- Slab and portion of Abutment above Bearing Seat to be poured monolithically.
- No portion of Abutment shall be backfilled until the deck concrete has reached 80% of its design strength.
- Elastomeric bearing pad and expansion joint material will not be paid for separately, but shall be included in the Item 618 - Prestressed Concrete I Girders (BT42).
- All Abutment and Wingwall Concrete shall be Class D (Bridge).

Print Date: 8/4/2014
 File Name: 19506BRDG_AbutDetails01.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DGD

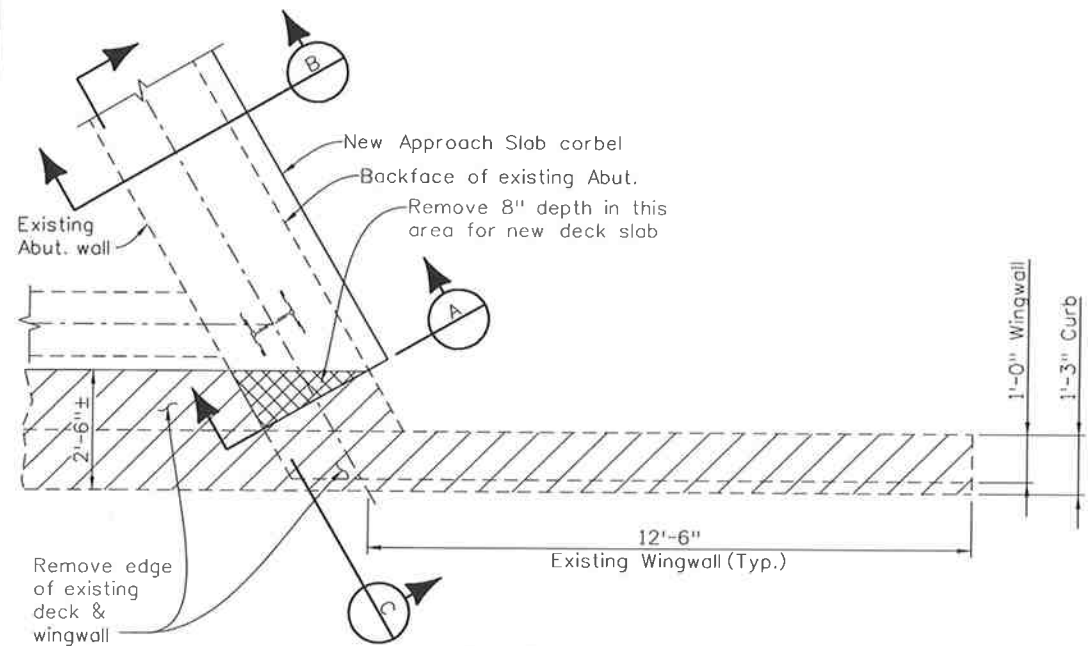
Sheet Revisions			
Date:	Comments	Init.	

Colorado Department of Transportation

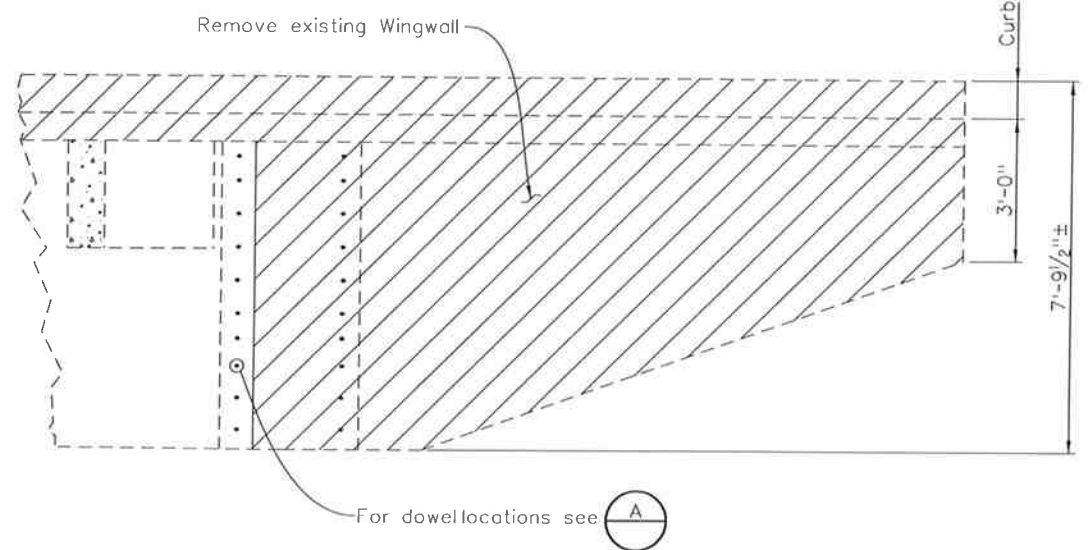
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 **DTD**

As Constructed	US 50 WEST		Project No./Code
No Revisions:	EB OVER WILD HORSE DRY CREEK		FSA 0503-081
Revised:	Designer: A. Kreisa	Structure: K-18-CW	19751
Void:	Detailer: R. Dillon	Subsets:	
	Sheet Subset: Bridge	Subset Sheets: B13 of 32	Sheet Number 159

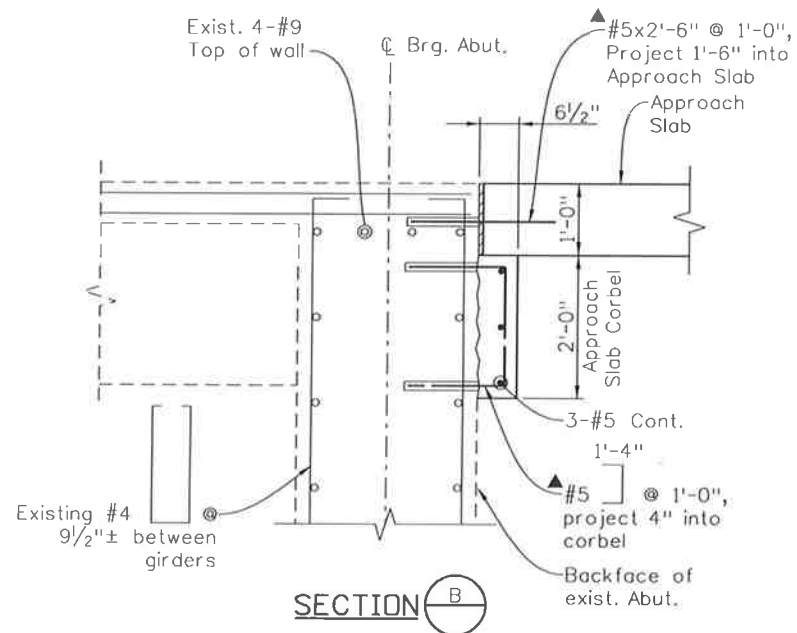




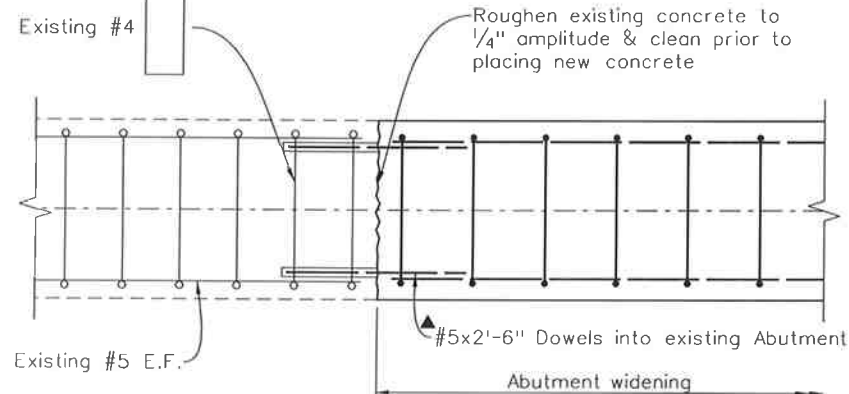
PLAN
EXISTING WINGWALL REMOVAL
 (Abut. 4 wingwall shown, removal limits similar at Abut. 1 wingwall)



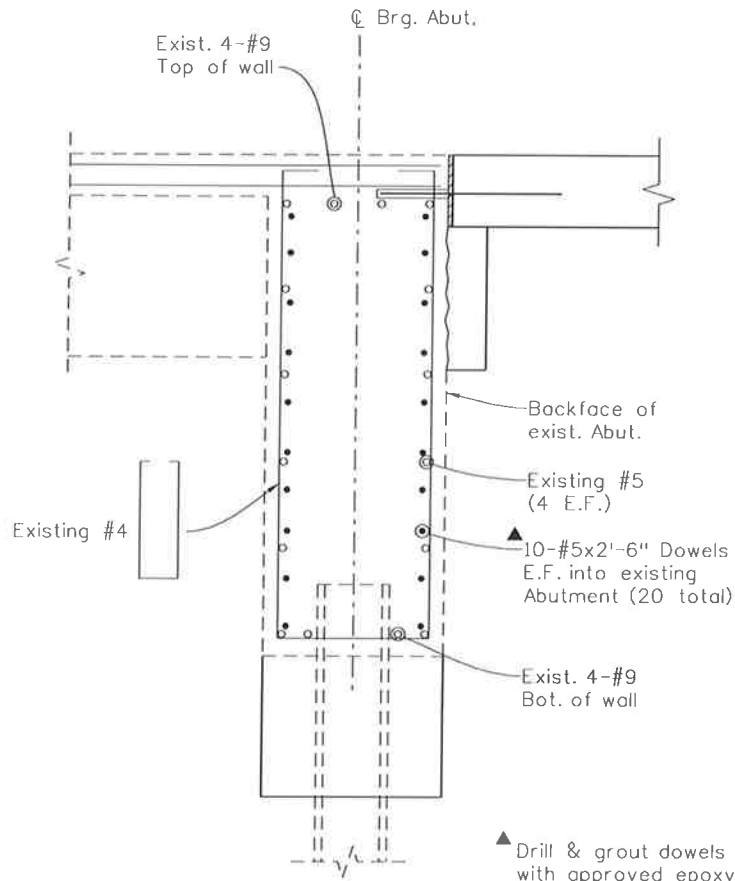
ELEVATION
EXISTING WINGWALL REMOVAL



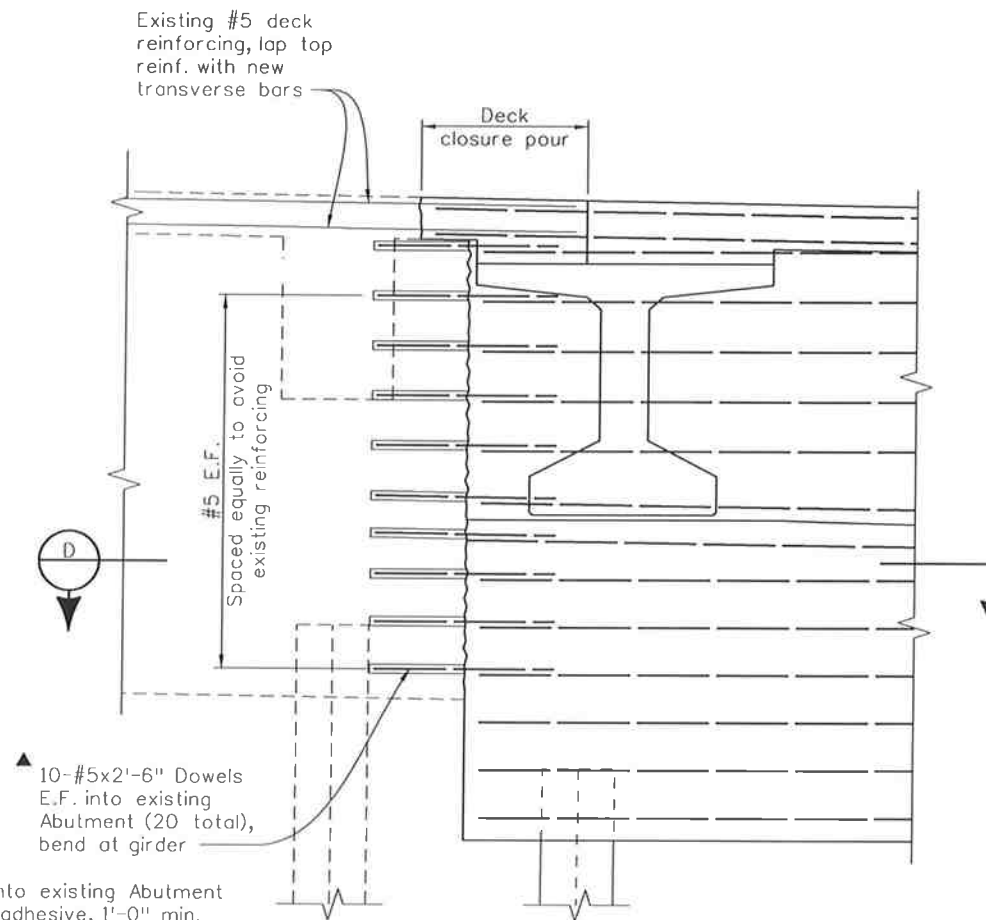
SECTION B



SECTION D



SECTION A



SECTION C

▲ Drill & grout dowels into existing Abutment with approved epoxy adhesive, 1'-0" min. embedment. The cost of drilling and epoxy adhesive shall not be paid for separately, but shall be included in the cost of Item 601 - Concrete Class D (Bridge).

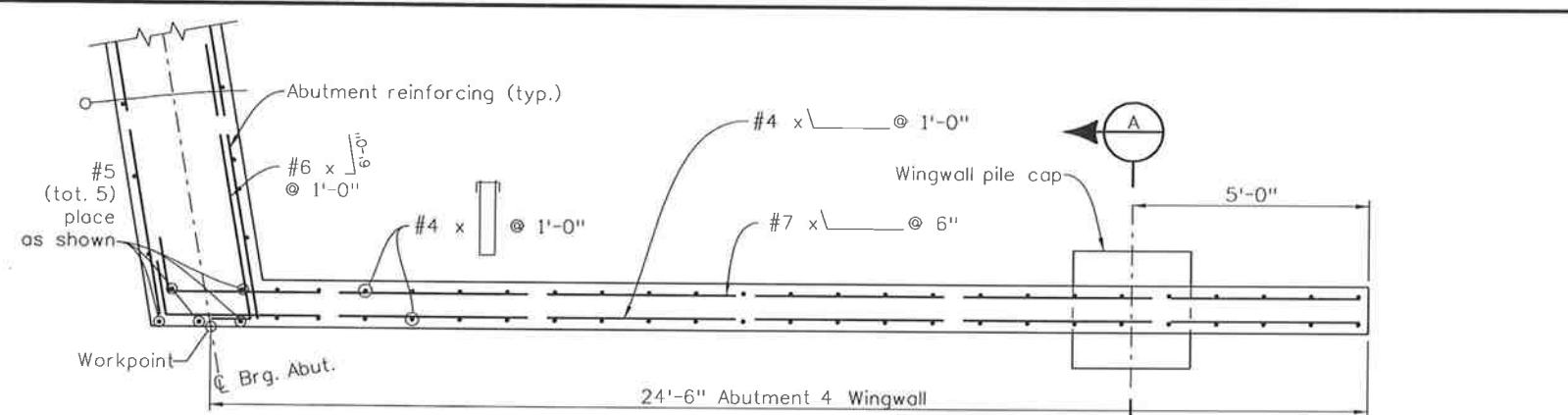
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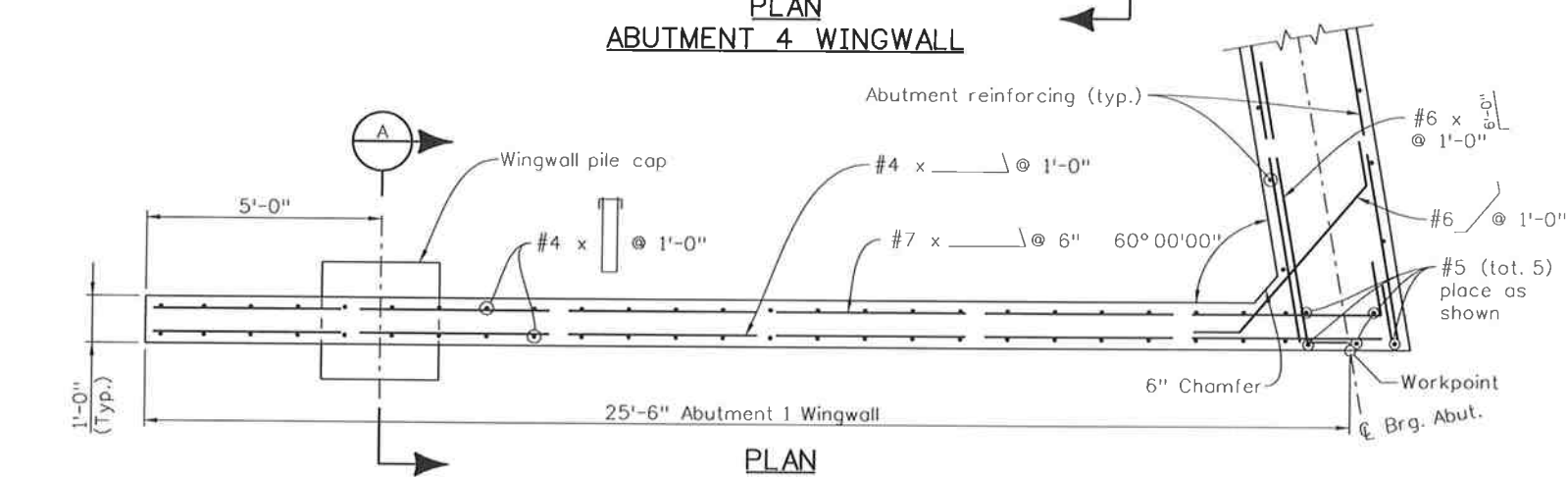
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Horiz. Scale: 1:1 Vert. Scale: As Noted					Region 2		Revised:		ABUTMENT DETAILS (2 OF 2)		19751	
Staff Bridge Branch - Unit 0226 Unit Leader DDG					DTD		Void:		Designer: N. Soss Structure Numbers K-18-CW		Sheet Number 160	
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities									Detailer: R. Dillon Sheet Subset: Bridge Subset Sheets: B14 of 32		Sheet Number 160	

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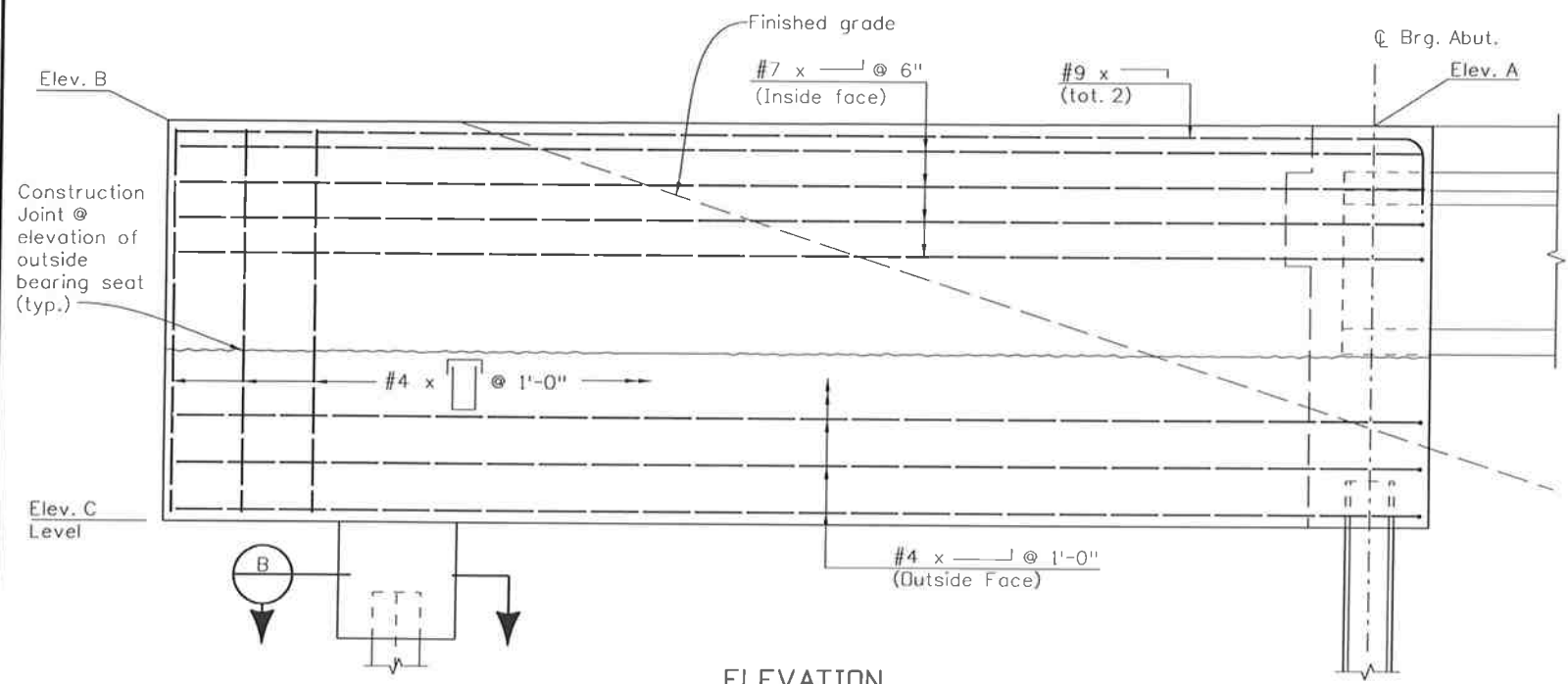
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Checked By	ARK	3/14	NLS	3/14	CAO



**PLAN
ABUTMENT 4 WINGWALL**

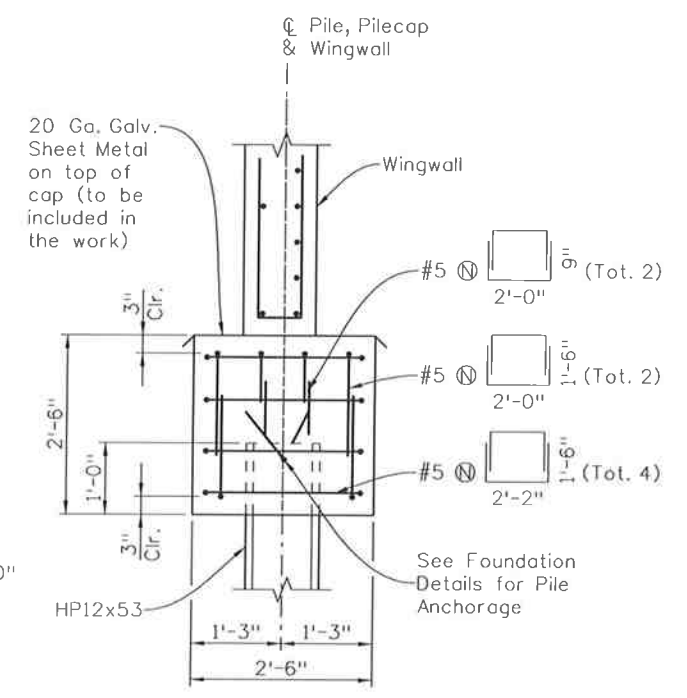


**PLAN
ABUTMENT 1 WINGWALL**

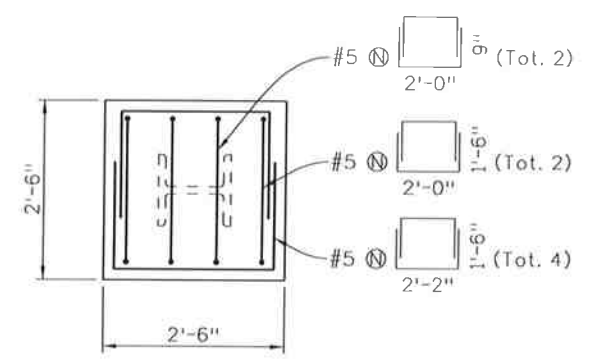


ELEVATION

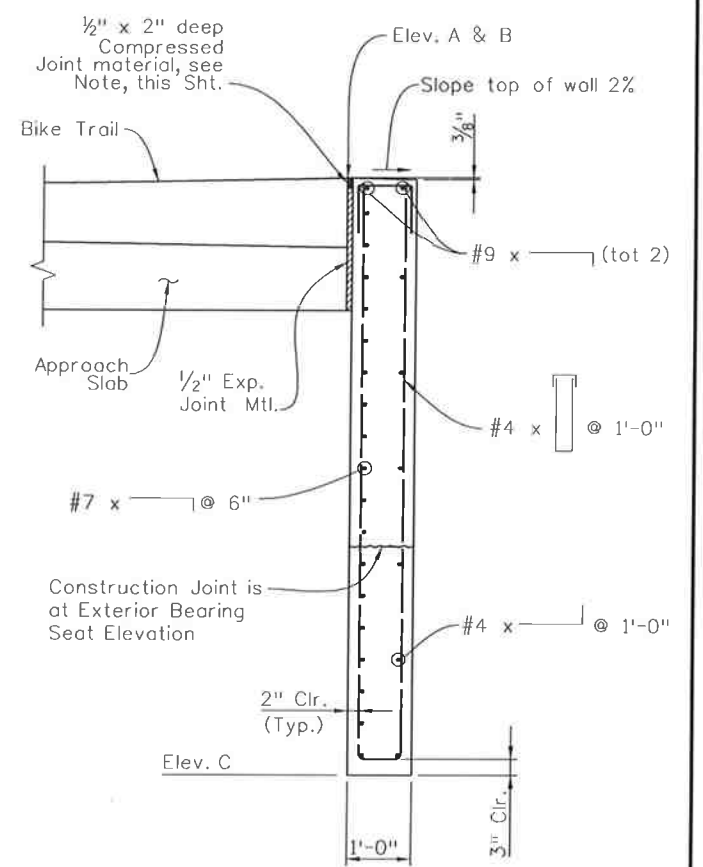
(Abutment 1 Wingwall shown, Abutment 4 Wingwall similar)



SECTION A



SECTION B



TYPICAL WINGWALL SECTION

NOTES:

- Compressed Joint Material shall be pre-compressed, chemically resistant, open cell polyurethane foam sealant, impregnated with a water-repellant material, with adhesive backing on both sides. The joint material shall be epoxied in place, and all splices sealed, as recommended by the supplier of the joint material. The cost shall be included in the cost of Item 601, Class D Concrete.

Acceptable compressed joint material alternatives:
WILL-SEAL
SEAL-MATE #517
POLY-TITE "N"
- Contractor shall fill back face and front face of wingwall simultaneously (± 2 ft.)
- Wingwall design assumes passive pressure from front face soil per CDOT Bridge Design Manual 7.1.

Wingwall	Elev. A	Elev. B	Elev. C
Abut. 1 Wingwall	4792.17	4792.98	4782.71
Abut. 4 Wingwall	4791.28	4791.84	4781.81

Print Date: 8/4/2014
 File Name: 19056BRDG_WingwallDetails.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DDG

Date:	Comments	Init.

Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 DTD

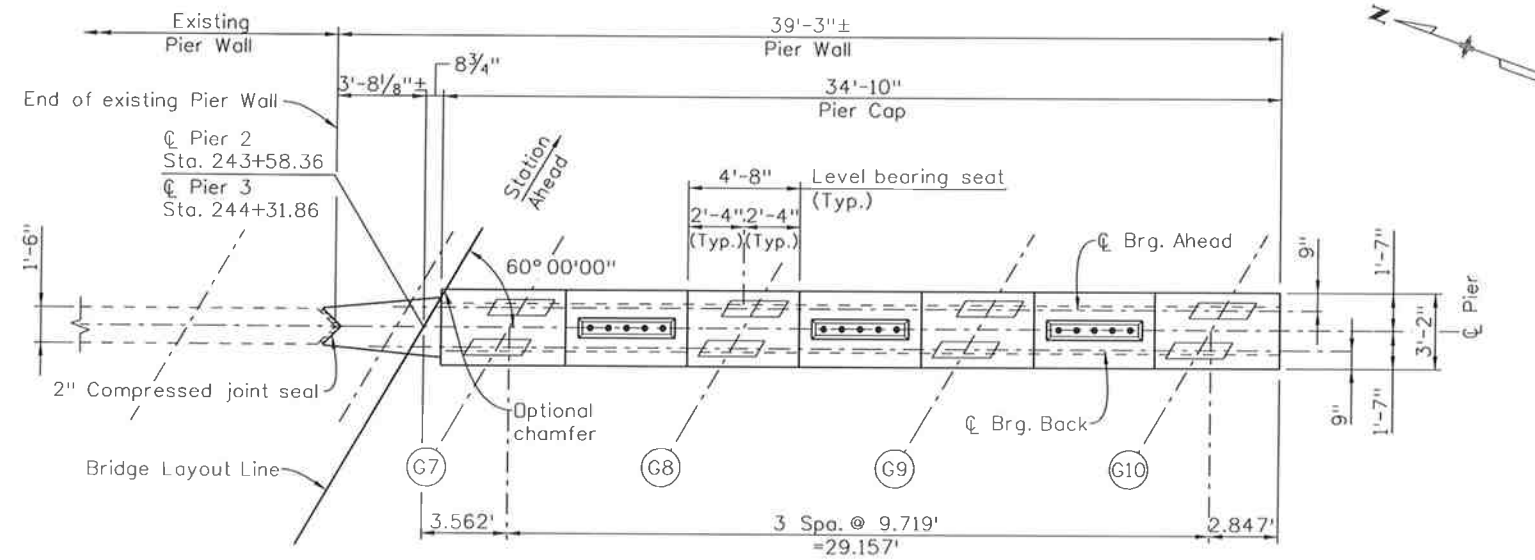
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 No Revisions:
 Revised:
 Void:

**US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 WINGWALL DETAILS**

Designer: N. Sass
 Detailer: R. Dillon
 Sheet Subset: Bridge

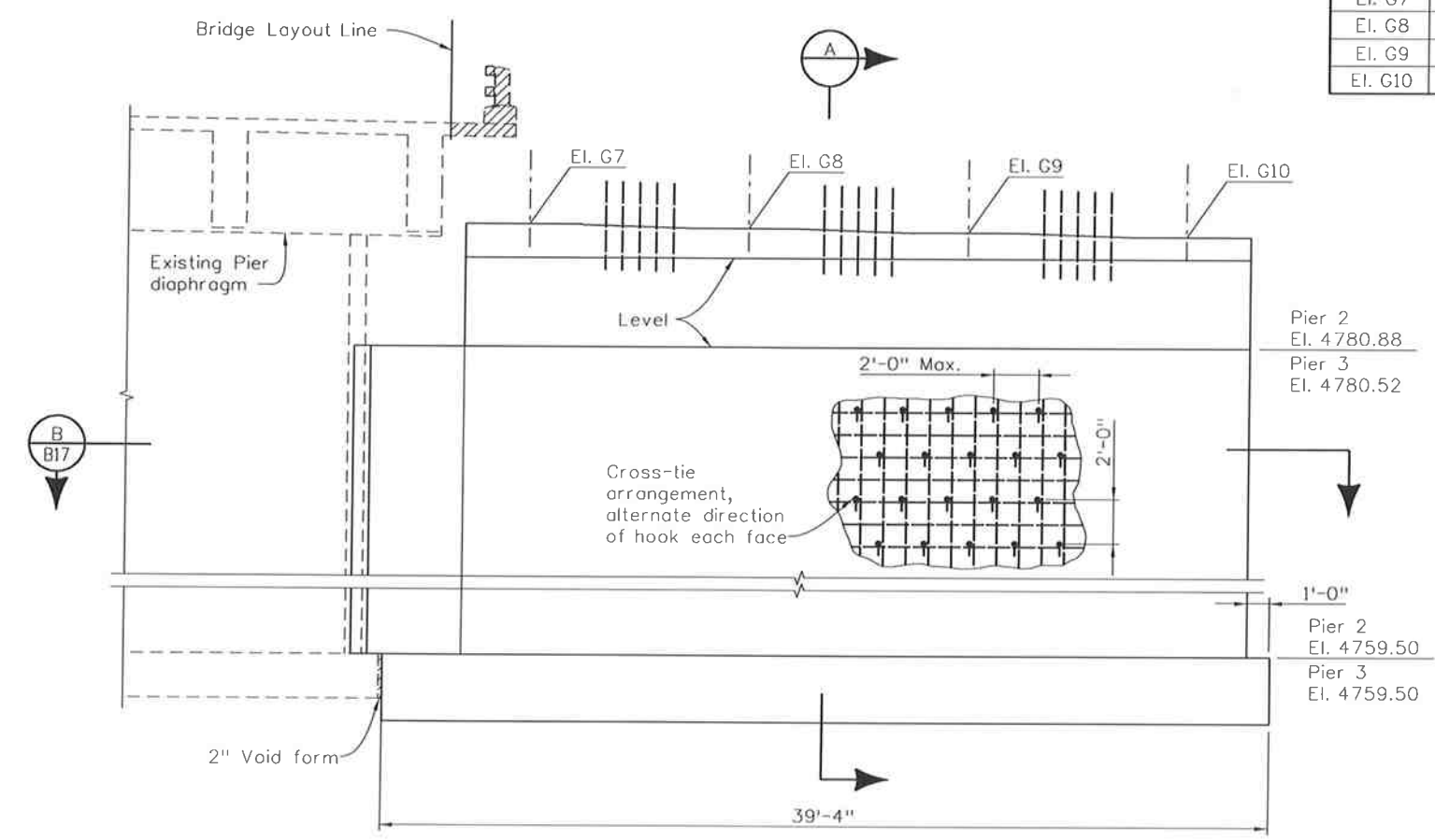
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 K-18-CW
 Subset Sheets: B15 of 32

Project No./Code
 FSA 0503-081
 19751
 Sheet Number 161

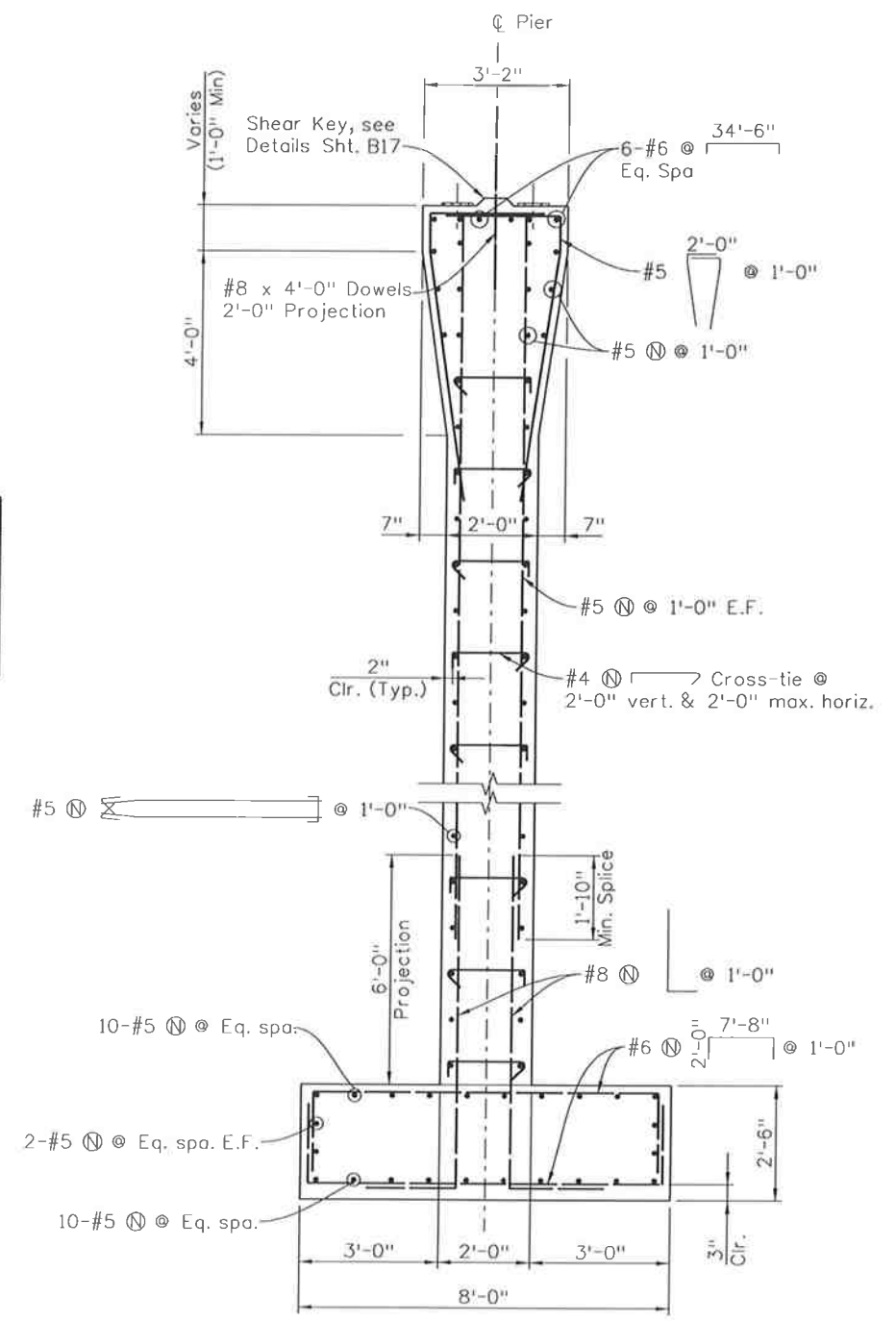


PLAN

BEARING ELEVATIONS		
	Pier 2	Pier 3
El. G7	4786.47	4786.09
El. G8	4786.27	4785.90
El. G9	4786.07	4785.71
El. G10	4785.88	4785.52



ELEVATION
(Elevations given at \bar{C} Brg.)



SECTION A

- NOTES:
- Contractor shall field verify bearing seat elevations prior to concrete placement, based on field survey at actual cut line.

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
ARK	2/14	RAO	2/14	RAO	3/14
CAO	3/14	NLS	3/14	CAO	5/14
Designed By	Checked By	Detailed By	Checked By	Quantities By	Checked By

Print Date: 8/4/2014
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Staff Bridge Branch - Unit 0226 Unit Leader DDG

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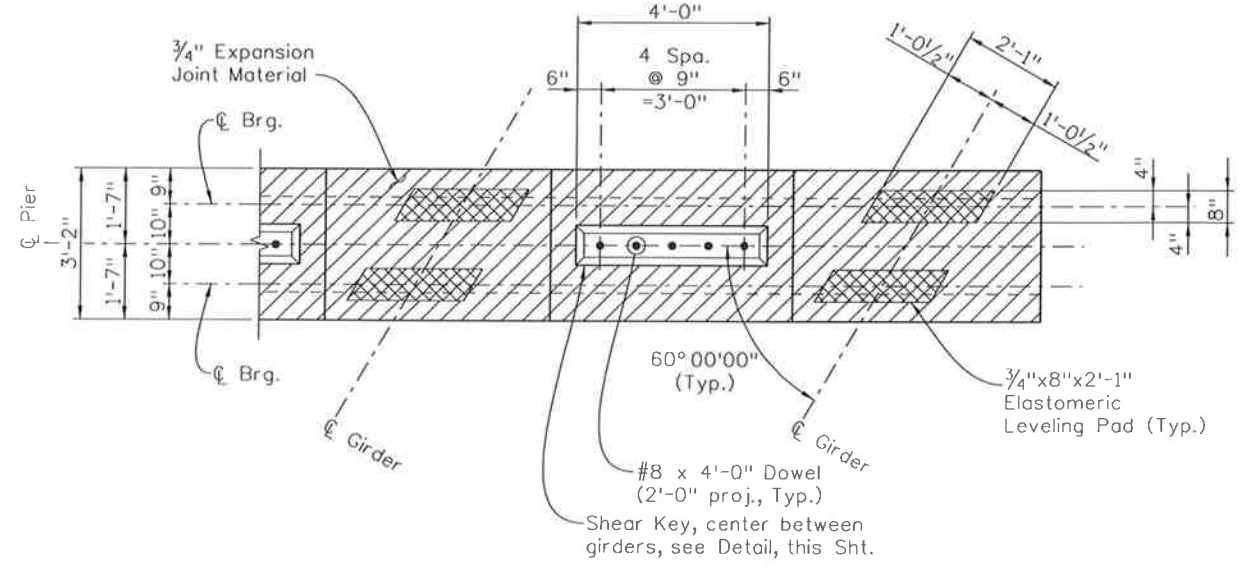
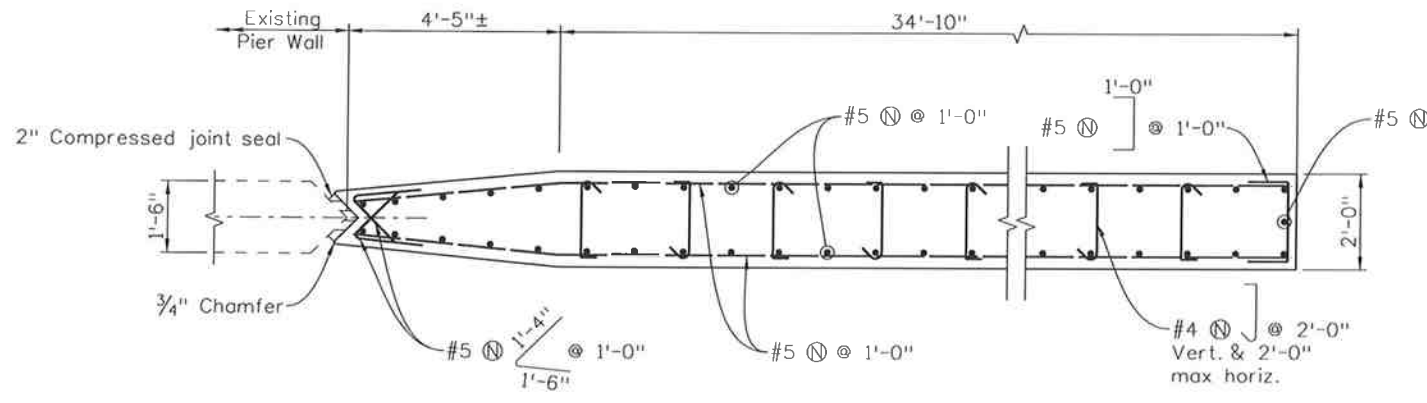
Colorado Department of Transportation
902 Erie Avenue
Pueblo, CO 81001
Phone: 719-562-5509 FAX: 719-546-5702
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST
EB OVER WILD HORSE DRY CREEK
PIER 2 & 3 PLAN & ELEVATION
Designer: A. Kreisa
Detailer: R. Dillon
Structure Numbers: K-18-CW
Sheet Subset: Bridge

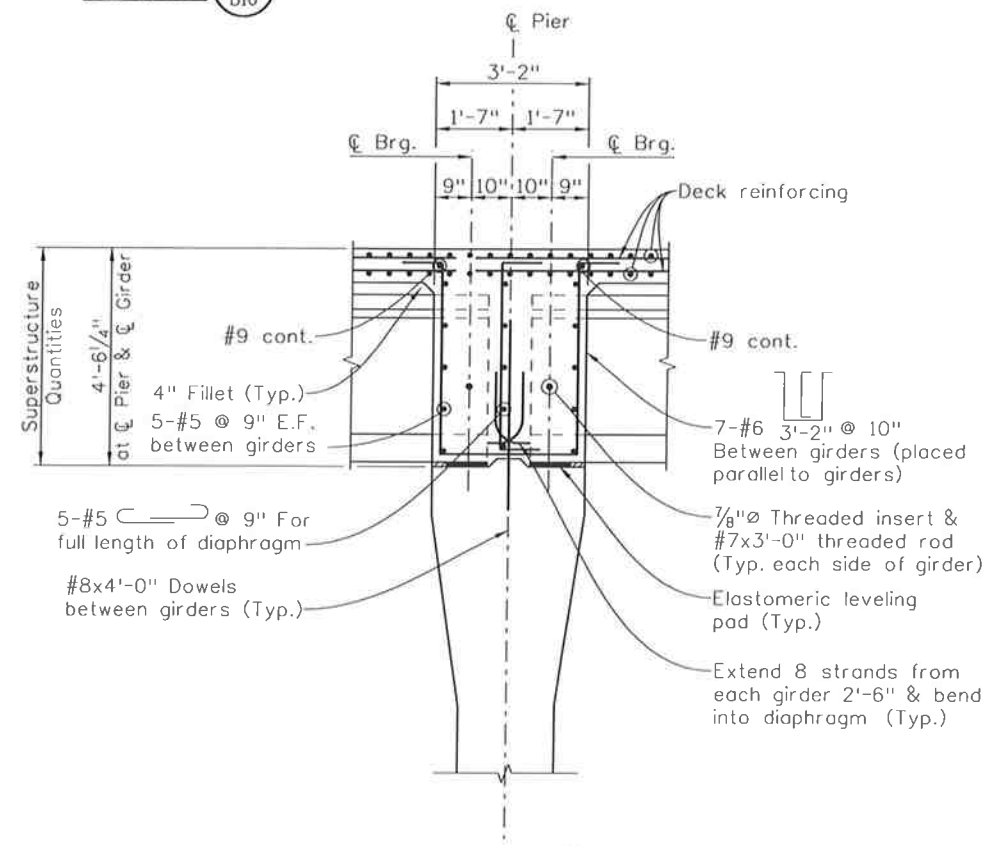
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19751
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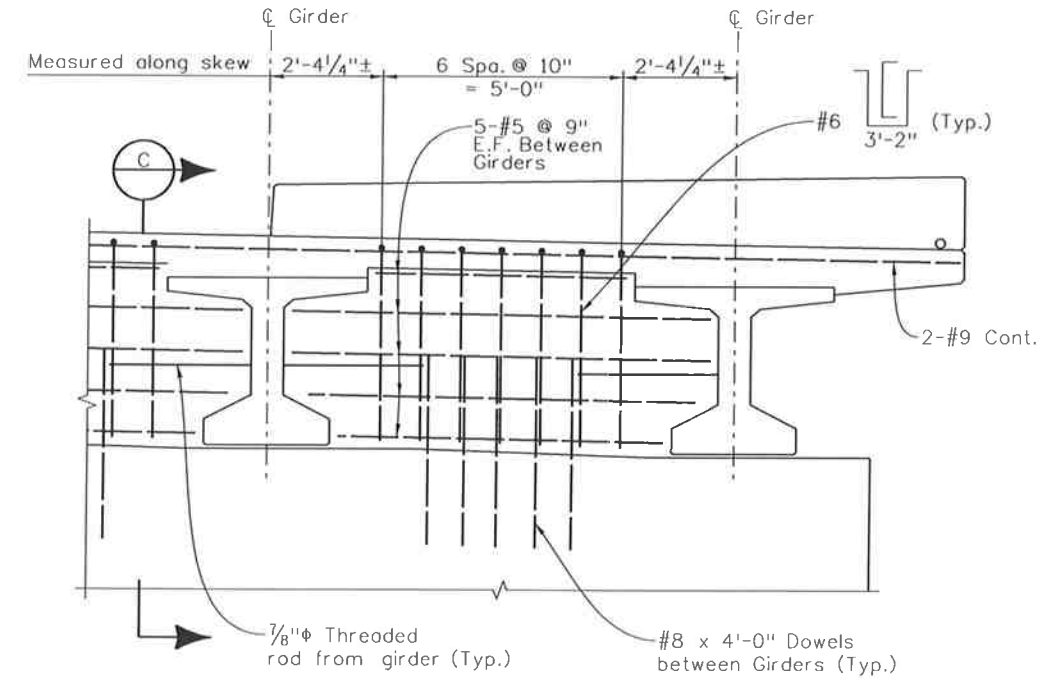


PIER BEARING DETAIL

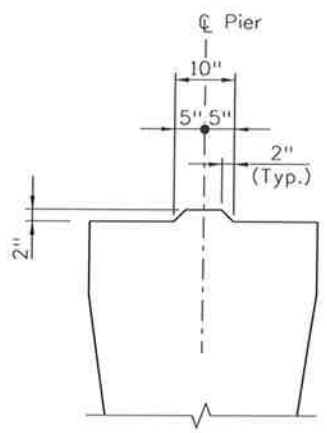
SECTION B
B16



SECTION C



TYPICAL DIAPHRAGM DETAIL

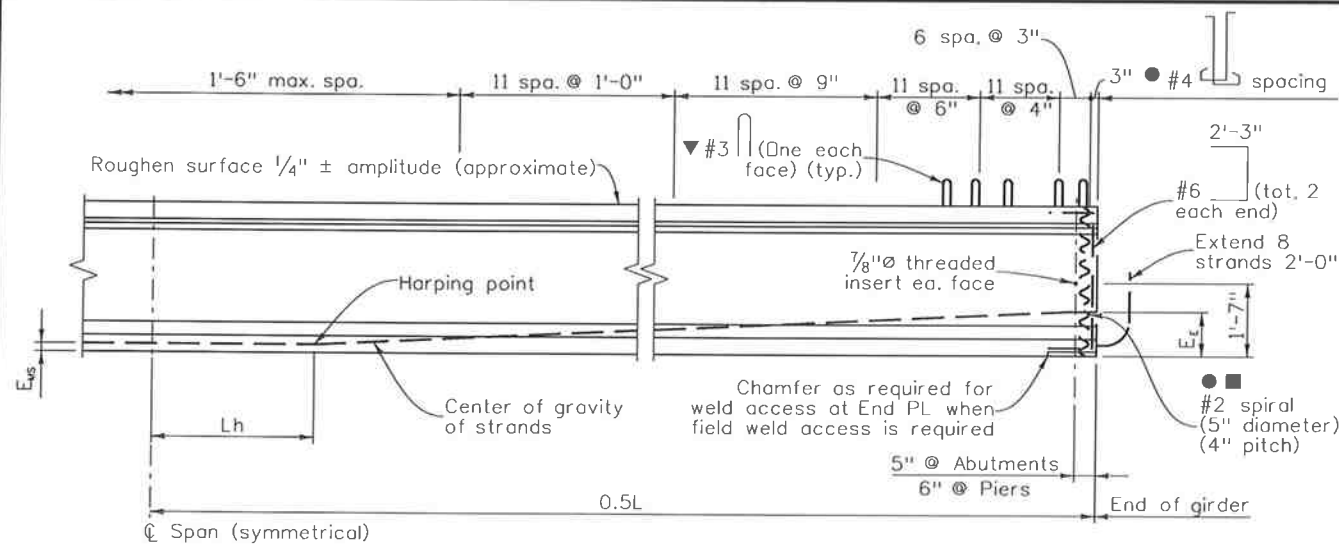


PIER CAP SHEAR KEY DETAIL

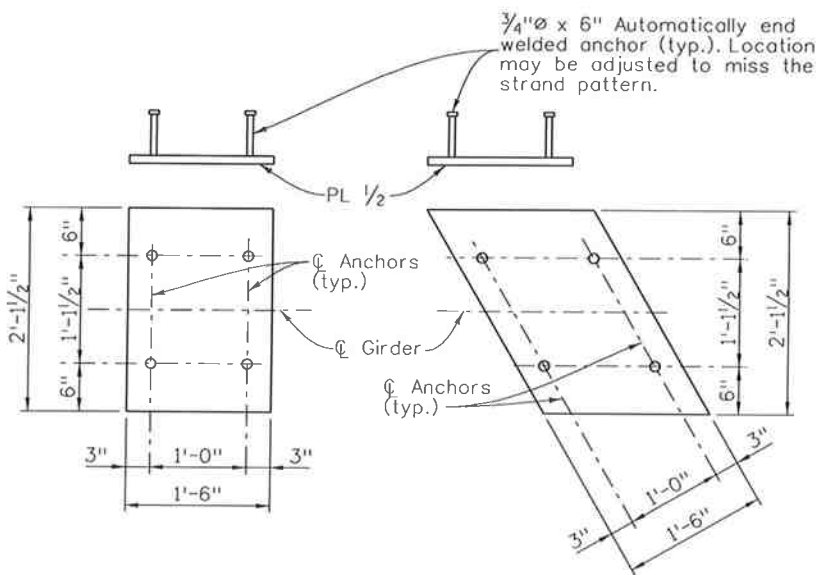
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CAO	3/14	NLS	3/14	CAO	5/14
Designed By	Detailed By	Checked By	Checked By	Checked By	Checked By

Print Date: 8/4/2014		Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST EB OVER WILD HORSE DRY CREEK PIER DETAILS		Project No./Code	
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Horiz. Scale: 1:1 Vert. Scale: As Noted					Region 2		Revised:		19751		
Staff Bridge Branch - Unit 0226 Unit Leader DDG					DTD		Void:		Sheet Number 163		
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GIRDER ELEVATION



AT ABUTMENT

AT PIER

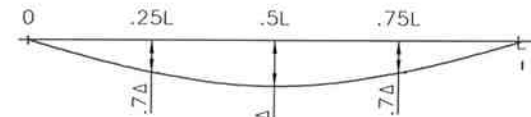
END PLATE DETAILS

Galvanize after fabrication

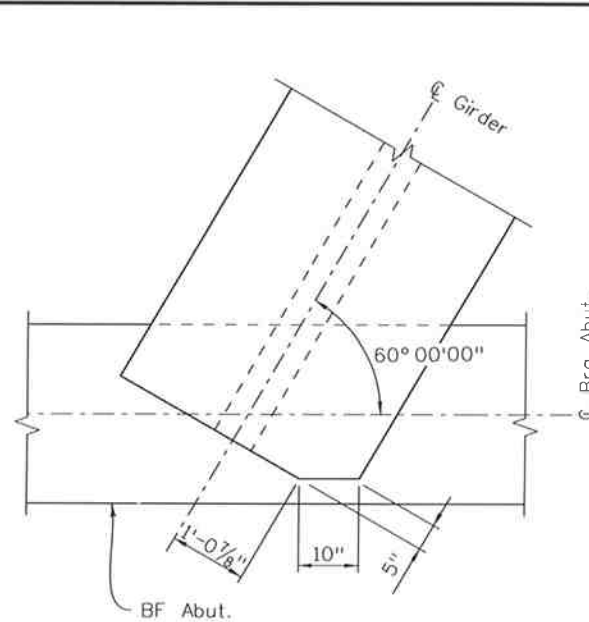
■ The Contractor may submit an alternate cross tie arrangement, at the end of the web, for approval by the Engineer.

▼ Space with #4 for stirrup spacings of 9" or more. Space at 1'-0" for stirrup spacings less than 9".

● D20 wires may be used in lieu of #4. 2 - D20 wires may be used in lieu of #6. D11 or W10.9 wires may be used in lieu of #3. W5 wires may be used in lieu of #2.

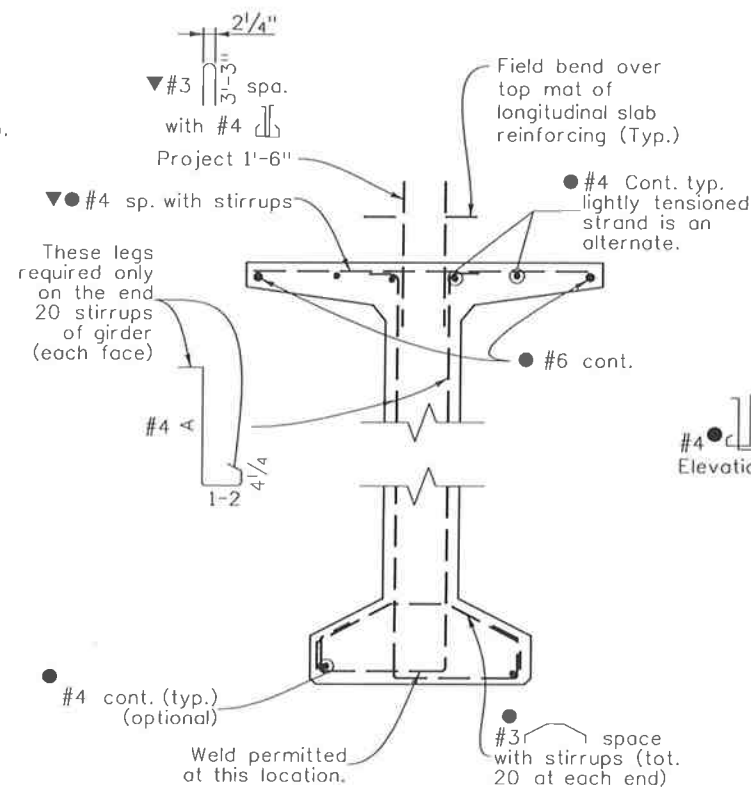


DEAD LOAD DEFLECTION DIAGRAM



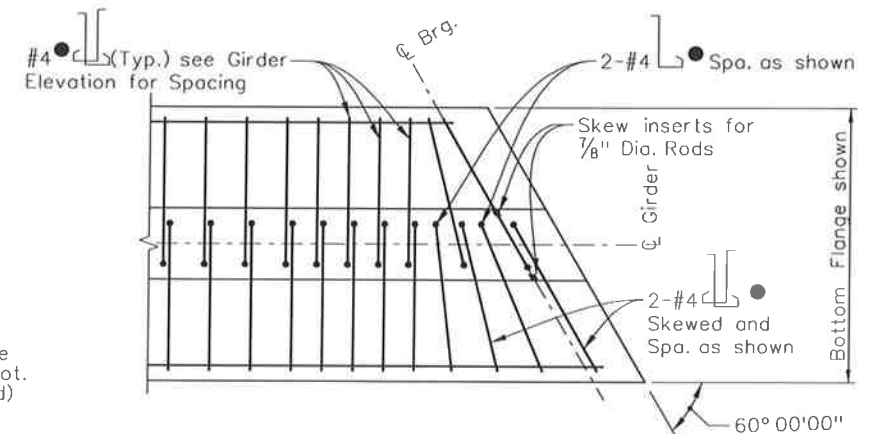
TOP FLANGE CLIP AT ABUTMENTS

(Typical at Abut. 1 & Abut. 4)



TYPICAL GIRDER SECTION

A = girder depth - 3"



GIRDER END SKEW DETAIL

(At Pier Only)

NOTES:

When approved by the Engineer, a minimum of tack welding will be permitted on ASTM A706 uncoated reinforcing steel.

Reinforcing projecting from the top of the girder and reinforcing within eight feet of an expansion device in the bridge deck shall be epoxy coated. Damaged coating on girder reinforcing need not be repaired. The minimum cover for reinforcing steel is 1".

At girder ends not embedded in concrete diaphragms, cut strands off 1" below the surface of the concrete and finish with an approved epoxy grout. At girder ends embedded in concrete diaphragms, cut strands to project 3", except as shown. Do not make cosmetic repairs (damage less than 1/2" deep) to the parts of the girders embedded in concrete.

Use low relaxation strands meeting the requirements of 0.6-inch ASTM A-416 Grade 270. The minimum clear distance between groups or individual strands shall be 2.3(d_s) but not less than 1/4". The minimum cover for prestressing steel is 1/2".

A minimum of two harping points shall be used per girder. Harped strands shall be well distributed at the girder ends, starting within 4" of the top of the girder and distributed such that there is no space between strands greater than 1'-0" at the end of the girder. As an alternate the Contractor may place #4 x 10'-0" in the sides of the end of the web parallel to the harped strands such that there is no space greater than 1'-0".

- A_s* = minimum area of the prestressing steel.
- d_s = nominal strand diameter.
- f_{ps} = ultimate strength of prestressing steel.
- F_j = jacking force per girder.
- F_i = final force per girder after all losses.
- f_{ci} = required concrete strength at release of prestress force.
- f_{cr} = required concrete strength at 28 days of age.
- L = length of girder along the grade of the girder.
- Δ = deflection at centerline of span due to cast-in-place slab, diaphragms, asphalt, curbs, rails, and walks.

Concrete shall be Class PS.

Entrained air is not required for girder concrete.

Use 1/2" chamfer on all corners, except as noted.

Predicted camber is the camber for the girder alone at 90 days. The Contractor shall limit the camber growth to a value not to exceed the predicted camber plus 1" prior to the deck pour by weighting, scheduling fabrication, post tensioning, or other means and must report to the Engineer values of camber which exceed the predicted camber plus 1". Remedial measures, as approved by the Engineer, shall be taken if the predicted camber plus 1" is exceeded. The approved remedial measures shall be free of any adverse impact.

See Sht. B19 for Optional Girder Shimming details.

Design	Initial		Detail		Quantities	
	DATE	BY	DATE	BY	DATE	BY
Designed By	NLS	2/14	RAJ	2/14	Quantities By	RAJ
Checked By	ARK	3/14	NLS	3/14	Checked By	CAD

Girder Type	Span No.	Girder No.	L (Feet)	Lh (Feet)	A _s * (Square Inch)	E _{MS} (Inch)	E _E (Inch)	F _J (KIPS)	F _I (KIPS)	Concrete Strength		Δ (Inch)	Predicted Release Camber (Inch)	Predicted Camber (Inch)
										f' _{ci} (PSI)	f' _{cr} (PSI)			
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BT42	1 & 3	G8-G9	54.954	5.50	3.038	2.86	7.43	615	548	6500	7500	0.27	0.54	0.97
BT42	1 & 3	G10	54.954	5.50	3.038	2.86	7.43	615	547	6500	7500	0.26	0.54	0.97
BT42	2	G7	72.576	7.26	4.774	3.64	6.36	967	828	6500	7500	0.72	1.35	2.40
BT42	2	G8-G9	72.576	7.26	4.774	3.64	6.36	967	831	6500	7500	0.82	1.35	2.40
BT42	2	G10	72.576	7.26	4.774	3.64	6.36	967	831	6500	7500	0.78	1.35	2.40

Print Date: 8/4/2014
 File Name: 19506BRDG_GirderDetails.dgn
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 Staff Bridge Branch - Unit 0226 Unit Leader DDG

Date:	Comments	Init.

Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

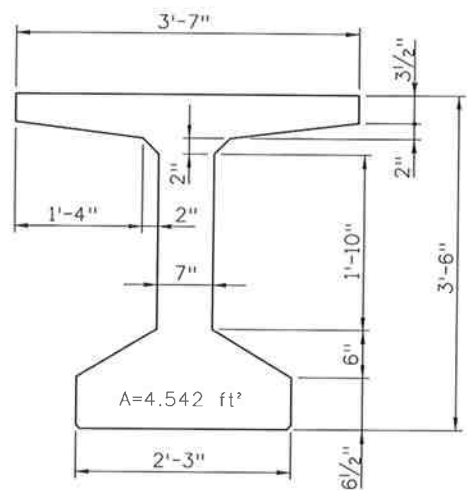
US 50 WEST
EB OVER WILD HORSE DRY CREEK
PRESTRESSED CONCRETE BT42 GIRDER

Designer: N. Sass
 Detailer: R. Dillon
 Sheet Subset: Bridge

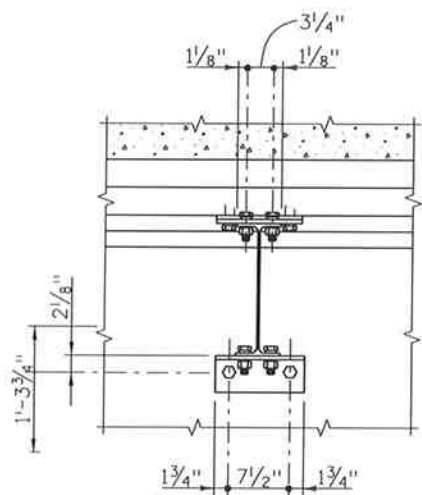
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Project No./Code
FSA 0503-081
19751
Sheet Number 164

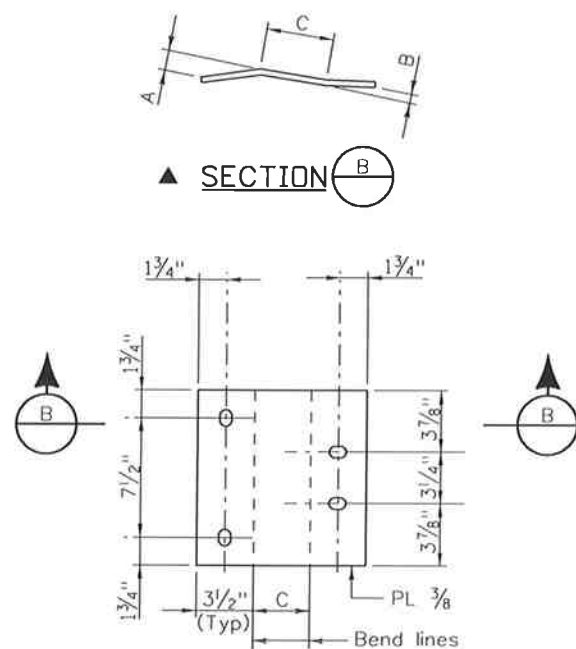
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BT 42 DETAIL

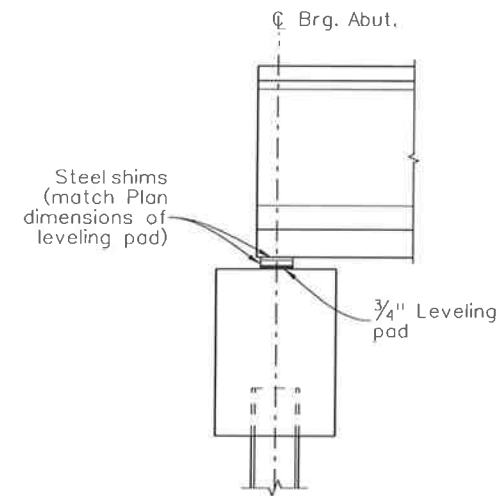


SECTION A

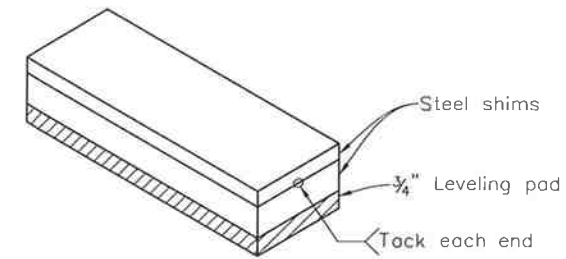


PLAN
(Before bending)

PLATE DETAIL



SECTION AT GIRDER BEARING



SHIM STACK DETAIL

Shimming Notes:

1. Steelshims shall be Grade 36.
2. Minimum steelshim thickness shall be 1/4".
3. A maximum of 3 shim plates will be allowed at each girder location.
4. The option to shim the girder is provided if necessary to control haunch thickness. If haunch is predicted to vary by more than 1/2" of the plan dimension, the Engineer shall determine if shimming is necessary. Contractor shall provide Engineer with measured girder camber a minimum of 2 days prior to shim installation in order to provide shim thickness requirements.
5. The cost of girder shimming will not be paid for separately, but shall be included in the cost of Item 601 - Concrete Class D (Bridge).

OPTIONAL GIRDER SHIMMING DETAILS

NOTES:

All diaphragm materials, including bolts, nuts, and washers shall be galvanized. Galvanize after fabrication.

★ If the construction layout does not specify diaphragms, there shall be at least one diaphragm at mid span.

Bolts, nuts and lock washers may be zinc plated in lieu of being galvanized.

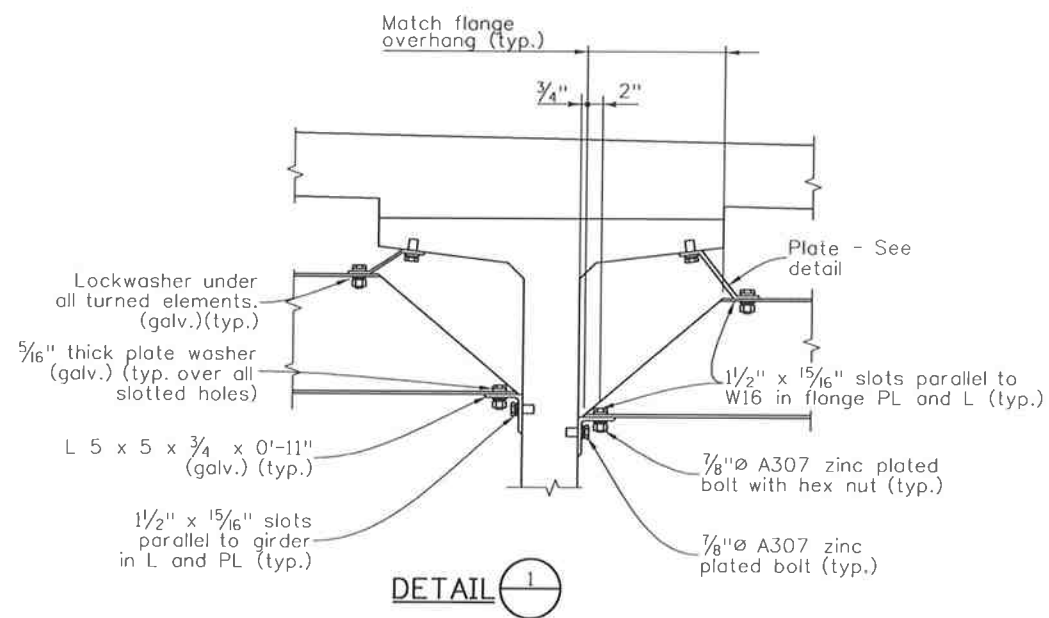
▲ Dimensions A, B and C shall be shown on the shop drawings.

The diaphragms may be placed on a skew such that they are between 80° and 100° to the girders. Additionally, all diaphragms shall be installed level.

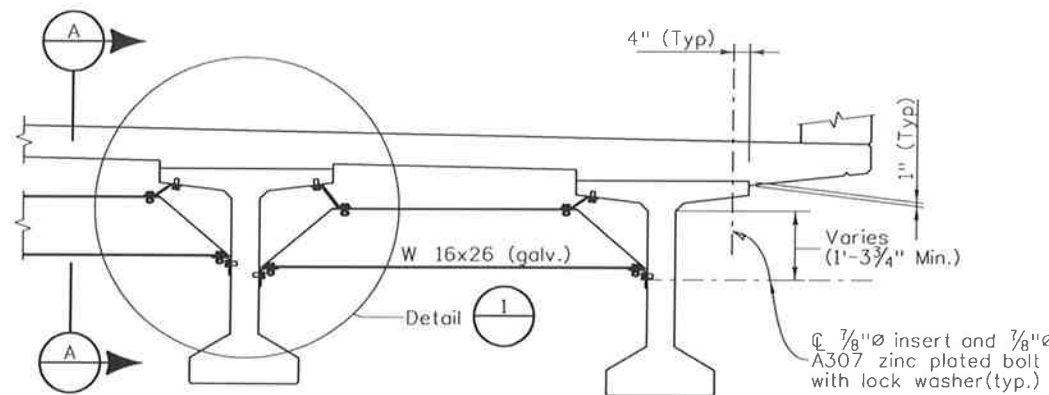
The Contractor is responsible for determining necessary bracing requirements and for providing adequate bracing for the specific wind and weather conditions to be encountered for each specific project.

When bracing or diaphragms are required, no girders shall be erected and left unbraced. The intermediate diaphragms (when used) shall be connected to the adjacent girders simultaneously with the erection of the girders.

Use and installation of the intermediate diaphragms shall not relieve the Contractor of full responsibility to construct the Work in a manner which provides all necessary rigidity, supports all loads imposed, and provides in the finished structure the lines and grades indicated on the plans.



DETAIL I



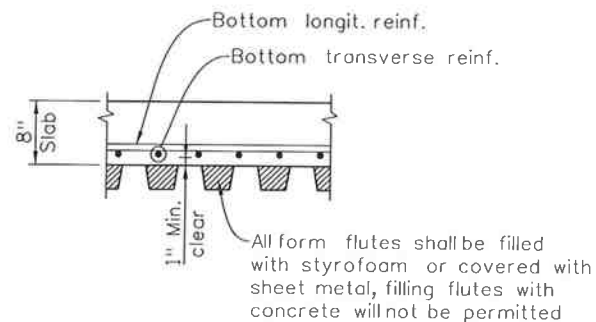
INTERMEDIATE DIAPHRAGM DETAILS

★ For location of diaphragms, see Construction Layout.

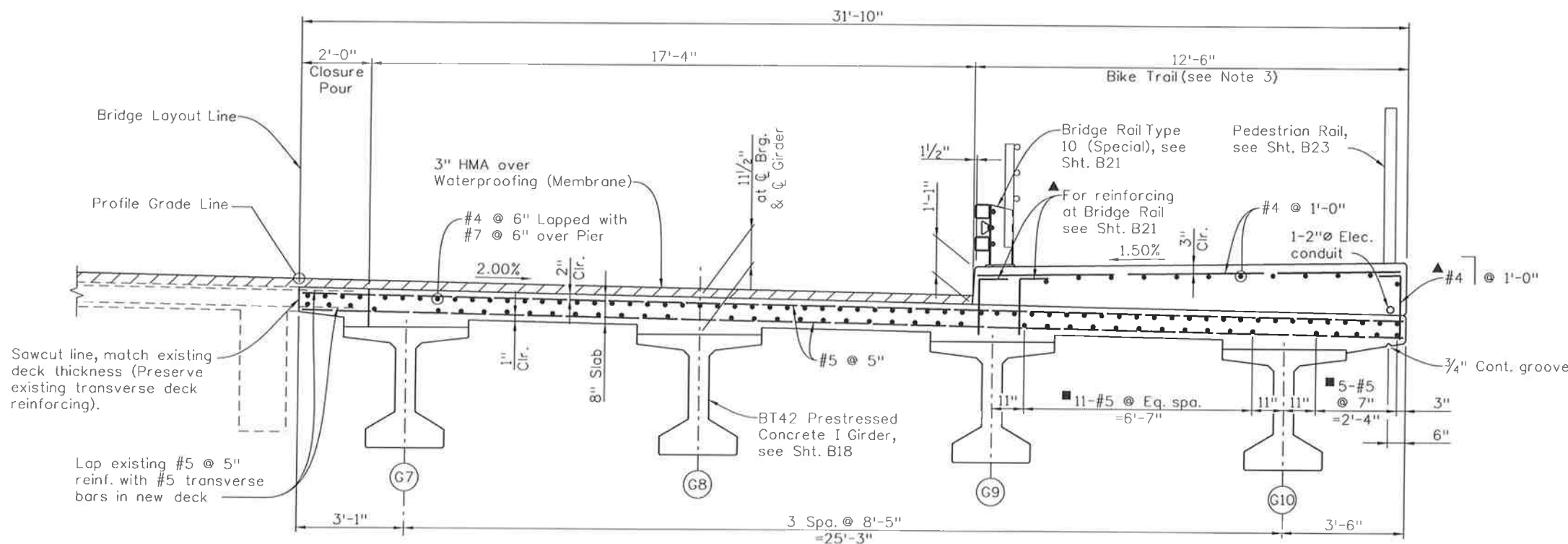
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Checked By	ARK	3/14	Checked By	CAO	5/14

Print Date: 8/4/2014		Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST		Project No./Code		
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Horiz. Scale: 1:1 Vert. Scale: As Noted					Region 2		Revised:		GIRDER DIAPHRAGM DETAILS		19751	
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6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities									Detailer: R. Dillon Numbers		Subset Sheets: B19 of 32	

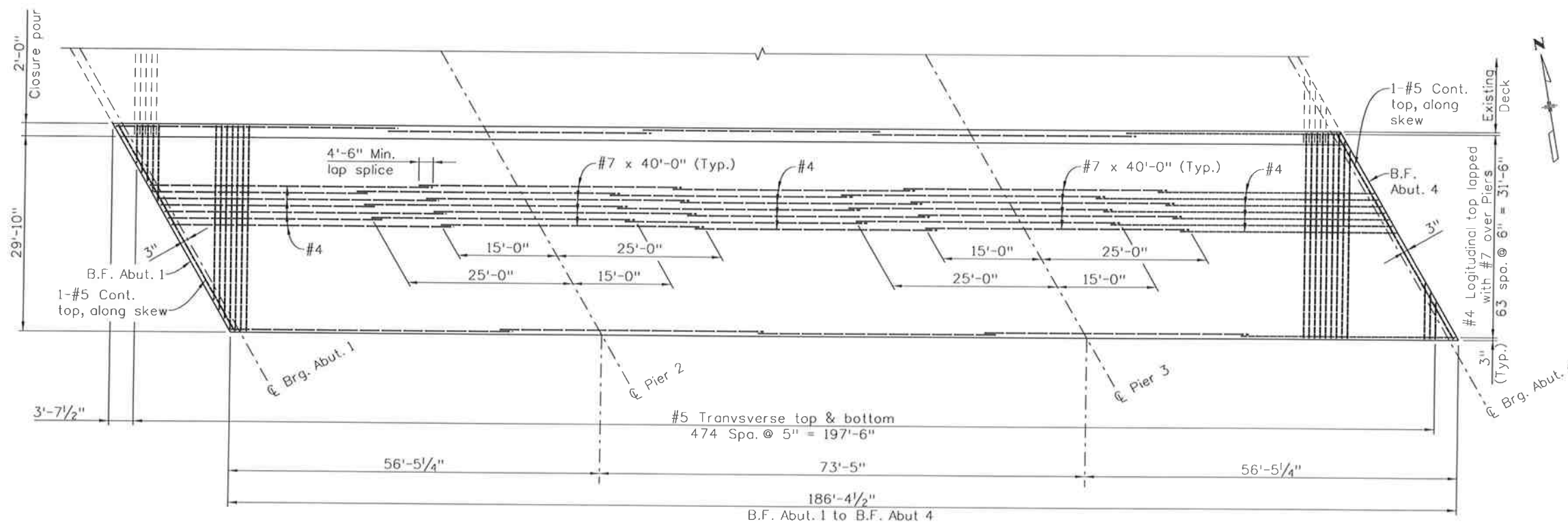
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PERMANENT STEEL DECK FORM



SUPERSTRUCTURE SECTION



DECK REINFORCING PLAN

(#5 Longitudinal bottom reinforcing not shown)

NOTES:

1. Provide 1/4" sawcut joint in the Bike Trail at 10'-0" (max.) on center. Joints shall not be within 6" of Bridge Rail or Pedestrian Rail post locations.
 2. Deck and Bike Trail concrete shall be Concrete Class D (Bridge).
 3. Bike Trail to be constructed during different stages, see Suggested Construction Staging sheets for more information.
- ▲ Drill and grout into deck with approved epoxy adhesive. The cost of drilling and epoxy adhesive will not be paid for separately, but shall be included in the cost of Item 601 - Concrete Class D (Bridge).
 - Alternate splices in adjacent lines

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Checked By	ARK	3/14	3/14	Checked By	CAO
					5/14

Print Date: 8/4/2014
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 Staff Bridge Branch - Unit 0226 Unit Leader DDG

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Date:	Comments	Init.	

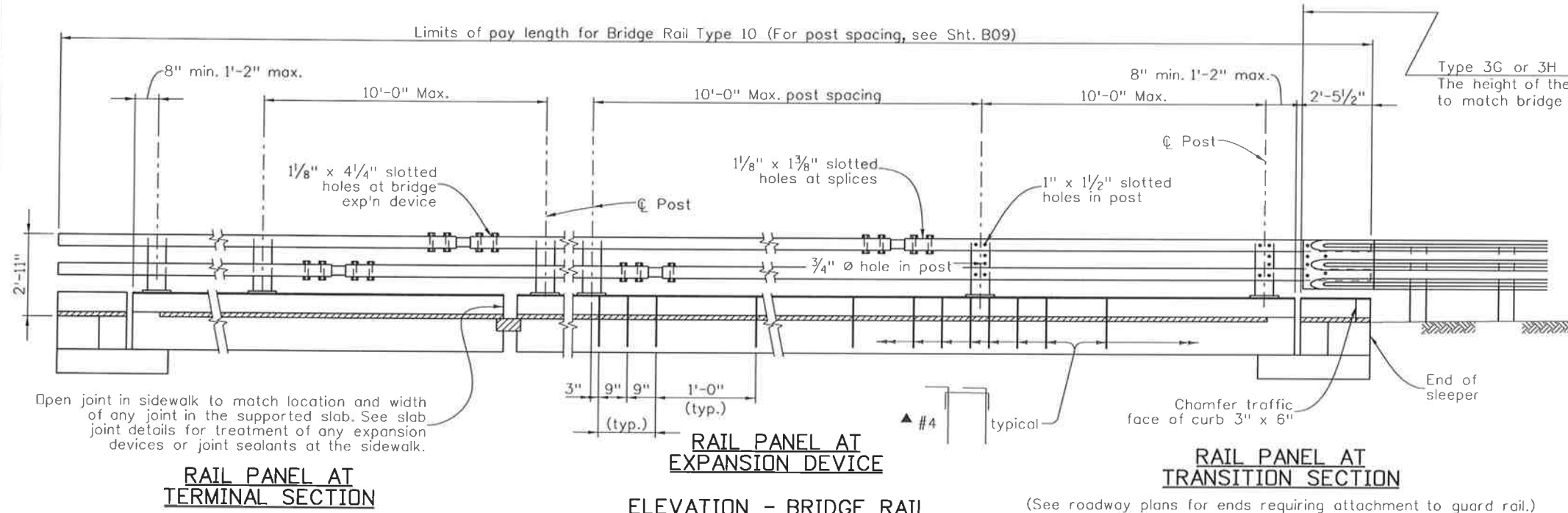
Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

**US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 SUPERSTR. SECTION & DECK PLAN**

Designer: N. Sass Structure Numbers: K-18-CW
 Detailer: R. Dillon
 Sheet Subset: Bridge Subset Sheets: B20 of 32

Project No./Code
FSA 0503-081
19751
Sheet Number 166



NOTES:
 All tubes shall be ASTM A-500 Grade B. All posts and base plates shall be ASTM A-572 Grade 50. All other steel shall be ASTM A-36 unless otherwise noted.

The above material and all anchor bolts and miscellaneous bolts, nuts, and washers shall be galvanized after fabrication in accordance with Project Special Provision - Revision of Section 522. The bicycle railing shall be painted in accordance with the above reference Project Special Provision. The color shall be Matte Black, equivalent to Federal Standard 595C, Color No. 37038. Concrete, reinforcing steel, and structural steel elements shall conform to the requirements of Sections 601, 602 and 509, respectively.

Post anchor, encased in concrete, shall be ASTM A-36 (AASHTO M-183) steel and need not be galvanized.

The tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 1,500 feet.

Tubes shall be continuous over not less than two posts. No welded butt splices will be allowed in the tube sections.

The centerline of the tube splice shall be 1'-8" minimum and 2'-6" maximum from the centerline of the posts.

All bolts that have lock washers shall be tightened to snug only.

Posts shall be perpendicular to the longitudinal roadway grade.

One or more 10'-0" post spacings may be reduced (6'-8" min.) in order to maintain dimensions from the end of the rail and expansion joints.

Payment will be made under Item 606 - Bridge Rail Type 10 (Special) for all posts, post anchors, base plates, backing plates, anchor bolts, miscellaneous bolts, nuts, washers, tubes, tube expansion devices, tube splices, end plates, curb concrete (Class D), curb reinforcing steel, reflector tabs, pipes and paint.

Prior to fabrication of this item, three sets of working drawings which comply with the requirements of section 105, shall be submitted to the Engineer for information only.

Structural Steel:
 AASHTO M-183 (ASTM A-36) $f_y = 36,000$ psi
 AASHTO M-223 (ASTM A-572) GRADE 50 $f_y = 50,000$ psi
 COLD FORMED ASTM A-500 GRADE B $f_y = 46,000$ psi

For additional details see Sht. B22.

Open joint in sidewalk to match location and width of any joint in the supported slab. See slab joint details for treatment of any expansion devices or joint sealants at the sidewalk.

RAIL PANEL AT TERMINAL SECTION

(See Roadway plans for ends not attached to Guard Rail.)

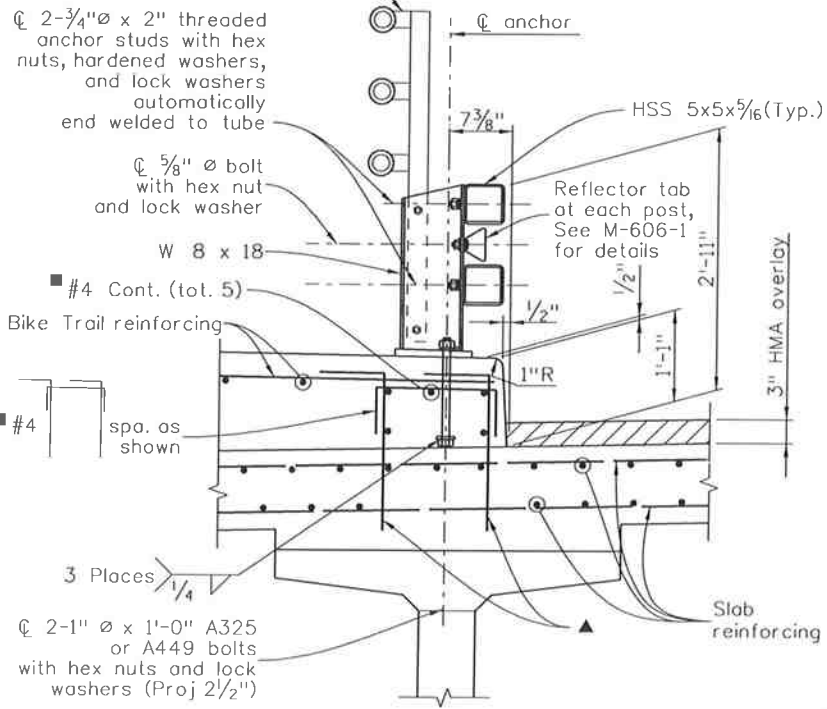
RAIL PANEL AT EXPANSION DEVICE

ELEVATION - BRIDGE RAIL

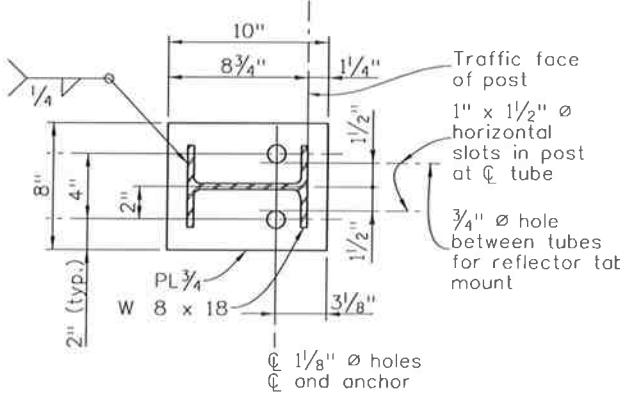
RAIL PANEL AT TRANSITION SECTION

(See roadway plans for ends requiring attachment to guard rail.)

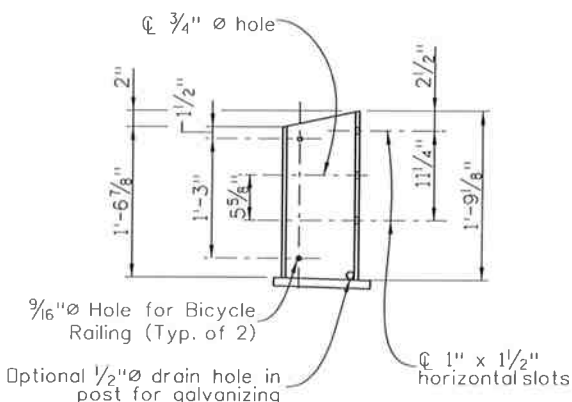
Bicycle Railing, see Sht. B22



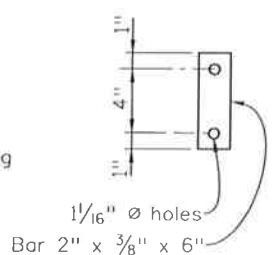
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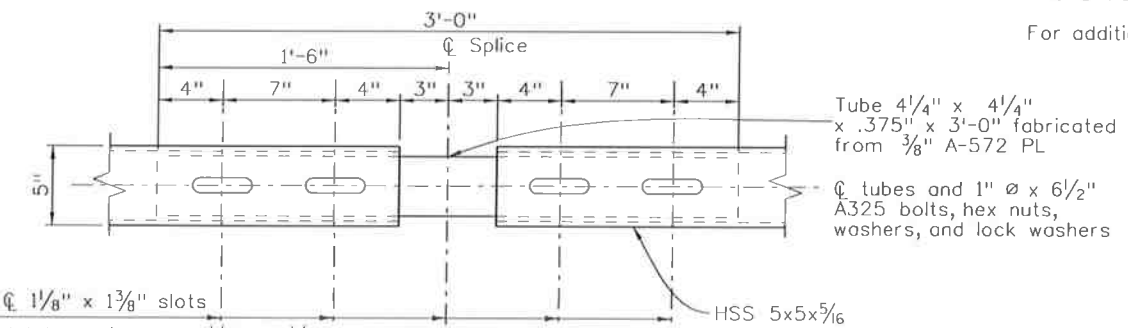
PLAN - POST DETAIL



ELEVATION



ANCHOR DETAIL



PLAN - TUBE SPLICE

at tube splice, and 1/8" x 4/4" slots at bridge exp'n device. Slot both inner and outer tubes. Stagger top and bottom splices into different post spacings except at expansion joint, place at opposite ends of same post space. (Range of motion = 1'-0" at bridge expansion device.)

- ▲ Drill and grout into deck with approved epoxy adhesive. The cost of drilling and epoxy adhesive will not be paid for separately, but shall be included in the cost of Item 601 - Concrete Class D (Bridge).
- Reinforcing steel to be included in the cost of Item 606 - Bridge Rail Type 10 (Special).

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Designed By	NLS 2/14	Checked By	ARK 3/14	Checked By	ARK 3/14
Checked By	ARK 3/14	Checked By	NLS 3/14	Checked By	CAD 5/14

Print Date: 8/4/2014	File Name: 19506BRDG_BridgeRail01.dgn
Horiz. Scale: 1:1	Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226	Unit Leader DDG

Sheet Revisions		
Date:	Comments	Init.

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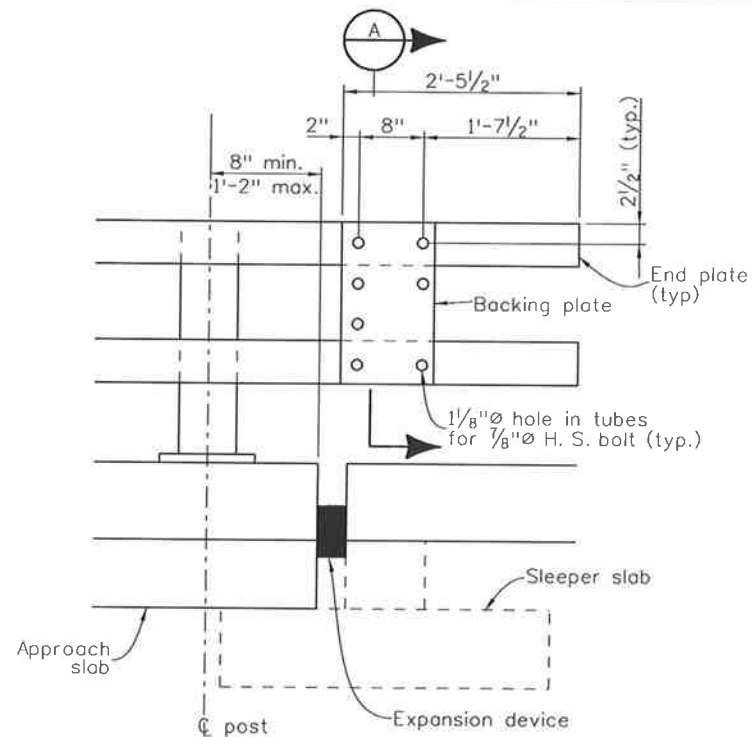
Region 2 DTD

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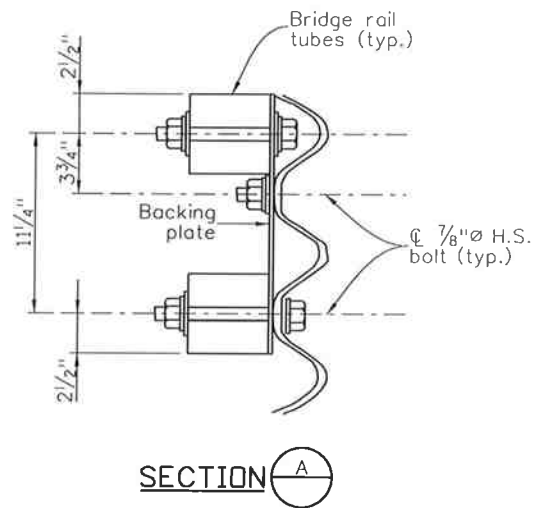
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EB OVER WILD HORSE DRY CREEK		
BRIDGE RAIL TYPE 10 (SPECIAL)(1 OF 2)		FSA 0503-081
Designer:	N. Soss	19751
Detailer:	R. Dillon	
Sheet Subset:	Bridge	Sheet Number 167

Structure Numbers	K-18-CW
Subst Sheets:	B21 of 32

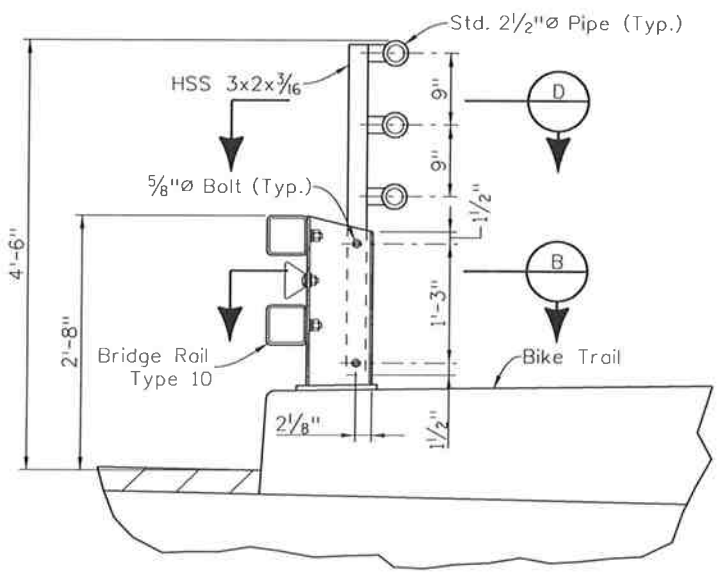
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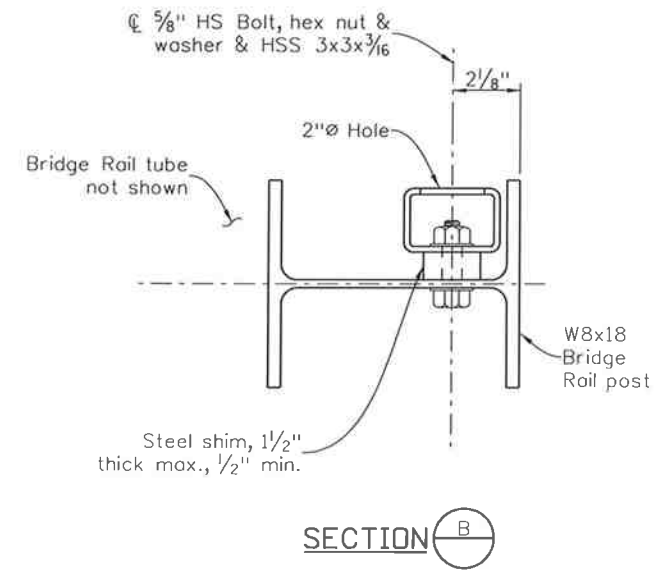
RAIL TUBE DETAILS
(Thrie beam not shown)



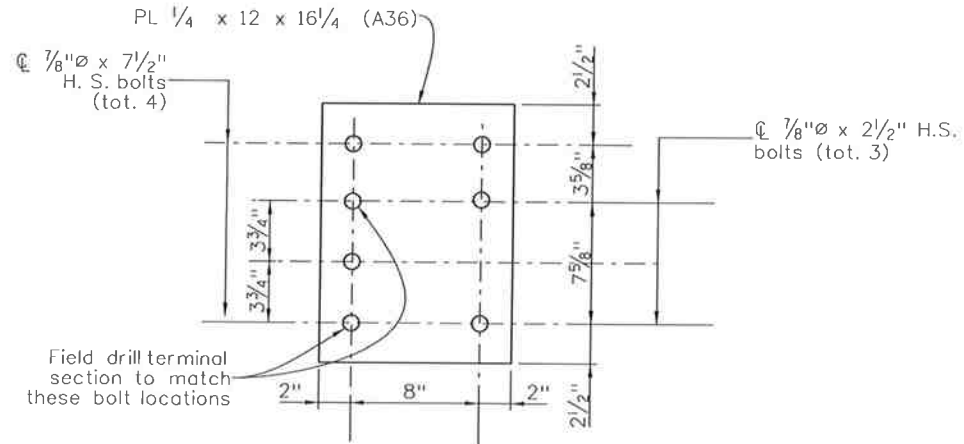
SECTION A



TYPICAL BICYCLE RAILING SECTION

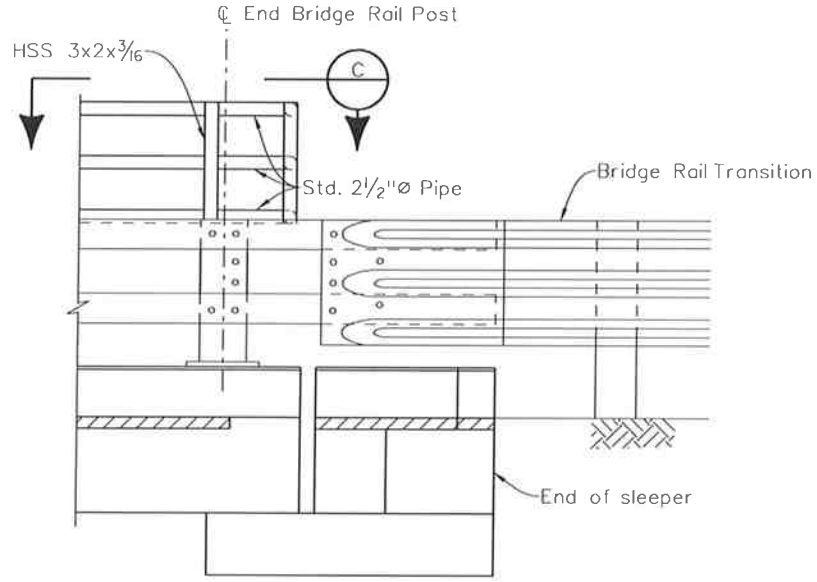


SECTION B

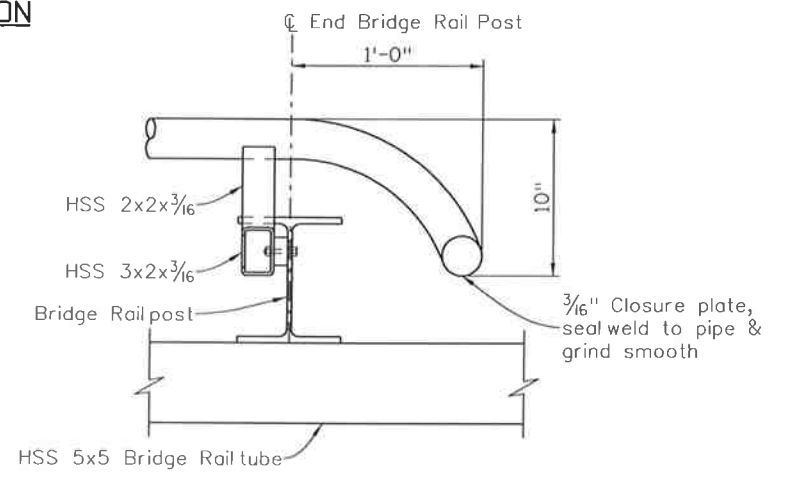


BACKING PLATE

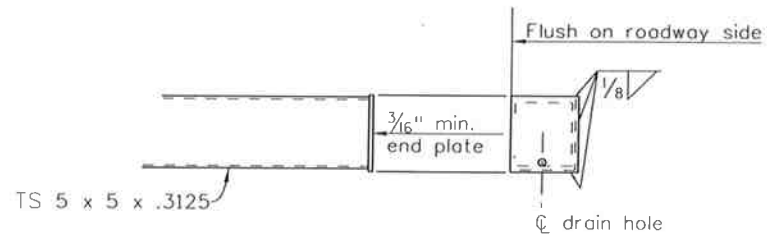
Holes are 1/8" for 7/8" H. S. bolts with hex nuts, 2 PL washers, and 1 lock washer



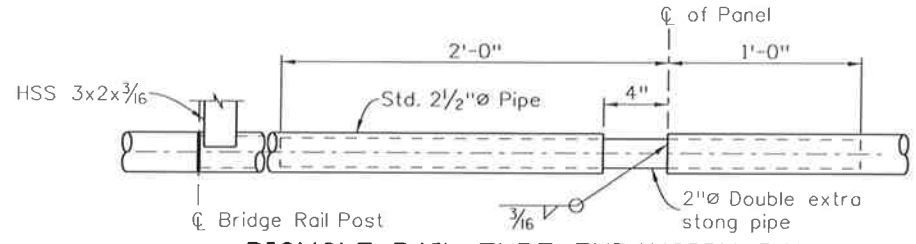
BICYCLE RAILING TERMINATION



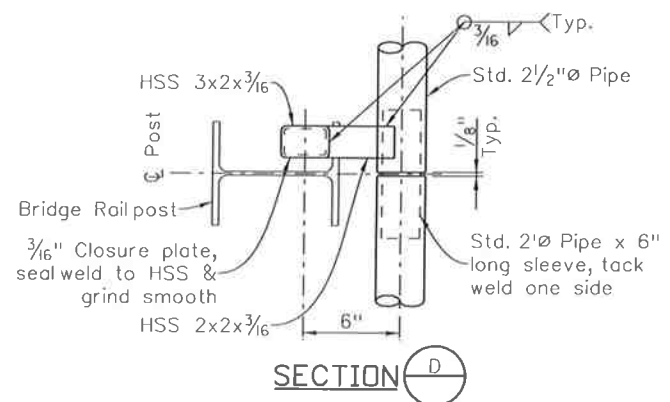
SECTION C



END PLATE DETAIL



BICYCLE RAIL TUBE EXPANSION PANEL

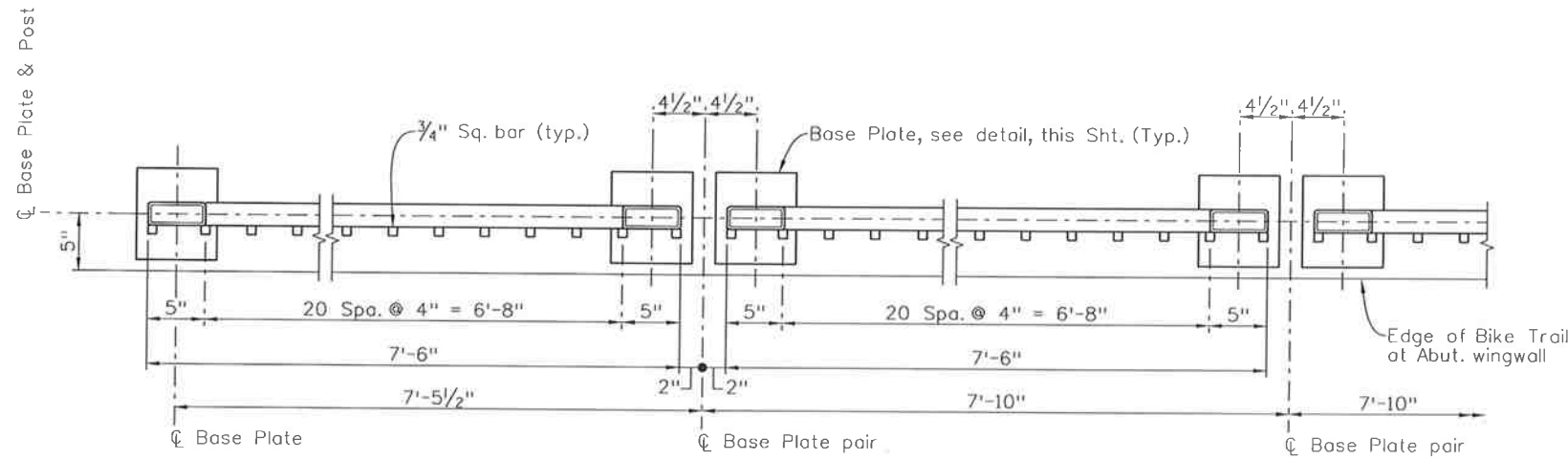


SECTION D

NOTE:
All material and miscellaneous items needed to fabricate and install the bicycle railing shall be included in the cost of Item 606 - Bridge Rail Type 10 (Special).

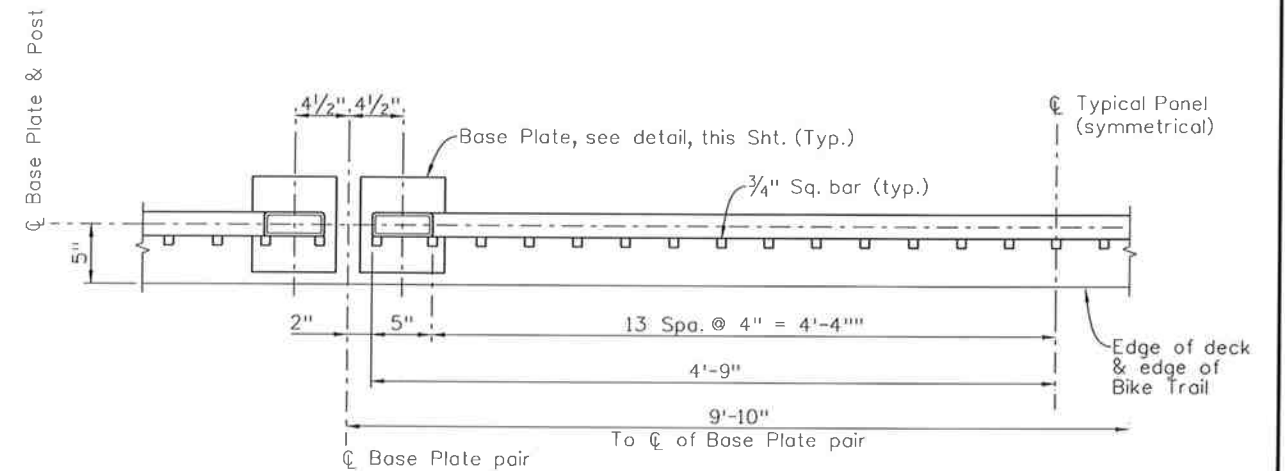
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Checked By	ARK	3/14	3/14	Checked By	CAG
					5/14

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Staff Bridge Branch - Unit 0226 Unit Leader DDG					DTD		Void:		Designer: N. Sass Structure: K-18-CW		Sheet Number 168	
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities										Sheet Subset: Bridge Subset Sheets: B22 of 32		



END PANELS

(Handrail/Bicycle Rub Rail not shown)

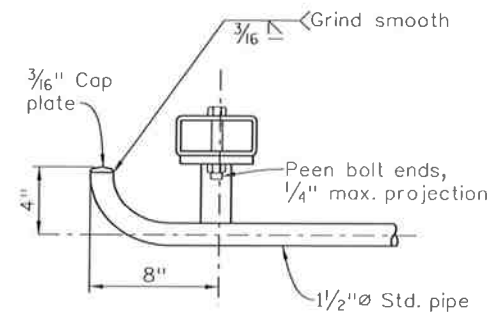


TYPICAL PANEL

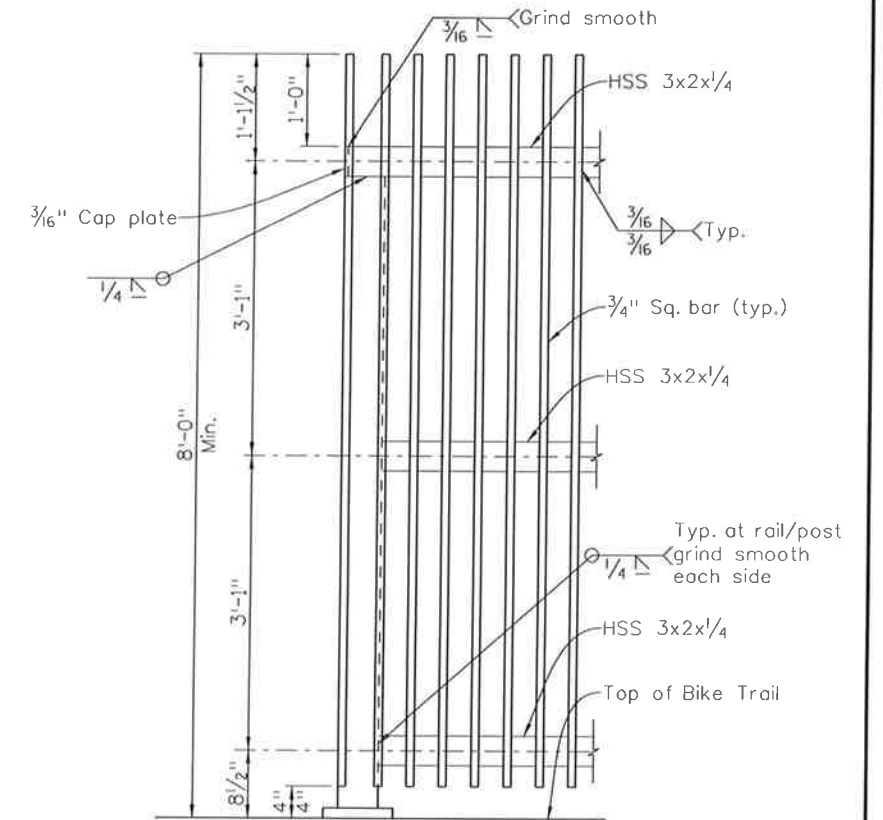
(Handrail/Bicycle Rub Rail not shown)

NOTES:

- All anchor bolts and miscellaneous bolts, nuts and washers shall be galvanized in accordance with Section 509. Unless shown otherwise, all welded connections shall be seal welded.
- Fence panels shall be painted after fabrication in accordance with Project Special Provisions - Revision of Section 514. The color shall be Matte Black, equivalent to Federal standard 595C, Color No. 37038.
- Structural Steel: Structural Tubing: ASTM A-500 Grade B
 Bar: ASTM A-709 Grade 36
 Base Plates: ASTM A-572 Grade 50
 Bolts: ASTM A-325
- Payment will be made under Item 514 - Pedestrian Railing (Steel) (Special) for all fence panels (including bolts, nuts, washers, painting, touch up paint and sample panel section).

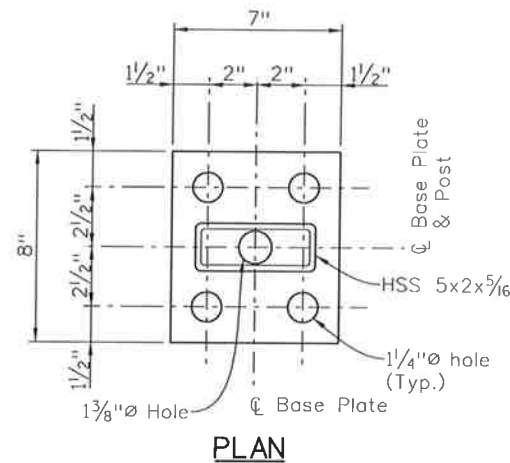


PLAN AT END POST

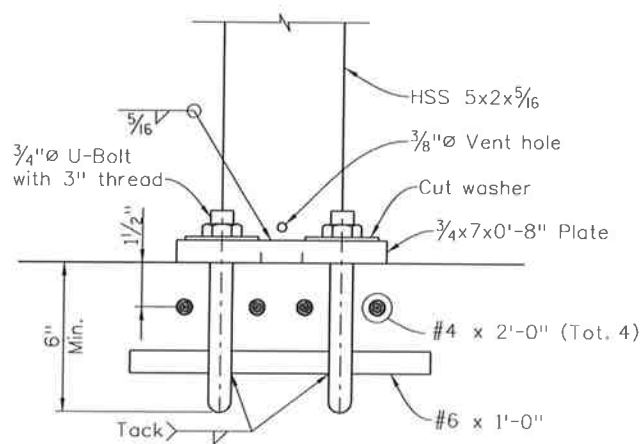


PARTIAL RAILING ELEVATION

(Handrail/Bicycle Rub Rail not shown)

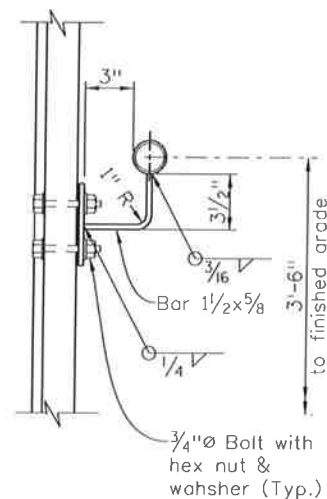


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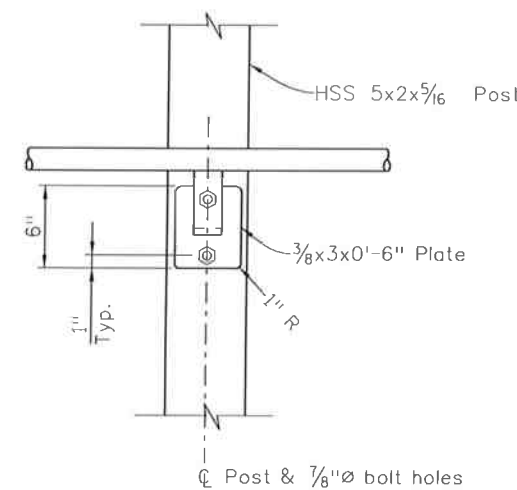


ELEVATION

BASE PLATE DETAIL



POST SECTION



POST ELEVATION

HANDRAIL/BICYCLE RUB RAIL

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CAG	3/14	ARK	3/14	CAG	3/14

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Staff Bridge Branch - Unit 0226	Unit Leader DDG

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Date:	Comments	Init.

Colorado Department of Transportation

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 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702

Region 2 DTD

As Constructed
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Revised:
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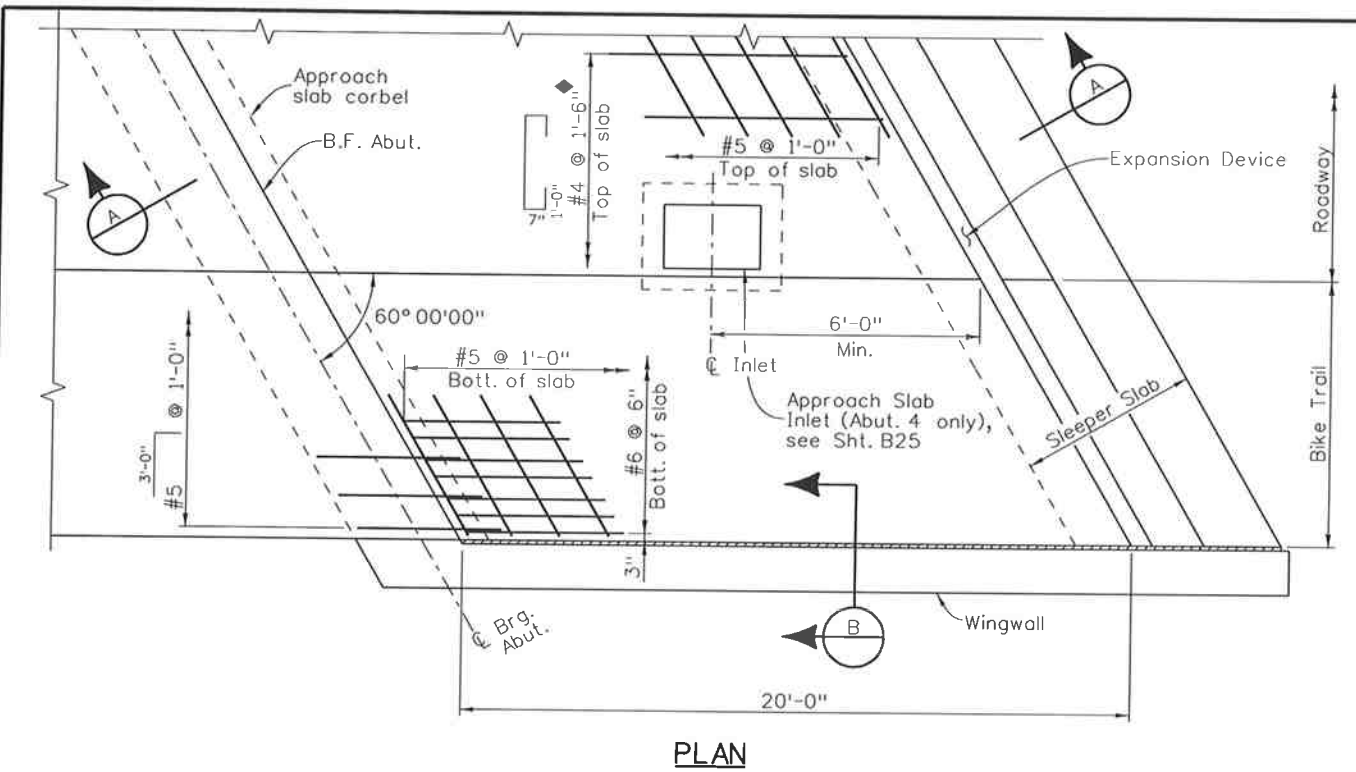
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Designer: C. Dtegui	Structure: K-18-CW
Detailer: R. Dillon	Numbers:
Sheet Subset: Bridge	Subset Sheets: B23 of 32

Project No./Code
FSA 0503-081
19751
Sheet Number 169

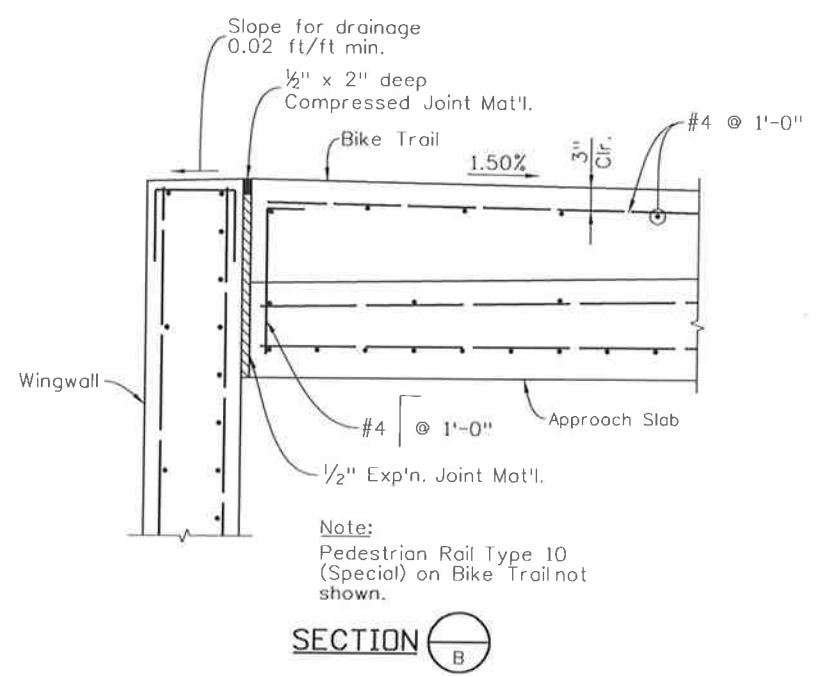
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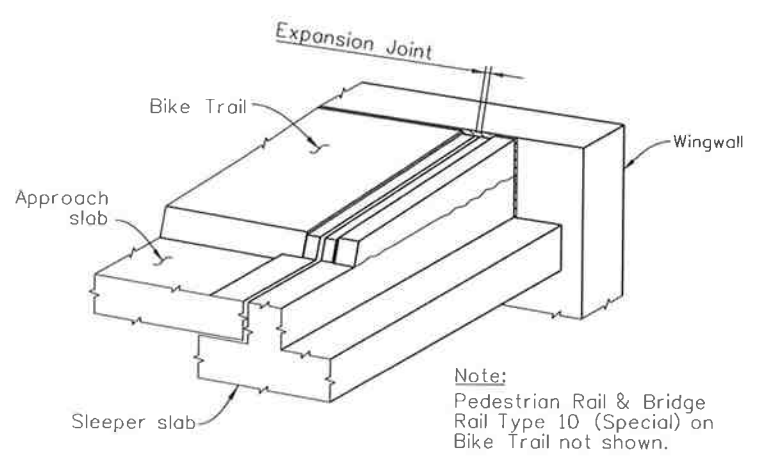
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PLAN

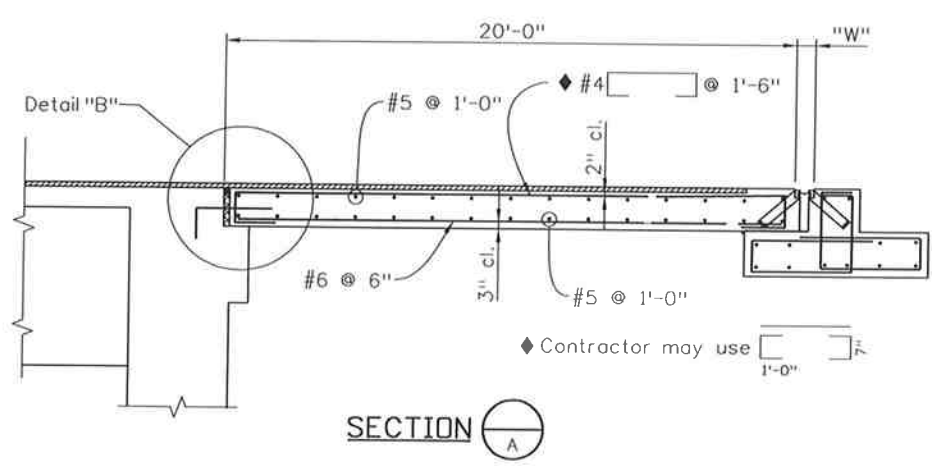


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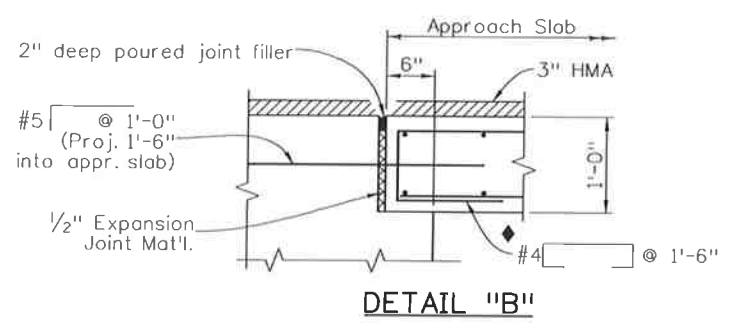


ISOMETRIC VIEW

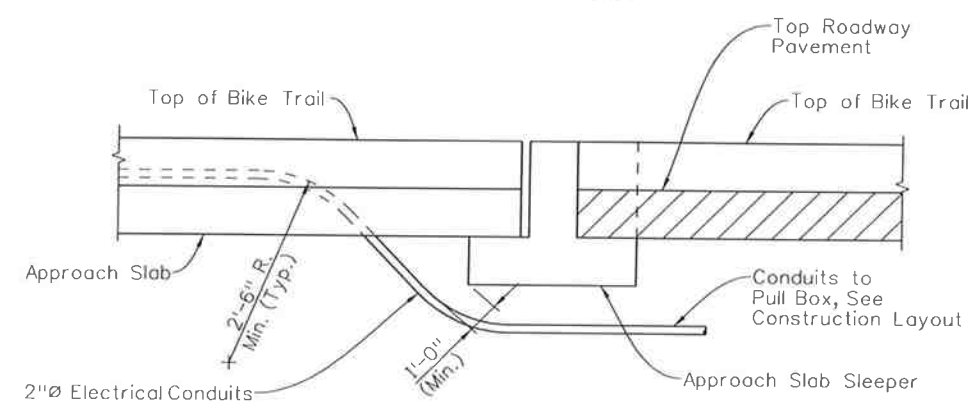
Note:
Pedestrian Rail & Bridge Rail Type 10 (Special) on Bike Trail not shown.



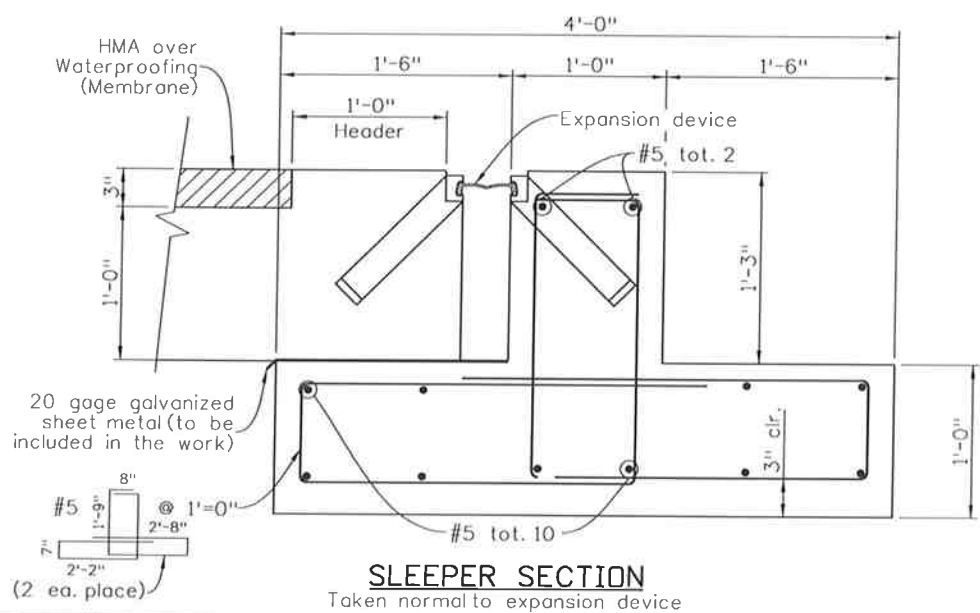
SECTION A



DETAIL "B"



TYPICAL CONDUIT DETAIL



SLEEPER SECTION
Taken normal to expansion device

NOTES:

- Concrete Class D (Bridge) shall be used for approach slabs.
- 1/2" expansion joint material shall meet AASHTO Spec. M213.
- For expansion device details see Shts. B27 & B28.
- For Bridge Rail details see Sht. B21.
- Approach slab concrete shall be cured in accordance with the Specifications for Bridge Deck Concrete in Subsection 601.
- The cost of Compressed Joint Material and Expansion Joint Material shall not be paid for separately, but shall be included in Item 601 - Concrete Class D (Wall).
Acceptable Compressed Joint Material alternatives:
Will-Seal
Seal-Mate #517
Poly-Tite "N"
- For approach slab joint details at staged construction, see Sht. B09.

Print Date: 8/4/2014
 File Name: 19055BRDG_ApprSlab.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DDG

Sheet Revisions			
Date:	Comments	Init.	

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 Region 2 DTD

As Constructed
No Revisions:
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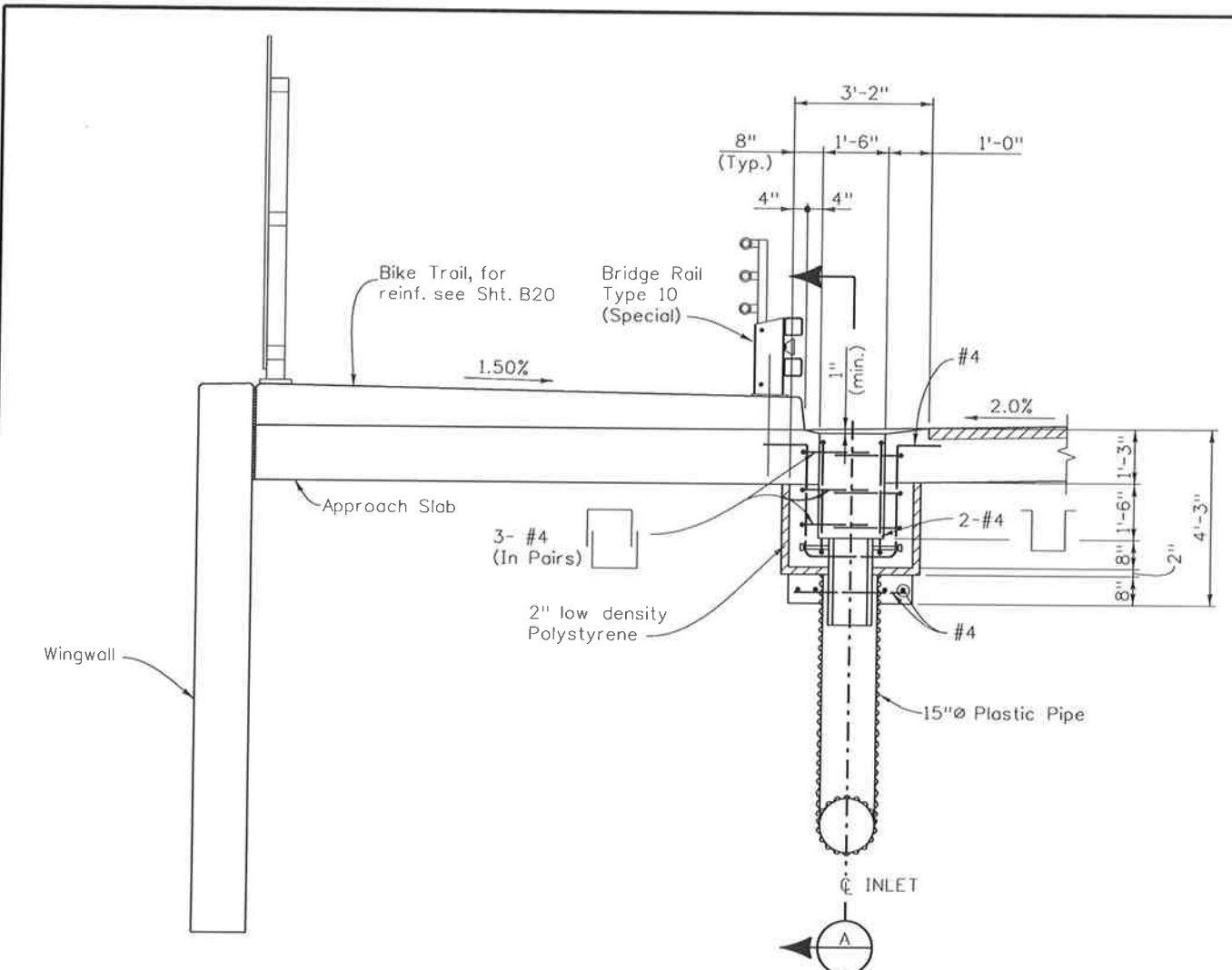
US 50 WEST EB OVER WILD HORSE DRY CREEK APPROACH SLAB DETAILS			
Designer:	N. Sass	Structure	K-18-CW
Detailer:	R. Dillon	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B24 of 32

Project No./Code
FSA 0503-081
19751
Sheet Number 170

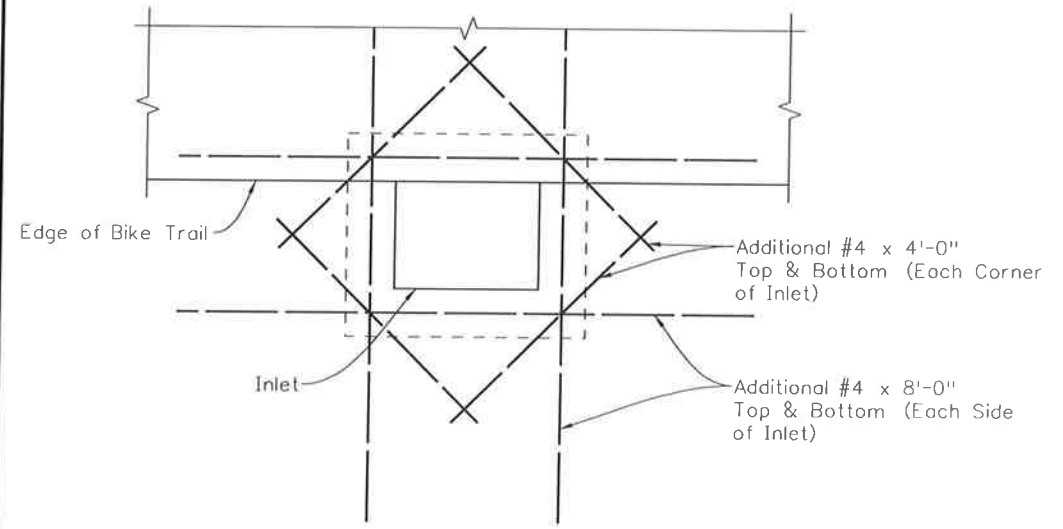
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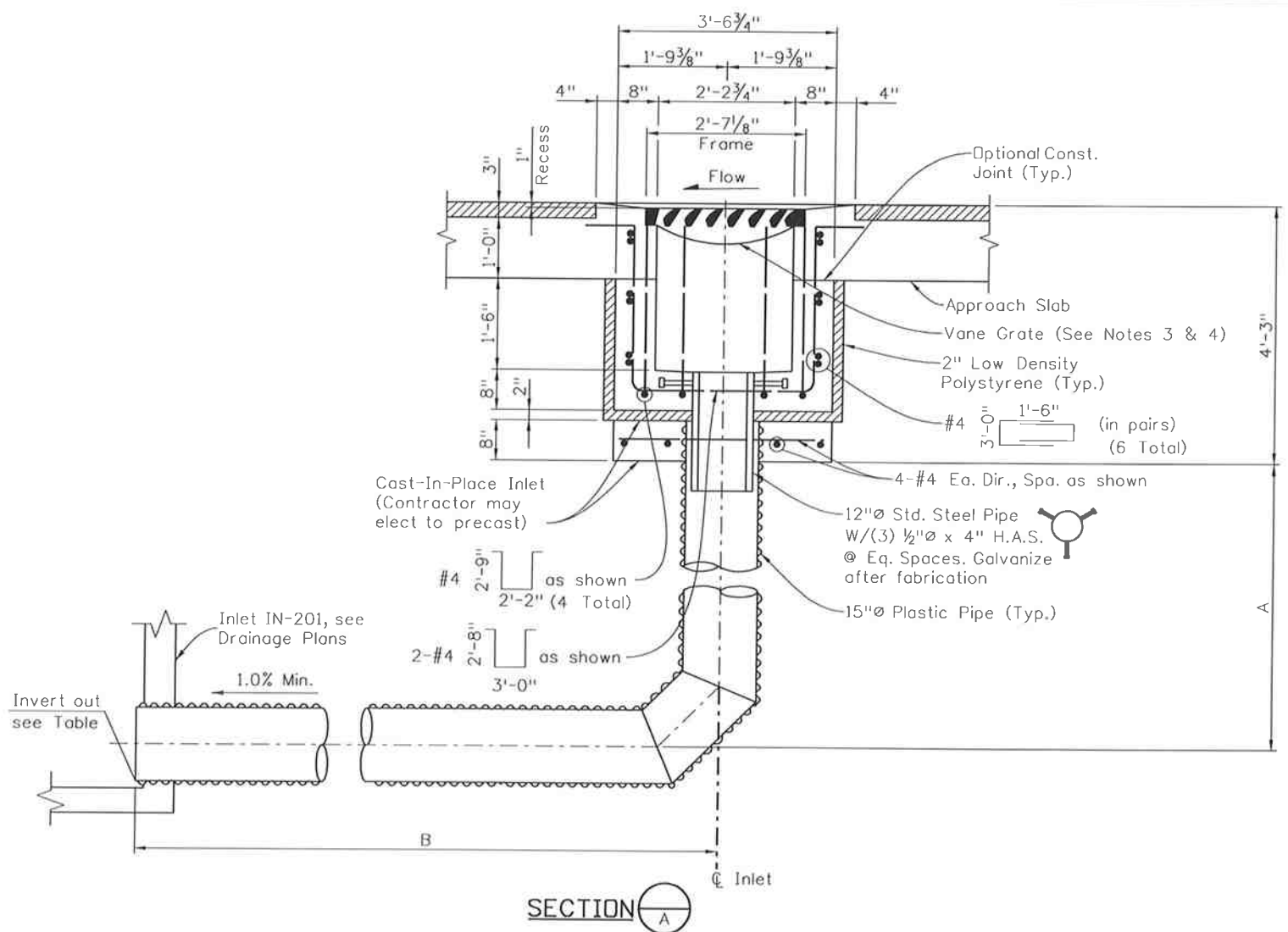
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Designed By	NLS	2/14	Checked By	RAO	3/14
Checked By	ARK	3/14	Checked By	CAD	5/14



TYPICAL SECTION
(Looking West)



ADDITIONAL SLAB REINFORCING AT INLET



SECTION A-A

Location	Station at ϕ Inlet	Offset	Dim A	Dim B	Invert Out
Abutment 4	245+13.41	18.92' Rt.	2'-10"	163'*	4785.5


* Field Verify
Offset taken from US 50 West HCL

NOTES:

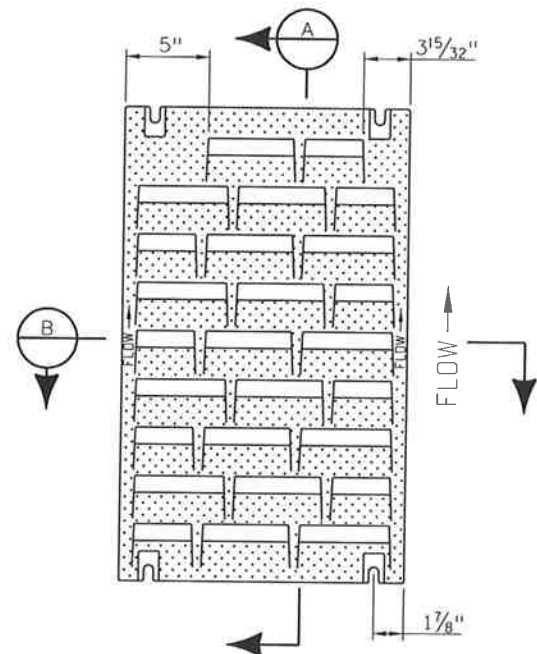
1. Cut approach slab reinforcing as required for inlet opening. Paint cut ends of epoxy coated reinforcing with an approved epoxy coating.
2. Concrete shall be Class D.
3. Provide inlet grate as shown on Sheet B26. Provide anchor bolts as shown on the Grate Installation Detail.
4. Grate to be installed during construction of inlet box with the vane grate bolted in place to the frame.
5. For Grate & Frame Details, See Sheet B26.
6. Plastic pipe shall conform to the requirements of AASHTO M294, Type S. Plastic pipe shall be joined by watertight coupling as recommended by the pipe supplier or as approved. All joints shall be mechanically restrained to prevent separation.
7. Bottom of Inlet Shall Slope 1% towards drain pipe.
8. The cost of excavation, backfill, elbows, wye, hardware, concrete, reinforcing steel, steel pipe and all miscellaneous items required to install the inlet, plus grate, grate frame, expn. joint material, expanded polystyrene and all miscellaneous items required to install the grate shall not be paid for separately, but shall be included in the Item 513, Bridge Drain. Plastic pipe shall be paid for separately.

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 Staff Bridge Branch - Unit 0226 Unit Leader DDG

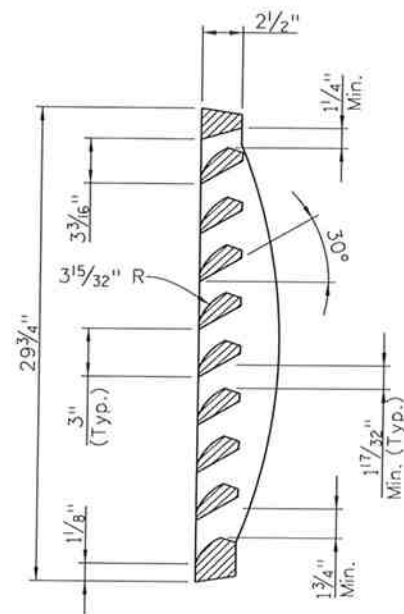
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Region 2 **DTD**

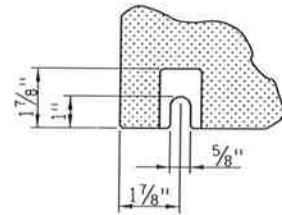
As Constructed	US 50 WEST		Project No./Code
No Revisions:	EB OVER WILD HORSE DRY CREEK		FSA 0503-081
Revised:	Designer: C. Dtegui	Structure: K-18-CW	19751
Void:	Detailer: R. Dillon	Numbers:	Sheet Number 171
	Sheet Subset: Bridge	Subset Sheets: B25 of 32	



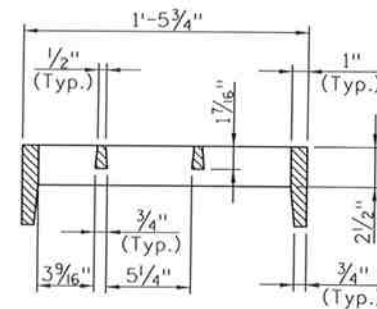
PLAN
SINGLE GRATE



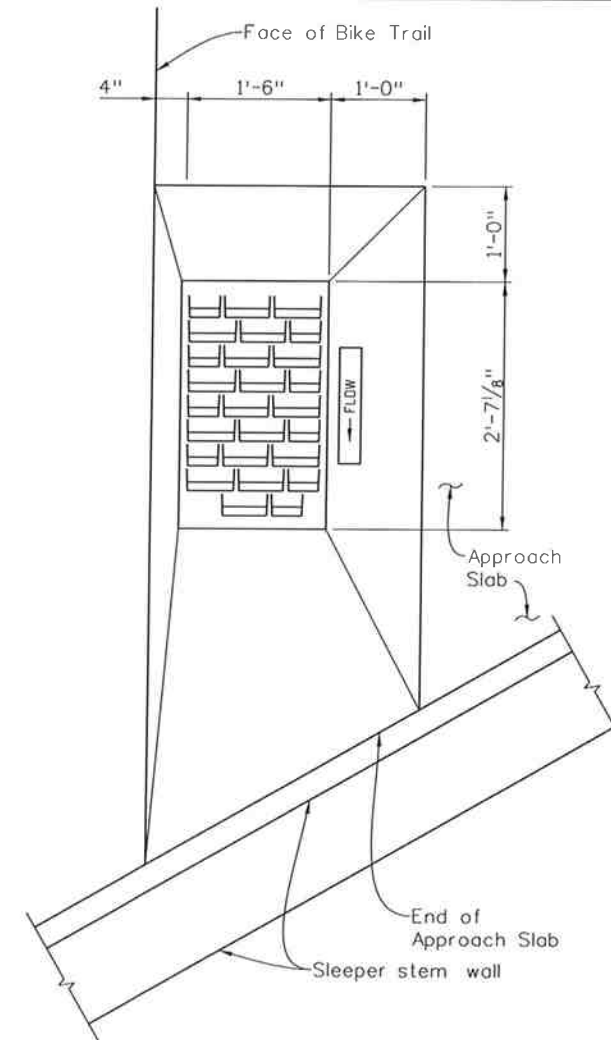
SECTION A



BOLT SLOT DETAIL
(Typ. @ each corner)

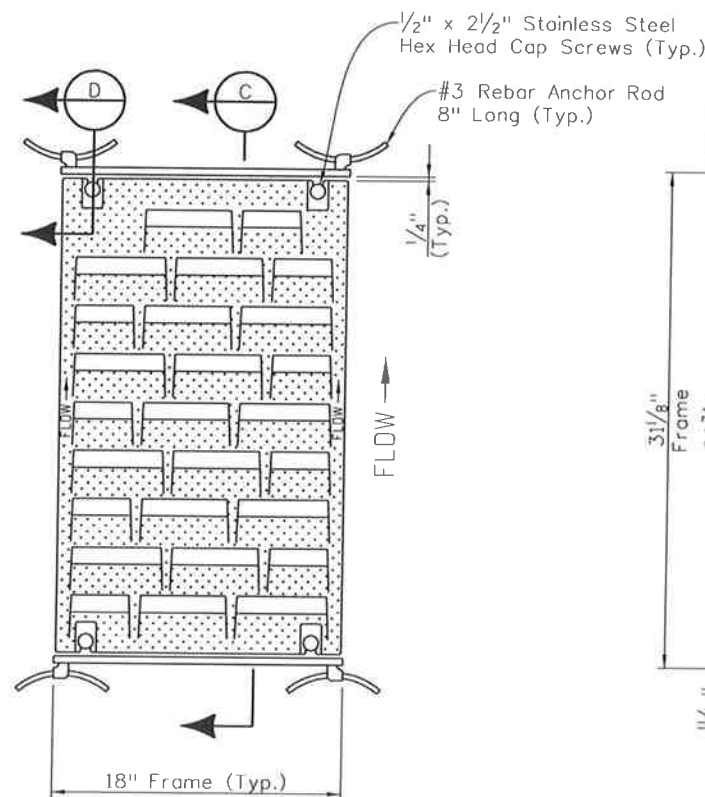


SECTION B

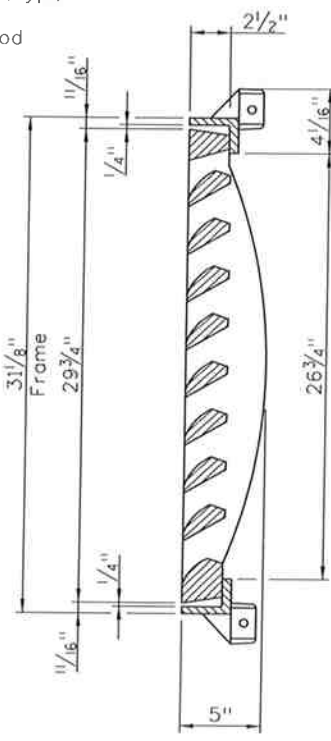


Note:
The Contractor shall stamp Flow Arrow into top surface of the apron to indicate the direction of flow. These stamped arrows shall be 6" long, 1" high & 3/8" deep.

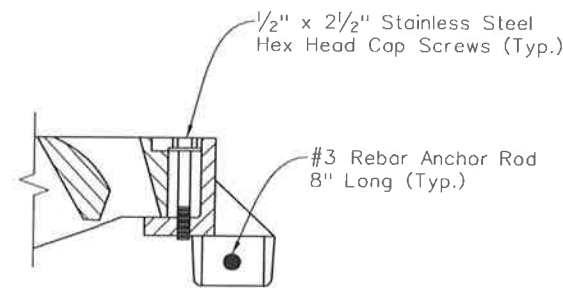
VANE GRATE INLET APRON



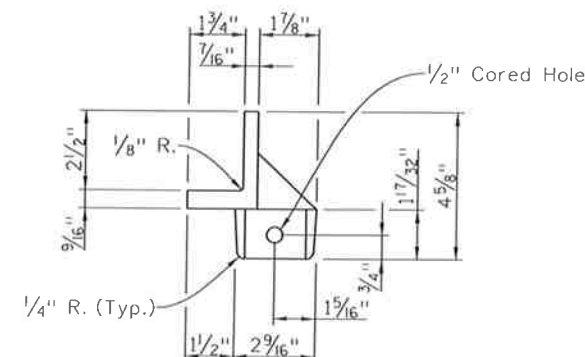
PLAN
SINGLE GRATE WITH FRAME



SECTION C



SECTION D



SECTION THRU FRAME

Grate and Frame Specification

Free open area: 1.31 Sq. Ft.
Material: Cast Gray Iron Class 35,
ASTM A48-83, AASHTO M105-82
Finish: No point
Weight: Grate 170 lb each; Frame 29 lb each

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	NLS 2/14	Detloled By	RAO 2/14	Quantities By	RAO 3/14
Checked By	ARK 3/14	Checked By	NLS 3/14	Checked By	CAO 5/14

Print Date: 8/4/2014
File Name: 19505BRDG_ApprInlet02.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader DDG

Sheet Revisions		
Date:	Comments	Init.

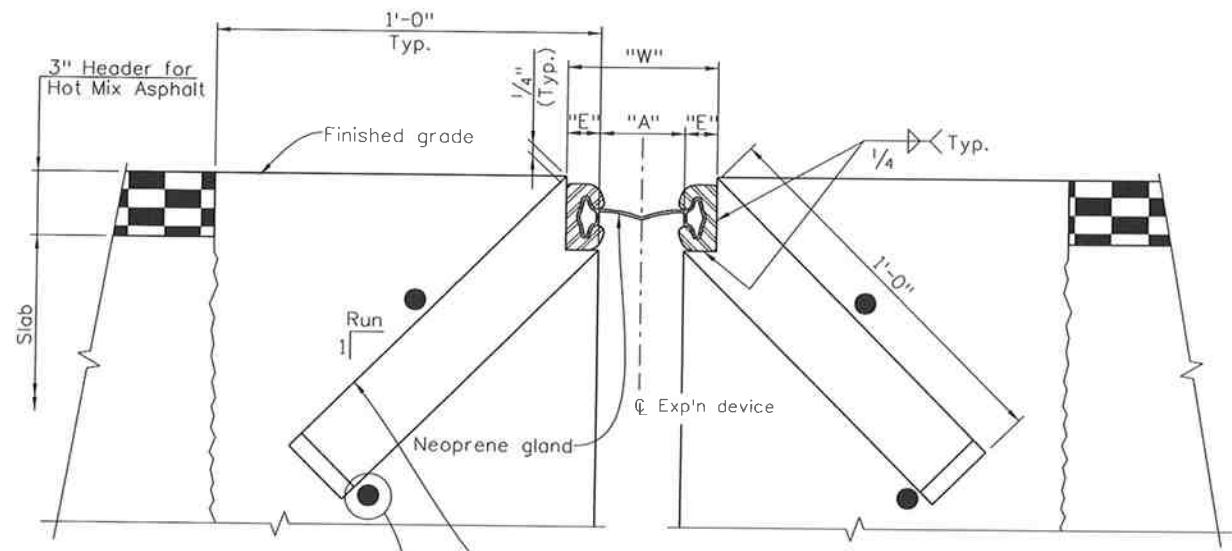
Colorado Department of Transportation
902 Erie Avenue
Pueblo, CO 81001
Phone: 719-562-5509 FAX: 719-546-5702
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST EB OVER WILD HORSE DRY CREEK APPROACH SLAB INLET DETAILS (2 OF 2)			
Designer:	N. Sass	Structure Numbers	K-18-CW
Detailer:	R. Dillon	Sheet Subset:	Bridge
Subst Sheets:		B26 of 32	

Project No./Code
FSA 0503-081
19751
Sheet Number 172

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 8/4/2014

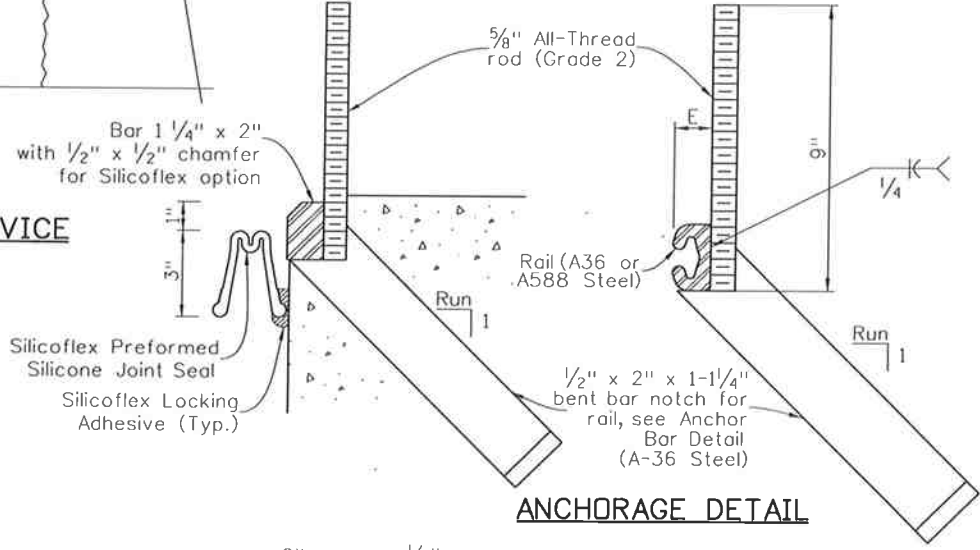


SECTION THRU STRIP SEAL BRIDGE EXPANSION DEVICE

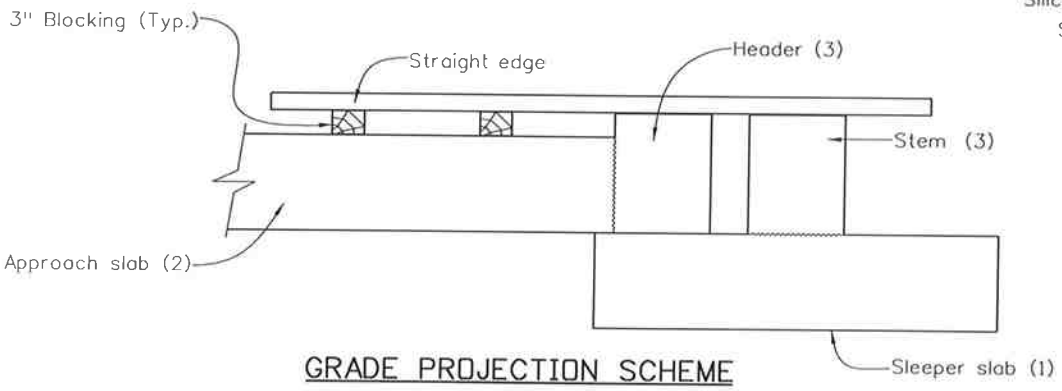
Section taken perpendicular to ϕ exp'n device

Welding not allowed in interior of rail that contacts rubber gland

RAIL FIELD SPLICE DETAIL



ANCHORAGE DETAIL



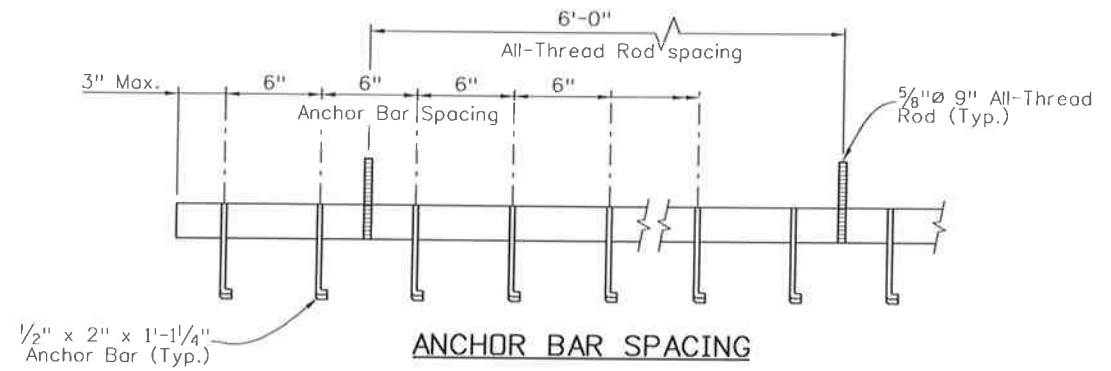
GRADE PROJECTION SCHEME

(Numbers in parenthesis refer to first, second and third concrete pours)

AIR TEMP	"A"	"W"*
-30° F	2 ¹⁵ / ₁₆ "	5 ⁷ / ₁₆ "
0° F	2 ¹³ / ₁₆ "	5 ⁵ / ₁₆ "
30° F	2 ⁵ / ₈ "	5 ⁵ / ₈ "
60° F	2 ¹ / ₂ "	5"
90° F	2 ³ / ₈ "	4 ⁷ / ₈ "
120° F	2 ³ / ₁₆ "	4 ¹¹ / ₁₆ "

* For E = 1/4" (Min.)

TYPICAL ANCHOR BAR DETAIL



ANCHOR BAR SPACING

NOTES:

The expansion device shall be installed on grade, parallel to the slope and grade of the deck.

The expansion device shall not be set before the deck elevations have been approved by the Engineer. The Contractor shall take shots of the expansion device to achieve the required elevations for smoother rideability on bridge approaches.

After the concrete has attained initial set, the attachments used to hold the expansion device assembly in it's proper position shall be removed.

"W" and "E" dimensions are dependent upon the particular expansion device supplied, and shall be shown on the working drawings.

See table for dimensions "A" and "W"; interpolate as needed. Do not install the gland until dimension "A" has opened up to at least 1/2" (2 1/2" for Silicoflex).

The neoprene gland shall be installed in one piece in accordance with Section 518 of the Standard Specifications.

See Section 518.09 in the Standard Specifications for water tight integrity testing requirements.

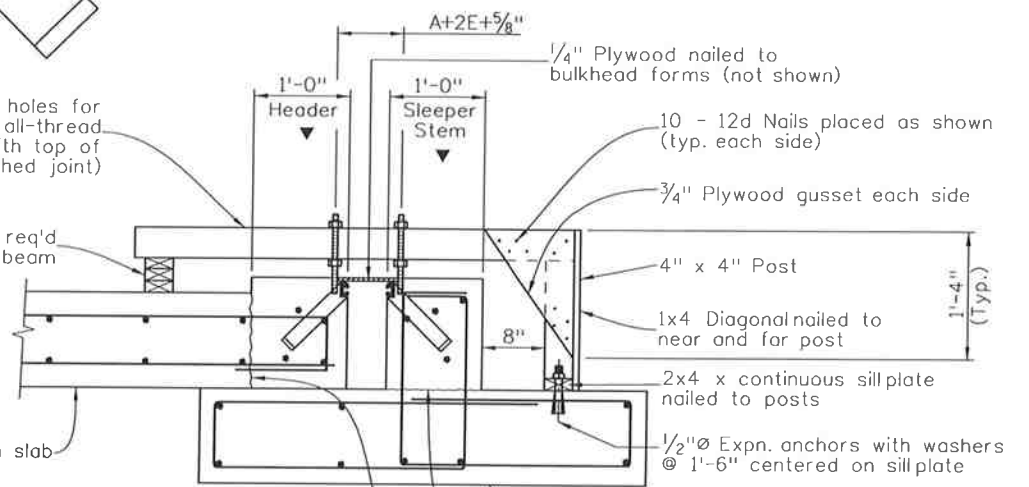
Set elevations at top of header and sleeper stem with the grade projection scheme.

All steel elements (whether grade A36 or A588) of the bridge expansion device, including cover plates, shall be hot dip galvanized after fabrication as per Section 509.11 of the Standard Specifications.

Use a run of 1 or more to accomodate existing conditions and a run of 1 for new construction.

ACCEPTABLE EXPANSION DEVICE ALTERNATES

- D.S. Brown A2R400-SSA2
- WABD SE400 Type A
- E-poxy Engineered Materials S400-A Strip Seal
- R. J. Watson Silicoflex SF 400



MINIMUM SUPPORT BRACKET REQUIREMENTS

NOTES:

- Provide expansion device support as shown at 6'-0" intervals.
 - For reinforcing not shown hereon, see approach slab details.
- Concrete shall be placed after expansion device has been adjusted to proper grade and approved by the engineer using the Grade Projection Scheme.

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	NLS	2/14	2/14	Checked By	CAO
Checked By	ARK	3/14	3/14	Checked By	5/14

Rcd11:08:30 AM J:\112407-01\00 - 19056\Brdge\Drawings\19056BRDG_ExpnDevice01.dgn
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 8/4/2014

Print Date: 8/4/2014
 File Name: 19056BRDG_ExpnDevice01.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DDG

Sheet Revisions		
Date:	Comments	Init.

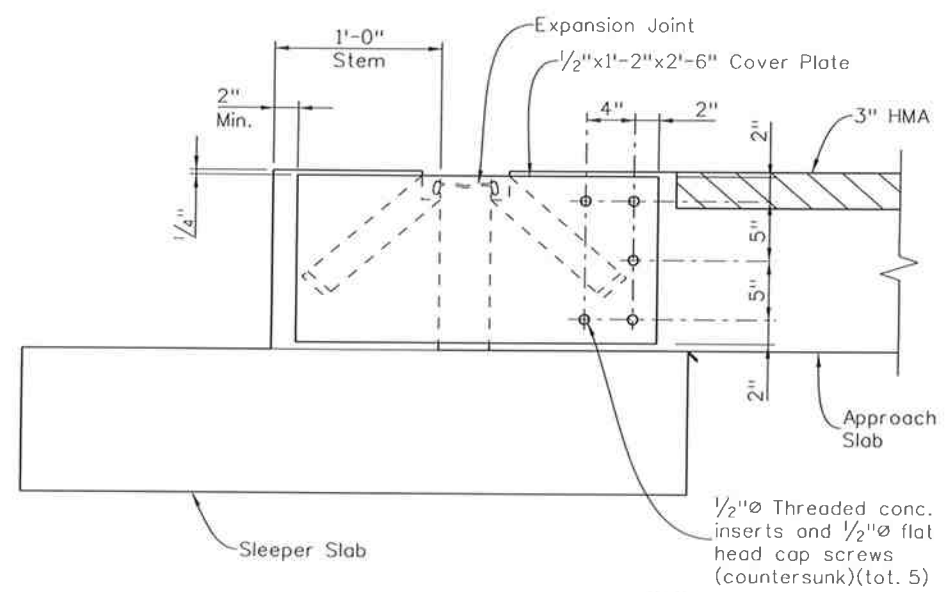
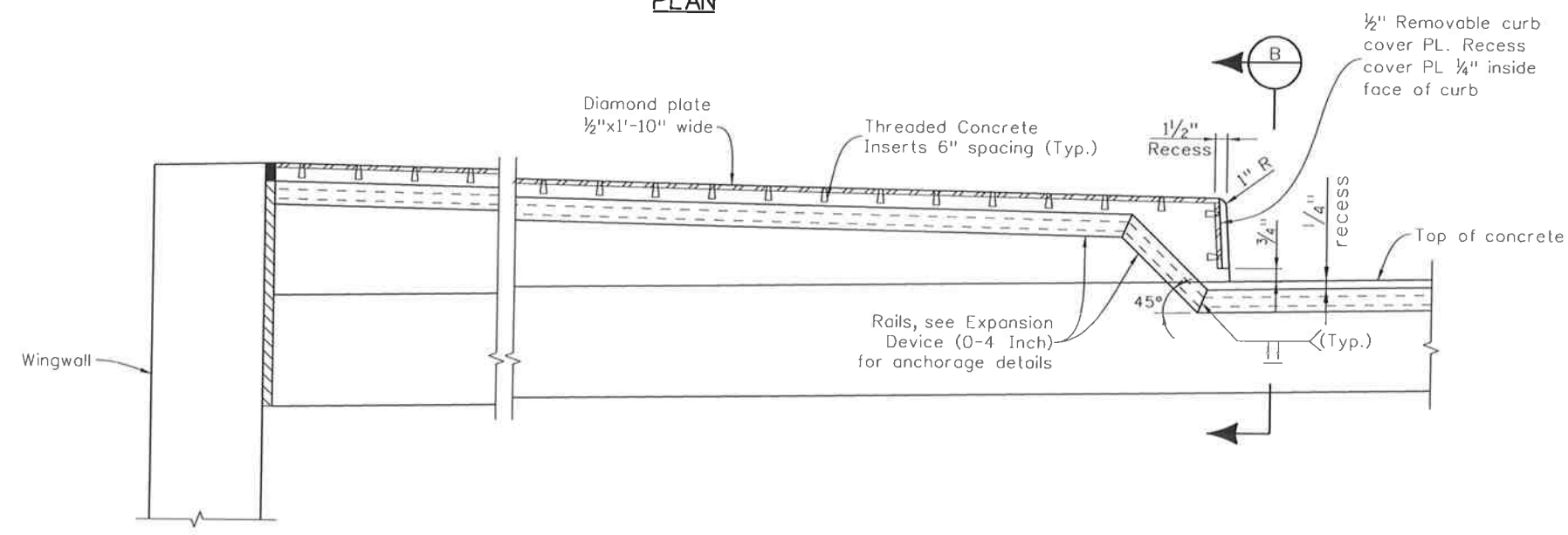
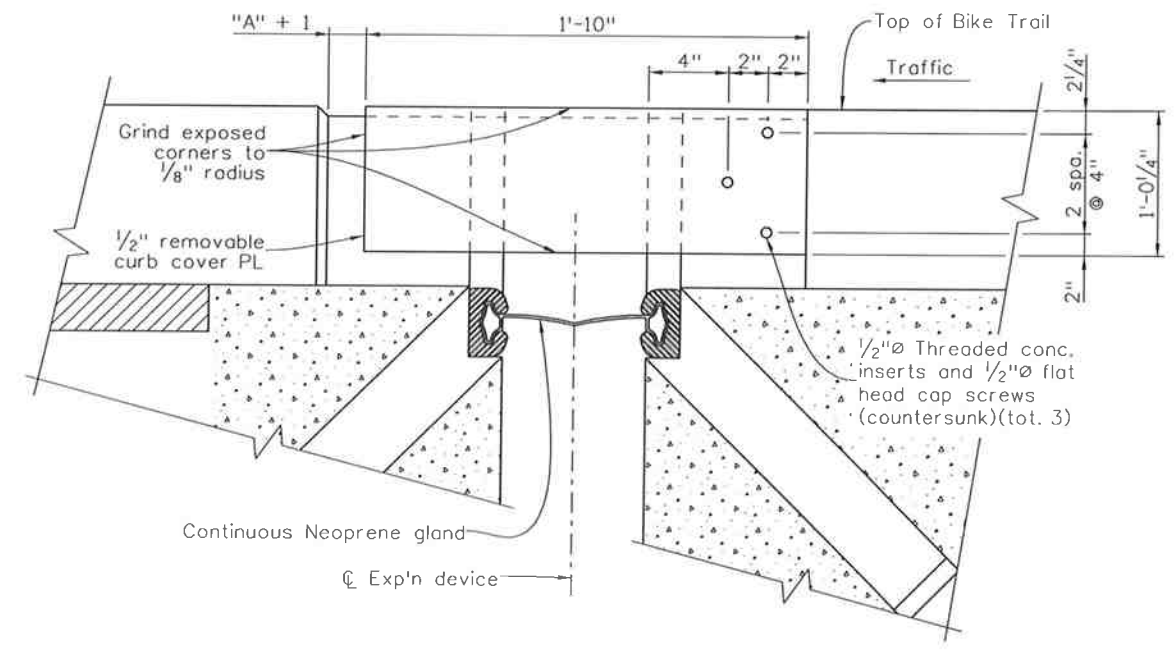
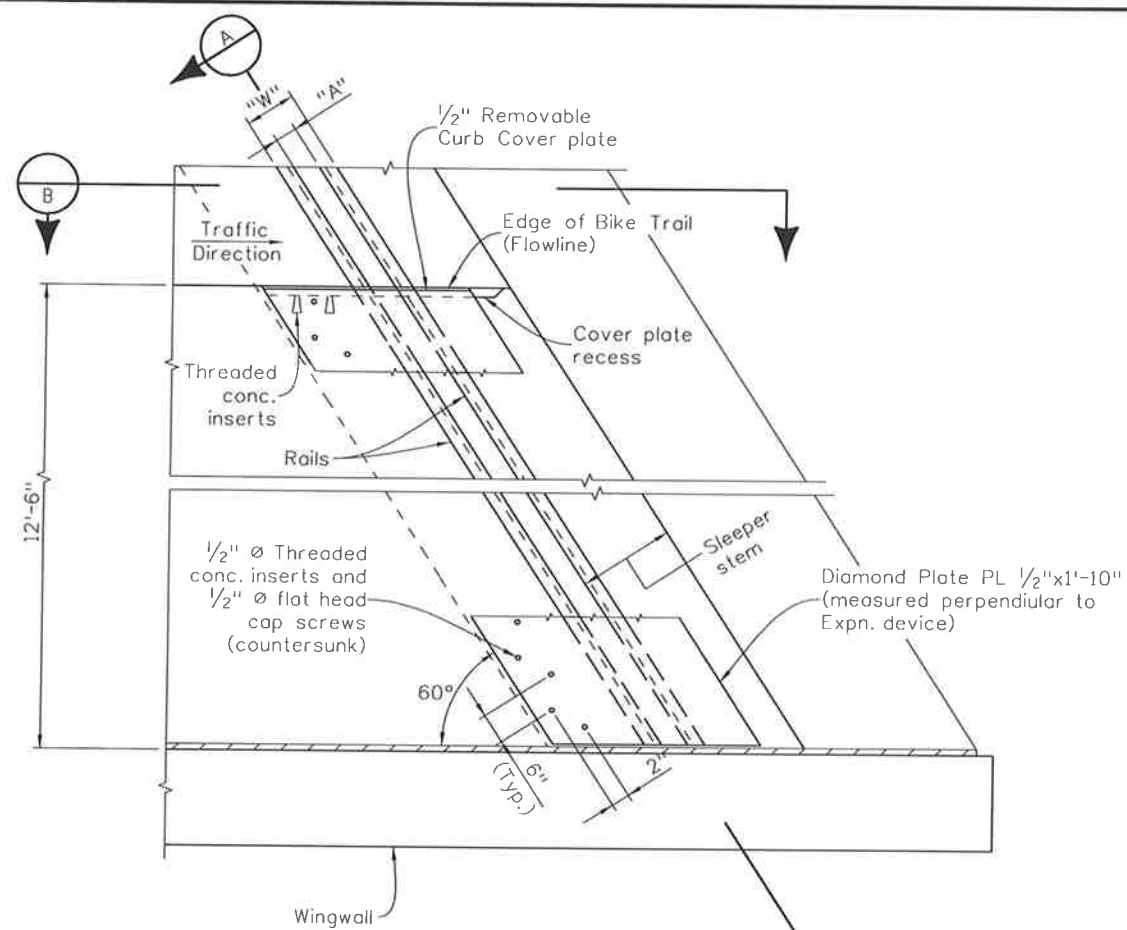
Colorado Department of Transportation
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 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

As Constructed
 No Revisions:
 Revised:
 Void:

US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 EXPANSION DEVICE (0-4 INCH)
 Designer: N. Sass Structure: K-18-CW
 Detailer: R. Dillon Numbers:
 Sheet Subset: Bridge Subset Sheets: B27 of 32

Project No./Code
 FSA 0503-081
 19751
 Sheet Number 173





Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By: NLS	2/14	Detailed By: RAD	2/14	Quantities By: RAD	3/14
Checked By: ARK	3/14	Checked By: NLS	3/14	Checked By: CAD	5/14

Print Date: 8/4/2014
 File Name: 19506BRDG_ExpnDevice02.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DDG

Sheet Revisions			
Date:	Comments	Init.	

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 Region 2 DTD

As Constructed
 No Revisions:
 Revised:
 Void:

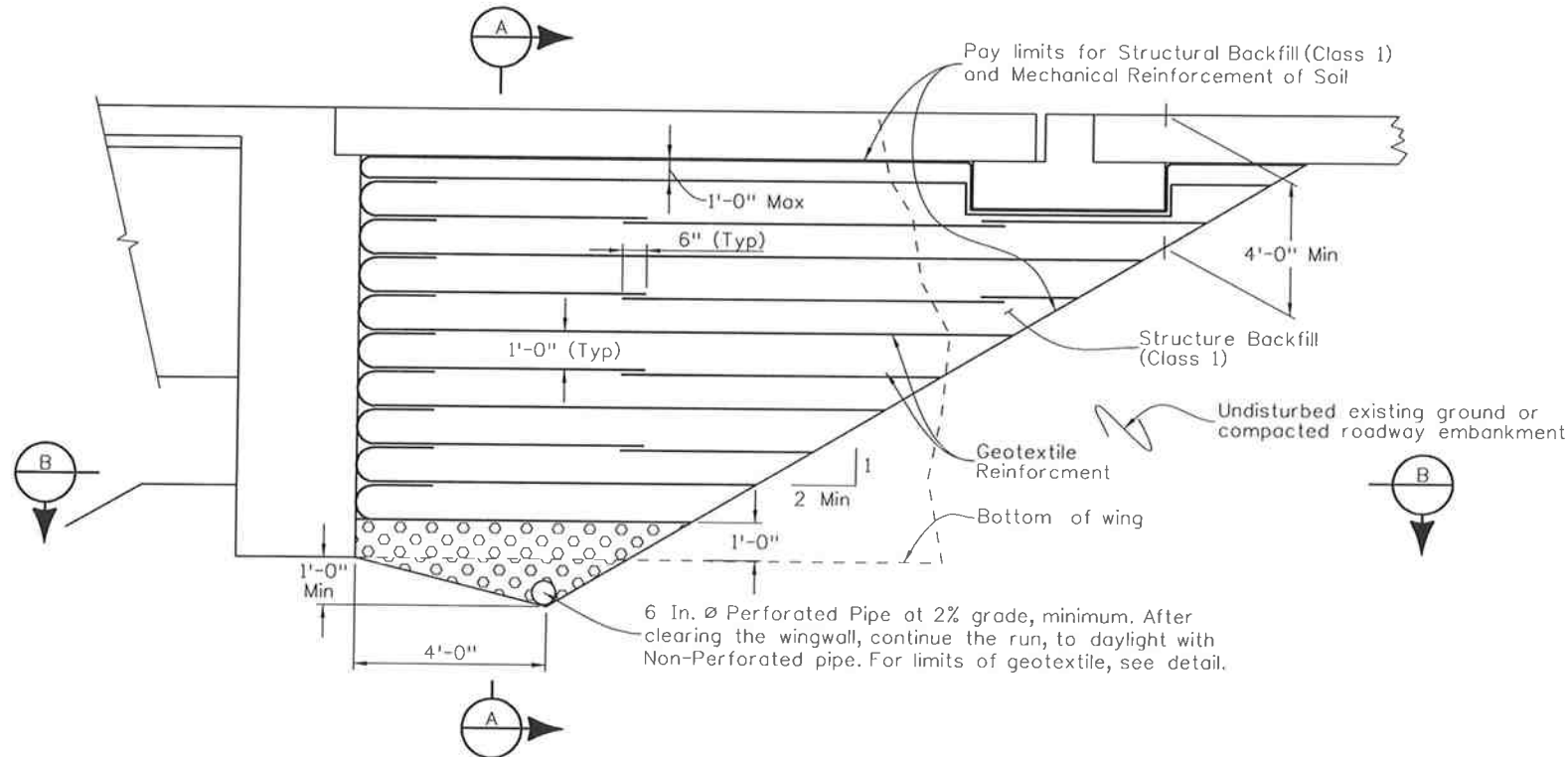
US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 EXPANSION DEVICE DETAILS

Designer:	N. Sass	Structure	K-18-CW
Detailer:	R. Dillon	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B28 of 32

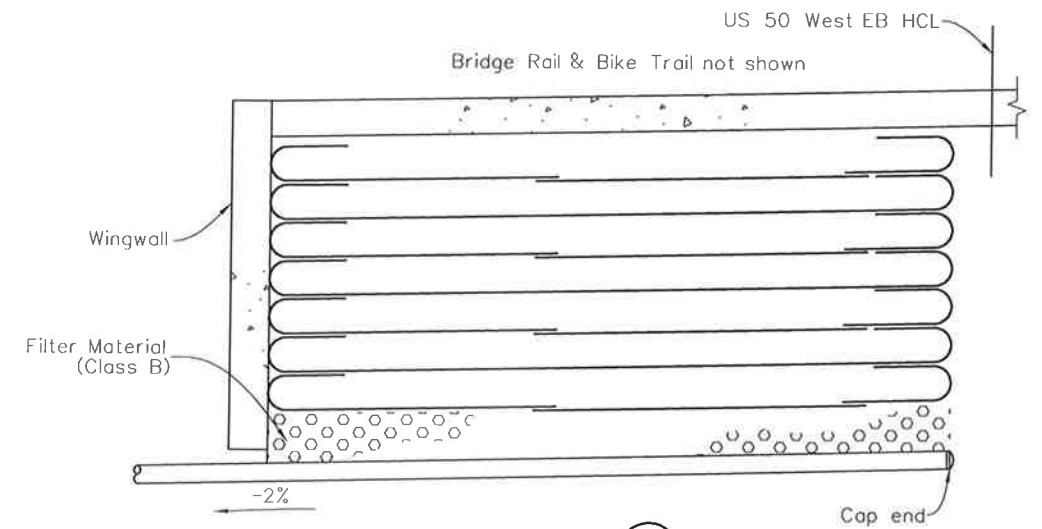
Project No./Code
 FSA 0503-081
 19751
 Sheet Number 174

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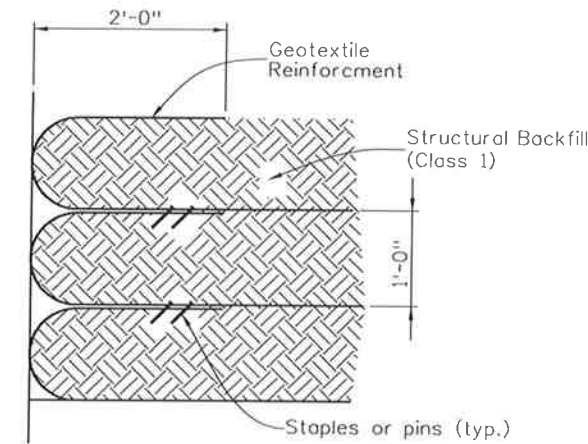




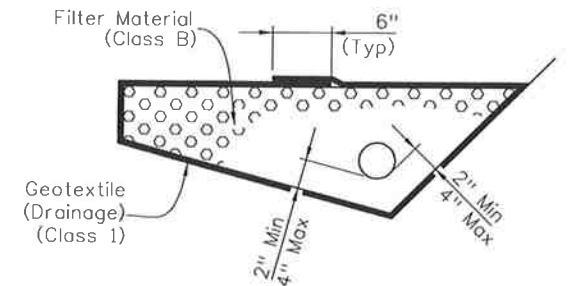
SECTION PERPENDICULAR TO ABUTMENT



SECTION A

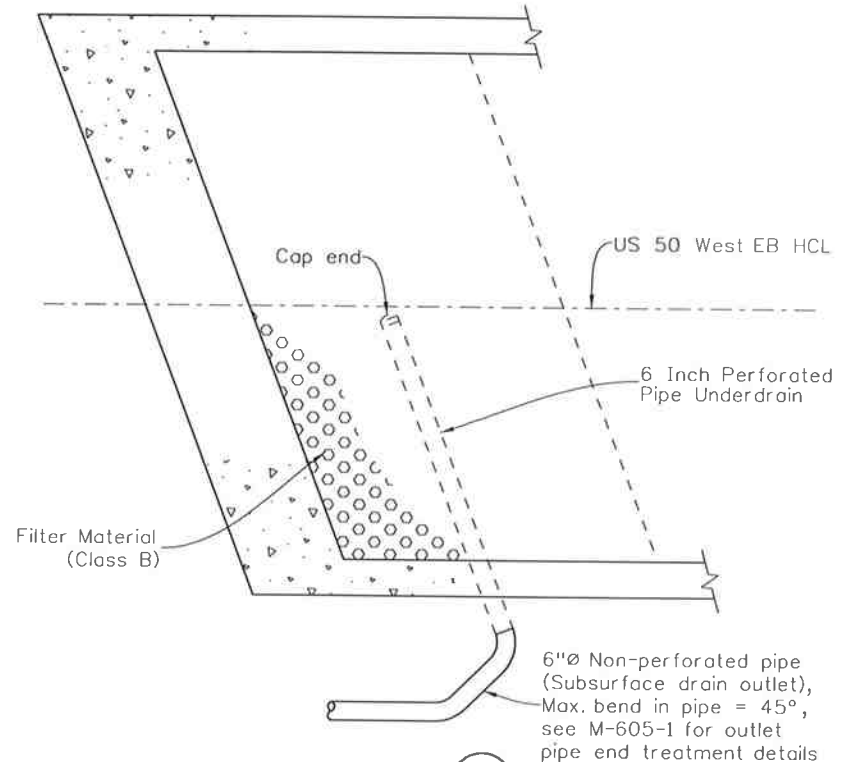


WRAP DETAIL

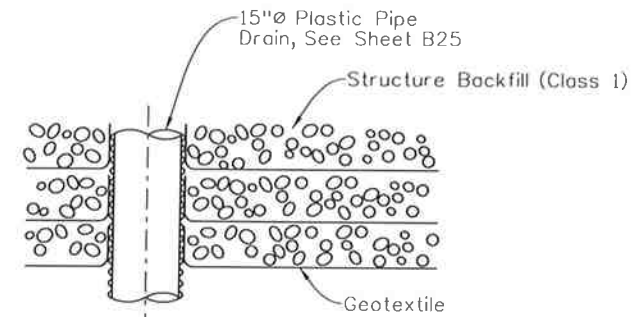


6 INCH PERFORATED PIPE UNDERDRAIN

6 Inch Perforated Pipe Underdrain includes all Filter Material (Class B) and Geotextile (Drainage) (Class 1) surrounding the filter Material (Class B).



SECTION B



VERTICAL APPROACH SLAB INLET PIPE PENETRATION

Pipe Penetration Notes:
 Geotextile layers remain continuous across the width of the abutment.
 The Geotextile shall be Cross-Cut in an X pattern at the intersection with 15"Ø Plastic Pipe.

NOTES:

- Geotextile reinforcement shall be woven fabric with a Minimum Average Roll Value of 4800 lb/ft for installations with a gap and 2400 lb/ft for installations without a gap based on ASTM D4595.
- Geotextile Reinforcement shall be placed by alternating Machine Direction (MD) with Cross Machine Direction (XD) from layer to layer.
- The Geotextile Reinforcement wrap at Back Face of Abutment shall be pulled back slack free with its end anchored to soil underneath with staples or pins.
- Minimum splice of all Geofabric shall consist of 6" of overlap.
- Payment for all work items shown will be made under Item 206 Mechanical Reinforcement of Soil (CY) and Item 206 Structure Backfill (Class 1) (CY) and shall include the cost for 6 inch Ø Perforated Pipe underdrain and Subsurface Drain Outlet (6 inch Ø NonPerforated Pipe).
- Installation of Pipe Underdrain and Subsurface Drain Outlet will conform to the Construction requirements of section 605.03 and 605.06, respectively.

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	NLS	2/14	2/14	Quantities By	RAO
Checked By	ARK	3/14	3/14	Checked By	CAO
					5/14

Print Date: 8/4/2014
 File Name: 19506BRDG_MSE-Backfill01.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Staff Bridge Branch - Unit 0226 Unit Leader DDG

Sheet Revisions			
Date:	Comments	Init.	

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 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST
 EB OVER WILD HORSE DRY CREEK
 MECH. STAB. EARTH BACKFILL

Designer:	N. Sass	Structure Numbers	K-18-CW
Detailer:	R. Dillon		
Sheet Subset:	Bridge	Subset Sheets:	B29 of 32

Project No./Code
FSA 0503-081
19751
Sheet Number 175

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 8/4/2014

STRUCTURE ID: K-18-CW BRIDGE GEOMETRY (WIN2.1.0e) 14/06/23 09:45

DESCRIPTION

Units: Feet;
 Project: FSA 0503-081; Subaccount: 19751;
 Designer: M. Soss; Detailer: R. Dillon;
 Location: EB US50 West over Wild Horse Dry Creek;
 Three Span (55'-0" / 73'-6" / 55'-0") Bridge
 Composite Concrete Slab and Precast/Prestressed Concrete BT42 Girders
 73'-10" Width out to out
 60'-0" Width curb to curb
 10'-0" Bike Trail on South side
 Bridge Rail Type 10 (Special)

HORIZONTAL ALIGNMENT DATA

HORIZONTAL TANGENT

VERTICAL ALIGNMENT DATA

ELEVATION AT PI	ELEVATION AT GRADE	STATION	ELEVATION AT GRADE	ELEVATION AT PI	PERCENT GRADE
	4797.1444	PC 238+20.0000			-1.580800
4788.4500	4791.2410	PI 243+70.0000			
	4790.9195	PT 249+20.0000			0.449000

TABLE OF ROADWAY CROSS-SLOPES (SUPERELEVATION: E= -NC-)

STATION	SLOPE LEFT	SLOPE RIGHT	VC LENGTH
(ON TANGENT)	0.0000	0.0000	50.00 (MAX)
240+00.0000	0.0150	-0.0200	50.00 -U-
248+00.0000	0.0150	-0.0200	50.00 -U-

OFFSET PROFILE CONTROL TO PIVOT POINT = 0.0000 FEET

LIMITS OF VALID ELEVATION AND CROSS-SLOPE DATA

BEGIN 240+25.0000
 END 247+75.0000
 SUPERELEVATION SUPERELEVATION

LAYOUT LINE DATA

LAYOUT LINE DEFINED TO BE COINCIDENT WITH HORIZONTAL CONTROL

LAYOUT LINE INTERSECTS REF LINE AT HCL STA 243+03.3588 OFFSET 0.00000000 X 0.0000 Y 0.0000

DEAD LOAD DEFLECTION DATA

DEFLECTIONS AT TENTH POINTS FROM FITTED CURVE

	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
FOR BENT LINE: CL BRG A1 AND OTHERS 07 CARD(S): 1 GIRDER LINES REFERENCED BY: A												
INCH	0.0000	0.0996	0.1951	0.2730	0.3236	0.3411	0.3237	0.2731	0.1952	0.0997	0.0000	INCH
FOOT	0.0000	0.0083	0.0163	0.0227	0.0270	0.0284	0.0270	0.0228	0.0163	0.0083	0.0000	FOOT
SLOPE	0.080100										-0.080233	SLOPE
A4= 0.00000 A3= 0.00000 A2= 1.61027 A1= -1.61186 A0= -.961204												
FOR BENT LINE: P2 BRG AHD 07 CARD(S): 1 GIRDER LINES REFERENCED BY: A												
INCH	0.0000	0.3112	0.6043	0.8410	0.9939	1.0468	0.9940	0.8411	0.6044	0.3113	0.0000	INCH
FOOT	0.0000	0.0259	0.0504	0.0701	0.0828	0.0872	0.0828	0.0701	0.0504	0.0259	0.0000	FOOT
SLOPE	0.253989										-0.254122	SLOPE
A4= 0.00000 A3= 0.00000 A2= 4.55356 A1= -4.55515 A0= -3.04787												
FOR BENT LINE: CL BRG A1 AND OTHERS 07 CARD(S): 1 GIRDER LINES REFERENCED BY: B												
INCH	0.0000	0.0916	0.1792	0.2504	0.2966	0.3126	0.2966	0.2504	0.1792	0.0916	0.0000	INCH
FOOT	0.0000	0.0076	0.0149	0.0209	0.0247	0.0260	0.0247	0.0209	0.0149	0.0076	0.0000	FOOT
SLOPE	0.073977										-0.073977	SLOPE
A4= 0.00000 A3= 0.00000 A2= 1.44994 A1= -1.44994 A0= -.887719												
FOR BENT LINE: P2 BRG AHD 07 CARD(S): 1 GIRDER LINES REFERENCED BY: B												
INCH	0.0000	0.2859	0.5545	0.7711	0.9109	0.9592	0.9109	0.7711	0.5545	0.2859	0.0000	INCH
FOOT	0.0000	0.0238	0.0462	0.0643	0.0759	0.0799	0.0759	0.0643	0.0462	0.0238	0.0000	FOOT
SLOPE	0.233860										-0.233860	SLOPE
A4= 0.00000 A3= 0.00000 A2= 4.12115 A1= -4.12115 A0= -2.80632												

BENT LINE DESCRIPTION	INTERSECTION POINT	FROM LAYOUT LINE	PROJECT COORDINATES	BENT LINE LENGTH FROM Y-AXIS	SKEW	GIRDER LINE LENGTH FROM REF LINE
	STATION OFFSET ELEVATION	OFFSET X	ORDINATE Y NORTHING EASTING		D M S	

* HORIZONTAL CONTROL LINE * AT FINISHED GRADE

END APPR	242+81.9158	0.0000	4791.8110	1	0.0000	-21.4430	600884.9347	243945.1933	0.0000	-30 00 00.00	-21.4430
BF ABUT 1	243+01.9158	0.0000	4791.6690	1	0.0000	-1.4430	600881.4284	243954.8835	0.0000	-30 00 00.00	-1.4430
CL BRG A1	243+03.3588	0.0000	4791.6591	10	0.0000	0.0000	600881.1754	243966.3042	0.0000	-30 00 00.00	0.0000
P2 BRG BK	243+57.5255	0.0000	4791.3130	1	0.0000	54.1667	600871.6792	244019.6320	0.0000	-30 00 00.00	54.1667
CL PIER 2	243+58.3588	0.0000	4791.3081	1	0.0000	55.0000	600871.5331	244020.4524	0.0000	-30 00 00.00	55.0000
P2 BRG AHD	243+59.1921	0.0000	4791.3032	10	0.0000	55.8333	600871.3870	244021.2728	0.0000	-30 00 00.00	55.8333
P3 BRG BK	244+31.0255	0.0000	4790.9300	1	0.0000	127.6667	600858.7935	244091.9936	0.0000	-30 00 00.00	127.6667
CL PIER 3	244+31.8588	0.0000	4790.9262	1	0.0000	128.5000	600858.6474	244092.8140	0.0000	-30 00 00.00	128.5000
P3 BRG AHD	244+32.6921	0.0000	4790.9225	10	0.0000	129.3333	600858.5013	244093.6344	0.0000	-30 00 00.00	129.3333
CL BRG A4	244+86.8588	0.0000	4790.7057	1	0.0000	183.5000	600849.0051	244146.9622	0.0000	-30 00 00.00	183.5000
BF ABUT 4	244+88.3018	0.0000	4790.7006	1	0.0000	184.9430	600848.7521	244148.3829	0.0000	-30 00 00.00	184.9430
END APPR	245+08.3018	0.0000	4790.6348	0.0	0.0000	204.9430	600845.2458	244168.0731	0.0000	-30 00 00.00	204.9430

These Bridge Deck Elevations are calculated based on the profile shown on Sht. B3, which is a "best fit" profile to the existing deck survey. Actual field elevations along the sawcut line may vary after removal of bridge rail and deck overhang. The survey indicates a varying existing deck cross slope. The Contractor shall match the existing deck at the Bridge Layout Line/Sawcut Line and adjust the cross slope as required to obtain the Right Edge of Deck Elevations shown.

Note: Elevations are at top of concrete deck 3 Inches below Finished Grade. Positive Roadway Cross Slope is Upwards from the Profile Grade Line. These Stations, Coordinates, Offsets and Lengths define the layout of the structure in a two dimensional horizontal plane. Elevations define the final grade of the finished concrete deck. Fabrication of structural components through the direct use of this information is not intended or advisable.

Print Date: 8/4/2014	Sheet Revisions			Colorado Department of Transportation	As Constructed	US 50 WEST			Project No./Code
File Name: 19506BRDG_DeckElevs.dgn	Date:	Comments	Init.			EB OVER WILD HORSE DRY CREEK			
Horiz. Scale: 1:1				902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	No Revisions:	BRIDGE DECK ELEVATIONS (1 OF 3)			19751
Vert. Scale: As Noted						Revised:	Designer: C. Dtegui	Structure: K-18-CW	
Staff Bridge Branch - Unit 0226				Region 2	Void:	Detailer: R. Dillon	Numbers:	Sheet Subset: Bridge	Subset Sheets: B30 of 32
Unit Leader DDG						DTD	176		

Design: [Table with initials and dates] Detail: [Table with initials and dates] Quantities: [Table with initials and dates]
 19506BRDG_DeckElevs.dgn
 8/4/2014

LAYOUT LINE											PARALLEL TO HORIZONTAL CONTROL											0.250000 FEET BELOW FINISHED GRADE											CL GIRDERLINE G7											PARALLEL TO HORIZONTAL CONTROL											0.250000 FEET BELOW FINISHED GRADE										
BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	CRS-SLP																	
END APPR	242+81.9158	0.0000	4791.5610		0.0000	-21.4430	600884.9347	243945.1933	0.0000	-30 00 00.00	-21.4430	END APPR	242+83.6959	3.0833	4791.4864		3.0833	-19.6629	600881.5871	243946.4053	3.5603	-30 00 00.00	-21.4430	-0.020000	END APPR	242+83.6959	3.0833	4791.4864		3.0833	-19.6629	600881.5871	243946.4053	3.5603	-30 00 00.00	-21.4430	-0.020000	END APPR	242+83.6959	3.0833	4791.4864		3.0833	-19.6629	600881.5871	243946.4053	3.5603	-30 00 00.00	-21.4430	-0.020000															

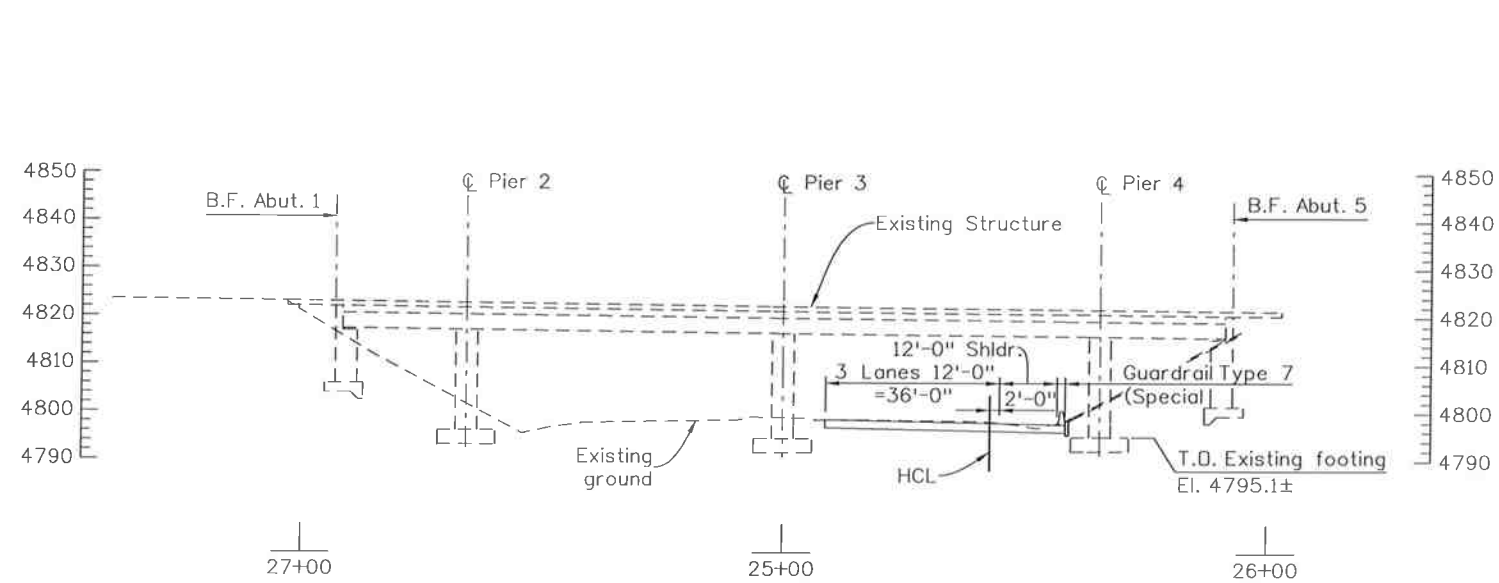
CLOSURE POUR EDGE											PARALLEL TO HORIZONTAL CONTROL											0.250000 FEET BELOW FINISHED GRADE											CL GIRDERLINE G8											PARALLEL TO HORIZONTAL CONTROL											0.250000 FEET BELOW FINISHED GRADE										
BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	CRS-SLP	BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	CRS-SLP	BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	CRS-SLP	BENT LINE	STATION	OFFSET	ELEVATION	ELEVH/L	X	Y	NORTHING	EASTING	BENT LNTH	SKWEW	GIRDER LNTH	CRS-SLP														
END APPR	242+83.0705	2.0000	4791.5126		2.0000	-20.2883	600882.7632	243945.9795	2.3094	-30 00 00.00	-21.4430	-0.020000	END APPR	242+88.5553	11.5000	4791.2831		11.5000	-14.8035	600872.4488	243949.7138	13.2791	-30 00 00.00	-21.4430	-0.020000	END APPR	242+88.5553	11.5000	4791.2831		11.5000	-14.8035	600872.4488	243949.7138	13.2791	-30 00 00.00	-21.4430	-0.020000	END APPR	242+88.5553	11.5000	4791.2831		11.5000	-14.8035	600872.4488	243949.7138	13.2791	-30 00 00.00	-21.4430	-0.020000														

Design		Detail		Quantities			
Designed By	Checked By	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
2/14	3/14	2/14	3/14	2/14	3/14	2/14	3/14
2/14	3/14	2/14	3/14	2/14	3/14	2/14	3/14

Note: Elevations are at top of concrete deck 3 Inches below Finished Grade. Positive Roadway Cross Slope is Upwards from the Profile Grade Line. These Stations, Coordinates, Offsets and Lengths define the layout of the structure in a two dimensional horizontal plane. Elevations define the final grade of the finished concrete deck. Fabrication of structural components through the direct use of this information is not intended or advisable.

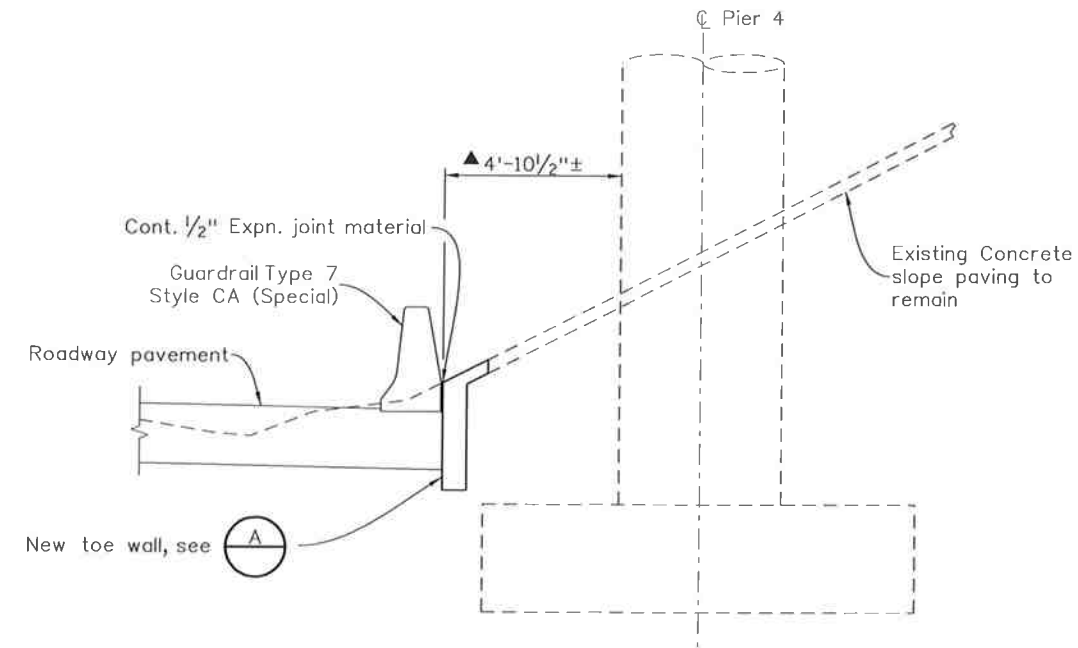
Print Date: 8/4/2014	Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST		Project No./Code		
File Name: 19506BRDG_DeckElevs.dgn	Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		EB OVER WILD HORSE DRY CREEK		FSA 0503-081	
Horiz. Scale: 1:1	Vert. Scale: As Noted		Region 2		Revised:		BRIDGE DECK ELEVATIONS (2 OF 3)		19751		
Staff Bridge Branch - Unit 0226	Unit Leader DDG		DTD		Void:		Designer: C. Olegui		Structure: K-18-CW		
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities		DTD		DTD		Detailer: R. Dillon		Numbers:		Sheet Number 177	
						Sheet Subset: Bridge		Subsets: B31 of 32			

FLOWLINE BIKE TRAIL										PARALLEL TO HORIZONTAL CONTROL										0.250000 FEET BELOW FINISHED GRADE									
BENT LINE	STATION	OFFSET	ELEVATION	ELEVHDL	X	Y	NORTHING	EASTING	BENT LNTH	SKREW	GIRDER LNTH	CRS-SLP	CL GIRDERLINE G10	PARALLEL TO HORIZONTAL CONTROL	0.250000 FEET BELOW FINISHED GRADE														
BENT LINE	STATION	OFFSET	ELEVATION	ELEVHDL	X	Y	NORTHING	EASTING	BENT LNTH	SKREW	GIRDER LNTH	CRS-SLP	BENT LINE	STATION	OFFSET	ELEVATION	ELEVHDL	X	Y	NORTHING	EASTING	BENT LNTH	SKREW	GIRDER LNTH	CRS-SLP				
END APPR	242+93.0779	19.3333	4791.0942	19.3333	-10.2809	600863.9439	243952.7931	22.3242	-30 00 00.00	-21.4430	-0.020000		END APPR	242+98.2740	28.3333	4790.8777	28.3333	-5.0848	600854.1724	243956.3309	32.7165	-30 00 00.00	-21.4430	-0.020000					
BF ABUT 1	243+13.0779	19.3333	4790.9563	19.3333	9.7191	600860.4376	243972.4834	22.3242	-30 00 00.00	-1.4430	-0.020000		BF ABUT 1	243+18.2740	28.3333	4790.7417	28.3333	14.9152	600850.6661	243976.0211	32.7165	-30 00 00.00	-1.4430	-0.020000					
CL BRG A1	243+14.5209	19.3333	4790.9467	19.3333	11.1621	600860.1846	243973.9040	22.3242	-30 00 00.00	0.0000	-0.020000		CL BRG A1	243+19.7170	28.3333	4790.7322	28.3333	16.3582	600850.4131	243977.4418	32.7165	-30 00 00.00	0.0000	-0.020000					
F-1	243+19.9376	19.3333	4790.9107	19.3333	16.5788	600859.2350	243979.2368			5.4167	-0.020000		F-1	243+25.1370	28.3333	4790.6968	28.3333	21.7749	600849.4634	243982.7746			5.4167	-0.020000					
F-2	243+25.3542	19.3333	4790.8753	19.3333	21.9954	600858.2854	243984.5695			10.8333	-0.020000		F-2	243+30.5504	28.3333	4790.6619	28.3333	27.1916	600848.5138	243988.1074			10.8333	-0.020000					
F-3	243+30.7709	19.3333	4790.8405	19.3333	27.4121	600857.3358	243989.9023			16.2500	-0.020000		F-3	243+35.9670	28.3333	4790.6276	28.3333	32.6092	600847.5642	243993.4401			16.2500	-0.020000					
F-4	243+36.1876	19.3333	4790.8062	19.3333	32.8288	600856.3861	243995.2351			21.6667	-0.020000		F-4	243+41.3837	28.3333	4790.5938	28.3333	38.0249	600846.6146	243998.7729			21.6667	-0.020000					
F-5	243+41.6042	19.3333	4790.7724	19.3333	38.2454	600855.4365	244000.5678			27.0833	-0.020000		F-5	243+46.8004	28.3333	4790.5606	28.3333	43.4416	600845.6649	244004.1057			27.0833	-0.020000					
F-6	243+47.0209	19.3333	4790.7392	19.3333	43.6621	600854.4869	244005.9007			32.5000	-0.020000		F-6	243+52.2171	28.3333	4790.5279	28.3333	48.8583	600844.7153	244009.4395			32.5000	-0.020000					
F-7	243+52.4376	19.3333	4790.7065	19.3333	49.0788	600853.5373	244011.2335			37.9167	-0.020000		F-7	243+57.6337	28.3333	4790.4957	28.3333	54.2749	600843.7657	244014.7713			37.9167	-0.020000					
F-8	243+57.8542	19.3333	4790.6744	19.3333	54.4954	600852.5877	244016.5662			43.3334	-0.020000		F-8	243+63.0504	28.3333	4790.4641	28.3333	59.6916	600842.8161	244020.1041			43.3334	-0.020000					
F-9	243+63.2709	19.3333	4790.6428	19.3333	59.9121	600851.6380	244021.8990			48.7500	-0.020000		F-9	243+68.4671	28.3333	4790.4330	28.3333	65.1083	600841.8664	244025.4369			48.7500	-0.020000					
P2 BRG BK	243+68.6876	19.3333	4790.6118	19.3333	65.3288	600850.6884	244027.2318	22.3242	-30 00 00.00	54.1667	-0.020000		P2 BRG BK	243+73.8837	28.3333	4790.4025	28.3333	70.5249	600840.9168	244030.7696	32.7165	-30 00 00.00	54.1667	-0.020000					
CL PIER 2	243+69.5209	19.3333	4790.6070	19.3333	66.1621	600850.5423	244028.0522	22.3242	-30 00 00.00	55.0000	-0.020000		CL PIER 2	243+74.7170	28.3333	4790.3978	28.3333	71.3582	600840.7707	244031.5900	32.7165	-30 00 00.00	55.0000	-0.020000					
P2 BRG AHD	243+70.3542	19.3333	4790.6023	19.3333	66.9954	600850.3962	244028.8726	22.3242	-30 00 00.00	55.8333	-0.020000		P2 BRG AHD	243+75.5503	28.3333	4790.3932	28.3333	72.1915	600840.6246	244032.4104	32.7165	-30 00 00.00	55.8333	-0.020000					
F-1	243+77.5375	19.3333	4790.5622	19.3333	74.1787	600849.1369	244035.9446			63.0166	-0.020000		F-1	243+82.3737	28.3333	4790.3790	28.3333	73.3749	600839.3653	244039.4825			63.0166	-0.020000					
F-2	243+84.7209	19.3333	4790.5230	19.3333	81.3621	600847.8775	244043.0168			70.2000	-0.020000		F-2	243+89.9170	28.3333	4790.3153	28.3333	86.5582	600838.1059	244046.5546			70.2000	-0.020000					
F-3	243+91.9042	19.3333	4790.4848	19.3333	88.5454	600846.6182	244050.0888			77.3833	-0.020000		F-3	243+97.1004	28.3333	4790.2777	28.3333	93.7416	600836.8466	244053.6267			77.3833	-0.020000					
F-4	243+99.0875	19.3333	4790.4475	19.3333	95.7287	600845.3588	244057.1609			84.5667	-0.020000		F-4	244+04.2837	28.3333	4790.2411	28.3333	100.9249	600835.5872	244060.6988			84.5667	-0.020000					
F-5	244+06.2709	19.3333	4790.4112	19.3333	102.9121	600844.0995	244064.2330			91.7500	-0.020000		F-5	244+11.4670	28.3333	4790.2055	28.3333	108.1028	600834.3279	244067.7708			91.7500	-0.020000					
F-6	244+13.4542	19.3333	4790.3758	19.3333	110.0954	600842.8401	244071.3051			98.9333	-0.020000		F-6	244+18.2837	28.3333	4790.1708	28.3333	115.2916	600833.0685	244074.8429			98.9333	-0.020000					
F-7	244+20.6376	19.3333	4790.3414	19.3333	117.2788	600841.5808	244078.3772			106.1167	-0.020000		F-7	244+25.1370	28.3333	4790.1371	28.3333	122.4749	600831.8092	244081.9150			106.1167	-0.020000					
F-8	244+27.8209	19.3333	4790.3079	19.3333	124.4621	600840.3214	244085.4493			113.3000	-0.020000		F-8	244+32.0504	28.3333	4790.1043	28.3333	129.6583	600830.5498	244088.9871			113.3000	-0.020000					
F-9	244+35.0042	19.3333	4790.2754	19.3333	131.6454	600839.0621	244092.5213			120.4834	-0.020000		F-9	244+37.0504	28.3333	4790.0716	28.3333	136.8416	600829.2905	244096.0592			120.4834	-0.020000					
P3 BRG BK	244+42.1876	19.3333	4790.2439	19.3333	138.8288	600837.8027	244099.5934	22.3242	-30 00 00.00	127.6667	-0.020000		P3 BRG BK	244+47.3837	28.3333	4790.0481	28.3333	144.0249	600828.0312	244103.1312	32.7165	-30 00 00.00	127.6667	-0.020000					
CL PIER 3	244+43.0209	19.3333	4790.2403	19.3333	139.6621	600837.6566	244100.4138	22.3242	-30 00 00.00	128.5000	-0.020000		CL PIER 3	244+48.2170	28.3333	4790.0316	28.3333	144.8582	600827.8851	244103.9516	32.7165	-30 00 00.00	128.5000	-0.020000					
P3 BRG AHD	244+43.8542	19.3333	4790.2367	19.3333	140.4954	600837.5105	244101.2342	22.3242	-30 00 00.00	129.3333	-0.020000		P3 BRG AHD	244+49.0503	28.3333	4790.0346	28.3333	145.6915	600827.7390	244104.7720	32.7165	-30 00 00.00	129.3333	-0.020000					
F-1	244+49.2709	19.3333	4790.2137	19.3333	145.9121	600836.5609	244106.5670			134.7500	-0.020000		F-1	244+54.0503	28.3333	4790.0121	28.3333	146.5249	600826.5893	244110.1048			134.7500	-0.020000					
F-2	244+54.6875	19.3333	4790.1912	19.3333	151.3287	600835.6113	244111.8998			140.1666	-0.020000		F-2	244+59.8837	28.3333	4789.9902	28.3333	151.3582	600825.4397	244115.4376			140.1666	-0.020000					
F-3	244+60.1042	19.3333	4790.1693	19.3333	156.7454	600834.6617	244117.2326			145.5833	-0.020000		F-3	244+65.3003	28.3333	4789.9688	28.3333	156.2167	600824.2901	244120.7703			145.5833	-0.020000					
F-4	244+65.5209	19.3333	4790.1479	19.3333	162.1621	600833.7120	244122.5654			151.0000	-0.020000		F-4	244+70.7170	28.3333	4789.9479	28.3333	161.9415	600823.1405	244126.1032			151.0000	-0.020000					
F-5	244+70.9375	19.3333	4790.1271	19.3333	167.5787	600832.7624	244127.8981			156.4167	-0.020000		F-5	244+76.1370	28.3333	4789.9276	28.3333	167.3582	600822.9908	244131.4360			156.4167	-0.020000					
F-6	244+76.3542	19.3333	4790.1068	19.3333	172.9954	600831.8128	244133.2309			161.8333	-0.020000		F-6	244+81.5504	28.3333	4789.9079	28.3333	172.7749	600821.8405	244136.7688			161.8333	-0.020000					
F-7	244+81.7709	19.3333	4790.0871	19.3333	178.4121	600830.8632	244138.5637			167.2500	-0.020000		F-7	244+86.9670	28.3333	4789.8886	28.3333	178.1916	600820.6912	244142.1015			167.2500	-0.020000					
F-8	244+87.1875	19.3333	4790.0678	19.3333	183.8287	600829.9136	244143.8964			172.6667	-0.020000		F-8	244+92.3837	28.3333	4789.8699	28.3333	183.6082	600819.5411	244147.4343			172.6667	-0.020000					
F-9	244+92.6042	19.3333	4790.0492	19.3333	189.2454	600828.9639	244149.2292			178.0833	-0.020000		F-9	244+97.8004	28.3333	4789.8518	28.3333	189.0249	600818.3923	244152.7671			178.0833	-0.020000					
CL BRG A4	2																												

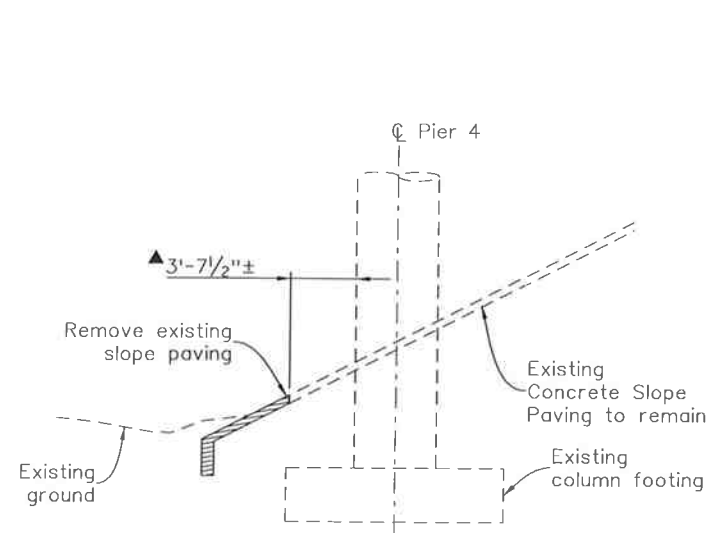


ELEVATION

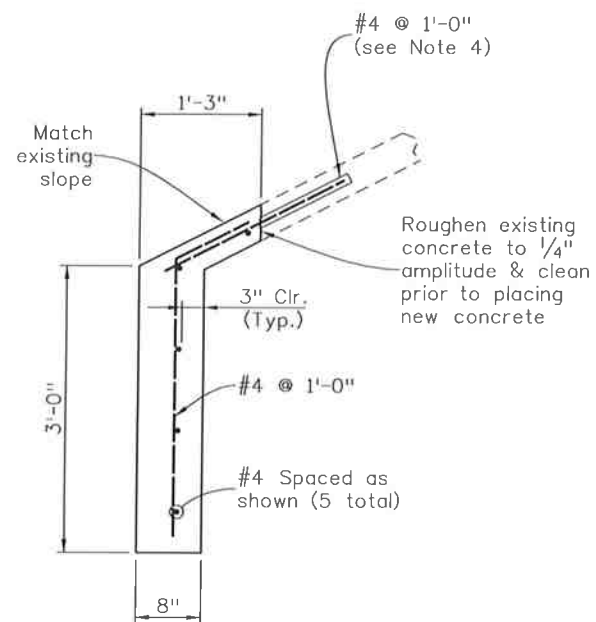
(See Roadway Plans for layout, roadway section and pavement)



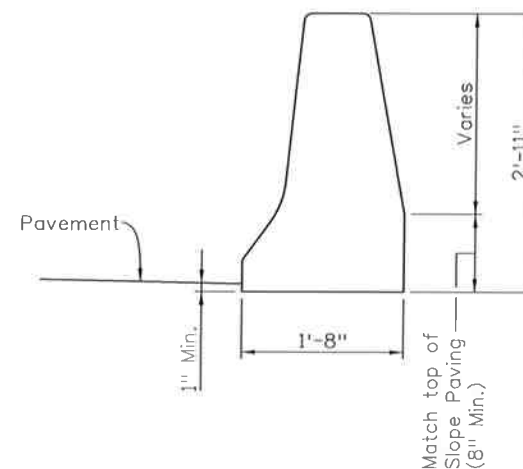
NEW SECTION



REMOVAL SECTION



DETAIL A



**GUARDRAIL TYPE 7
STYLE CA (SPECIAL)**

(See Note 5)

NOTES:

1. The Contractor shall be responsible for the stability of the structure during construction.
2. All reinforcing steel shall be epoxy coated. Lap splice length for #4 bar is 1'-3".
3. Match existing slope paving construction joints and concrete finish.
4. Drill and grout dowels into existing slope paving with approved epoxy adhesive, 1'-0" min. embedment. The cost of drilling and epoxy adhesive shall not be paid for separately, but shall be included in the work.
5. CDDT Standard M-606-13 shall apply except for dimensions shown here for back face of Guardrail Type 7. See Roadway plans for length, transition and quantity.
6. Payment will be made under Item 202 - Removal of Slope and Ditch Paving, see Removal plans, and Item 507 - Concrete Slope and Ditch Paving (Reinforced). Item 507 is 10 CY and will include excavation, concrete, finishing, reinforcing steel, dowels, grout, field verification and all miscellaneous items required to complete the work.

▲ Measured along centerline of bridge. Field verify from Horizontal Control Line prior to slope paving cut and removal. Varies along length of slope paving.

Cindy 3:55:58 PM J:\112407-01\00 - 19056\Brdge\Drawings\19506BRDG_BNSF_RoadwayDetail.dgn
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Print Date: 10/6/2014		Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST		Project No./Code	
File Name: 19506BRDG_BNSF_RoadwayDetail.dgn		Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		ROADWAY DETAIL AT BNSF BRIDGE		FSA 0503-081
Horiz. Scale: 1:40 Vert. Scale: As Noted					Region 2 DTD		Revised:		Designer: C. Otegui	Structure Numbers	19751
Staff Bridge Branch - Unit 0226 Unit Leader DDG							Void:		Detailer: Miranda/Dillon	Subset Sheets: BA1 of 1	Sheet Number 179
6300 South Syracuse Way Centennial, CO 80111 connecting and enhancing communities											



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ENVIRONMENTAL GENERAL NOTES:

1. IF CONSTRUCTION IS TO OCCUR DURING THE MIGRATORY BIRD NESTING SEASON, (BETWEEN APRIL 1 AND AUGUST 31 AND BETWEEN MARCH 15 AND OCTOBER 31 FOR WESTERN BURROWING OWLS) THE CONTRACTOR SHALL FOLLOW CDOT'S PROJECT SPECIAL PROVISION 240, (PROTECTION OF MIGRATORY BIRDS), WHICH REQUIRES A SURVEY. THE CDOT PROJECT ENGINEER SHALL DESIGNATE A QUALIFIED BIOLOGIST TO PERFORM THE SURVEY.

2. THE CONTRACTOR SHALL PERFORM CONSTRUCTION ACTIVITIES TO AVOID UNNECESSARY IMPACTS TO VEGETATION, INCLUDING TREES AND SHRUBS. PROTECTIVE FENCING WILL BE USED TO IDENTIFY THESE AREAS, AS NOTED ON THE STORMWATER MANAGEMENT PLAN. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITIONS BY THE CONTRACTOR AT THEIR OWN EXPENSE. TREES NOT DESIGNATED FOR REMOVAL WILL BE PROTECTED WITH ORANGE FENCING (PLASTIC). THE CONTRACTOR SHALL NOT PARK ANY VEHICLES OR EQUIPMENT OR DISTURB ANY AREA NOT APPROVED BY THE ENGINEER.

3. RIPARIAN/ STREAM BANK (SENATE BILL 40) RESOURCES ALONG WILD HORSE DRY CREEK WILL BE RESTORED, AS NOTED IN THE STORMWATER MANAGEMENT PLAN. PLANTING OF TREES AND SHRUBS WILL FOLLOW CDOT'S STANDARD SPECIFICATION 214 - PLANTING AND PROJECT SPECIAL PROVISION 217 HERBICIDE TREATMENT.

THE CONTRACTOR SHALL REMOVE TWO TREES AS SHOWN ON PAGES ENV-3 AND ENV-13. THE LOCATION AND TYPE OF TREES TO BE RE-PLANTED BY THE CONTRACTOR SHALL BE AS DIRECTED BY CDOT ENGINEER AND REGION 2 ENVIRONMENTAL STAFF.

4. EROSION CONTROL BEST MANAGEMENT PRACTICES INCLUDED IN THE STORMWATER MANAGEMENT PLAN WILL ADDRESS THE POTENTIAL IMPACTS TO THE PLAINS LEOPARD FROG, NORTHERN LEOPARD FROG AND TRIPLOID COLORADO CHECKERED WHIPTAIL. IF CONSTRUCTION ACTIVITIES ARE TO OCCUR BETWEEN MARCH 1 AND JULY 31 AT SITES THAT CONTAIN HABITAT FOR THE PLAINS LEOPARD FROG AND NORTHERN LEOPARD FROG (WILLIAMS CREEK AND WILD HORSE DRY CREEK, THE CDOT STAFF BIOLOGIST AND THE COLORADO PARKS AND WILDLIFE WILL BE CONSULTED PRIOR TO CONSTRUCTION TO DETERMINE ACTIONS NECESSARY TO AVOID AND MINIMIZE IMPACTS. ALSO, APPLICATION OF HERBICIDES NEAR PERMANENT BODIES OF WATER WILL BE RESTRICTED DURING THE PERIOD OF FROG METAMORPHOSIS (JUNE TO AUGUST).

EROSION CONTROL BEST MANAGEMENT PRACTICES INCLUDED IN THE STORMWATER MANAGEMENT PLAN WILL ALSO ADDRESS THE POTENTIAL IMPACTS TO THE MASSASAUGA RATTLESNAKE AND THE TRIPLOID COLORADO CHECKERED WHIPTAIL. IF CONSTRUCTION ACTIVITIES ARE TO OCCUR BETWEEN MARCH 1 AND JULY 31 AT SITES THAT CONTAIN HABITAT FOR THE MASSASAUGA RATTLESNAKE, THE CDOT STAFF BIOLOGIST WILL BE CONSULTED PRIOR TO CONSTRUCTION TO DETERMINE ACTIONS NECESSARY TO AVOID AND MINIMIZE IMPACTS.

5. THE CONTRACTOR SHALL OBTAIN ANY OR ALL APPLICABLE AIR POLLUTION EMISSION NOTICE (APEN) OR FUGITIVE DUST CONTROL PLAN APPROVALS REQUIRED BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) AND LOCAL REGULATORY AGENCIES FOR THIS PROJECT (PER SUBSECTION 107.24 OF THE STANDARD SPECIFICATIONS). THE CONTRACTOR SHALL PROVIDE COPY(S) OF THE APPROVED PERMITS OR NOTIFICATIONS TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION OR COMMENCEMENT OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE APPLICATION FOR AND MANAGEMENT OF THIS PERMIT.

6. THE CONTRACTOR SHALL MAINTAIN EQUIPMENT ON A REGULAR BASIS. EQUIPMENT WILL BE SUBJECT TO INSPECTION BY THE ENGINEER TO ENSURE MAINTENANCE. ALSO, THE CONTRACTOR SHALL NOT ALLOW EXCESSIVE IDLING OF INACTIVE EQUIPMENT OR VEHICLES.

7. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A DUST CONTROL PLAN THAT DETAILS METHODS FOR MITIGATION OF FUGITIVE DUST RESULTING FROM THE WORK, INCLUDING DUST FROM THE BRIDGE. THE DUST CONTROL PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO WORK COMMENCEMENT. PREPARATION OF THIS PLAN SHALL BE INCLUDED IN THE COST OF THE WORK AND SHALL NOT BE PAID FOR SEPARATELY.

WATER SHALL BE USED AS A DUST PALLIATIVE AS DETAILED IN CDOT STANDARD SPECIFICATION 209 WHERE REQUIRED. LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. WATER FOR A DUST PALLIATIVE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK. CONTAMINATED GROUNDWATER SHALL NOT BE USED AS A DUST PALLIATIVE.

DUST CONTROL FOR THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

8. THE CONTRACTOR IS ADVISED THAT KNOWN SOIL AND GROUNDWATER CONTAMINATION HAS BEEN IDENTIFIED IN THE EASTERN PORTION OF THE PROJECT LIMITS BETWEEN WILLS BLVD AND THE BURLINGTON NORTHERN SANTA FE RAILROAD TRACKS. IF ANY CONTAMINATED SOILS ARE ENCOUNTERED, THEY SHALL BE PROPERLY STOCKPILED, SAMPLED, AND DISPOSED OF IN ACCORDANCE WITH SUBSECTION 250.03(d) OF THE STANDARD SPECIFICATIONS AND THE CONTRACTOR'S HEALTH AND SAFETY PLAN. PAYMENT FOR THIS WORK, IF ENCOUNTERED SHALL BE IN ACCORDANCE WITH THIS CONTRACT.

9. GROUNDWATER MONITORING WELLS ARE LOCATED WITHIN PROJECT LIMITS AS SHOWN ON SHEET ENV-15. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF GROUNDWATER WELLS PRIOR TO CONSTRUCTION. IF NECESSARY, WELL ABANDONMENT/RELOCATION/RESET SHALL BE IN ACCORDANCE WITH SUBSECTION 202 OF THE CDOT STANDARD SPECIFICATIONS AND IN COORDINATION WITH CDOT ENVIRONMENTAL STAFF.

10. THIS PROJECT REQUIRES A COLORADO DISCHARGE PERMIT SYSTEM CONSTRUCTION DEWATERING PERMIT. THE CONTRACTOR WILL OBTAIN THE DEWATERING PERMIT PRIOR TO CONSTRUCTION.

11. THIS PROJECT REQUIRES A COLORADO DISCHARGE PERMIT SYSTEM STORMWATER CONSTRUCTION PERMIT (CDPS-SCP). ALL PERMIT REQUIREMENTS SHALL BE ADHERED TO BY THE CONTRACTOR. CDOT WILL OBTAIN THE CDPS-SCP PRIOR TO ADVERTISEMENT AND TRANSFER TO THE CONTRACTOR.

12. WETLANDS EXIST WITHIN THE LIMITS OF THE PROJECT AS SHOWN ON SHEETS ENV-13 THROUGH ENV-14. 10 DAYS PRIOR TO MOBILIZATION, THE CDOT ENGINEERING PROJECT MANAGER WILL BE NOTIFIED, WHO WILL SCHEDULE WITH A QUALIFIED BIOLOGIST FOR A WETLANDS / RIPARIAN FIELD REVIEW. THE QUALIFIED BIOLOGIST WILL LOCATE AND DELINEATE WITH MARKERS, SUCH AS PIN FLAGS, SENSITIVE RIPARIAN AND / OR WETLAND AREAS TO AVOID AND / OR PROTECT. ONCE THE ABOVE RIPARIAN / WETLAND AREAS ARE MARKED, THE CONTRACTOR WILL INSTALL SAFETY BARRIER FENCING (ORANGE FENCING) TO PROTECT WETLANDS / RIPARIAN AREAS FROM CONSTRUCTION ACTIVITIES.

13. IF HISTORICAL OR ARCHAEOLOGICAL MATERIALS ARE ENCOUNTERED OR UNEARTHED DURING CONSTRUCTION, WORK WILL BE HALTED IMMEDIATELY IN THE VICINITY OF THE FIND. THE CDOT ENGINEER SHALL CONTACT THE CDOT CULTURAL RESOURCES SPECIALIST PROMPTLY. THE PROCESS IS OUTLINED IN SUBSECTION 107.23 OF CDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION FOR PROCEDURES REGARDING UNEXPECTED DISCOVERIES DURING CONSTRUCTION.

14. THE CONTRACTOR IS ADVISED THERE ARE AREAS OF PALEONTOLOGICAL CONCERN WITHIN THE LIMITS OF THE PROJECT. IF ANY SUB-SURFACE FOSSILS OR OTHER POTENTIALLY SIGNIFICANT FOSSILS ARE FOUND ANYWHERE WITHIN THE US 50 WEST PROJECT LIMITS DURING CONSTRUCTION, WORK IN THE IMMEDIATE VICINITY SHALL BE TEMPORARILY SUSPENDED. THE CDOT PROJECT ENGINEER SHALL NOTIFY THE CDOT PALEONTOLOGIST TO ASSESS THE SIGNIFICANCE OF THE FIND AND MAKE FURTHER RECOMMENDATIONS.

15. THE CONTRACTOR SHALL FOLLOW CDOT'S PROJECT SPECIAL PROVISION 201 (CLEARING AND GRUBBING) FOR ALL ACTIVITIES THAT AFFECT BLACK TAILED PRAIRIE DOGS WITHIN THE PROJECT FOOTPRINT. PAYMENT FOR BTPD MITIGATION WORK WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK. CDOT'S BTPD POLICY CAN BE FOUND IN SUBSECTION 102- PROJECT PLANS AND OTHER DATA.


16. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND CROSS SECTIONS. THE CDOT PROJECT ENGINEER SHALL CONTACT THE CDOT ENVIRONMENTAL STAFF IF ANY DISTURBANCE BEYOND THESE LIMITS IS EXPECTED TO OCCUR.

17. THE CONTRACTOR SHALL CONSIDER THE SCHEDULE FOR NIGHT WORK TO TRY AND AVOID WORKING WITHIN 500 FEET OF RESIDENCES THAT MAY BE IMPACTED BY TEMPORARY LIGHTING OR CONSTRUCTION NOISE.

18. NOXIOUS WEED MANAGEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL FOLLOW THE PROCEDURES IDENTIFIED IN THE PROJECT SPECIAL PROVISION 217 - HERBICIDE TREATMENT. ONLY A COLORADO LICENSED SUPERVISOR OR CERTIFIED OPERATOR SHALL APPLY HERBICIDES. ALL HERBICIDES WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IN ADDITION TO THE SPECIFIC MANAGEMENT ACTIONS LISTED IN PROJECT SPECIAL PROVISION 217 - HERBICIDE TREATMENT, THE FOLLOWING PREVENTATIVE MEASURES SHALL BE IMPLEMENTED TO MINIMIZE THE SPREAD OF NOXIOUS WEEDS IN CONSTRUCTION AREAS:

- THE AREA OF GROUND DISTURBANCE WILL BE KEPT TO THE MINIMUM NECESSARY.
- MINIMIZE IMPORTED TOPSOIL DURING CONSTRUCTION.
- AREAS WITH DENSE NOXIOUS WEED POPULATIONS WILL NOT BE USED FOR TOPSOIL SALVAGE.
- ALL AREAS PLANNED FOR TOP SOIL SALVAGE WILL BE TREATED FOR NOXIOUS WEEDS PRIOR TO SALVAGE.
- ONLY HERBICIDES APPROVED FOR USE IN WATER WILL BE USED IN OR WITHIN 25 FEET OF WETLANDS OR OTHER WATER FEATURES.
- BROADCAST HERBICIDE SPRAYING WILL ONLY BE APPROVED THROUGH WRITTEN CONSENT OF THE ENGINEER AND SHALL BE APPLIED WHEN WEATHER CONDITIONS (INCLUDING WIND) ARE SUITABLE FOR SUCH WORK.
- ENGINEER WILL BE NOTIFIED 24 HOURS PRIOR TO HERBICIDE APPLICATION.

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File Name: 19506LAND_ENVI_Plan01.dgn		Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		Designer: KAB Detailer: KAB		FSA 0503-081	
Horiz. Scale: 1:1 Vert. Scale: As Noted							Revised:				Structure Numbers	
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