

Oversight / NHS

FHWA REGION VIII OVERSIGHT? NO YES

NATIONAL HIGHWAY SYSTEM? NO YES

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

Related Projects:

P. E. UNDER PROJECT: STA 0503-088
Project Number: 20448
Project Code:

R.O.W. Projects:

R.O.W. Project Description
F001-3(14), F050-3(3) & F050-3(5)Sec2

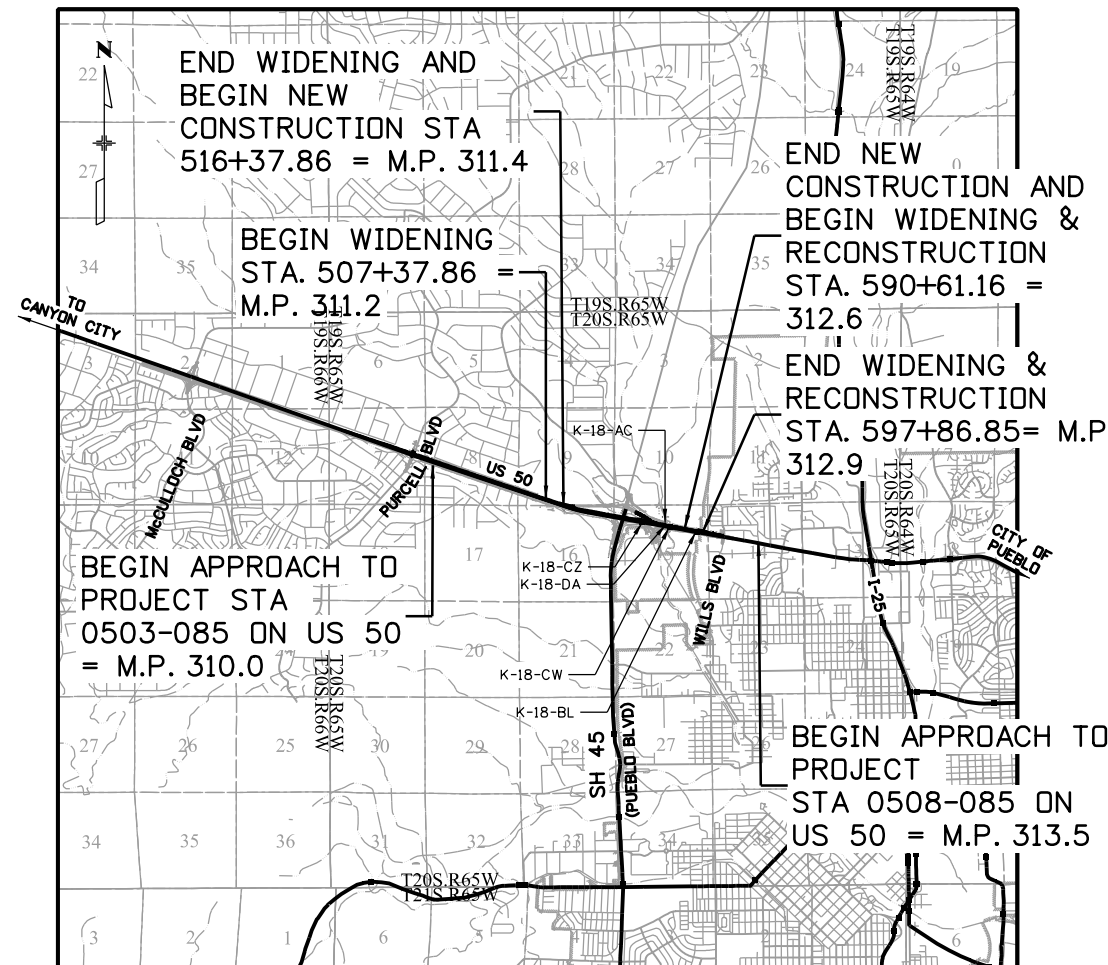
HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED FEDERAL AID PROJECT NO. STA 0503-085 US 50 PUEBLO COUNTY CONSTRUCTION PROJECT CODE NO. 20344

TABULATION OF LENGTH & DESIGN DATA

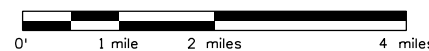
STATION	FEET	
	ROADWAY US 50	MAJOR STR.
BEGIN APPROACH TO PROJECT STA 0503-085 ON US 50 = M.P. 310.0	6,336.00	
BEGIN WIDENING STA. 507+37.86 = MP 311.2*		
END WIDENING AND BEGIN NEW CONSTRUCTION STA. 516+37.86 = MP 311.4*	900.00	
	4,540.88	
BEGIN STRUCTURE K-18-CZ STA. 561+78.66 = MP 312.26*		211.00
END STRUCTURE K-18-CZ STA. 563+89.66 = MP 312.30*	1,392.20	
BEGIN STRUCTURE K-18-DA STA. 577+81.86 = MP 312.50*		186.96
END STRUCTURE K-18-DA STA. 579+68.82 = MP 312.54*	1,092.34	
END NEW CONSTRUCTION AND BEGIN WIDENING & RECONSTRUCTION STA. 590+61.16 = MP 312.75*	328.84	
BEGIN STRUCTURE K-18-BL STA. 593+90.00 = MP 312.86*		20.00
END STRUCTURE K-18-BL STA. 594+10.00 = MP 312.86*	376.85	
END WIDENING & RECONSTRUCTION STA. 597+86.85 = MP 312.9*	3,168.00	
BEGIN APPROACH TO PROJECT STA 0503-085 ON US 50 = M.P. 313.5		
TOTAL	18,135.11	417.96
SUMMARY OF PROJECT LENGTH	FEET	MILES
MAJOR STRUCTURE	418	0.08
PROJECT GROSS LENGTH	18,553	3.5

* Milepost are approximate

DESIGN DATA	US 50 (WB)
MAXIMUM RADIUS OF CURVE	6,800 FT.
MAXIMUM GRADE	3.3%
MINIMUM S.S.D. HORIZONTAL	495 FT.
MINIMUM S.S.D. VERTICAL	495 FT.
MAXIMUM DESIGN SPEED	65 MPH
2036 DESIGN TRAFFIC	DHV = 7,859 vph ADT = 87,312 vpd
DHV TRUCK %	4.7%
CLEAR ZONE DISTANCE (TANGENT)	30 FT.
CLEAR ZONE DISTANCE (1,640 MIN. RADIUS)	30 FT.
CONSTRUCTION CLEAR ZONE (MIN 18')	18 FT.



PROJECT LOCATION MAP



SHEET NO.

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- CONSTRUCTION PHASING PLAN
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Print Date: 3/8/2017

File Name: 20344DES_TitleSht.dgn

Horiz. Scale: 1:1

Vert. Scale:



J. F. SATO AND ASSOCIATES
5898 South Rapp Street
Littleton, Colorado 80120



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:

Contract Information

Contractor:
Resident Engineer:
Project Engineer:
PROJECT STARTED: / / ACCEPTED: / /
Comments:

Project No./Code

STA 0503-085

20344

Sheet Number 1

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
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COLORADO
DEPARTMENT OF TRANSPORTATION
M&S STANDARDS PLANS LIST
 July 04, 2012
 Revised on February 23, 2017

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

NEW OR REVISED STANDARD PLAN SHEETS APPLICABLE TO THIS PROJECT, INDICATED BY A MARKED BOX ■, WILL BE ATTACHED TO THE PLANS.

Computer File Information Creation Date: 07/04/12 Initials: JBK Last Modification Date: 02/23/17 Initials: LTA Full Path: www.coloradodot.info/business/designsupport Drawing File Name: Standards Plans List.dgn CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English		Sheet Revisions <table border="1"> <tr> <th>Date:</th> <th>Comments</th> </tr> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> </table>		Date:	Comments	(R-X)		(R-X)		(R-X)		(R-X)		Colorado Department of Transportation  4201 East Arkansas Avenue CDOT HQ, 4th Floor Denver, CO 80222 Phone: 303-757-9021 FAX: 303-757-9868 Division of Project Support JBK/LTA		STANDARDS PLANS LIST Issued By: Project Development Branch July 4, 2012		STANDARD PLAN NO. STANDARDS PLANS LIST Sheet No. 1 of 1 2	
Date:	Comments																		
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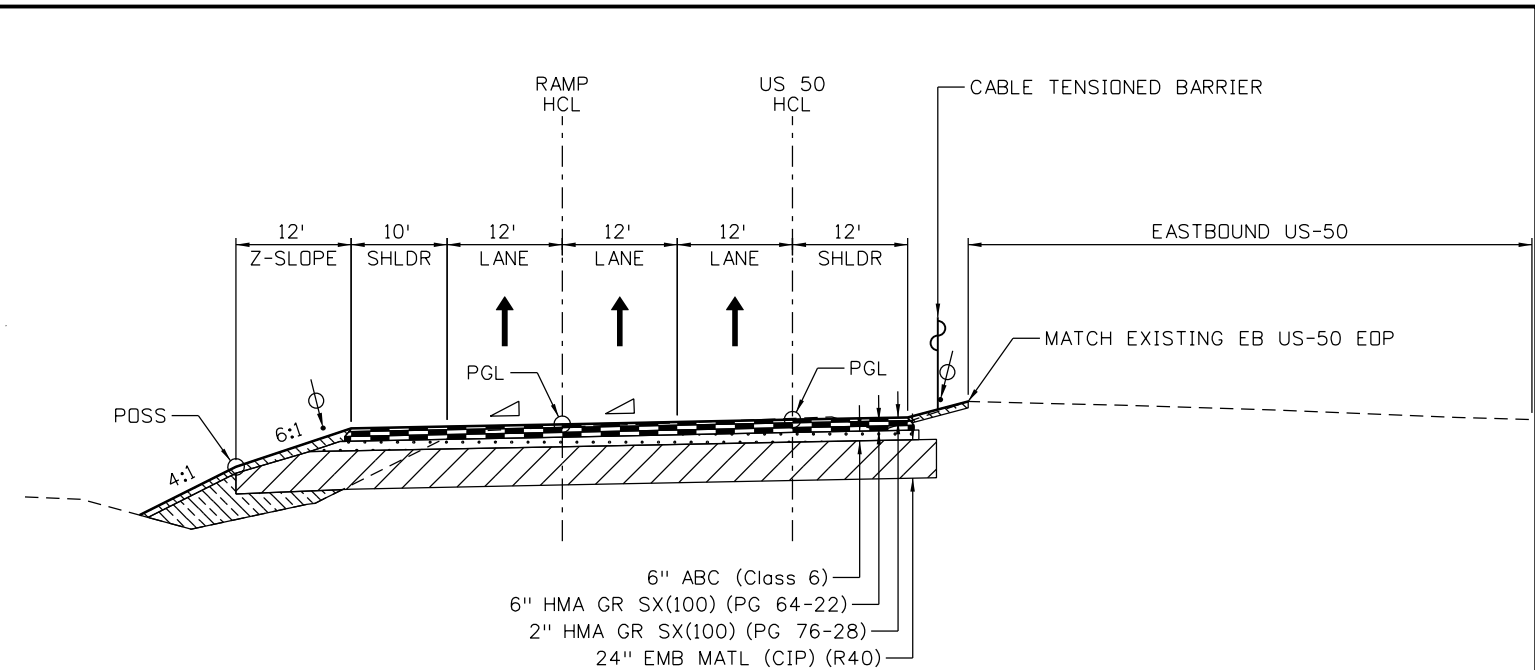
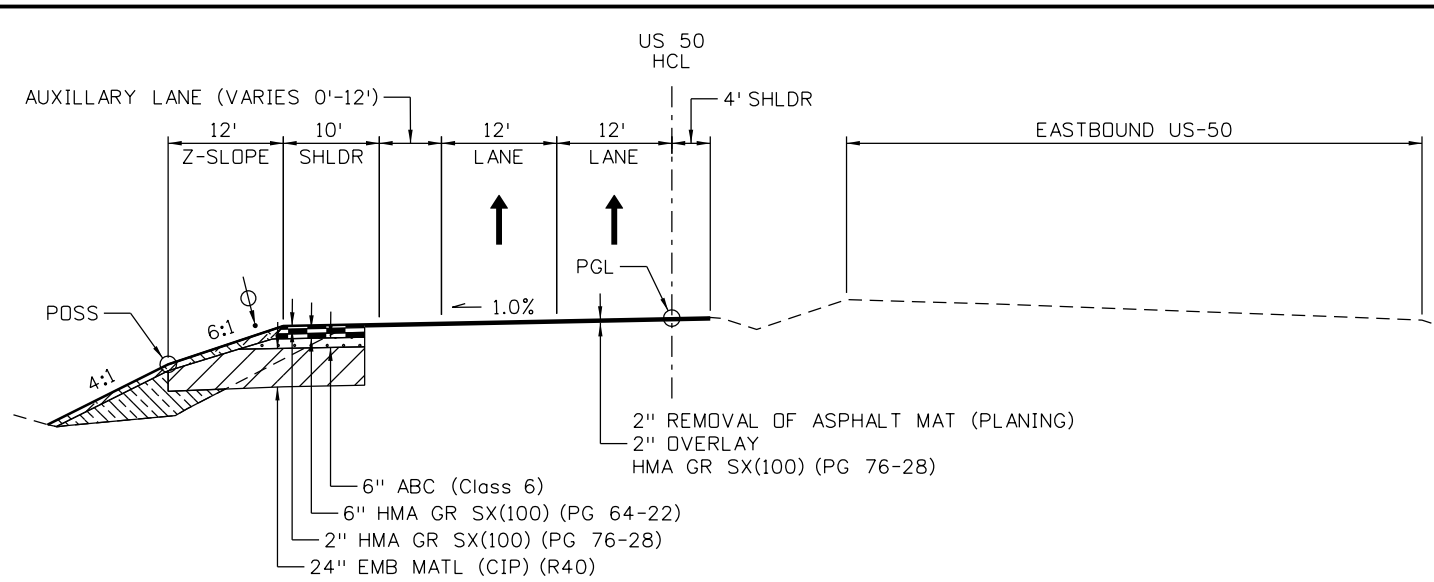
GENERAL NOTES

1. For final plan quantities of pavement materials, the following rates of application were used:
 Hot Mix Asphalt@ 110 Lbs./Sq. Yd./Inch
 Aggregate Base Course Class 6@ 133 Lbs./Cu. Ft.
 Emulsified Asphalt (Slow Setting)@ 0.05 Gal/Sq. Yd. (Diluted)
 Rates of application shall be determined by the engineer at the time of application.
2. Water shall be used as a dust palliative where required. Locations shall be as directed by the Engineer. Included in cost of work.
3. The following shall be furnished with each Hot Mix Asphalt paver:
 A ski type device at least 30 Feet in length.
 Short ski or shoe.
 200 Feet of control line and stakes.
 Any layer of Hot Mix Asphalt pavement that is to have a succeeding layer placed thereon shall be completed full width before succeeding layer is placed.
4. Roadway smoothness for this project shall be MRI Category II.
5. The Contractor shall not park any vehicles or equipment in, or disturb any areas not approved by the Engineer.
6. Millings shall become property of the Contractor.
7. Prior to placing Hot Mix Asphalt pavement, the paved surface shall be swept and cleaned. This will not be paid for separately, but shall be included in the cost of the Hot Mix Asphalt Pavement item.
8. The top mat shall be 2" thick and shall be completed to full width of the roadway, which will include the existing and widened highway, unless noted otherwise.
9. Where cutting of asphalt is required such as where new pavement is to abut existing pavement, the cutting shall be done to a neat work line with a saw or cutting wheel as approved by the engineer. This will not be paid for separately, but shall be included in the Hot Mix Asphalt Pavement item.
10. The saw cut line shall be a minimum of 1 ft. from edge of existing roadway.
11. Depth of moisture-density control for this project shall be as follows:
 Full depth of all embankments:
 Bases of cuts and fills 1.0 Feet.
 Full depth of embankment sections used for ditches and channel changes.
12. Excavation required for compaction of bases of cuts and fills will be considered as subsidiary to that operation and will not be paid for separately.
13. Proof rolling is part of work, and shall not be paid for separately.
14. The minimum thickness of topsoil shall be 4 Inches.
15. Sulfate exposure on this project is Class 2.
16. It is estimated that **1 LS Clearing and Grubbing** will be required for this project.
17. It is estimated that **53 EA Removal of delineators** will be required for this project.
18. It is estimated that **17,200 LF of Rumble Strip** will be required for this project.
19. It is estimated that a **Field Office (Class 2) - 1 EA** and a **Field Laboratory (Class 2) - 1 EA** will be required on this project.
20. It is estimated that **Sanitary Facility - 2 EA** will be required on this project. Maintenance of sanitary facility shall include a cleaning at least twice a week. This cleaning will not be paid for separately but will be included in the cost of Sanitary Facility.
21. It is estimated that **1 LS Construction Surveying** will be required for this project.
22. It is estimated that **1 LS Public Information Services (Tier III)** will be required for this project.
23. The Contractor shall be responsible to maintain drainage during work.
24. Any rework of materials shall be completed at the Contractor's expense.
25. The Contractor shall protect all existing survey monumentation, designated to remain, from damage during construction operations. Any monuments disturbed by the Contractor that are not designated for relocation, shall be reset at the Contractor's expense Each bench mark to be protected by the

- contractor if damaged is estimated at \$50,000 each. The Contractor shall provide a temporary fence around each bench mark. The Contractor and Engineer shall note those monuments in the field prior to construction. See Tabulation of Survey.
26. All material generated within the project limits shall be removed from the project site at no cost to the project unless specified by the plans.
27. Utility lines as shown on the plan sheets are plotted from the best available information. However, J. F. Sato and Associates makes no guarantee as to the accuracy and completeness of the utilities. It is the Contractor's responsibility to field-verify the location of all utilities prior to the start of construction. The Contractor must call the Utility Notification Center Colorado at least two (2) business days, not including the actual day of notice, before any excavation to request the exact field locations of the utilities.
28. All work that pertains to, or otherwise involves, Pueblo Water will be subject to on site observation by Pueblo Water personnel. Contractor shall contact Pueblo Water's Service Department at 719-543-2217 in advance of any activity that is relevant to infrastructure operated by Pueblo Water in order to schedule an observation.
29. All work such as excavation and proposed storm sewer work, in the vicinity of the waste water utility, shall be subject to observation by a waste water inspector. Contractor shall contact Dennis Wells at the City's Waste Water Department (719-320-2904) at least 30 days in advance of any such work.
30. It is estimated that **100 hours** will be required for **potholing**. The contractor will be responsible for contacting and coordinating with the appropriate utility representatives to be onsite during potholing, and shall likewise be responsible for determining the type and location of underground utilities as necessary to avoid damage thereto.
31. All utility related work to be completed by the Contractor shall be paid for as **F/A Adjust Utility**. It is expected that this work will include provision of construction traffic control for utility work (if necessary, removal of existing water service line and construction of new water service line.
32. The Contractor shall repair or replace at his expense any existing signs damaged by the Contractor.
33. The Contractor shall adhere to all load limit requirements for all roads upon which materials are delivered to the project.
34. The Contractor shall limit construction activities to those areas within the limits of disturbance and toes of slopes as shown on the plans and cross sections. The Contractor at his own expense shall restore any disturbance beyond these limits to original condition. Construction activities, in addition to normal construction procedures, shall include the parking of vehicles or equipment, disposal of litter, haul roads and any other action, which would alter existing conditions.
35. Compaction shall be AASHTO T-99 for Unclassified Excavation (CIP) and AASHTO T-180 for Aggregate Base Course (Class 6).
36. The project within City of Pueblo limits will be subject to the City of Pueblo Use Tax.
37. It is estimated that 6 FASTER signs will be required for this project. These signs are to be placed at all entries into the project 100 ft before the first construction sign, and shall be paid for as Construction Traffic Sign (Special). These signs have not been shown in the construction plans.
38. Pavement sections are based on 2 ft of (minimum) R40 material for subgrade.
39. The existing US 50 WB bridge (Structure K-18-AC) may contain asbestos and/or lead based materials, and shall be handled as per Section 250 of the Standard Specifications. Payment for all work and materials necessary to conform to Section 250 shall be paid for under the Force Account - Removal of Asbestos and Lead Based Paint.

Print Date: 3/8/2017	0000	Sheet Revisions			 Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2	As Constructed	US 50 WEST WESTBOUND GENERAL NOTES			Project No./Code
File Name: 20344DES_GenNotes01.dgn		Date:	Comments	Init.		No Revisions:				STA 0503-085
Horiz. Scale: 1:1 Vert. Scale:						Revised:	Designer: ACE	Structure Numbers		20344
 J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120					Void:	Detailer: ACE		Sheet Number	3	
						Subset: GenNotes	Subset Sheets: 01 of 01			

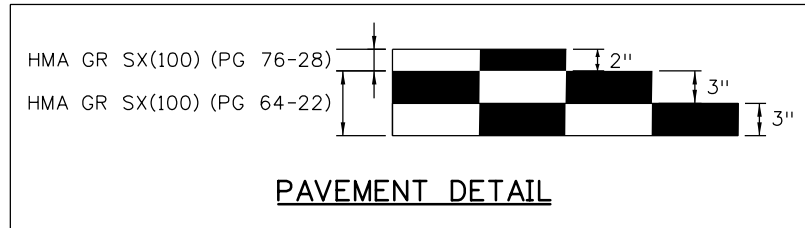
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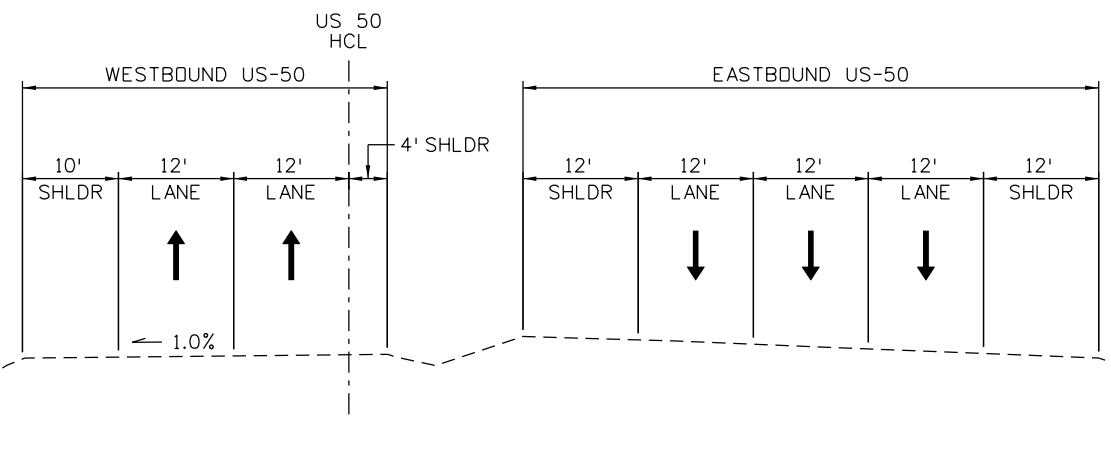
LEGEND

	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
	HCL Horizontal Control Line
	PGL Profile Grade Line
	See Roadway Profile for Cross-slope information

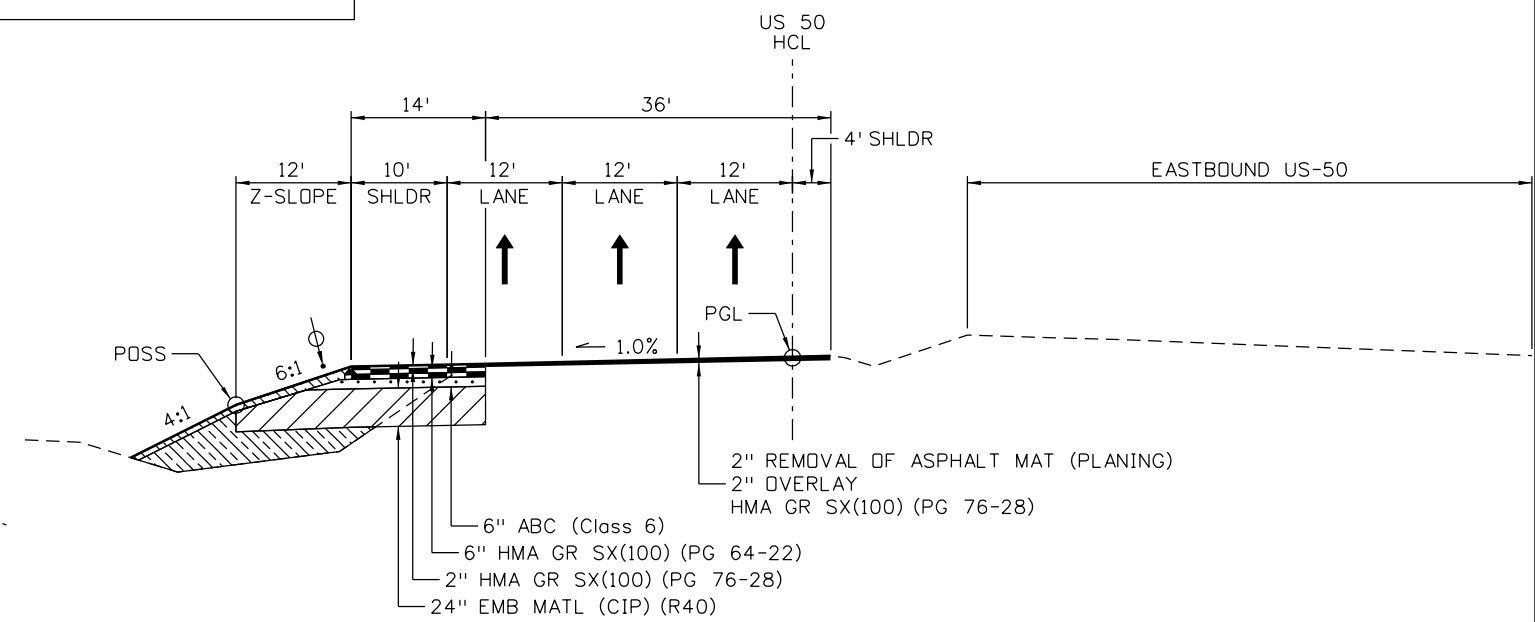
US 50 TYPICAL SECTION
STA 507+37.86 TO STA 510+37.86



US 50 TYPICAL SECTION
STA 514+00.00 TO STA 516+37.86



US 50 EXISTING SECTION
APPROACH TO PROJECT



US 50 TYPICAL SECTION
STA 510+37.86 TO STA 514+00.00

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File Name: 20344DES_TypSect01.dgn
Horiz. Scale: 1:20 Vert. Scale: As Noted

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

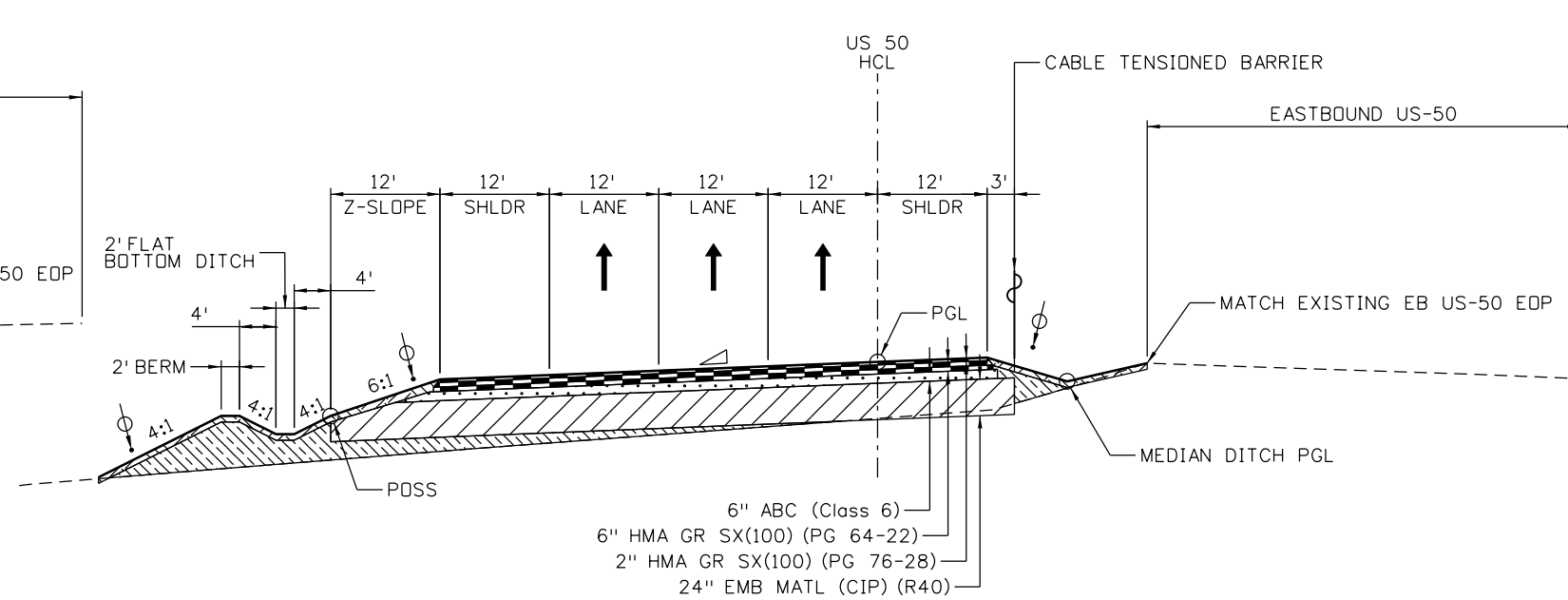
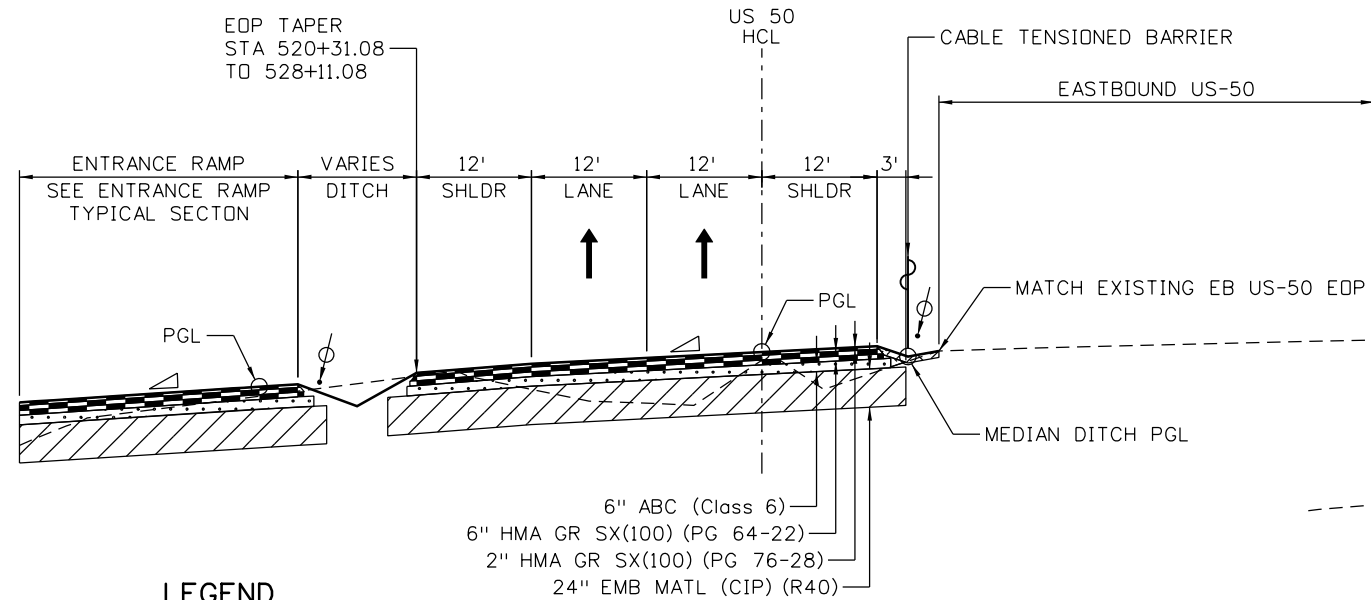
As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND TYPICAL SECTIONS US 50			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TS	Subset Sheets: 1 of 9	

Project No./Code
STA 0503-085
20344
Sheet Number 4

JFS & A
J. F. SATO AND ASSOCIATES
5898 South Rapp Street
Littleton, Colorado 80120

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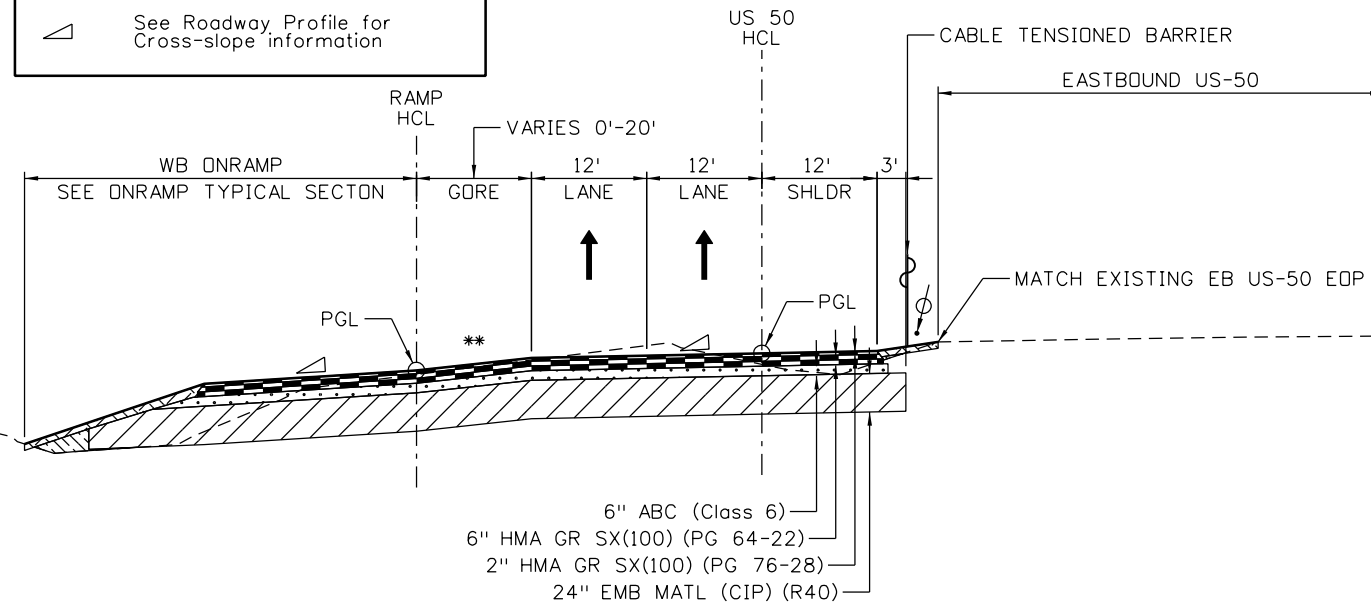


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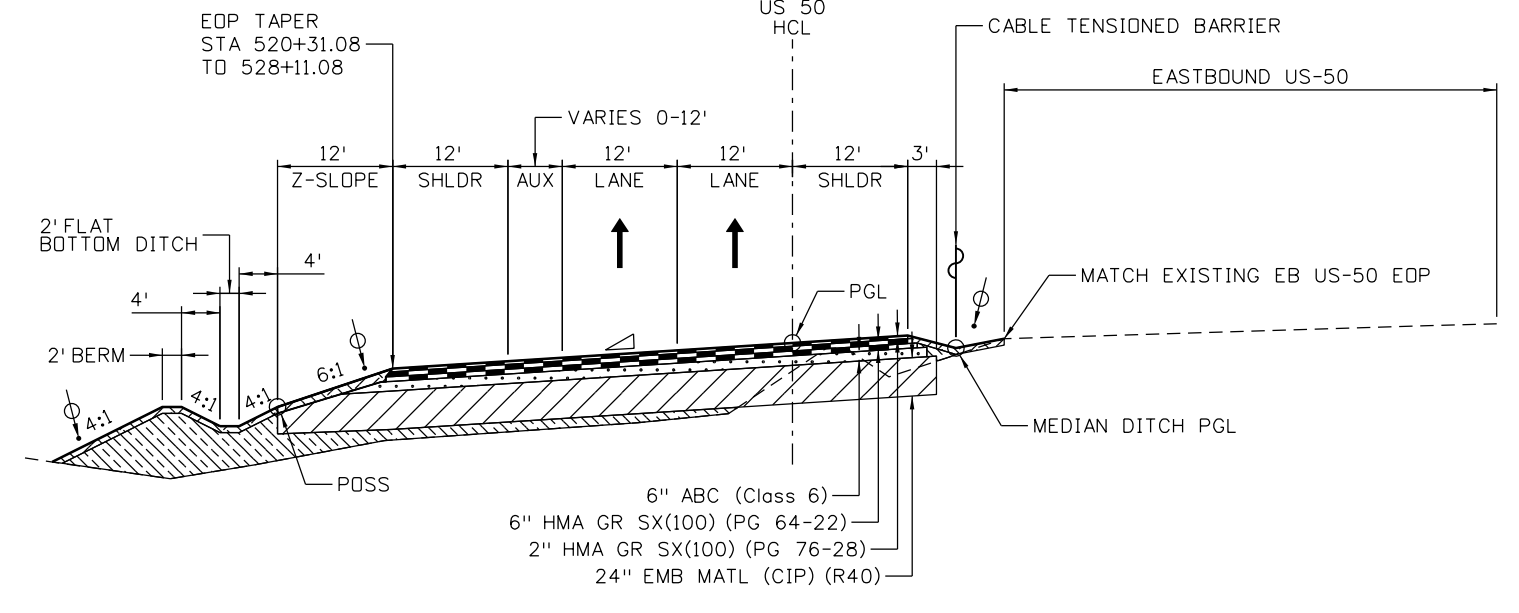
	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
	HCL Horizontal Control Line
	PGL Profile Grade Line
	See Roadway Profile for Cross-slope information

US 50 TYPICAL SECTION
STA 519+88.09 TO STA 521+67.65

US 50 TYPICAL SECTION
STA 528+11.08 TO STA 532+20.00



US 50 TYPICAL SECTION
STA 516+37.86 TO STA 519+88.09



US 50 TYPICAL SECTION
STA 521+67.65 TO STA 528+11.08

Print Date: 3/8/2017
File Name: 20344DES_TypSect02.dgn
Horiz. Scale: 1:20 Vert. Scale: As Noted

Sheet Revisions		
Date:	Comments	Init.

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 Pueblo, CO 81001
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 Region 2 DTD

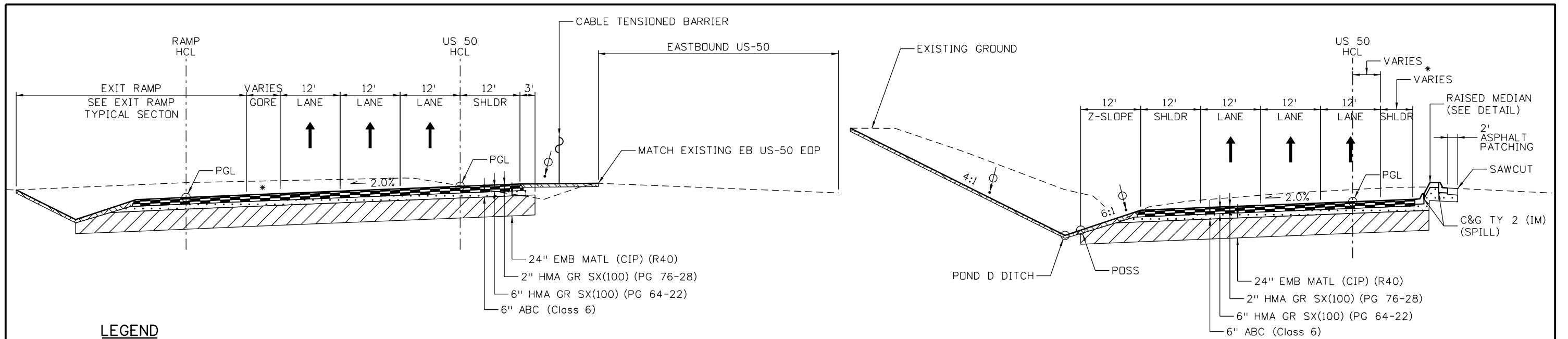
As Constructed
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Revised:
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US 50 WEST WESTBOUND TYPICAL SECTIONS			
US 50			
Designer:	ACE	Structure	
Detailer:	ACE	Numbers	
Subset:	TS	Subset Sheets: 2	of 9

Project No./Code
STA 0503-085
20344
Sheet Number 5

JFS & A
 J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

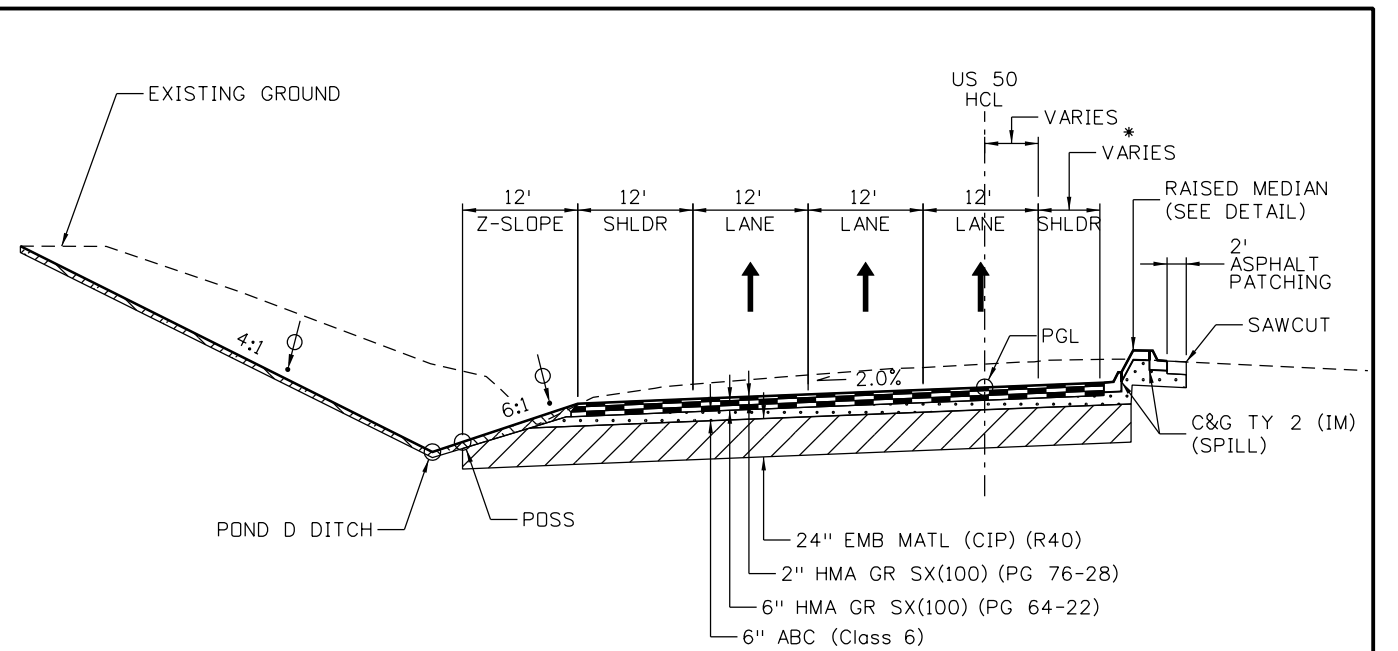
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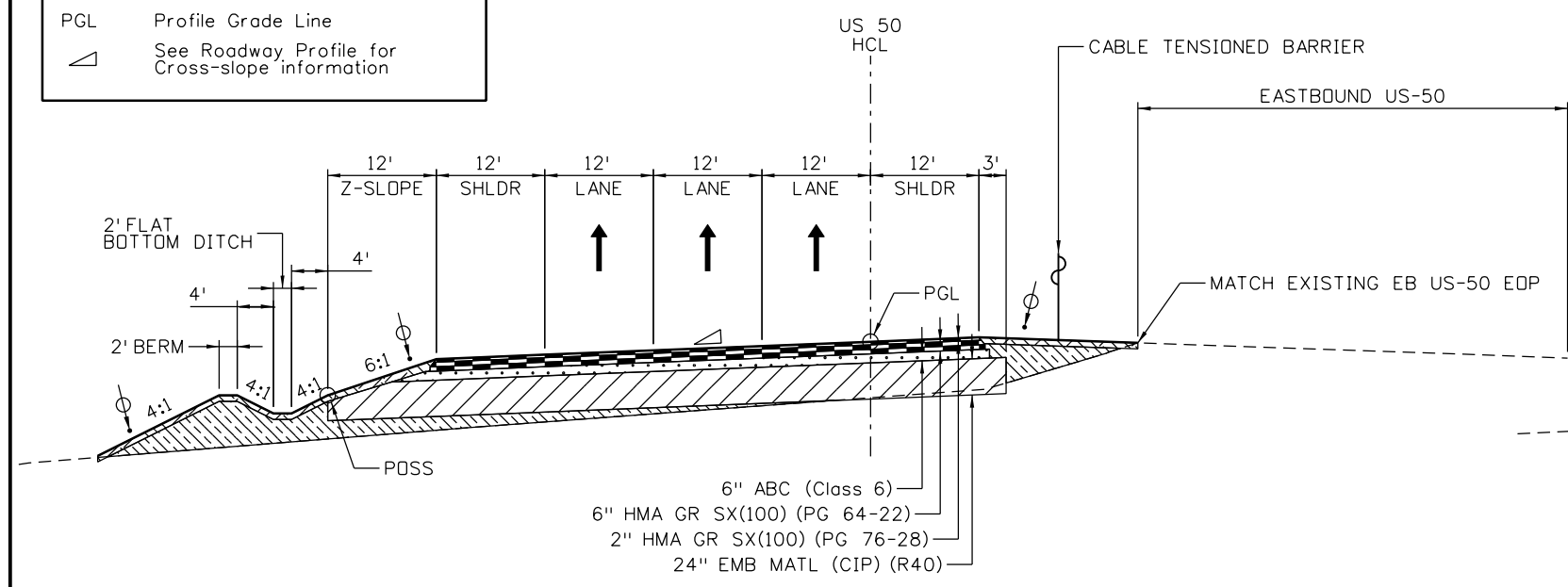
LEGEND

	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
HCL	Horizontal Control Line
PGL	Profile Grade Line
	See Roadway Profile for Cross-slope information

US 50 TYPICAL SECTION
 STA 570+79.86 TO STA 573+92.78
 * GORE SLOPE VARIES. SEE GORE DETAIL

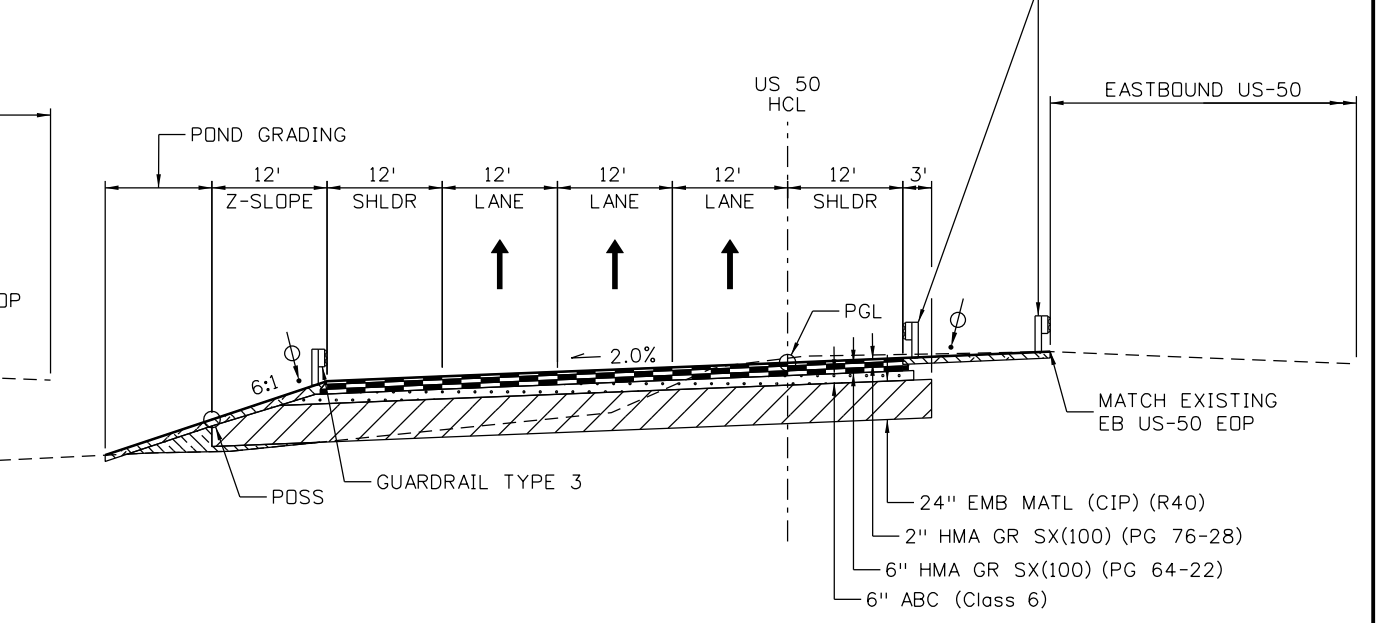


US 50 TYPICAL SECTION
 STA 582+93.06 TO STA 583+60.00
 * 13' LANE SHIFT TAPER
 SHOULDER WIDTH TRANSITION FROM 14.17' TO 1.17'
 STA 582+93.06 TO STA 590+08.06



US 50 TYPICAL SECTION
 STA 532+20.00 TO STA 552+71.49
 STA 553+52.77 TO STA 570+79.86

SEE PUEBLO BLVD TYPICAL SECTIONS FOR
 STA 552+71.49 TO 553+52.77.
 SEE EXIT RAMP TYPICAL SECTIONS FOR
 STA 570+79.86 TO STA 573+92.78.



US 50 TYPICAL SECTION
 STA 573+92.78 TO STA 577+68.60
 STA 579+62.46 TO STA 582+93.06

Print Date: 3/8/2017
 File Name: 20344DES_Typ1Sect03.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted

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CDOT
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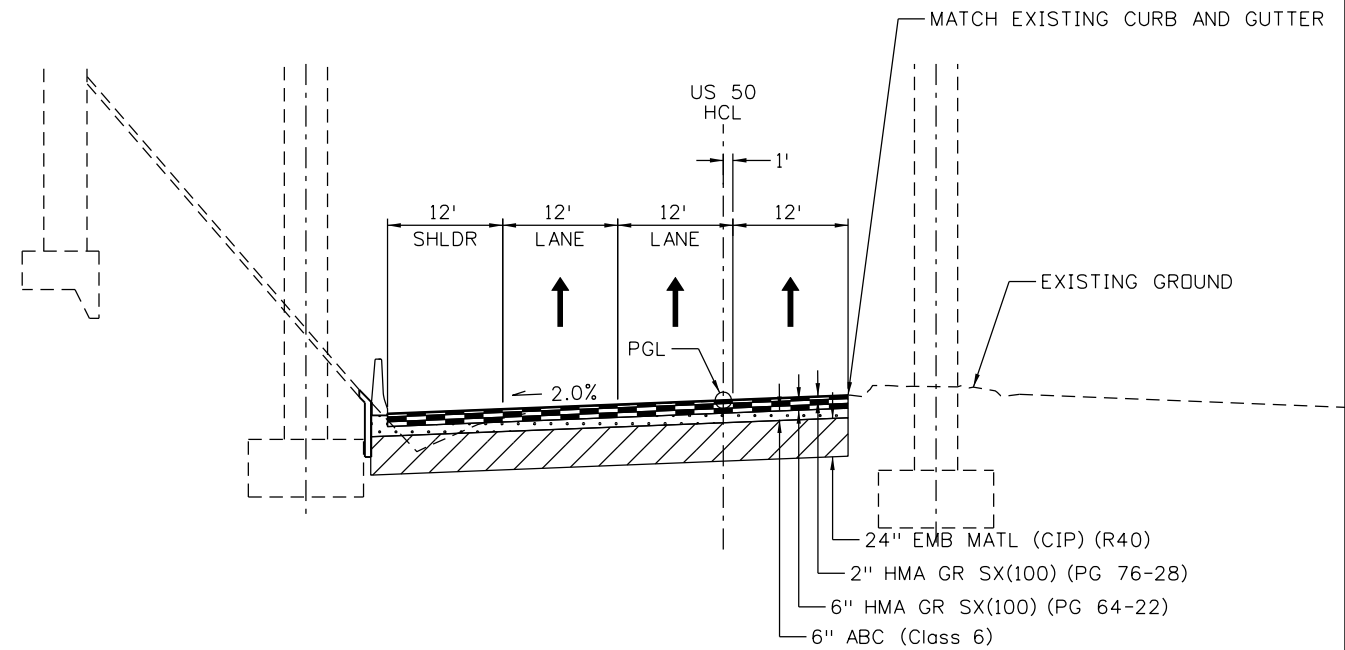
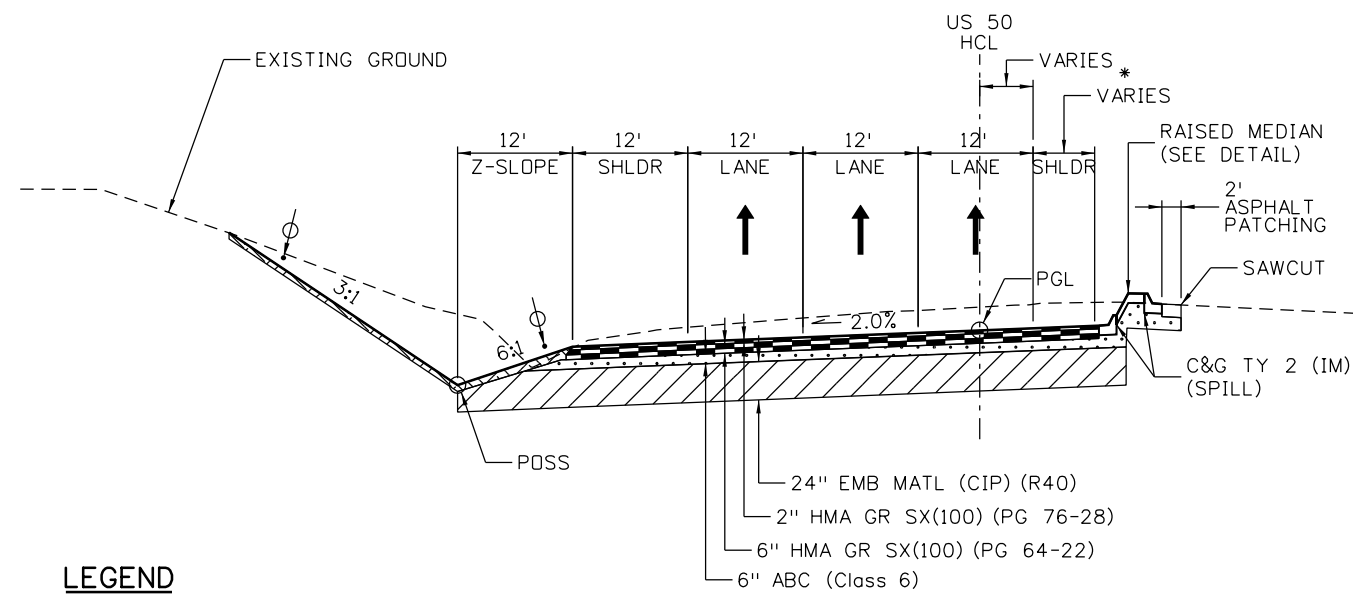
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND TYPICAL SECTIONS US 50			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TS	Subset Sheets: 3 of 9	

Project No./Code	STA 0503-085
	20344
Sheet Number	6

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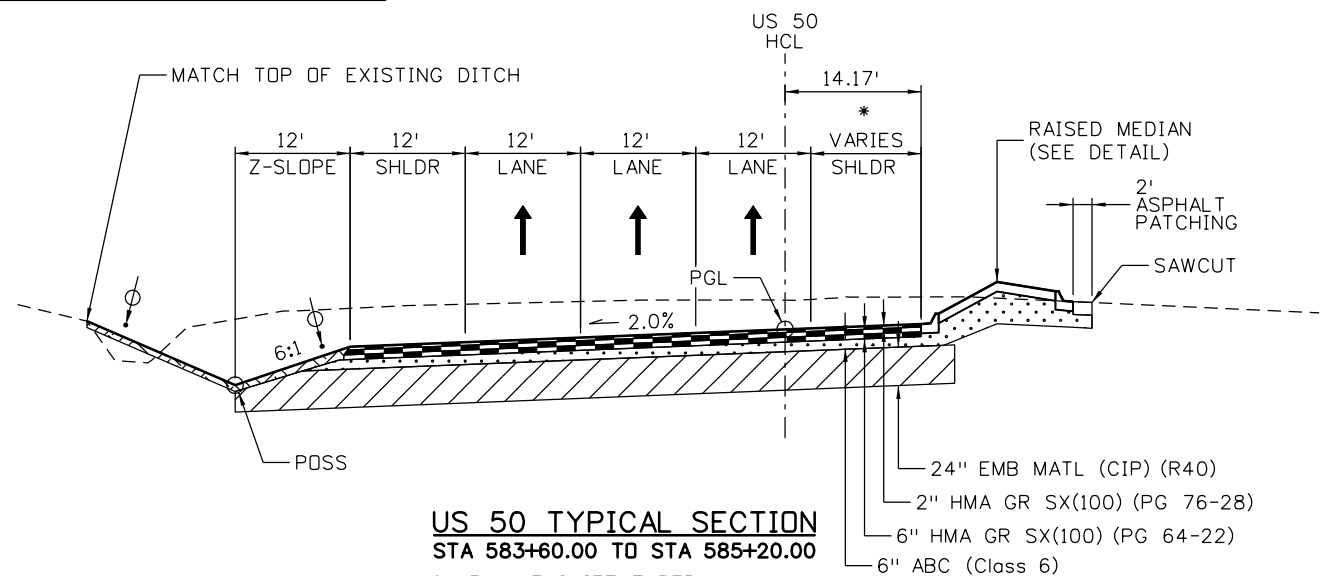
LEGEND

	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
HCL	Horizontal Control Line
PGL	Profile Grade Line
	See Roadway Profile for Cross-slope information

**US 50 TYPICAL SECTION
STA 585+20.00 TO STA 591+61.16**

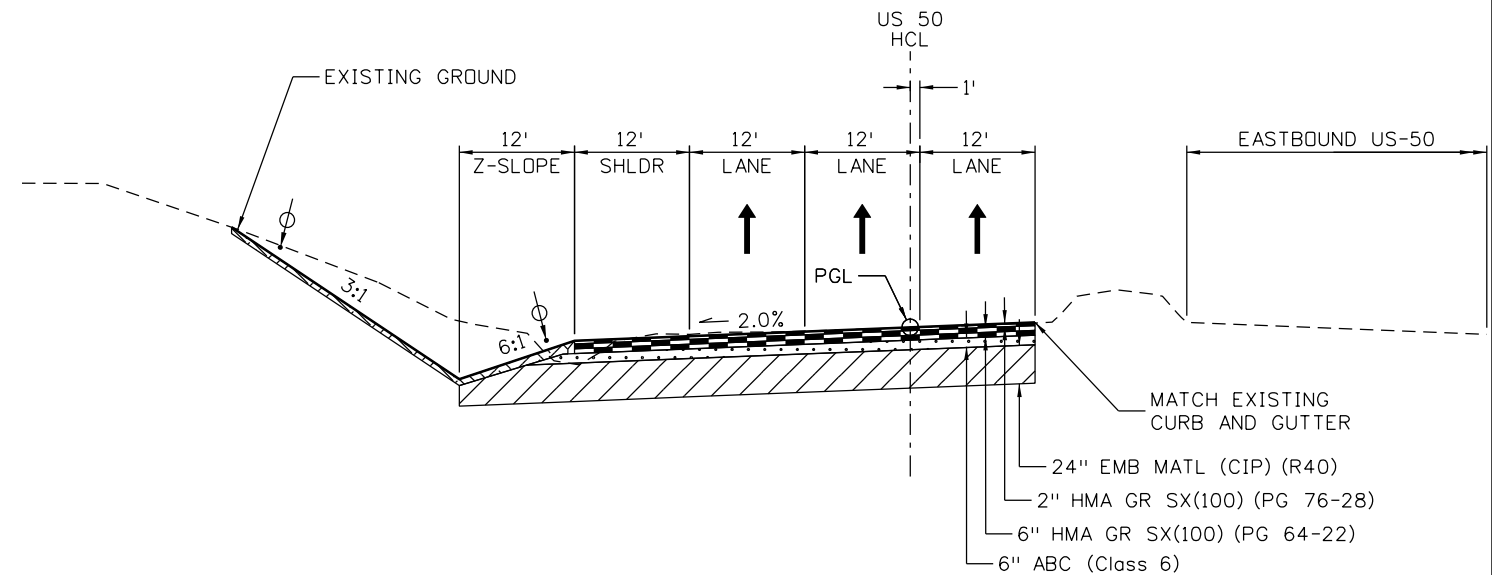
* 13' LANE SHIFT TAPER
SHOULDER WIDTH TRANSITION FROM 14.17' TO 1.17'
STA 582+93.06 TO STA 590+08.06

**US 50 TYPICAL SECTION
STA 593+34.90 TO STA 594+72.93**



**US 50 TYPICAL SECTION
STA 583+60.00 TO STA 585+20.00**

* 13' LANE SHIFT TAPER
SHOULDER WIDTH TRANSITION FROM 14.17' TO 1.17'
STA 582+93.06 TO STA 590+08.06



**US 50 TYPICAL SECTION
STA 591+61.16 TO STA 593+34.91**

Print Date: 3/8/2017
File Name: 20344DES_TypSect04.dgn
Horiz. Scale: 1:20 Vert. Scale: As Noted

Sheet Revisions		
Date:	Comments	Init.

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 Region 2 DTD

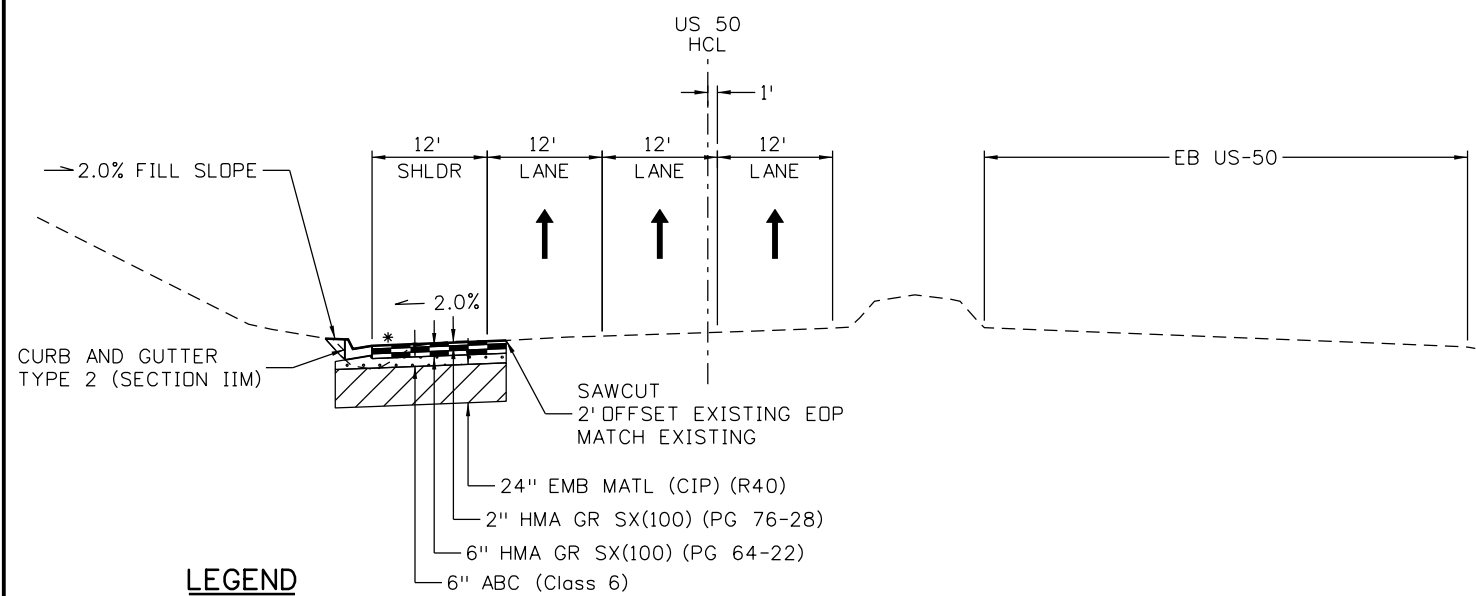
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Revised:
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Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TS	Subset Sheets: 4 of 9	

Project No./Code
STA 0503-085
20344
Sheet Number 7

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 5898 South Rapp Street
 Littleton, Colorado 80120

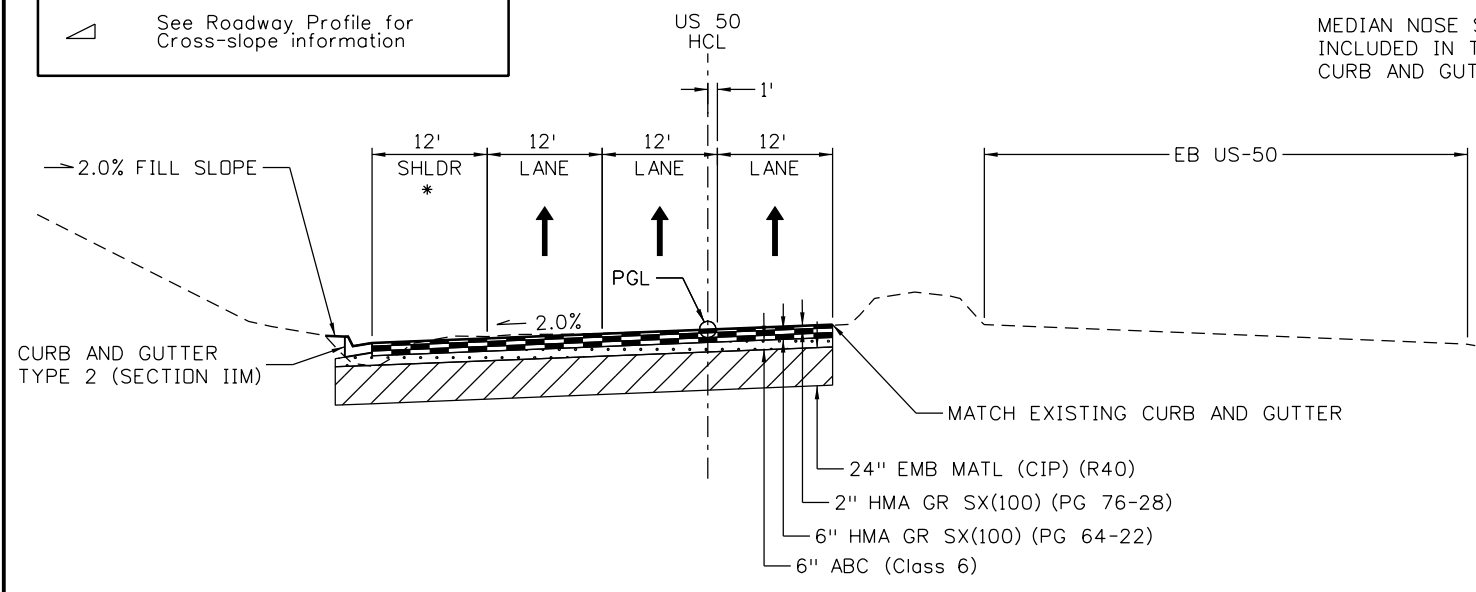
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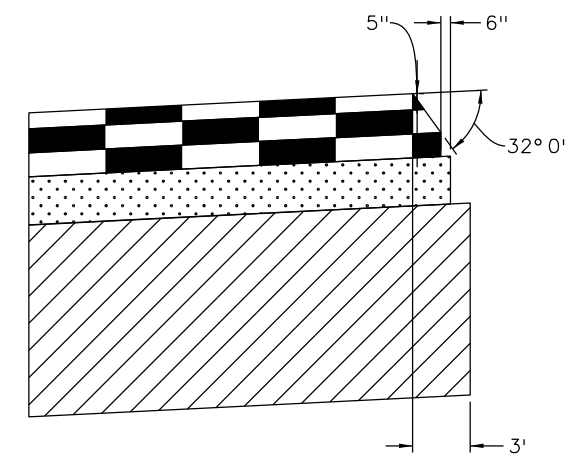
LEGEND

	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
	HCL Horizontal Control Line
	PGL Profile Grade Line
	See Roadway Profile for Cross-slope information

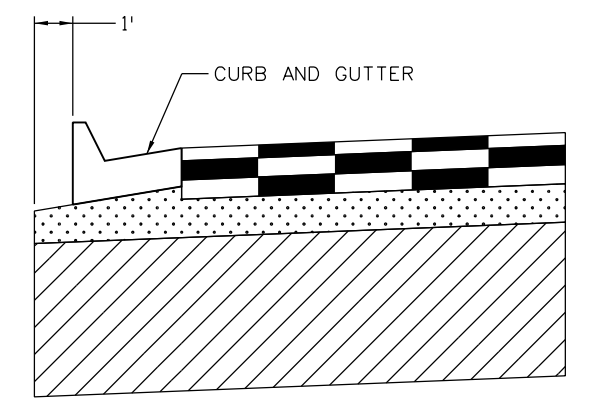
US 50 TYPICAL SECTION
 STA STA 595+80.02 TO STA 597+86.85
 * NEW CONSTRUCTION WIDTH TRANSITIONS FROM 14' TO 2' (INCLUDING SAWCUT)



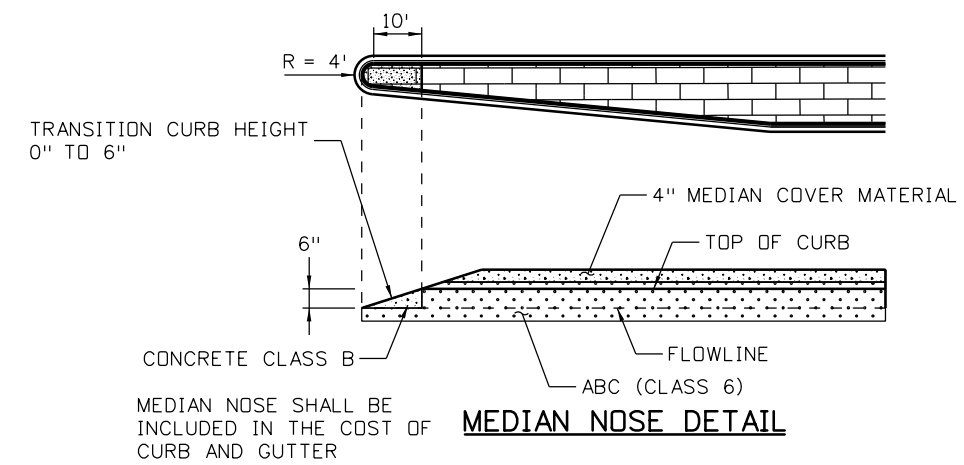
US 50 TYPICAL SECTION
 STA 594+72.93 TO STA 595+80.02
 * SHOULDER 10' STA 594+72.93 TO STA 595+42.20,
 SHOULDER TRANSITION 10' TO 12', STA 595+42.20 TO 596+42.20



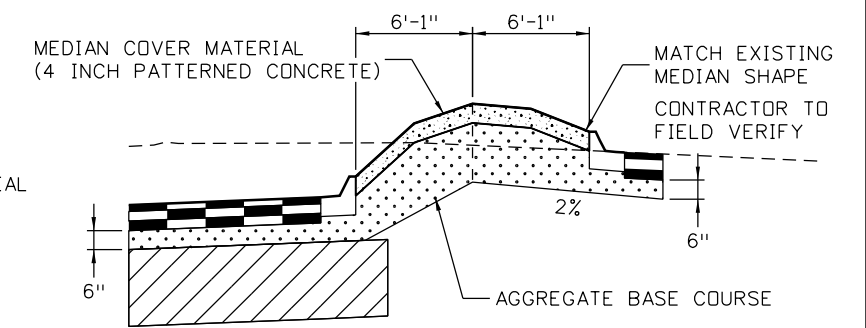
SAFETY EDGE DETAIL MEDIAN



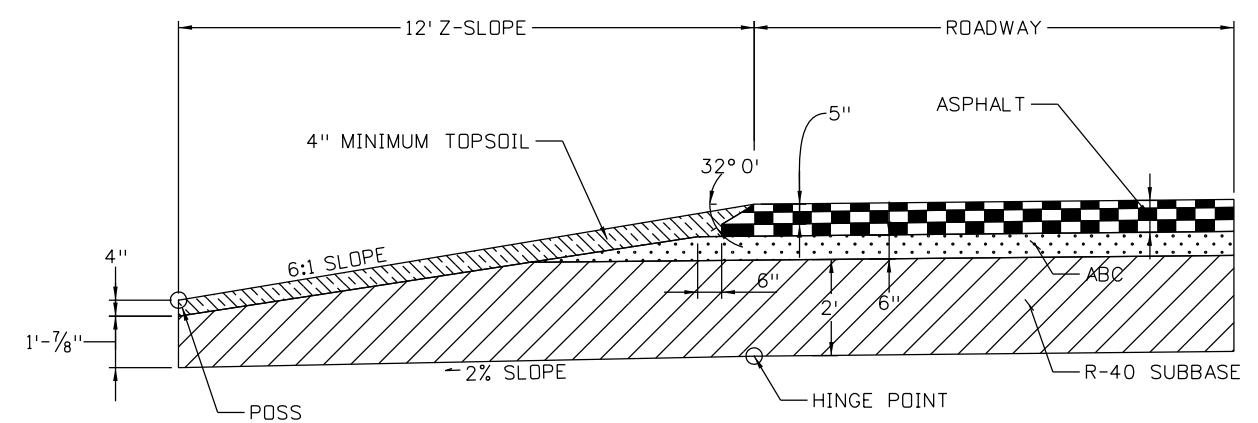
CURB AND GUTTER DETAIL



MEDIAN NOSE DETAIL



RAISED MEDIAN DETAIL



SAFETY EDGE DETAIL OUTSIDE

Print Date: 3/8/2017
 File Name: 20344DES_TypSect05.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted

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 5898 South Rapp Street
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Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

CDOT
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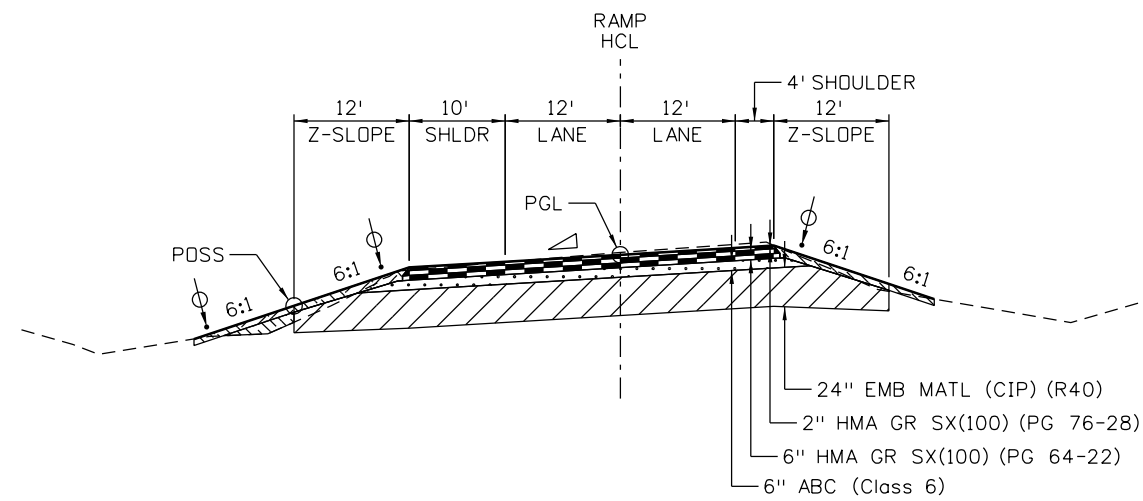
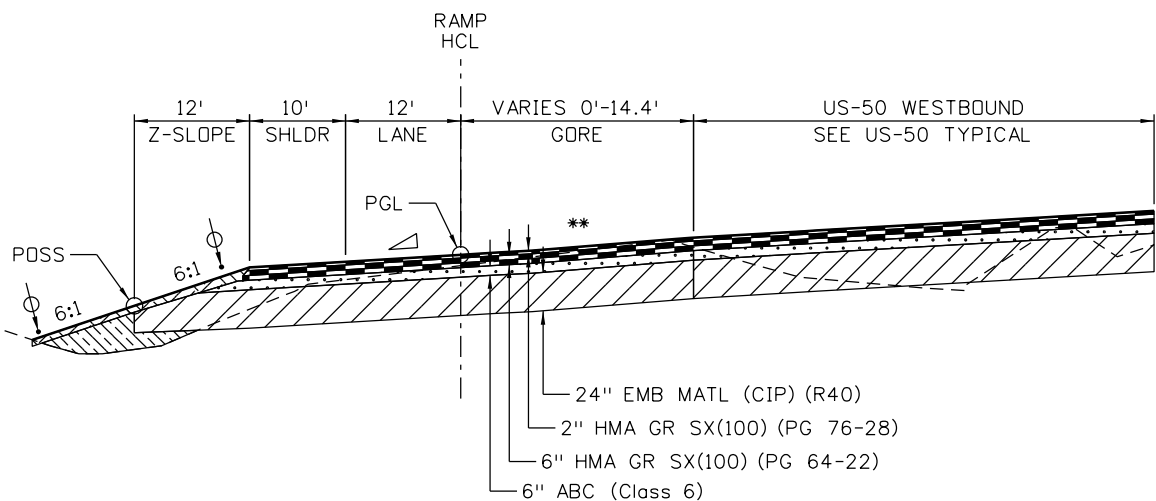
Region 2 DTD

As Constructed	No Revisions:
Revised:	
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Detailer:	ACE		
Subset:	TS	Subset Sheets: 5 of 9	

Project No./Code	STA 0503-085
	20344
Sheet Number	8

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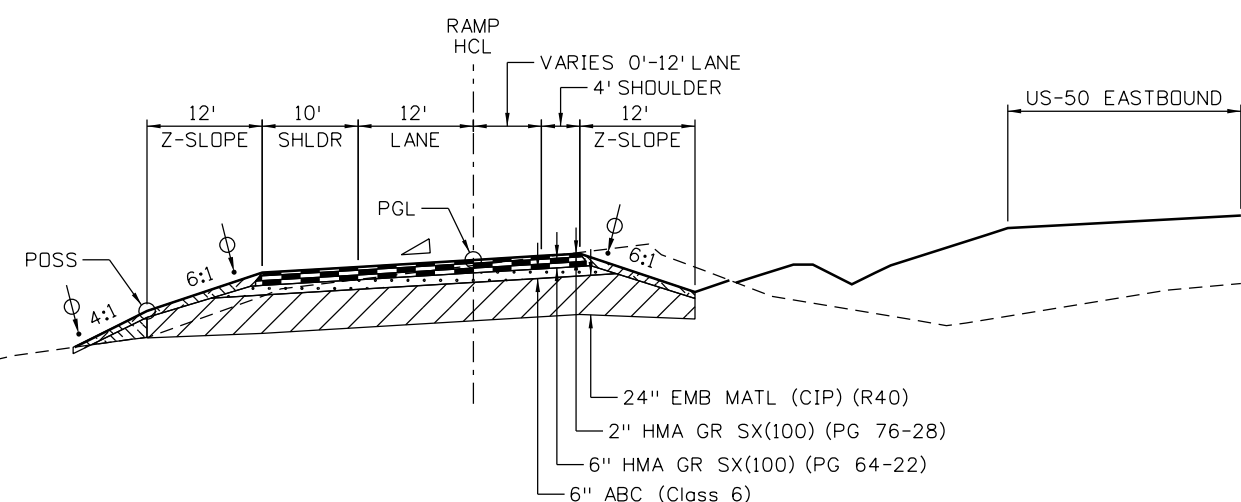
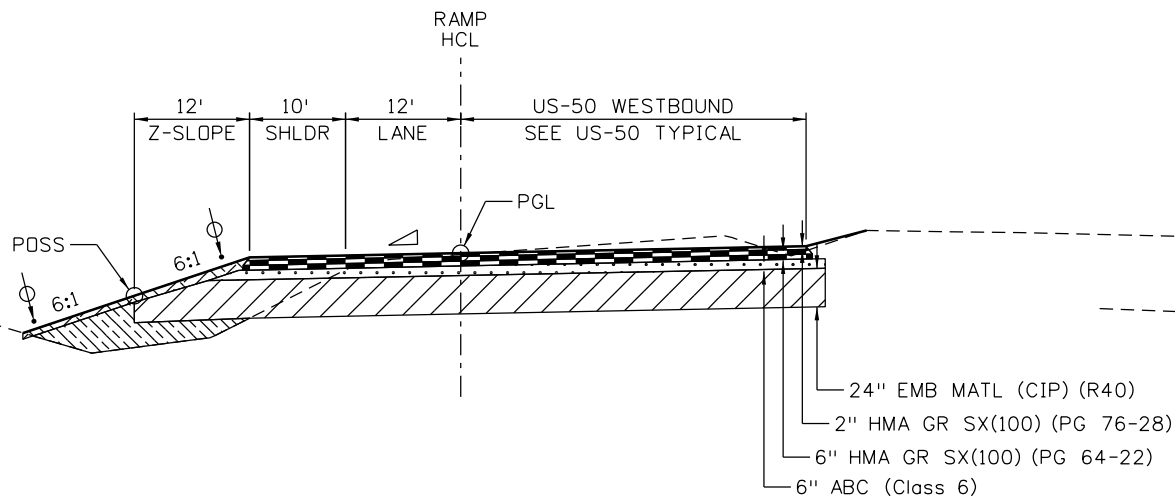


LEGEND

	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
	HCL Horizontal Control Line
	PGL Profile Grade Line
	See Roadway Profile for Cross-slope information

ENTRANCE RAMP TYPICAL SECTION
 STA 402+37.86 TO STA 405+24.64
 ** GORE SLOPE VARIES

ENTRANCE RAMP TYPICAL SECTION
 STA 410+64.64 TO STA 411+68.13



ENTRANCE RAMP TYPICAL SECTION
 STA 400+00.00 TO STA 402+37.86

ENTRANCE RAMP TYPICAL SECTION
 STA 405+24.64 TO STA 410+64.64

Print Date: 3/8/2017
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 5898 South Rapp Street
 Littleton, Colorado 80120

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Date:	Comments	Init.

Colorado Department of Transportation

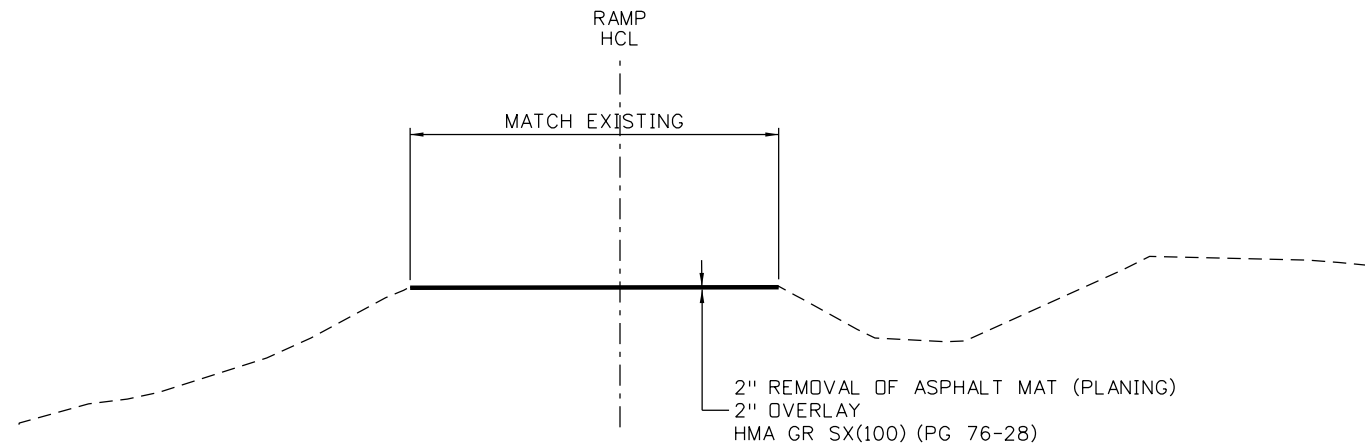
CDOT
 902 Erie Avenue
 Pueblo, CO 81001
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Region 2 DTD

As Constructed	US 50 WEST WESTBOUND TYPICAL SECTIONS ENTRANCE RAMP	
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Revised:	Detailer: ACE	
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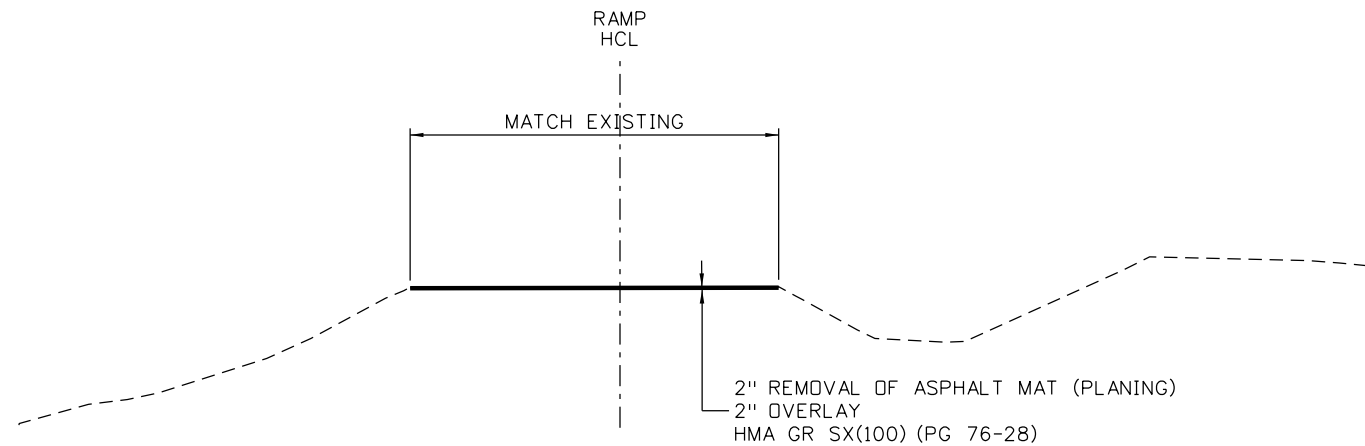
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	20344
Sheet Number	9

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EXIT RAMP TYPICAL SECTION
STA 441+00 TO STA 445+30.00

NOTE: STA 439+88.00 TO STA 441+00 COVERED IN PUEBLO BLVD TYPICAL SECTIONS



ENTRANCE RAMP TYPICAL SECTION
STA 411+68.13 TO STA 439+88.00

LEGEND


	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
HCL	Horizontal Control Line
PGL	Profile Grade Line
	See Roadway Profile for Cross-slope information

Print Date: 3/8/2017
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Sheet Revisions

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 Pueblo, CO 81001
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 Region 2 DTD

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No Revisions:
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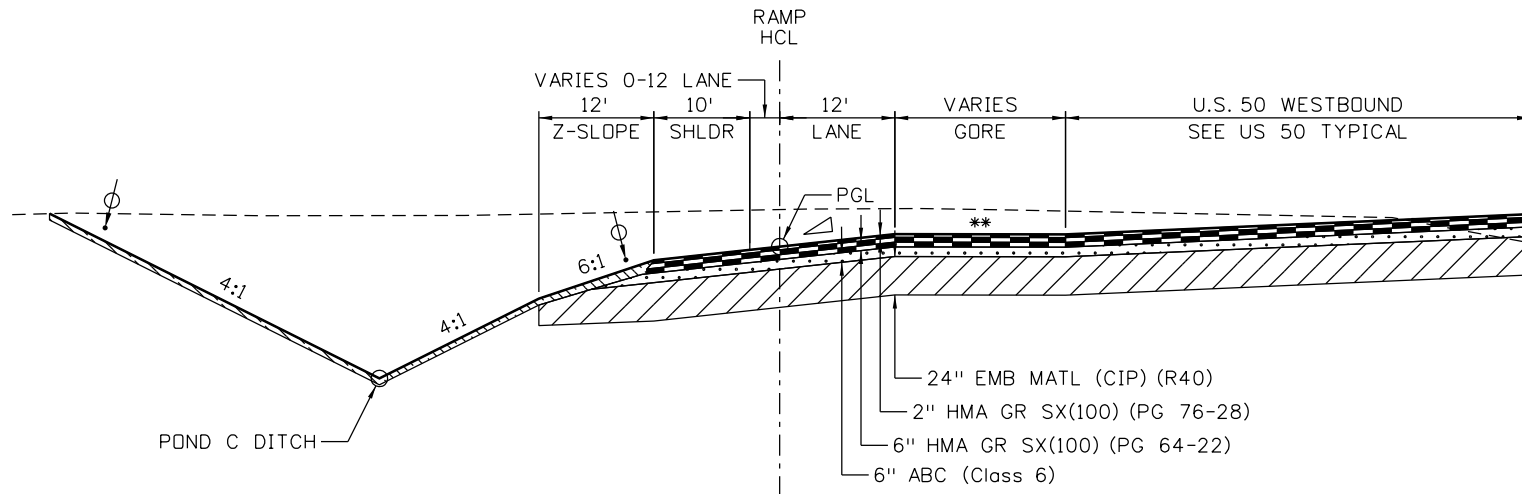
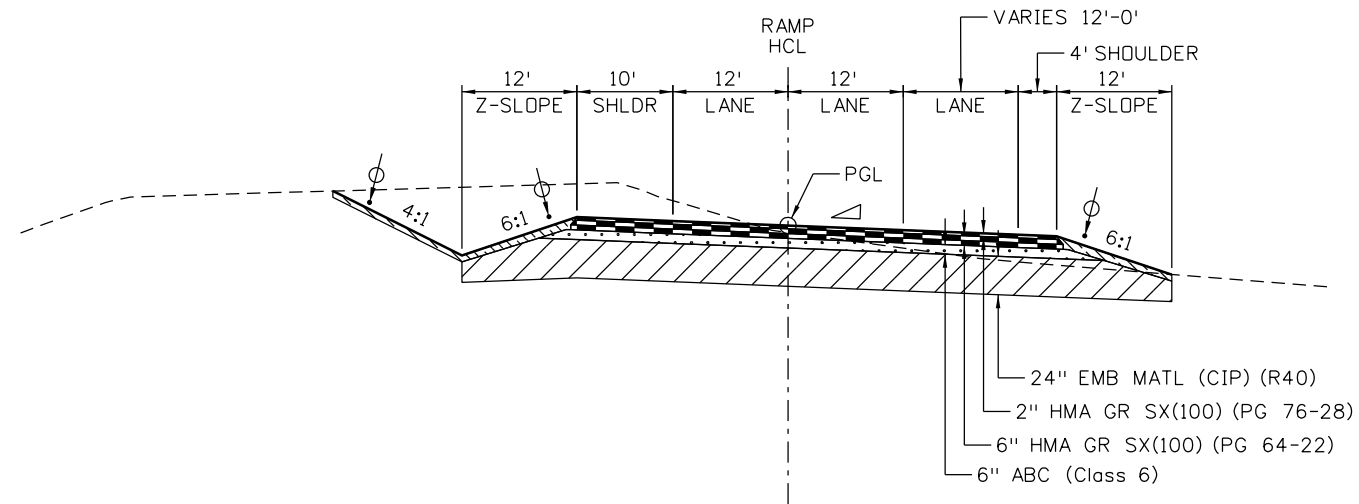
**US 50 WEST WESTBOUND
TYPICAL SECTIONS
ENTRANCE & EXIT RAMPS**

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TS	Subset Sheets: 7 of 9	

Project No./Code

STA 0503-085
20344
Sheet Number 10

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 5898 South Rapp Street
 Littleton, Colorado 80120

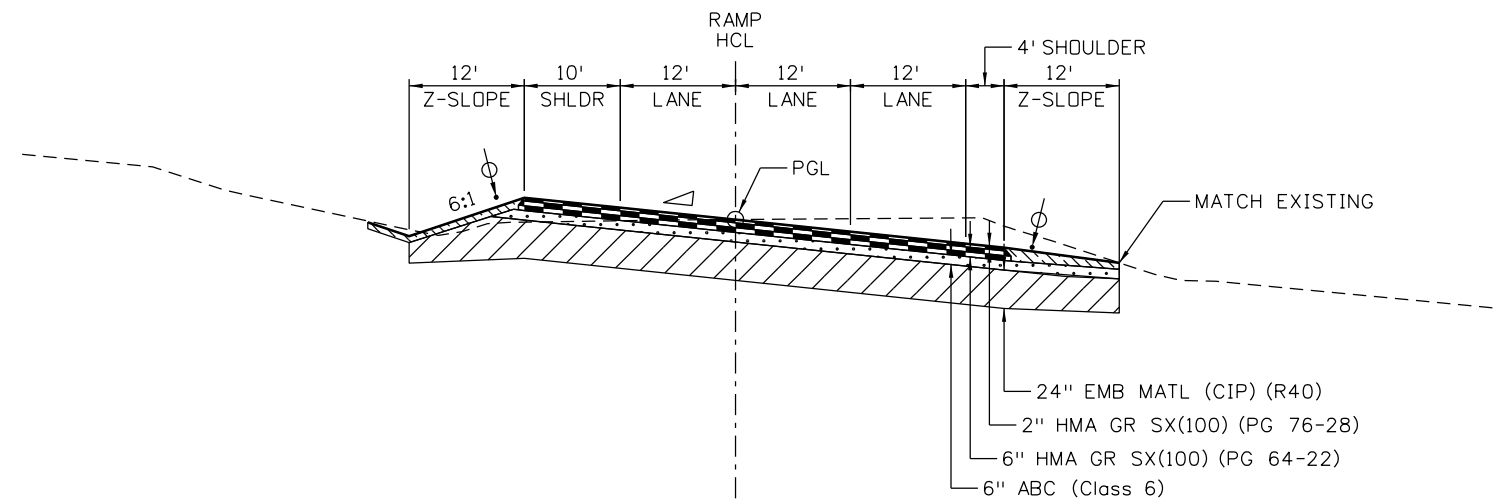


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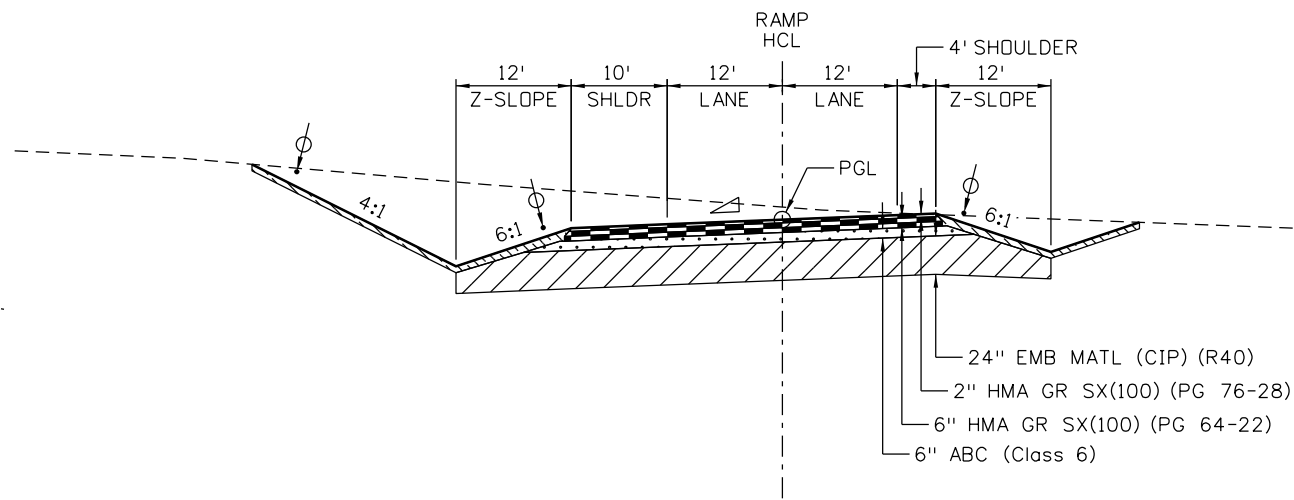
	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
HCL	Horizontal Control Line
PGL	Profile Grade Line
	See Roadway Profile for Cross-slope information

EXIT RAMP TYPICAL SECTION
STA 450+13.94 TO STA 451+63.94

EXIT RAMP TYPICAL SECTION
STA 455+77.80 TO STA 460+94.40
** GORE SLOPE VARIES



EXIT RAMP TYPICAL SECTION
STA 445+30.00 TO STA 450+13.94



EXIT RAMP TYPICAL SECTION
STA 451+63.94 TO STA 455+77.80

Print Date: 3/8/2017
File Name: 20344DES_TypSect08.dgn
Horiz. Scale: 1:20 Vert. Scale: As Noted

Sheet Revisions		
Date:	Comments	Init.

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

As Constructed
No Revisions:
Revised:
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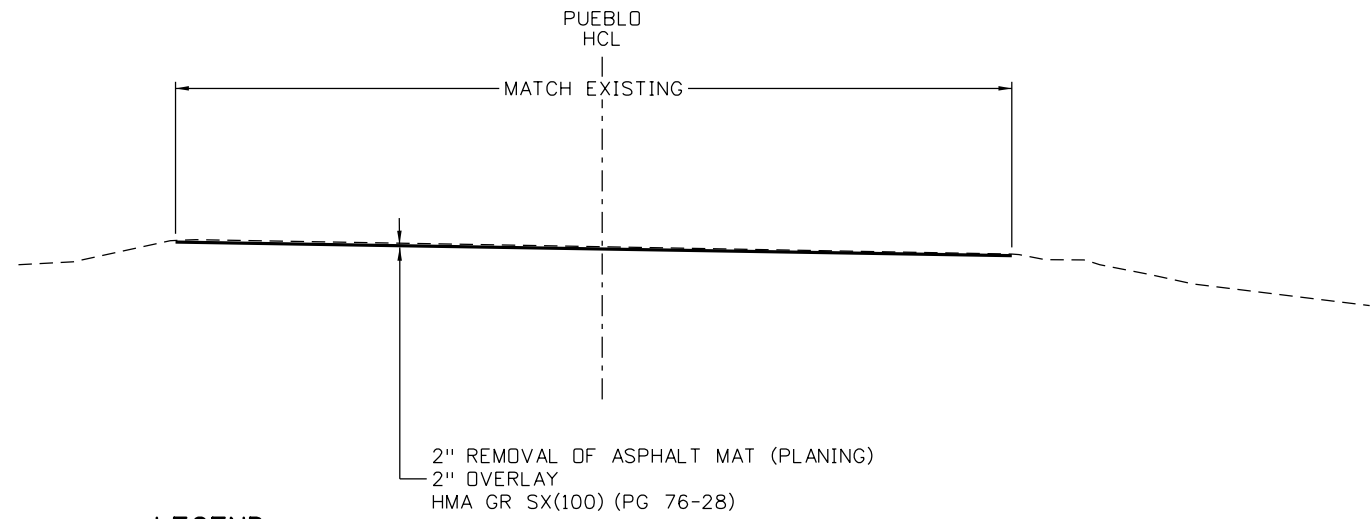
US 50 WEST WESTBOUND TYPICAL SECTIONS EXIT RAMP			
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Detailer:	ACE		
Subset:	TS	Subset Sheets: 8 of 9	

Project No./Code
STA 0503-085
20344
Sheet Number 11

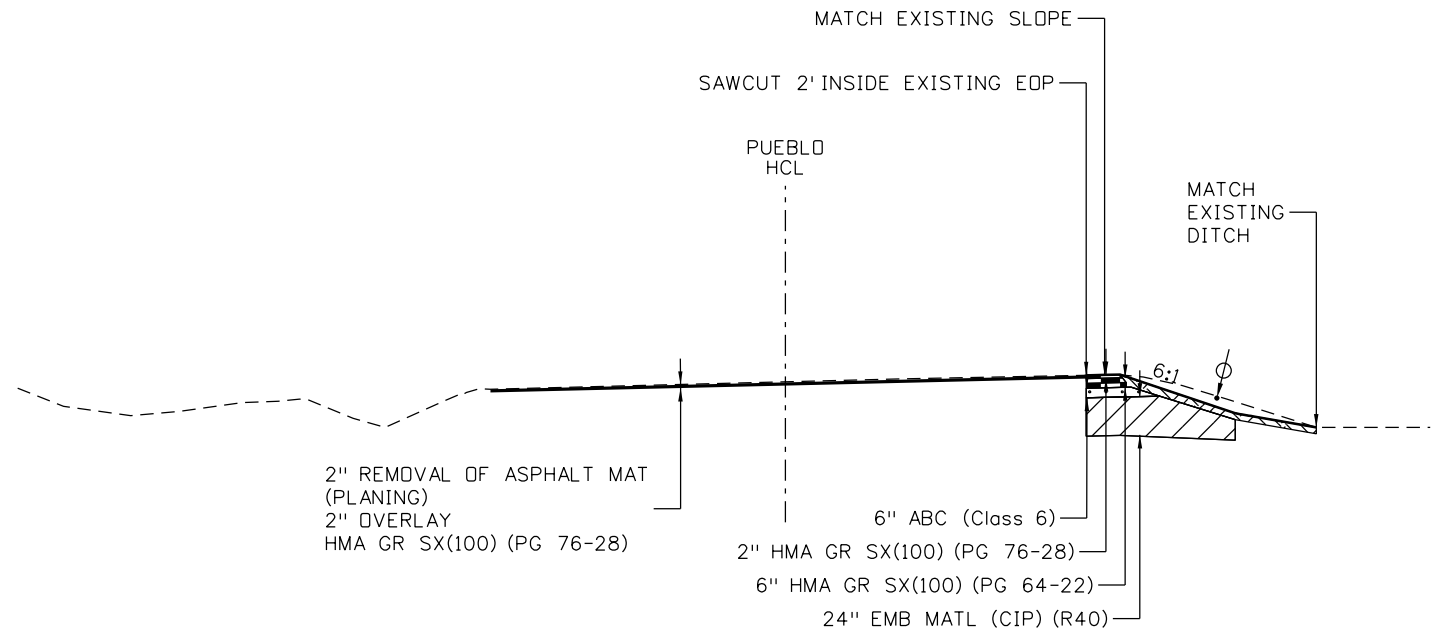
JFS&A J. F. SATO AND ASSOCIATES
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 Littleton, Colorado 80120

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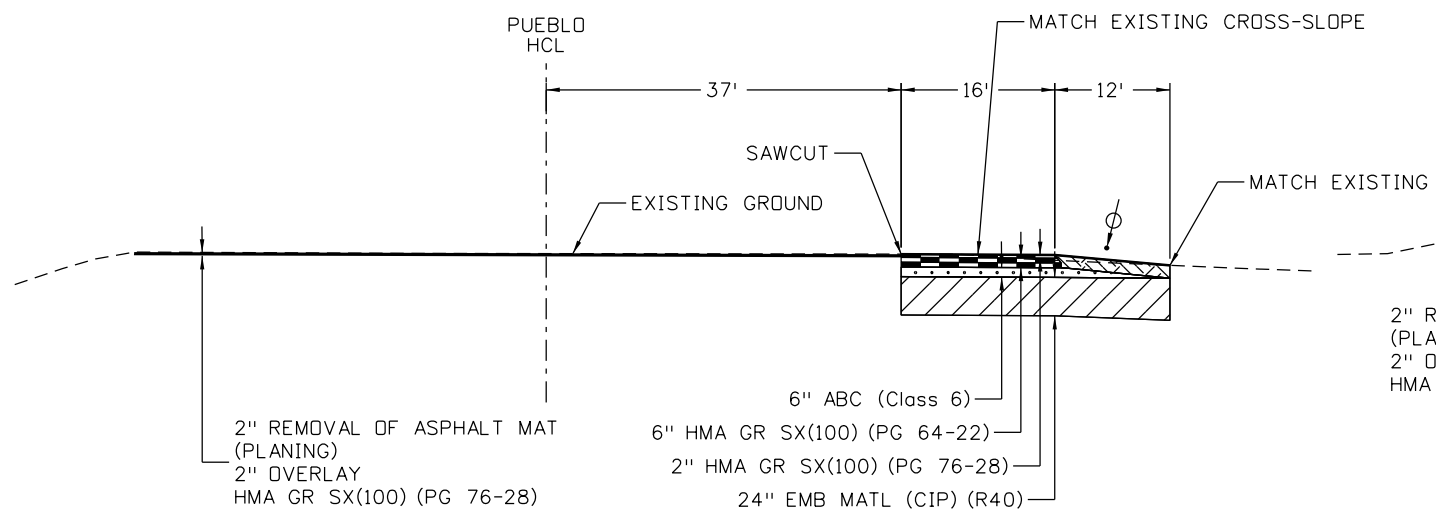
PUEBLO BLVD TYPICAL SECTION
 STA 131+55.61 TO 132+95.13
 STA 137+67.34 TO 138+22.05



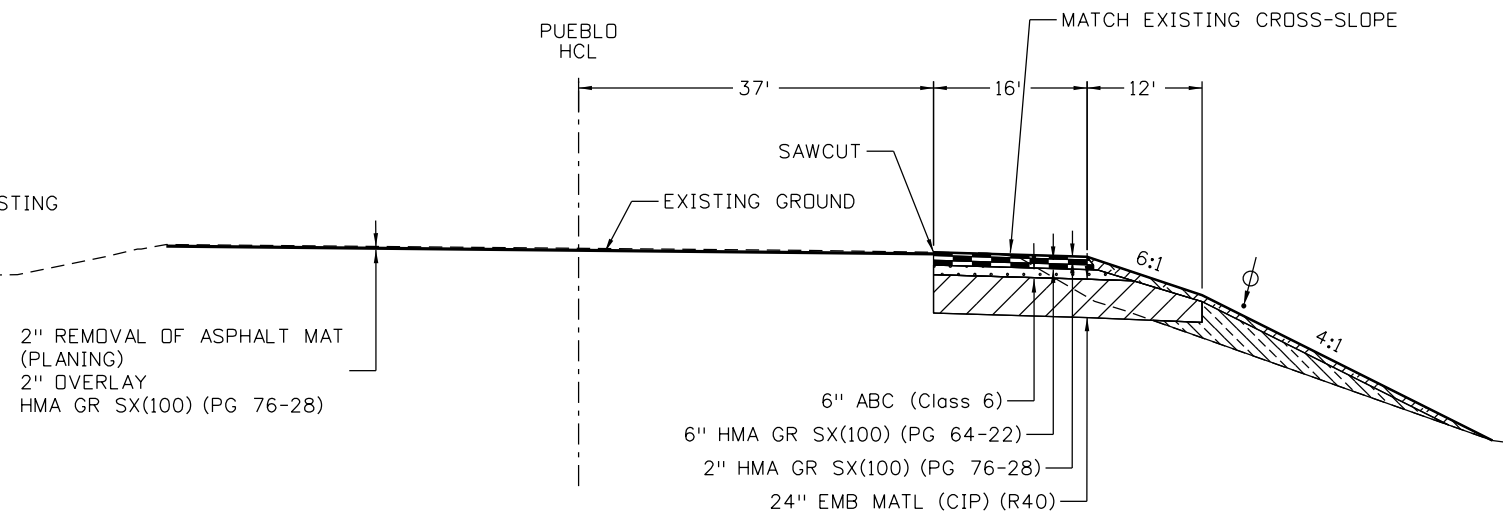
PUEBLO BLVD TYPICAL SECTION
 STA 138+22.05 TO STA 144+37.85

LEGEND

	Minimum 4" Topsoil
	HMA (Hot Mix Asphalt)
	ABC (Aggregate Base Course)
	Sub Base
	Top Soil
	Embankment
HCL	Horizontal Control Line
PGL	Profile Grade Line
	See Roadway Profile for Cross-slope information



PUEBLO BLVD TYPICAL SECTION
 STA 128+66.37 TO STA 131+55.61



PUEBLO BLVD TYPICAL SECTION
 STA 132+95.13 TO STA 137+67.34

Print Date: 3/8/2017
 File Name: 20344DES_TypSect09.dgn
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Region 2 DTD


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Void:

US 50 WEST WESTBOUND TYPICAL SECTIONS PUEBLO BLVD			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TS	Subset Sheets: 9 of 9	

Project No./Code
STA 0503-085
20344
Sheet Number 12

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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY			K-18-DA			K-18-BL			K-18-CZ Box Culvert			PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.
			201-00000	Clearing and Grubbing	L S	1												1	
			202-00019	Removal of Inlet	EACH	2												2	
			202-00026	Removal of Slope and Ditch Paving	SY	328												328	
			202-00027	Removal of Riprap	SY	164												164	
			202-00035	Removal of Pipe	LF	145												145	
			202-00037	Removal of End Section	EACH	8												8	
			202-00090	Removal of Delineator	EACH	53												53	
			202-00195	Removal of Median Cover	SY	101												101	
			202-00203	Removal of Curb and Gutter	LF	398												398	
			202-00220	Removal of Asphalt Mat	SY	23,832												23,832	
			202-00240	Removal of Asphalt Mat (Planing)	SY	31,716												31,716	
			202-00250	Removal of Pavement Marking	SF	2,500												2,500	
			202-00400	Removal of Bridge	EACH				1									1	
			202-00495	Removal of Portions of Present Structure	L S									1				1	
			202-00810	Removal of Ground Sign	EACH	13												13	
			202-00821	Removal of Sign Panel	EACH	10												10	
			202-00827	Removal of Pull Box	EACH	7												7	
			202-00831	Removal of Traffic Signal Head	EACH	1												1	
			202-00840	Removal of Traffic Signal Pole	EACH	2												2	
			202-00848	Removal of Traffic Signal Controller and Cabinet	EACH	1												1	
			202-00858	Removal of Pedestal Pole	EACH	1												1	
			202-01130	Removal of Guardrail Type 3	LF	914												914	
			202-01300	Removal of End Anchorage	EACH	6												6	
			202-04002	Clean Culvert	EACH	7												7	
			203-00010	Unclassified Excavation (Complete In Place)	CY	72,044												72,044	
			203-00066	Embankment Material (Complete In Place) (R40)	CY	62,478												62,478	
			203-00400	Rock Excavation	CY									748				748	
			203-01500	Blading	HOUR	300												300	
			203-01510	Backhoe	HOUR	300												300	
			203-01550	Dozing	HOUR	300												300	
			203-01597	Potholing	HOUR	100												100	
			206-00000	Structure Excavation	CY				581					909				1,490	
			206-00100	Structure Backfill (Class 1)	CY				813					1,326				2,139	

Print Date: 3/13/2017
 File Name: 20344TAB_SAO1.dgn
 Horiz. Scale: 1:1 Vert. Scale:
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 Littleton, Colorado 80120

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 WESTBOUND
 TABULATION
 SUMMARY OF APPROXIMATE QTY

Designer: ACE	Structure Numbers
Detailer: ACE	
Subset: TAB	Subset Sheets: 01 of 07

Project No./Code	STA 0503-085
	20344
Sheet Number	13

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			206-00510	Filter Material (Class A)	CY	63												63	
			206-01781	Shoring (Area 1)	L S				1									1	
			206-01782	Shoring (Area 2)	L S				1									1	
			207-00205	Topsoil	CY	7,744												7,744	
			208-00007	Erosion Log Type 2 (8 Inch)	LF	1,300												1,300	
			208-00020	Silt Fence	LF	6,900												6,900	
			208-00035	Aggregate Bag	LF	400												400	
			208-00045	Concrete Washout Structure	EACH	4												4	
			208-00051	Storm Drain Inlet Protection (Type I)	LF	20												20	
			208-00053	Storm Drain Inlet Protection (Type I)	EACH	1												1	
			208-00070	Vehicle Tracking Pad	EACH	4												4	
			208-00103	Removal and Disposal of Sediment (Labor)	HOUR	400												400	
			208-00105	Removal and Disposal of Sediment (Equipment)	HOUR	400												400	
			208-00106	Sweeping (Sediment Removal)	HOUR	800												800	
			208-00107	Removal of Trash	HOUR	300												300	
			208-00207	Erosion Control Management	DAY	300												300	
			208-00400	Water Control	L S				0.5					0.5				1	
			210-00476	Reset Microwave Vehicle Radar Detector (MVRD)	EACH	2												2	
			210-00815	Reset Sign Panel	EACH	2												2	
			210-00825	Reset Flashing Beacon	EACH	3												3	
			210-00831	Reset Traffic Signal Head	EACH	4												4	
			210-00848	Reset Traffic Signal Controller and Cabinet	EACH	1												1	
			210-00865	Reset Pedestrian Signal Head	EACH	2												2	
			210-00890	Reset Intersection Detection System (Camera)	EACH	5												5	
			210-01000	Reset Fence	LF	1,117												1,117	
			210-01190	Reset Tensioned Cable Barrier	LF	1,270												1,270	
			210-02900	Relay Riprap	CY				679									679	
			211-03005	Dewatering	L S				0.5					0.5				1	
			212-00006	Seeding (Native)	ACRE	14.4												14.4	
			212-00032	Soil Conditioning	ACRE	14.4												14.4	
			213-00002	Mulching (Weed Free Hay)	ACRE	7.5												7.5	
			213-00061	Mulch Tackifier	LB	1,504												1,504	

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US 50 WEST WESTBOUND
 TABULATION
 SUMMARY OF APPROXIMATE QTY

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TAB	Subset Sheets: 02 of 07	

Project No./Code	STA 0503-085
	20344
Sheet Number	14

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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		K-18-DA		K-18-BL		K-18-CZ Box Culvert		PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			214-00145	Plant Protection Fence	LF	1,000									1,000	
			214-01015	Willow Cuttings	EACH	1,100									1,100	
			216-00201	Soil Retention Blanket (Straw-Coconut) (Biodegradable Class 1)	SY	33,300									33,300	
			217-00015	Noxious Weed Management	SY	1,230									1,230	
			240-00010	Removal of Nests	HOUR	10									10	
			240-00020	Netting	SY	50									50	
			250-00010	Environmental Health and Safety Management	L S	1									1	
			250-00050	Monitoring Technician	HOUR	40									40	
			250-00110	Health and Safety Officer	HOUR	40									40	
			250-00120	Material Sampling and Delivery	EACH	5									5	
			250-00200	Material Handling (Stockpile)	CY	50									50	
			250-00210	Solid Waste Disposal	CY	50									50	
			250-00220	Hazardous Waste Disposal	CY	50									50	
			304-06000	Aggregate Base Course (Class 6)	TON	22,531.43									22,531.43	
			403-00720	Hot Mix Asphalt (Patching) (Asphalt)	TON	100									100	
			403-34841	Hot Mix Asphalt (Grading SX) (100) (PG 64-22)	TON	23,571.09									23,571.09	
			403-34871	Hot Mix Asphalt (Grading SX) (100) (PG 76-28)	TON	11,377.87		245							11,622.87	
			411-10255	Emulsified Asphalt (Slow-Setting)	GAL	15,694									15,694	
			420-00102	Geotextile (Erosion Control) (Class 1)	SY			2,910							2,910	
			420-00112	Geotextile (Drainage) (Class 1)	SY	34									34	
			502-11253	Steel Piling (HP 12x53)	LF			581							581	
			503-00012	Drilled Caisson (12 Inch)	LF	4									4	
			503-00036	Drilled Caisson (36 Inch)	LF	45									45	
			503-00048	Drilled Caisson (48 Inch)	LF			250							250	
			503-00054	Drilled Caisson (54 Inch)	LF	51									51	
			506-00206	Riprap (6 Inch)	CY	52									52	
			506-00209	Riprap (9 Inch)	CY	99									99	
			506-00218	Riprap (18 Inch)	CY			2,326							2,326	
			507-00100	Concrete Slope and Ditch Paving (Reinforced)	CY	10									10	
			509-08201	Retrofit/Repair Type I	EACH					22					22	
			509-08202	Retrofit/Repair Type II	EACH					20					20	
			515-00120	Waterproofing (Membrane)	SY			1,512							1,512	

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US 50 WEST WESTBOUND
 TABULATION
 SUMMARY OF APPROXIMATE QTY

Designer:	ACE	Structure Numbers	
Detailer:	ACE	Subset Sheets:	03 of 07
Subset:	TAB		

Project No./Code	STA 0503-085
	20344
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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY				K-18-DA				K-18-BL				K-18-CZ Box Culvert				PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.
			518-01004	Bridge Expansion Device (0-4 Inch)	LF							152										152	
			601-01000	Concrete Class B	CY	11.6																11.6	
			601-03030	Concrete Class D (Box Culvert)	CY												608					608	
			601-03040	Concrete Class D (Bridge)	CY							850										850	
			602-00000	Reinforcing Steel	LB							25,185					95,345					120,530	
			602-00020	Reinforcing Steel (Epoxy Coated)	LB							143,665										143,665	
			603-01185	18 Inch Reinforced Concrete Pipe (Complete In Place)	LF	20																20	
			603-01245	24 Inch Reinforced Concrete Pipe (Complete In Place)	LF	584																584	
			603-02185	23x14 Inch Reinforced Concrete Pipe (Complete In Place)	LF	68																68	
			603-05024	24 Inch Reinforced Concrete End Section	EACH	11																11	
			603-05118	23x14 Inch Reinforced Concrete End Section Elliptical	EACH	1																1	
			603-10240	24 Inch Corrugated Steel Pipe	LF	103																103	
			603-30024	24 Inch Steel End Section	EACH	2																2	
			603-50015	15 Inch Plastic Pipe	LF							68										68	
			604-00305	Inlet Type C (5 Foot)	EACH	1																1	
			604-00506	Inlet Type D (Special) (5 Foot)	EACH	2																2	
			604-19210	Inlet Type R L 10 (10 Foot)	EACH	1																1	
			604-30010	Manhole Slab Base (10 Foot)	EACH	1																1	
			606-00301	Guardrail Type 3 (6-3 Post Spacing) Midwest Guardrail System (MGS) Type 3 W-Beam 31 Inches.	LF	2,236																2,236	
			606-00350	Guardrail Type 3 (Double) (6-3 Post Spacing)	LF	50																50	
			606-00710	Guardrail Type 7 (Style CA)	LF	10																10	
			606-00716	Guardrail Type 7 (Style CA) (Special)	LF	138																138	
			606-01340	End Anchorage Type 3D (31 in MGS)	EACH	1																1	
			606-01370	Transition Type 3G (31 in MGS)	EACH	6																6	
			606-01380	Transition Type 3H (31 in MGS)	EACH	1																1	
			606-01460	Median Terminal	EACH	2																2	
			606-02003	End Anchorage (Nonflared)	EACH	3																3	
			606-02005	End Anchorage (Flared)	EACH	1																1	
			606-11000	Bridge Rail Type 10	LF							467										467	
			606-20014	Tensioned Cable Barrier (TL-4)	LF	5,042																5,042	

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US 50 WEST WESTBOUND
 TABULATION
 SUMMARY OF APPROXIMATE QTY

Designer: ACE	Structure Numbers
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Subset: TAB	Subset Sheets: 04 of 07

Project No./Code	STA 0503-085
	20344
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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY				K-18-DA				K-18-BL				K-18-CZ Box Culvert				PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.
			606-21010	End Anchorage (Tensioned Cable Barrier)	EACH	4															4		
			609-21011	Curb and Gutter Type 2 (Section I-M)	LF	1,851															1,851		
			609-21021	Curb and Gutter Type 2 (Section II-M)	LF	314															314		
			610-00024	Median Cover Material (4 Inch Patterned Concrete)	SF	9,619															9,619		
			612-00001	Delineator (Type I)	EACH	139															139		
			612-00002	Delineator (Type II)	EACH	20															20		
			612-00003	Delineator (Type III)	EACH	9															9		
			613-00200	2 Inch Electrical Conduit	LF	1,406				482											1,888		
			613-00206	2 Inch Electrical Conduit (Bored)	LF	290															290		
			613-00306	3 Inch Electrical Conduit (Bored)	LF	580															580		
			613-01200	2 Inch Electrical Conduit (Plastic)	LF	2,030															2,030		
			613-01300	3 Inch Electrical Conduit (Plastic)	LF	65															65		
			613-07023	Pull Box (24"x36"x24")	EACH	2															2		
			613-07039	Pull Box (30"x48"x18")	EACH	4															4		
			613-10000	Wiring	L S	1															1		
			613-13004	Luminaire (Special)(LED)(130 Watt)	EACH	5															5		
			613-13006	Luminare (LED) (8500 Lumens)	EACH	3															3		
			613-34400	Light Standard Metal (40 Foot)	EACH	5															5		
			613-40010	Light Standard Foundation	EACH	5															5		
			613-50105	Lighting Control Center (Pedestal Only)	EACH	1															1		
			613-50355	Power Transformer	EACH	1															1		
			614-00011	Sign Panel (Class I)	SF	100															100		
			614-00012	Sign Panel (Class II)	SF	495															495		
			614-00013	Sign Panel (Class III)	SF	661															661		
			614-00615	Steel Sign Post (W 6x15)	LF	29															29		
			614-01502	Steel Sign Support (2-Inch Round)(Post & Socket)	LF	8															8		
			614-01572	Steel Sign Support (2-1/2 Inch Round NP-40) (Post & Slipbase)	LF	424															424		
			614-03002	Concrete Footing (Type 2)	EACH	2															2		
			614-42000	Monotube Overhead Sign Bridge (20 Inch Diameter)	EACH	1															1		
			614-70150	Pedestrian Signal Face (16) (Countdown)	EACH	2															2		
			614-70336	Traffic Signal Face (12-12-12)	EACH	10															10		
			614-70448	Traffic Signal Face (12-12-12-12)	EACH	4															4		

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US 50 WEST WESTBOUND
 TABULATION
 SUMMARY OF APPROXIMATE QTY

Designer: ACE	Structure Numbers
Detailer: ACE	
Subset: TAB	Subset Sheets: 05 of 07

Project No./Code	STA 0503-085
	20344
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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		K-18-DA		K-18-BL		K-18-CZ Box Culvert		PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			614-72855	Traffic Signal Controller Cabinet	EACH	1									1	
			614-72860	Pedestrian Push Button	EACH	2									2	
			614-72886	Intersection Detection System (Camera)	EACH	1									1	
			614-80000	Flashing Beacon	EACH	2									2	
			614-80385	Rumble Strip	LF	17,200									17,200	
			614-81145	Traffic Signal-Light Pole Steel (1-45 Foot Mast Arm)	EACH	1									1	
			614-81155	Traffic Signal-Light Pole Steel (1-55 Foot Mast Arm)	EACH	2									2	
			614-87350	Test Fiber Optic Cable	L S	1									1	
			614-87424	Fiber Optic Cable (Single Mode) (24 Strands)	LF	690									690	
			614-87524	Splice Fiber Optic Cable (24 Strand)	EACH	2									2	
			614-87624	Terminate Fiber Optic Cable (24 Strand)	EACH	2									2	
			618-00142	Prestressed Concrete I (BT42)	LF			1,270							1,270	
			620-00002	Field Office (Class 2)	EACH	1									1	
			620-00012	Field Laboratory (Class 2)	EACH	1									1	
			620-00020	Sanitary Facility	EACH	2									2	
			621-00450	Detour Pavement	SY	275									275	
			625-00000	Construction Surveying	L S	1									1	
			626-00000	Mobilization	L S	1									1	
			626-01103	Public Information Services (Tier III)	L S	1									1	
			627-00008	Modified Epoxy Pavement Marking	GAL	187									187	
			627-00011	Pavement Marking Paint (Waterborne)	GAL	400									400	
			627-30405	Preformed Thermoplastic Pavement Marking (Word-Symbol)	SF	504									504	
			627-30410	Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line)	SF	1,325									1,325	
			630-00000	Flagging	HOUR	5,000									5,000	
			630-00007	Traffic Control Inspection	DAY	220									220	
			630-00012	Traffic Control Management	DAY	300									300	
			630-80001	Flashing Beacon (Portable)	EACH	24									24	
			630-80335	Barricade (Type 3 M-A) (Temporary)	EACH	6									6	
			630-80341	Construction Traffic Sign (Panel Size A)	EACH	22									22	
			630-80342	Construction Traffic Sign (Panel Size B)	EACH	98									98	
			630-80344	Construction Traffic Sign (Special)	SF	165									165	

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US 50 WEST WESTBOUND
TABULATION
SUMMARY OF APPROXIMATE QTY

Designer:	ACE	Structure Numbers	
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Subset:	TAB	Subset Sheets: 06 of 07	

Project No./Code

STA 0503-085

20344

Sheet Number 18


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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		K-18-DA				K-18-BL				K-18-CZ Box Culvert				PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.			
			630-80355	Portable Message Sign Panel	EACH	4														4		
			630-80358	Advance Warning Flashing or Sequencing Arrow Panel (C Type)	EACH	4														4		
			630-80360	Drum Channelizing Device	EACH	200														200		
			630-80363	Drum Channelizing Device (With Light) (Flashing)	EACH	175														175		
			630-80370	Concrete Barrier (Temporary)	LF	3,200														3,200		
			630-80380	Traffic Cone	EACH	500														500		
			630-85011	Impact Attenuator (Temporary)	DAY	400														400		
			630-85041	Mobile Attenuator	DAY	200														200		
			700-70010	FORCE ACCOUNT =====	F A	1														1		
			700-70011	F/A Partnering	F A	1														1		
			700-70012	F/A Asphalt Pavement Incentive	F A	1														1		
			700-70016	F/A Fuel Cost Adjustment	F A	1														1		
			700-70018	F/A Roadway Smoothness Incentive	F A	1														1		
			700-70019	F/A Asphalt Cement Cost Adjustment	F A	1														1		
			700-70023	F/A On-The-Job Trainee	F A	1														1		
			700-70032	F/A Emergency Repair	F A	1														1		
			700-70034	F/A F/A Removal of Asbestos and Lead Based Paint	F A	1														1		
			700-70035	F/A F/A Prairie Dog Management	F A	1														1		
			700-70040	F/A Railroad	F A	1														1		
			700-70060	F/A Adjust F/A Adjust Utilities	F A	1														1		
			700-70082	F/A Furnish & Install Electrical Service	F A	1														1		
			700-70380	F/A Erosion Control	F A	1														1		
			700-70426	F/A Stabilization	F A	1														1		
			700-70589	F/A Environmental Health & Safety Management	F A	1														1		
			700-70594	F/A DRB Standing Committee	F A	1														1		
			900-00008	F/A OCIP (Third Party)	F A	1														1		
																					1	

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File Name: 20344TAB_SAO7.dgn		Date:	Comments	Init.					No Revisions:						Designer: ACE Detailer: ACE Subset: TAB	
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SUMMARY OF EARTHWORK QUANTITIES

UNCLASSIFIED EXCAVATION		CUBIC YARDS
FOR ROADWAY		
US 50 MAIN LINE		
WEST END TO PUEBLO BLVD (STA 507+37.86 TO STA 552+79.28)		8,958
PUEBLO BLVD TO WHC BRIDGE (STA 553+63 TO 577+33.95)		11,095
WHC BRIDGE TO BNSF BRIDGE (STA 579+97.1 TO 597+86.00)		18,369
US 50 OFF RAMP (STA 445+30.00 TO 460+93.88)		14,773
US 50 ON RAMP (STA 400+00.00 TO 411+68.00)		3,437
PUEBLO BLVD		2,935
FOR CUT SLOPE TREATMENT		1,921
WATER QUALITY POND C		6,885
WATER QUALITY POND D		3,671
TOTAL		72,044
MUCK EXCAVATION		CUBIC YARDS
STATION XXX+XX TO XXX+XX		0
TOTAL		0
EMBANKMENT MATERIAL (NET)		CUBIC YARDS
FOR ROADWAY:		
US 50 MAIN LINE		
WEST END TO PUEBLO BLVD (STA 507+37.86 TO STA 552+79.28)	REGULAR EMBANKMENT	13,241
	TOP 2' OF EMB. (MIN. "R: 40)	25,824
PUEBLO BLVD TO WHC BRIDGE (STA 553+63 TO 577+33.95)	REGULAR EMBANKMENT	14,007
	TOP 2' OF EMB. (MIN. "R: 40)	19,808
WHC BRIDGE TO BNSF BRIDGE (STA 579+97.1 TO 597+86.00)	REGULAR EMBANKMENT	225
	TOP 2' OF EMB. (MIN. "R: 40)	7,917
US 50 OFF RAMP (STA 445+30.00 TO 460+93.88)	REGULAR EMBANKMENT	2
	TOP 2' OF EMB. (MIN. "R: 40)	3,946
US 50 ON RAMP (STA 400+00.00 TO 411+68.00)	REGULAR EMBANKMENT	828
	TOP 2' OF EMB. (MIN. "R: 40)	2,395
PUEBLO BLVD	REGULAR EMBANKMENT	865
	TOP 2' OF EMB. (MIN. "R: 40)	2,588
WATER QUALITY POND C		2,274
WATER QUALITY POND D		380
TOTAL		94,300
COMPACTION (AASHTO T 99)		CUBIC YARDS
TOTAL EMBANKMENT (NET)		94,300
BASES OF CUTS AND FILLS		10,370
TOTAL		104,670
BORROW		CUBIC YARDS
FROM CONTRACTOR'S SOURCE (MIN. R40)		62,478
TOTAL		62,478
FOR INFORMATION ONLY EARTHWORK QUANTITIES BALANCE		
UNCLASSIFIED EXCAVATION		Cubic Yards
Total Unclassified Excavation		72,044
Total Borrow		62,478
TOTAL		134,522
EMBANKMENT (NET)		
TOTAL		94,300
EMBANKMENT (NET) TIMES COMPACTION FACTOR		1.15
TOTAL		108,445
UNCLASSIFIED EXCAVATION		Cubic Yards
TOTAL		72,044
EMBANKMENT (NET)		
TOTAL		94,300
EMBANKMENT (NET) TIMES COMPACTION FACTOR		1.15
TOTAL		108,445

Print Date: 3/8/2017
 File Name: 20344TAB_Earthwork.dgn
 Horiz. Scale: 1:1 Vert. Scale:
 **J.F. SATO AND ASSOCIATES**
 5898 South Rapp Street
 Littleton, Colorado 80120

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 WESTBOUND
 TABULATION OF
 EARTHWORK**

Designer:	ACE	Structure	
Detailer:	ACE	Numbers	
Subset:	TAB	Subset Sheets:	01 of 06


Project No./Code
STA 0503-085
20344
Sheet Number 20

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202-00019 202-00026 202-00027 202-00035 202-00037 202-00195 202-00203 202-00220 202-00240 202-00700 202-01130 202-01300 210-01000 210-01190

TABULATION OF REMOVALS AND RESETS

Station		Location	Side	Removal of Inlet	Removal of Slope and Ditch Paving	Removal of Riprap	Removal of Pipe	Removal of End Section	Removal of Median Cover	Removal of Curb and Gutter	Removal of Asphalt Mat	Removal of Asphalt Mat (Planing)	Removal of Light Standard	Removal of Guardrail Type 3	Removal of End Anchorage	Reset Fence	Reset Tensioned Cable Barrier	Notes
From	To			EA	SY	SY	LF	EA	SY	LF	SY	SY	EA	LF	EA	LF	LF	
507+37.86	514+00.00	US 50	LT								2,649							WEST END MILL & OVERLAY AREA
507+37.86	517+00.00	US 50	LT & RT							1,356						962	962	FULL DEPTH RECONSTRUCTION ADJ. TO EB
512+98.58		US 50	LT					1										
517+00.00	520+07.94	US 50												1			308	CABLE BARRIER END ANCHOR FROM EB PROJECT
403+00.00	411+68.13	US 50 ON RAMP	LT & RT							3,678								ON RAMP FULL DEPTH RECONSTRUCTION
411+68.13	416+00.00										1,835							
526+98.63		US 50	RT					1										
532+15.65		US 50	RT	1														MEDIAN INLET
534+68.35		US 50	LT					1										
416+00.00	430+00.00	US 50 ON RAMP	LT & RT								5,905							
542+87.82		US 50	LT					1										
430+00.00	439+88.00	US 50 ON RAMP	LT & RT								4,387							
551+23.84		US 50	LT					1										
130+00.00	131+55.61	PUEBLO BLVD	RT							109								SAWCUT & WIDENING
130+00.00	138+50.00	PUEBLO BLVD	LT & RT								9,188							
132+95.13	137+67.72	PUEBLO BLVD	RT							320								SAWCUT & WIDENING
138+21.60	138+50.00	PUEBLO BLVD	RT							24								SAWCUT & WIDENING
441+00.00	444+50.00	US 50 OFF RAMP	LT & RT								2,090							
554+81.61	554+82.26	US 50	LT		160													ASPHALT SLOPE AND DITCH PAVING
556+06.19	556+06.21	US 50	LT				83	1										
444+50.00	445+29.09	US 50 OFF RAMP	LT & RT								442							
445+30.00	458+88.35	US 50 OFF RAMP	LT & RT							6,424								REMOVAL OF EXISTING US 50 WB
572+00.00	576+84.53	US 50	LT							2,052								
575+18.69	577+72.84	US 50	LT & RT										267	1				AT EXISTING EB BRIDGE
575+53.94	576+86.42	US 50	LT										220	2				AT EXISTING WB BRIDGE
576+21.54	579+39.06	US 50	LT												155			AT WILD HORSE DRY CREEK
578+43.45	580+70.35	US 50	LT										427	2				AT EXISTING WB BRIDGE
578+47.07	586+00.00	US 50	LT & RT							4,963								
583+31.93	583+71.41	US 50	LT				40	2										
586+00.00	595+80.03	US 50	LT & RT							4,663								
589+69.79	590+61.16	US 50	RT						101	190								WEST OF RAILROAD BRIDGE
593+38.66	594+69.33	US 50	LT		168													RAILROAD BRIDGE SLOPE PAVING
594+61.76	595+79.83	US 50	LT			164												
595+79.55	596+15.75	US 50	LT	1			22											MODIFY US 50 WB STORM SYSTEM
595+79.83	597+86.85	US 50	LT							208								
138+50.00	144+37.83	PUEBLO BLVD	RT							158	3,940							
128+66.37	130+00.00	PUEBLO BLVD	RT							85	1,280							
PROJECT TOTAL				2	328	164	145	8	101	398	23,832	31,716	0	914	6	1,117	1,270	

Print Date: 3/8/2017
 File Name: 20344TAB_Rem_Res.dgn
 Horiz. Scale: 1:1 Vert. Scale:
 J.F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

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 WESTBOUND
 TABULATION OF
 REMOVALS AND RESETS**

Designer: ACE
 Detailer: ACE
 Subset: TAB

Structure Numbers
 Subset Sheets: 02 of 06

Project No./Code
 STA 0503-085
 20344
 Sheet Number 21

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606-00301 606-00350 606-00710 606-00716 606-01340 606-01370 606-01380 606-01460 606-02003 606-02005 606-20014 606-21010

Station		SIDE	Guardrail Type 3 (31 in. MGS) (6-3 Post Spacing)	Guardrail Type 3 (Double) (31 in. MGS) (6-3 Post Spacing)	Guardrail Type 7 (Style CA)	Guardrail Type 7 (Style CA) (Special)	End Anchorage Type 3D (31 in. MGS)	Transition Type 3G	Transition Type 3H	Median Terminal	End Anchorage (Nonflared)	End Anchorage (Flared)	Tensioned Cable Barrier (TL-4)	End Anchorage (Tensioned Cable Barrier)	Remarks
From	To		LF	LF	LF	LF	Each	Each	Each	Each	Each	Each	LF	Each	
520+07.94	552+55.30	RT											3,251	2	TIE INTO EXISTING CABLE
553+67.22	571+57.66	RT											1,791	2	
570+58.88	571+10.11	RT								1					AT SIGN BRIDGE
571+10.11	577+50.00	RT	650					1							SIGN BRIDGE TO BRIDGE
571+10.11	577+63.86	RT	650					1							SIGN BRIDGE TO BRIDGE
572+66.21	577+15.72	LT	450				1		1						SIGN BRIDGE TO BRIDGE
579+78.86	581+78.86	LT	200					1			1				WB BRIDGE
580+13.05	581+11.57	RT	100					1							EB BRIDGE
580+14.73	581+11.57	RT	100												WB BRIDGE
581+11.57	581+69.04	RT		62.5						1					
593+34.91	594+72.93	LT				138		1							BNSF RR BRIDGE
594+92.20	595+42.20	LT	50								1				BNSF RR BRIDGE
405+21.36	405+54.20	LT	12.5		10			1				1			SHIELD OHE POLE
TOTALS			2,213	63	10	138	1	6	1	2	2	1	5,042	4	

Note: Guardrail post shall be steel with synthetic blocks.

612-00001 612-00002 612-00003

Station		Side	Spacing (FT)	Curve Radius (FT)	Type I			Type II		Type III			Notes
From	To				Crystal Each	Green Each	Yellow Each	Crystal Each	Yellow Each	Yellow Each	Green Each	Blue-2Yellow Each	
507+37.86	520+31.08	Lt.	528			3							
507+37.86	516+37.86	Rt.	100				9						Acceleration Lane on US 50
520+31.08	530+57.13	Lt.&Rt.	247	6,800	7	7							
530+57.13	571+10.11	Lt.&Rt.	528		10	10		4	1				
571+10.11	577+63.83	Rt.	37.5			20			1				For US 50 EB
571+10.11	577+34.99	Lt.	528		4								
579+59.59	582+33.93	Lt.	37.5		8				1				
579+94.94	581+61.14	Rt.	37.5			5			1				
582+33.93	593+34.91	Lt.&Rt.	528		5	6					4		Median Crossover
593+34.91	595+97.28	Lt.				1				1			
401+12.54	411+68.13	Lt.&Rt.	160	2,867	9	9							On Ramp
445+30.00	446+07.50	Lt.&Rt.	528		1	1							Off Ramp
446+07.50	449+71.29	Lt.&Rt.	127	1,840	3	3							Off Ramp
449+71.29	453+67.60	Lt.&Rt.	528		3	3							Off Ramp
453+67.60	458+77.80	Lt.&Rt.	120	1,640	7	7							Off Ramp
128+66.37	131+38.59	Rt.	100		3								Pueblo Blvd
131+38.59	137+68.89	Rt.	528		4								Pueblo Blvd
138+20.00	144+37.82	Rt.	100				7						Pueblo Blvd width reduction
SUBTOTALS					64	1	74	16	4	4	1	4	
PROJECT TOTALS						139		20		9			

For Information Only: It is Estimated that 53 (Each) Removal of Delineators will be required.

Print Date: 3/8/2017

File Name: 20344TAB_Guard_Delin.dgn

Horiz. Scale: 1:1

Vert. Scale:



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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 WESTBOUND
TABULATION OF
GUARDRAIL AND DELINEATORS

Designer:	ACE	Structure Numbers	
Detailer:	ACE	Subset Sheets:	03 of 06
Subset:	TAB		

Project No./Code

STA 0503-085

20344

Sheet Number 22

202-04002 206-00510 420-00112 506-00206 506-00209 601-01000 603-01185 603-01245 603-02185 603-05024 603-05118 603-10240 603-30024 604-00305 604-00506 604-19210

Tabulation of Drainage Structures

Structure Number	Station	Invert Offset (LF)	Side	Clean Culvert	Filter Mat (Class A)	Geotextile (Drainage) (Class I)	Riprap (6 Inch)	Riprap (9 Inch)	Concrete Class B	Reinforced Concrete Pipe (Complete In Place)		Reinforced Concrete Pipe Elliptical (Complete In Place)	Reinforced Concrete End Section	Reinforced Concrete End Section Elliptical	Corrugated Steel Pipe	Steel End Section	Inlet							
										18"	24"						23"x14"	24"	23"x14"	24"	24"	Type C	Type D (Special) (5 Ft)	Inlet Type R L 10 (10 Foot)
										LF	LF						LF	EACH	EACH	LF	EACH	H	H	H
				EACH	CY	SY	CY	CY	CY															
P-101	512+98.64	67.26	LT	1											20	1								
P-102	526+98.39	89.50	LT	1											33	1								
IN-101	532+22.46	20.75	LT	1													1							
P-103	534+91.76	91.18	LT	1	3	8		4			48		1											
P-104	542+92.51	93.27	LT	1							9		1											
P-105	551+12.37	93.94	LT	1								68		1										
P-106	552+60.00 TO 554+00	73.00	LT										2											
MH1	556+06.19	20.23	LT																					
P-107	556+06.20	114.99	LT	1									1											
P-108	569+26.02 TO 569+80.78	64.44 TO 129.67	LT		3	8		4					2											
P-112	583+18.58 TO 583+79.20	60.27 TO 58.69	LT										2											
P-111	596+17.57	36.53	LT								20													
IN-104	596+17.57	36.53	LT																	1				
Water Quality Pond																								
IN-102	575+55.32	155.46	LT																	1				
P-109	575+55.32 TO 576+28.79	155.46 TO 195.39	LT		4	10		7					1											
P-110	579+21.00 TO 579+92.41	69.48 TO 108.73	LT		3	8		4					1											
IN-103	579+92.41	108.73	LT																	1				
Pond C	575+08.75	139.50	LT		28		29	42	6.2															
Pond D	580+20.53	105.34	LT		22		23	38	5.4															
PROJECT TOTALS					7	63	34	52	99	11.6	20	584	68	11	1	103	2	1	2	1				

NOTE: STATION AND OFFSET CORRESPOND TO F.E.S. INVERT WHERE APPLICABLE

Print Date: 3/8/2017

File Name: 20344TAB_Drainage.dgn

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5898 South Rapp Street
Littleton, Colorado 80120



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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 WESTBOUND
TABULATION OF
DRAINAGE**

Designer:	ACE	Structure Numbers	
Detailer:	ACE	Subset Sheets:	06 of 06
Subset:	TAB		

Project No./Code

STA 0503-085

20344

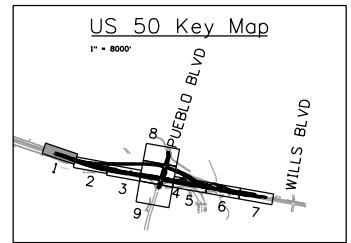
Sheet Number **25**



Know what's below.
Call before you dig.

NOTES:

- UTILITY LOCATIONS SHOWN FOR INFORMATION ONLY, AND SHALL BE VERIFIED BY THE CONTRACTOR.
- SEE GENERAL NOTES FOR FURTHER INFORMATION.
- LUMINAIRE SHALL INCLUDE 130W LED TYPE III COBRA HEAD LUMINAIRE, 40' POLE AND NEW CONCRETE FOUNDATION
- SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.



613-01200 613-01300 613-13004 613-34400 613-40010 613-50105 613-50355

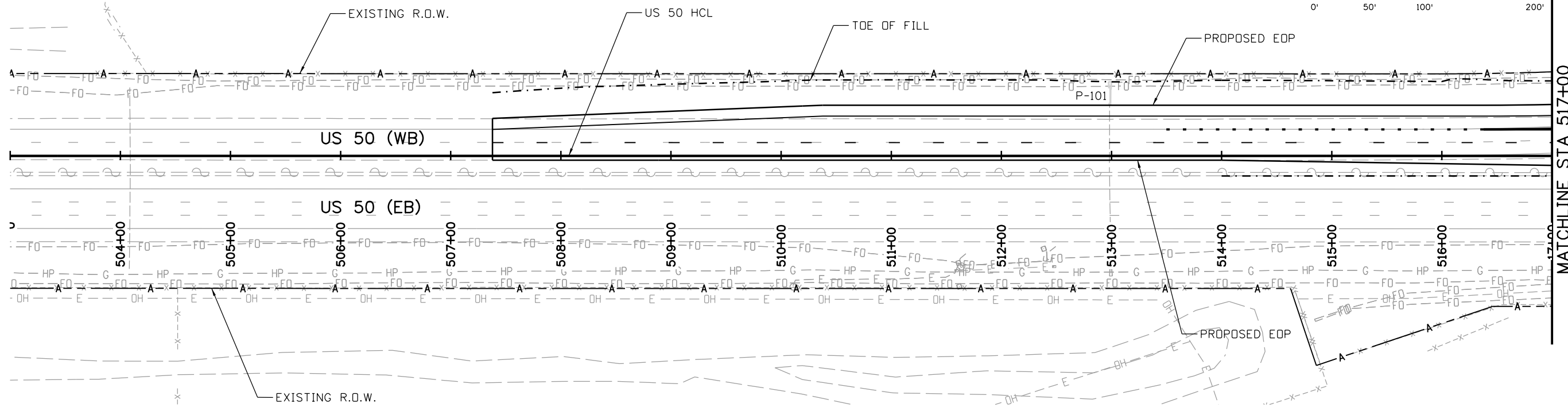
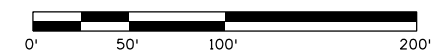
TABULATION OF LIGHTING QUANTITIES

D	SUBSET SHEET NO.	STATION (US 50 RAMP) *	SIDE	OFFSET *	2 Inch Electrical Conduit (Plastic)	3 Inch Electrical Conduit (Plastic)	Luminaire (Special) (LED) (130 Watt)	Light Standard Metal (40 Ft)	Light Standard Foundation	Lighting Control Center (Pedestal Only)	Power Transformer	COMMENT
					LF	LF	EACH	EACH	EACH	EACH	EACH	
PT 01	08	440+81.24	LT	112							1	New transformer on utility pole. Contractor to contact Black Hills Energy for exact size and location.
	04-06_08	440+91.06 TO 461+38.19	LT & RT		2,030	65						Conduits for power to Light Standards.
LCC 01	08	440+84.25	LT	91.26						1		Lighting Control Center placed near Pueblo Blvd.
LS 01	05	456+14.07	RT	46.30			1	1	1			Light Std. in exit gore & placed 200' from LS03 along US 50 EOP.
LS 02	05	456+40.00	LT	31.53			1	1	1			Light Std. 12' from ramp EOP & placed 150' from LS03 along Ramp EOP.
LS 03	05	458+02.90	LT	25.01			1	1	1			Light Std. 12' from ramp EOP & placed 25' east of physical gore.
LS 04	06	460+03.88	LT	16.05			1	1	1			Light Std. minimum 3' behind guardrail & placed 200' east of LS03.
LS 05	06	462+03.47	LT	25.59			1	1	1			Light Std. minimum 3' behind guardrail & placed 200' east of LS04.
TOTALS					2,030	65	5	5	5	1	1	

* Station and offset are approximate; Contractor to determine exact location in the field with Engineer.
Note: All unshielded light standards shall have break-away type transformer base.

LEGEND

- OVERHEAD ELECTRIC POLE
- TR— PROPOSED TRAFFIC CONDUIT
- FO— PROPOSED FIBER OPTIC
- E— PROPOSED LIGHTING CONDUIT
- PROPOSED PIPE
- ⊙ POTHOLE LOCATION
- ▣ SPLICE BOX
- NEW ROADWAY LIGHT STANDARD



MATCHLINE STA 517+00

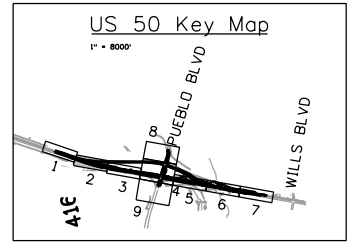
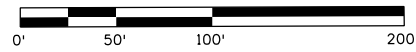
Print Date: 3/2/2017	<p>Sheet Revisions</p> <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date:	Comments	Init.										<p>Colorado Department of Transportation</p> <p>902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702</p> <p>Region 2 DTD</p>	<p>As Constructed</p> <p>No Revisions:</p> <p>Revised:</p> <p>Void:</p>	<p>US 50 WEST WESTBOUND UTILITY PLAN</p> <p>US 50</p> <p>Designer: AB Structure Numbers</p> <p>Detailer: AB</p> <p>Subset: UT Subset Sheets: 01 of 09</p>		<p>Project No./Code</p> <p>STA 0503-085</p> <p>Sheet Number 26</p>
Date:		Comments	Init.															
File Name: 20344-Utility_01.dgn																		
Horiz. Scale: 1:100 Vert. Scale:																		

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5898 South Rapp Street
Littleton, Colorado 80120

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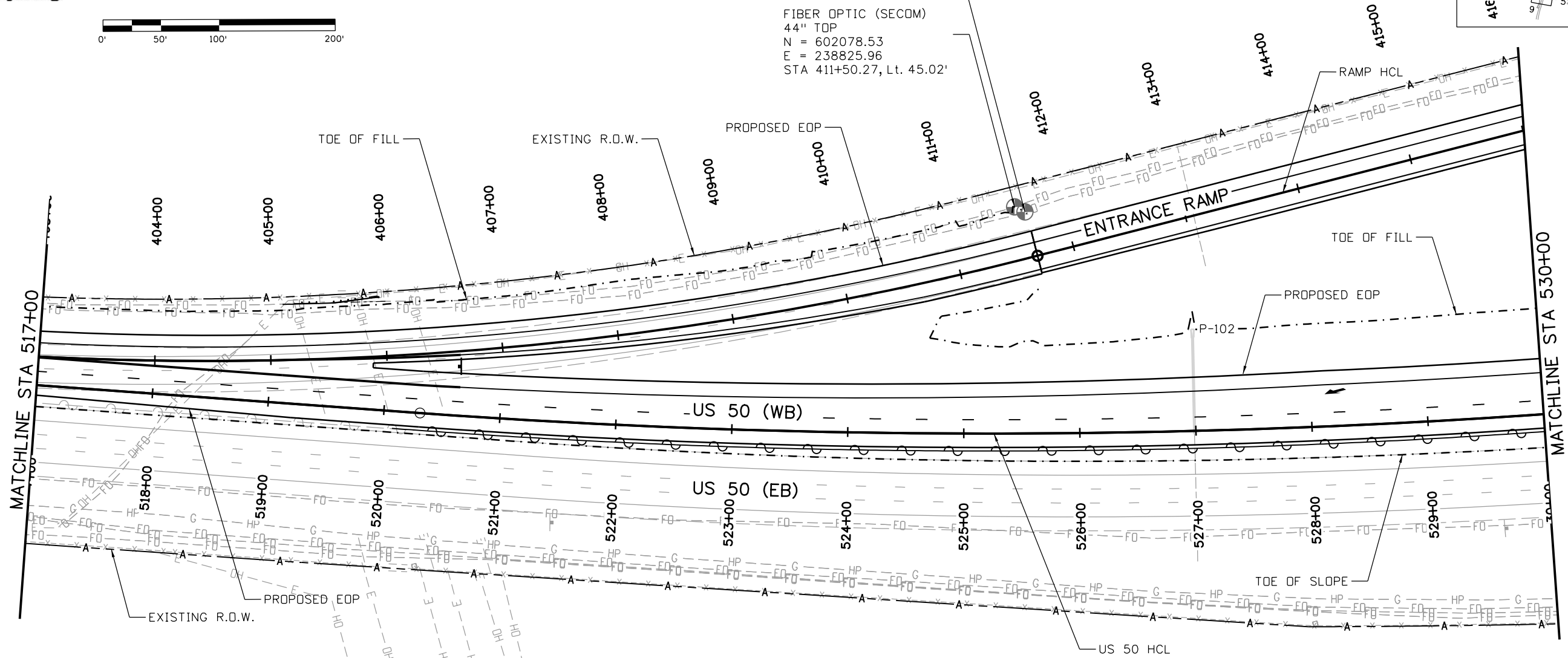


Know what's below.
Call before you dig.



TELEPHONE (CENTURY LINK)
N = 602072.71
E = 238842.43
STA 411+67.02, Lt. 39.30'

FIBER OPTIC (SECOM)
44" TOP
N = 602078.53
E = 238825.96
STA 411+50.27, Lt. 45.02'



NOTES:

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- SEE GENERAL NOTES FOR FURTHER INFORMATION.
- LUMINAIRE SHALL INCLUDE 130W LED TYPE III COBRA HEAD LUMINAIRE, 40' POLE AND NEW CONCRETE FOUNDATION
- SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.

LEGEND	
	OVERHEAD ELECTRIC POLE
	PROPOSED TRAFFIC CONDUIT
	PROPOSED FIBER OPTIC
	PROPOSED LIGHTING CONDUIT
	PROPOSED PIPE
	POTHOLE LOCATION
	SPLICE BOX
	NEW ROADWAY LIGHT STANDARD

Print Date: 3/2/2017
 File Name: 20344-Utility_02.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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 J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

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

Region 2 DTD

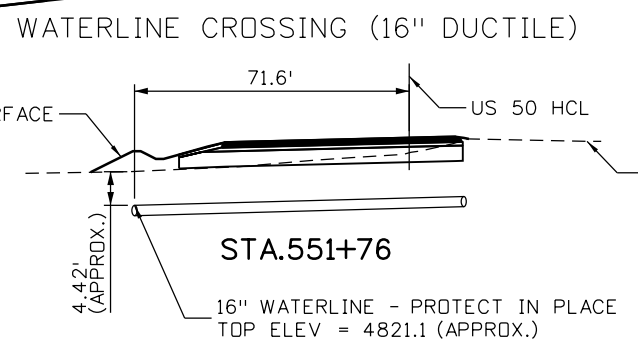
As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND UTILITY PLAN US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	UT	Subset Sheets:	02 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 27

LEGEND

- OVERHEAD ELECTRIC POLE
- TR— PROPOSED TRAFFIC CONDUIT
- FO- PROPOSED FIBER OPTIC
- E- PROPOSED LIGHTING CONDUIT
- PROPOSED PIPE
- ⊙ POT HOLE LOCATION
- ⊠ SPLICE BOX
- NEW ROADWAY LIGHT STANDARD



TELEPHONE (CENTURY LINK)
 46" TOP
 N = 601474.74
 E = 241398.01
 STA 551+88.93, Lt. 68.44'

WATERLINE (CITY OF PUEBLO)
 53" TOP
 N = 601480.07
 E = 241385.99
 STA 551+76.16, Lt. 71.58'
 (SEE CROSS-SECTION)

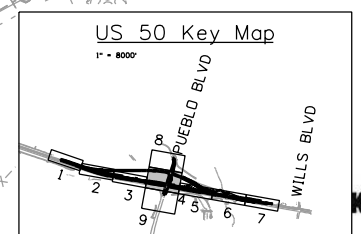
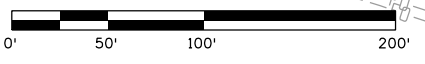
WILLIAMS CREEK

RESET OVERHEAD ELECTRIC POLE (BY BLACK HILLS ENERGY)

FIBER OPTIC (CDOT)
 N = 601433.68
 E = 241580.73
 STA 553+76.01, Lt. 60.06'

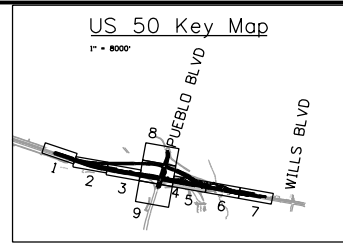
CONDUIT FOR FLASHING BEACON

- NOTES:**
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 - SEE GENERAL NOTES FOR FURTHER INFORMATION.
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 - SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.

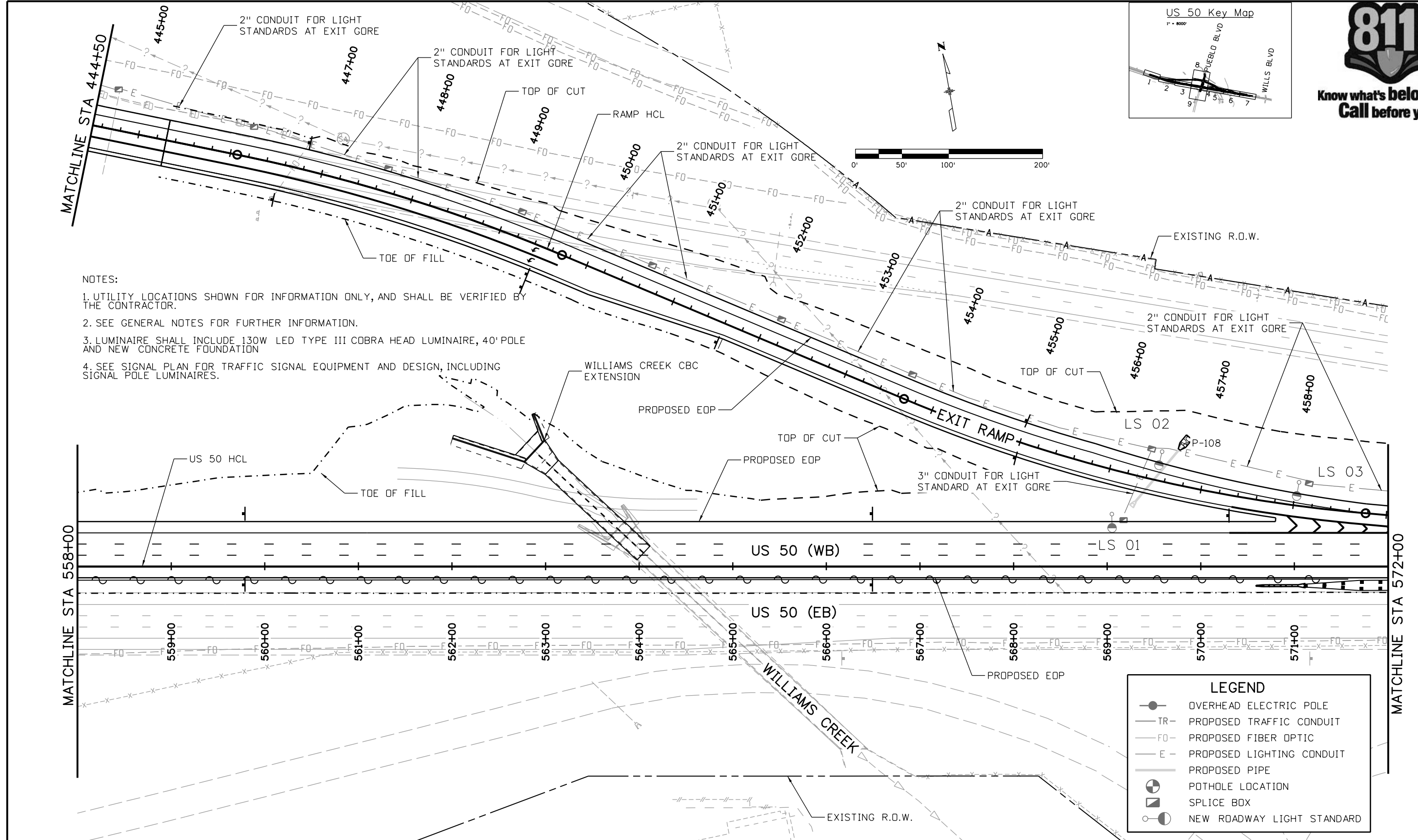


Print Date: 3/2/2017	Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST WESTBOUND UTILITY PLAN		Project No./Code	
File Name: 20344-Utility_04.dgn	Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509, FAX: 719-546-5702	No Revisions:		US 50		STA 0503-085	
Horiz. Scale: 1:100 Vert. Scale:					Revised:		Designer: AB		20344	
 J.F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120					Void:		Detailer: AB		Sheet Number 29	
				Region 2	DTD	Subset: UT		Subset Sheets: 04 of 09		

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- NOTES:
1. UTILITY LOCATIONS SHOWN FOR INFORMATION ONLY, AND SHALL BE VERIFIED BY THE CONTRACTOR.
 2. SEE GENERAL NOTES FOR FURTHER INFORMATION.
 3. LUMINAIRE SHALL INCLUDE 130W LED TYPE III COBRA HEAD LUMINAIRE, 40' POLE AND NEW CONCRETE FOUNDATION
 4. SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.

LEGEND	
	OVERHEAD ELECTRIC POLE
	PROPOSED TRAFFIC CONDUIT
	PROPOSED FIBER OPTIC
	PROPOSED LIGHTING CONDUIT
	PROPOSED PIPE
	POTHOLE LOCATION
	SPLICE BOX
	NEW ROADWAY LIGHT STANDARD

Print Date: 3/2/2017
 File Name: 20344-Utility_05.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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Sheet Revisions		
Date:	Comments	Init.

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Region 2 **DTD**

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No Revisions:
Revised:
Void:

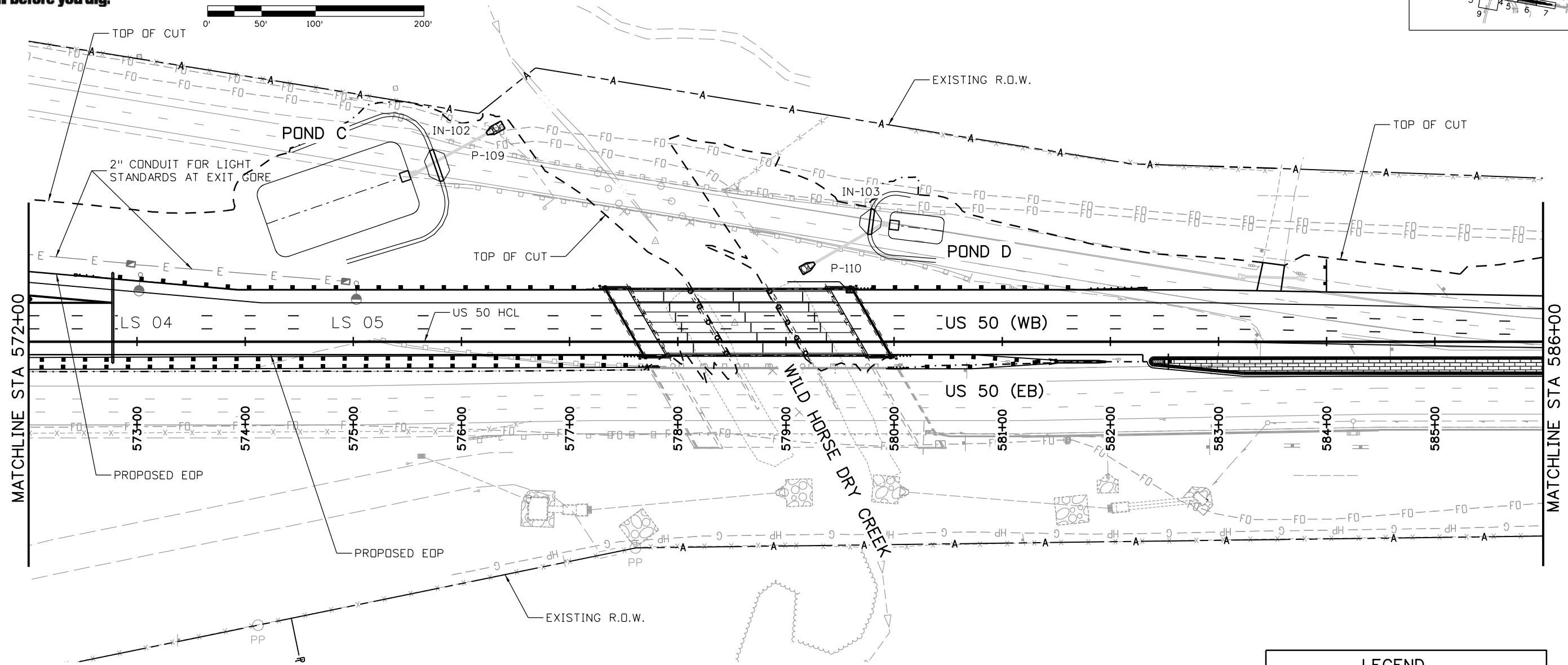
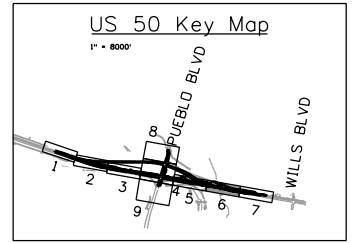
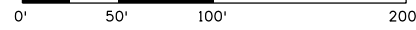
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	UT	Subset Sheets:	05 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 30

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2. SEE GENERAL NOTES FOR FURTHER INFORMATION.
3. LUMINAIRE SHALL INCLUDE 130W LED TYPE III COBRA HEAD LUMINAIRE, 40' POLE AND NEW CONCRETE FOUNDATION
4. SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.

LEGEND	
	OVERHEAD ELECTRIC POLE
	PROPOSED TRAFFIC CONDUIT
	PROPOSED FIBER OPTIC
	PROPOSED LIGHTING CONDUIT
	PROPOSED PIPE
	POTHOLE LOCATION
	SPLICE BOX
	NEW ROADWAY LIGHT STANDARD

Print Date: 3/2/2017
 File Name: 20344-Utility_06.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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Region 2 DTD

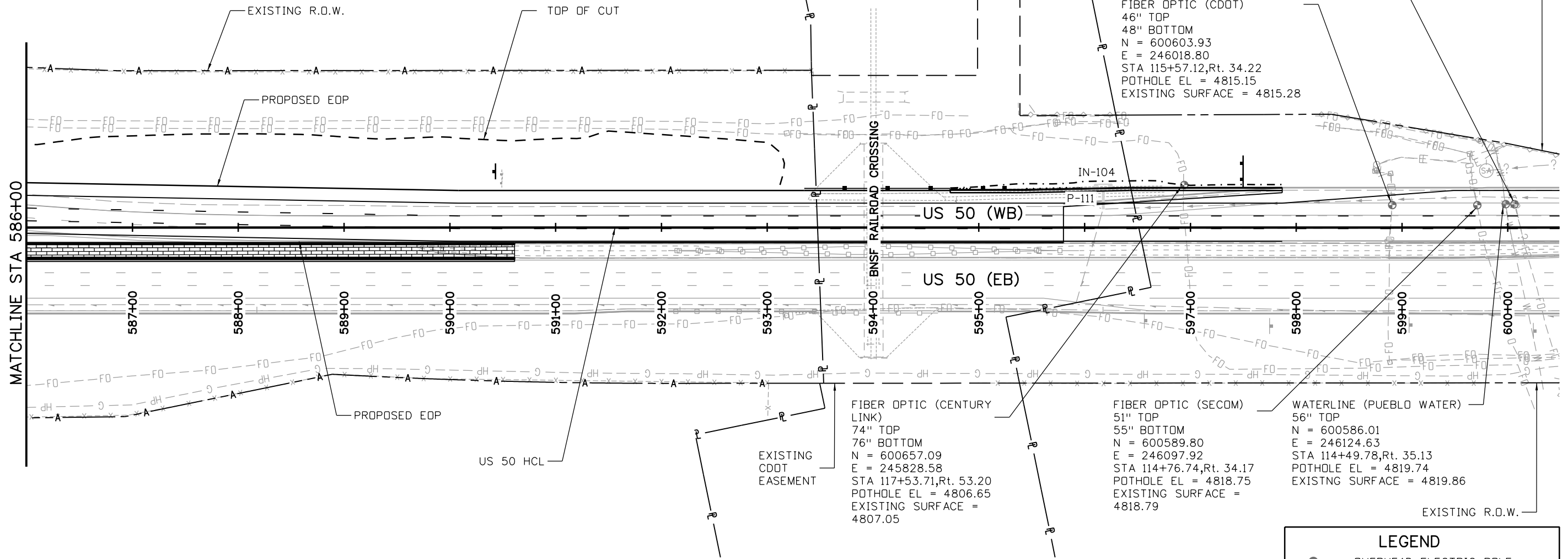
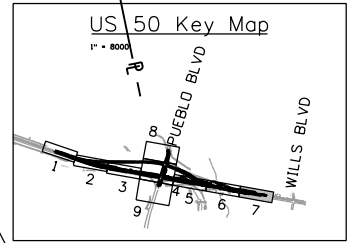
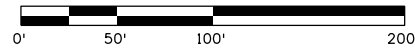
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Revised:
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	UT	Subset Sheets:	06 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 31



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NOTES:

- UTILITY LOCATIONS SHOWN FOR INFORMATION ONLY, AND SHALL BE VERIFIED BY THE CONTRACTOR.
- SEE GENERAL NOTES FOR FURTHER INFORMATION.
- LUMINAIRE SHALL INCLUDE 130W LED TYPE III COBRA HEAD LUMINAIRE, 40' POLE AND NEW CONCRETE FOUNDATION
- SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.

LEGEND	
	OVERHEAD ELECTRIC POLE
	PROPOSED TRAFFIC CONDUIT
	PROPOSED FIBER OPTIC
	PROPOSED LIGHTING CONDUIT
	PROPOSED PIPE
	POTHOLE LOCATION
	SPLICE BOX
	NEW ROADWAY LIGHT STANDARD

Print Date: 3/2/2017
 File Name: 20344-Utility_07.dgn
 Horiz. Scale: 1:100 Vert. Scale:
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Sheet Revisions		
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No Revisions:
Revised:
Void:

**US 50 WEST WESTBOUND
 UTILITY PLAN
 US 50**

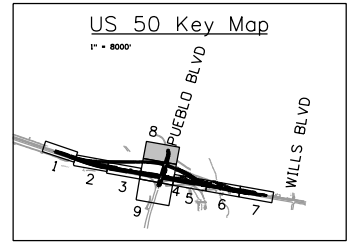
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 Subset: UT Subset Sheets: 07 of 09

Project No./Code
STA 0503-085
Sheet Number 32

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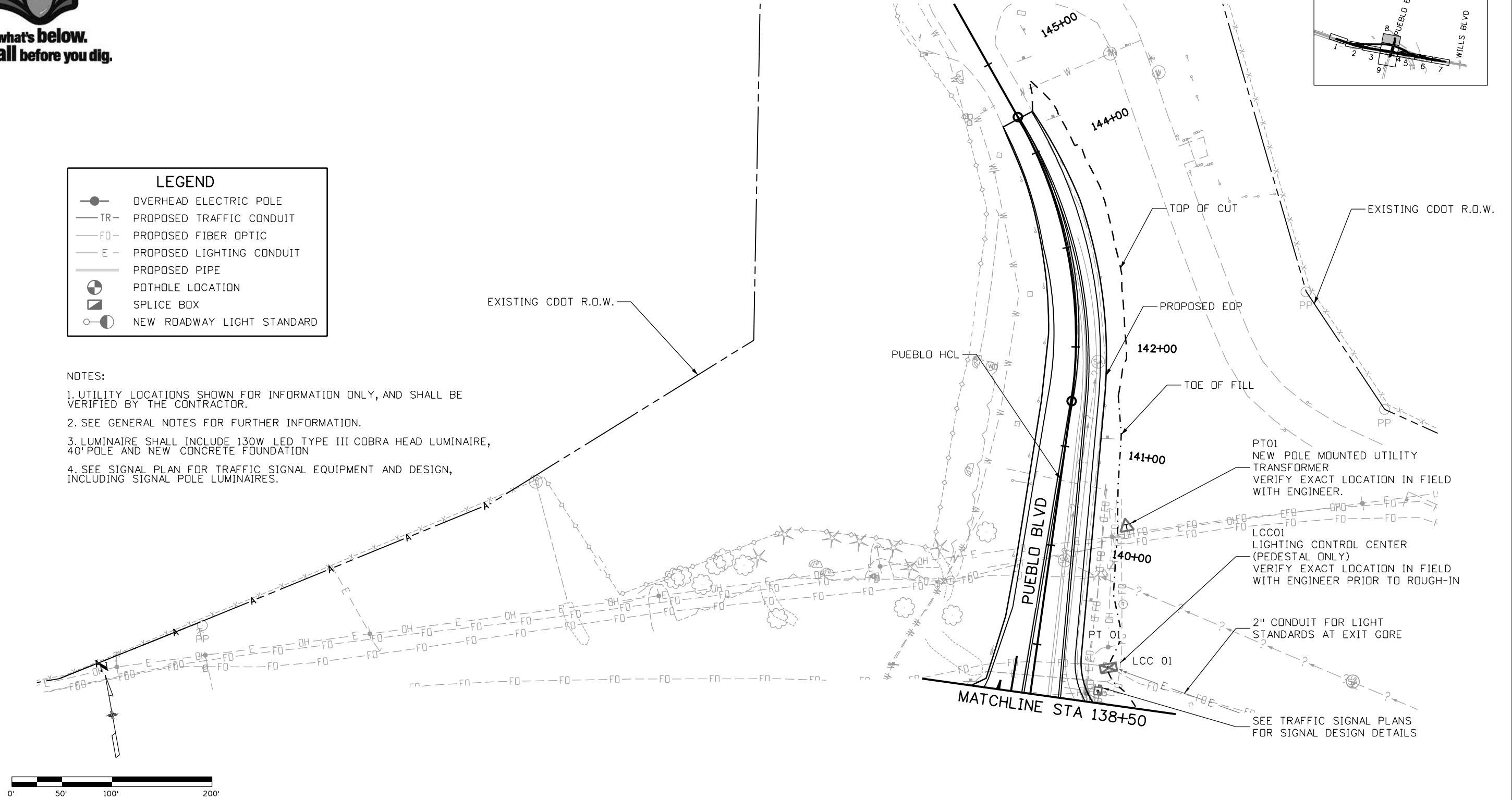
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LEGEND	
	OVERHEAD ELECTRIC POLE
	PROPOSED TRAFFIC CONDUIT
	PROPOSED FIBER OPTIC
	PROPOSED LIGHTING CONDUIT
	PROPOSED PIPE
	POTHOLE LOCATION
	SPLICE BOX
	NEW ROADWAY LIGHT STANDARD

NOTES:

- UTILITY LOCATIONS SHOWN FOR INFORMATION ONLY, AND SHALL BE VERIFIED BY THE CONTRACTOR.
- SEE GENERAL NOTES FOR FURTHER INFORMATION.
- LUMINAIRE SHALL INCLUDE 130W LED TYPE III COBRA HEAD LUMINAIRE, 40' POLE AND NEW CONCRETE FOUNDATION
- SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.



- PT01
NEW POLE MOUNTED UTILITY TRANSFORMER
VERIFY EXACT LOCATION IN FIELD WITH ENGINEER.
- LCC01
LIGHTING CONTROL CENTER (PEDESTAL ONLY)
VERIFY EXACT LOCATION IN FIELD WITH ENGINEER PRIOR TO ROUGH-IN
- 2" CONDUIT FOR LIGHT STANDARDS AT EXIT GORE
- SEE TRAFFIC SIGNAL PLANS FOR SIGNAL DESIGN DETAILS

Print Date: 3/2/2017
 File Name: 20344-Utility_08.dgn
 Horiz. Scale: 1:100 Vert. Scale:
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No Revisions:
Revised:
Void:

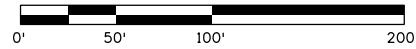
US 50 WEST WESTBOUND UTILITY PLAN PUEBLO BLVD			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	UT	Subset Sheets:	08 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 33

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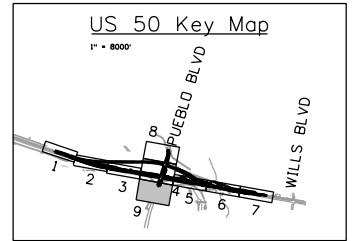
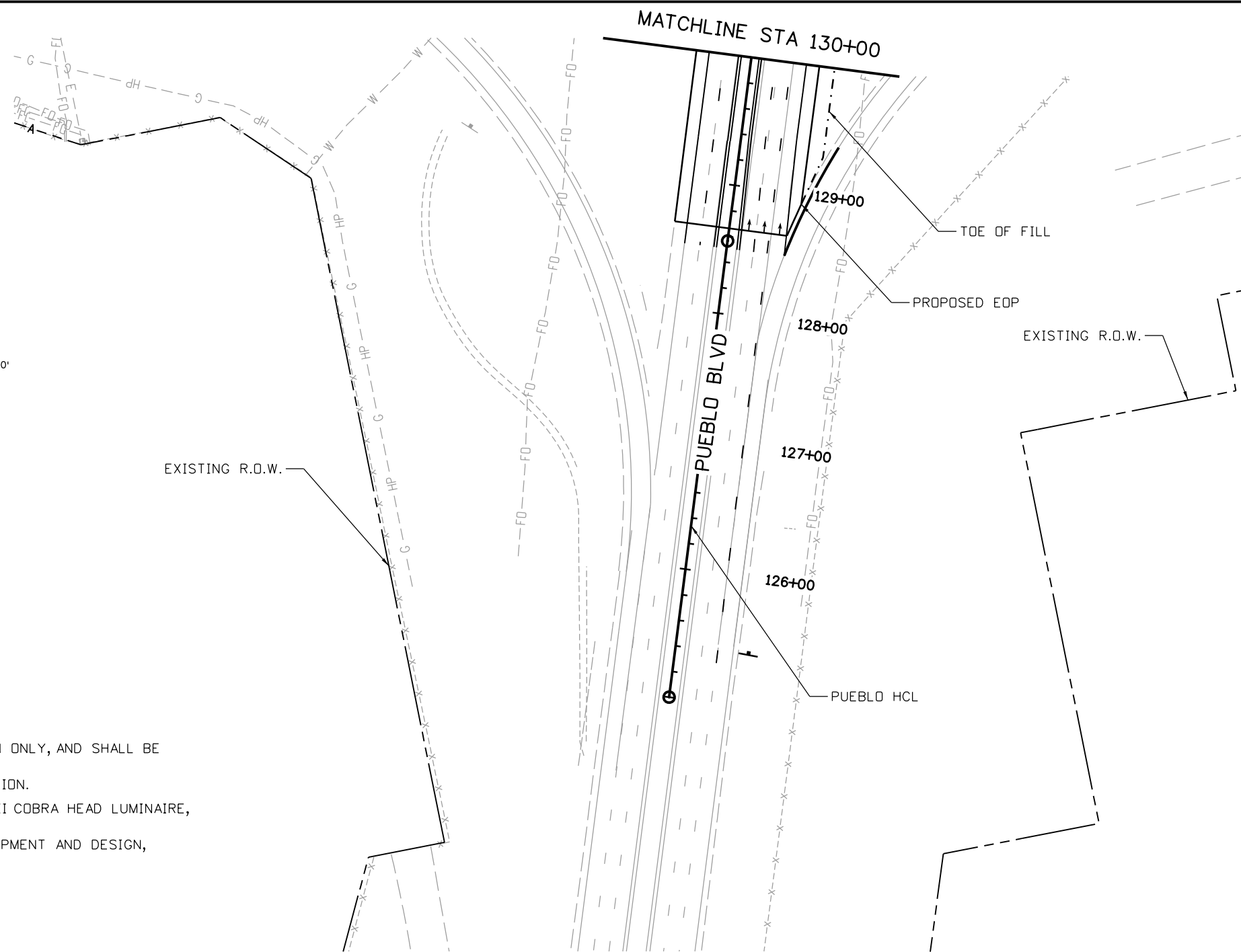


LEGEND

- OVERHEAD ELECTRIC POLE
- PROPOSED TRAFFIC CONDUIT
- PROPOSED FIBER OPTIC
- PROPOSED LIGHTING CONDUIT
- PROPOSED PIPE
- POTHOLE LOCATION
- SPLICE BOX
- NEW ROADWAY LIGHT STANDARD

NOTES:

1. UTILITY LOCATIONS SHOWN FOR INFORMATION ONLY, AND SHALL BE VERIFIED BY THE CONTRACTOR.
2. SEE GENERAL NOTES FOR FURTHER INFORMATION.
3. LUMINAIRE SHALL INCLUDE 130W LED TYPE II COBRA HEAD LUMINAIRE, 40' POLE AND NEW CONCRETE FOUNDATION
4. SEE SIGNAL PLAN FOR TRAFFIC SIGNAL EQUIPMENT AND DESIGN, INCLUDING SIGNAL POLE LUMINAIRES.



Print Date: 3/2/2017
 File Name: 20344-Utility_09.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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Date:	Comments	Init.

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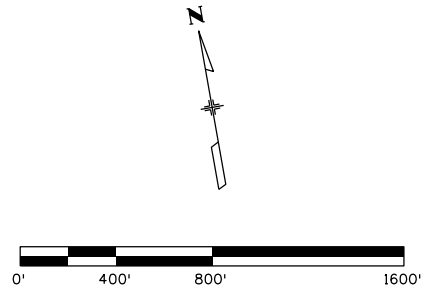
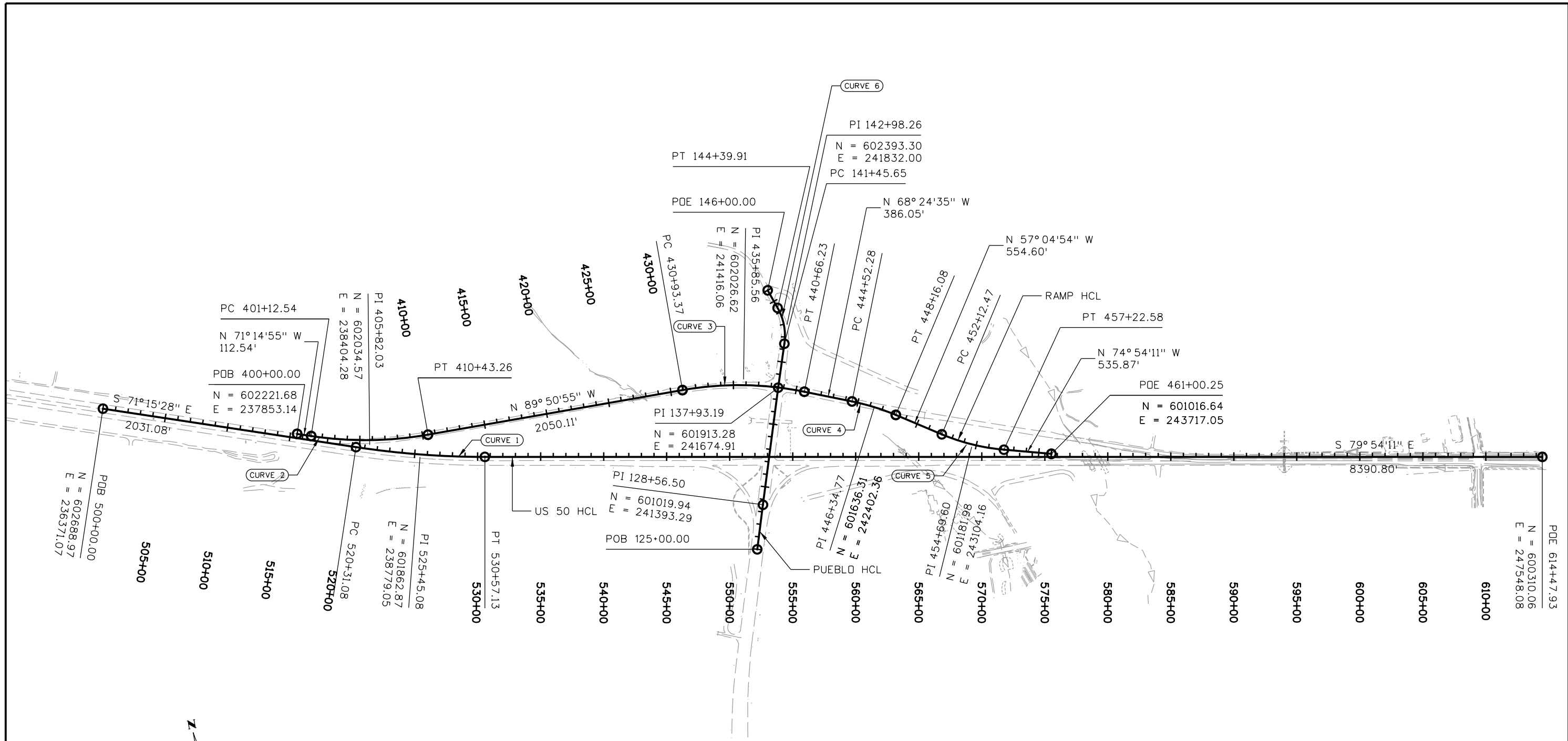
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As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND UTILITY PLAN PUEBLO BLVD			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	UT	Subset Sheets:	09 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 34

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Curve Table							
Curve	Radius	Arc	Chord	Tangent	Middle	External	Chord
		Length	Length	Length	Ordinate	Distance	Direction
1	6800	1026.05	1025.08	514	19.34	19.4	S 75°34'49" E
2	2867	930.72	926.64	469.49	37.68	38.19	S 80°32'55" E
3	2600	972.86	967.2	492.19	45.37	46.18	S 79°07'45" E
4	1840	363.79	363.2	182.49	8.98	9.03	S 62°44'45" E
5	1640	510.11	508.06	257.13	19.79	20.04	S 65°59'32" E
6	450	294.26	289.05	152.61	23.84	25.17	N 0°36'44" W

Print Date: 3/2/2017
 File Name: 20344DES_Geometry01.dgn
 Horiz. Scale: 1:800 Vert. Scale: As Noted

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 No Revisions:
 Revised:
 Void:

US 50 WEST WESTBOUND
 GEOMETRY PLAN
 US 50

Designer: ACE
 Detailer: ACE
 Subset: GEOM

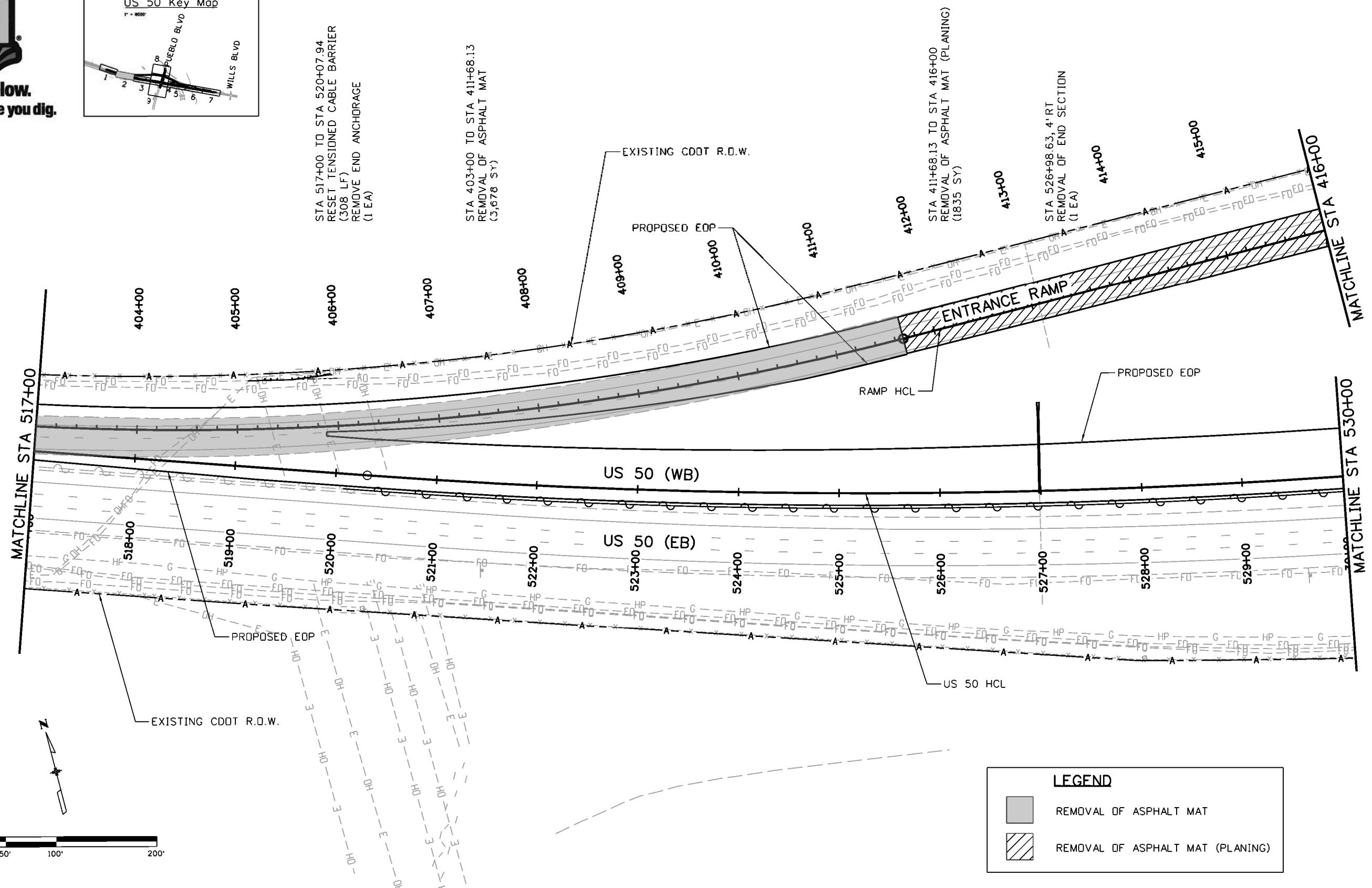
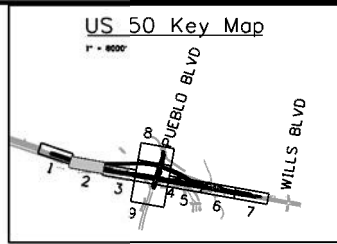
Structure Numbers
 Subset Sheets: 01 of 01

Project No./Code
 STA 0503-085
 20344
 Sheet Number **35**

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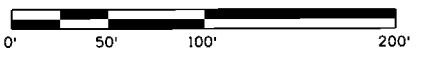
STA 517+00 TO STA 520+07.94
RESET TENSIONED CABLE BARRIER
(308 LF)
REMOVE END ANCHORAGE
(1 EA)

STA 403+00 TO STA 411+68.13
REMOVAL OF ASPHALT MAT
(3,678 SY)

STA 411+68.13 TO STA 416+00
REMOVAL OF ASPHALT MAT (PLANING)
(1835 SY)

STA 526+98.63, 4' RT
REMOVAL OF END SECTION
(1 EA)

LEGEND	
	REMOVAL OF ASPHALT MAT
	REMOVAL OF ASPHALT MAT (PLANING)



Print Date: 3/8/2017
File Name: 20344-Removal02.dgn
Horiz. Scale: 1:100 Vert. Scale:

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Sheet Revisions		
Date:	Comments	Init.

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Region 2 DTD

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Revised:
Void:

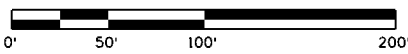
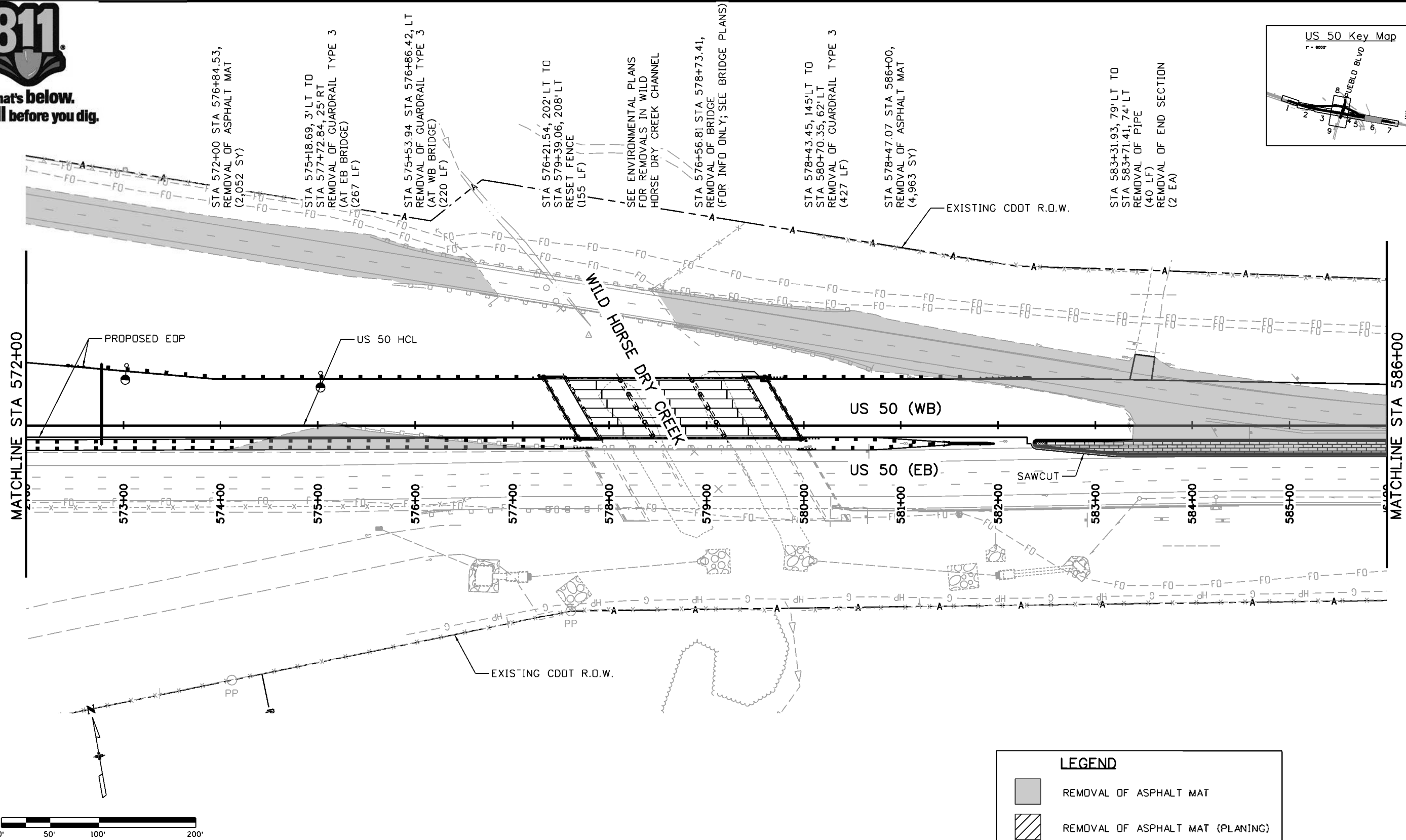
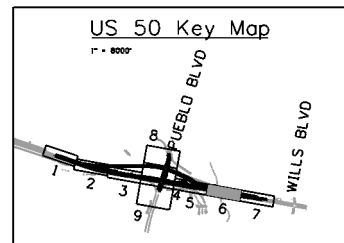
US 50 WEST WESTBOUND REMOVAL AND RESET PLAN US 50			
Designer:	ACE	Structure	
Detailer:	ACE	Numbers	
Subset:	REM	Subset Sheets:	02 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 37

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LEGEND	
	REMOVAL OF ASPHALT MAT
	REMOVAL OF ASPHALT MAT (PLANING)

Print Date: 3/8/2017
 File Name: 20344-Removal06.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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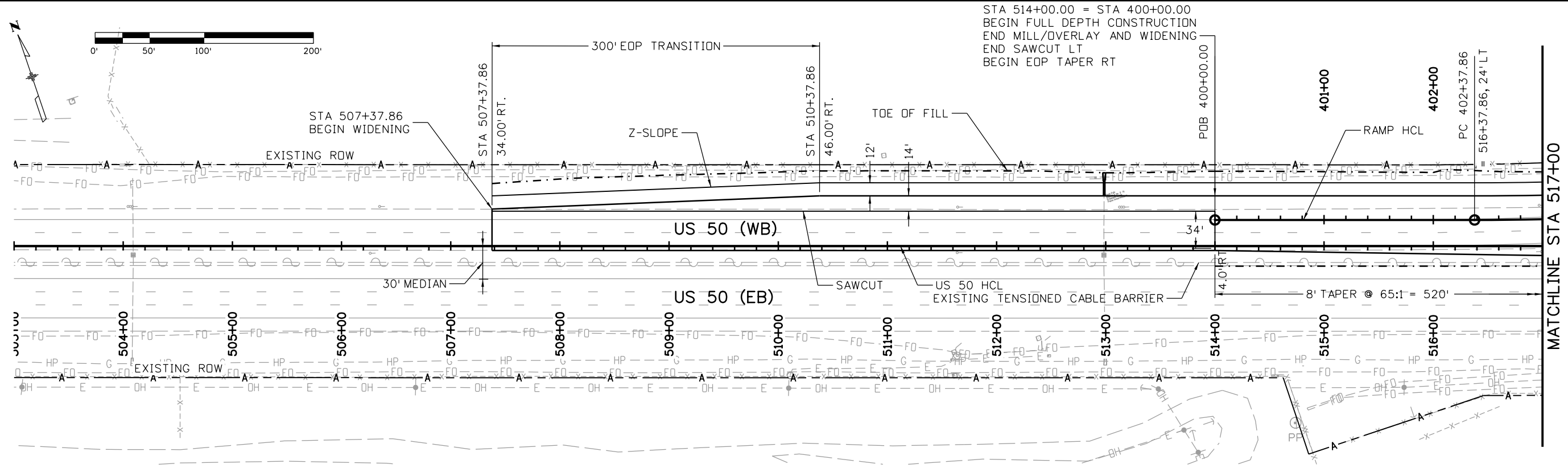
Region 2 DTD

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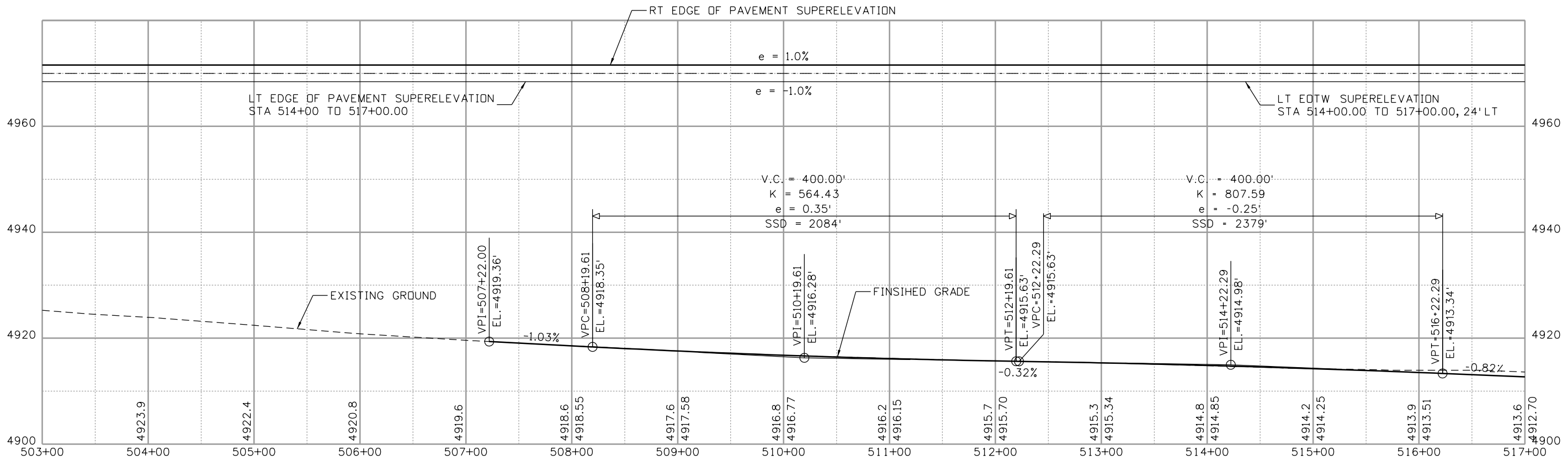
US 50 WEST WESTBOUND REMOVAL AND RESET PLAN US 50			
Designer:	ACE	Structure	
Detailer:	ACE	Structure	
Subset:	REM	Subset Sheets:	06 of 09

Project No./Code
ST 501-035
Sheet Number 41

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STA 514+00.00 = STA 400+00.00
 BEGIN FULL DEPTH CONSTRUCTION
 END MILL/OVERLAY AND WIDENING
 END SAWCUT LT
 BEGIN EOP TAPER RT



Print Date: 3/2/2017
 File Name: 20344-RoadwayPn01.dgn
 Horiz. Scale: 1:100 Vert. Scale:
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Region 2 DTD

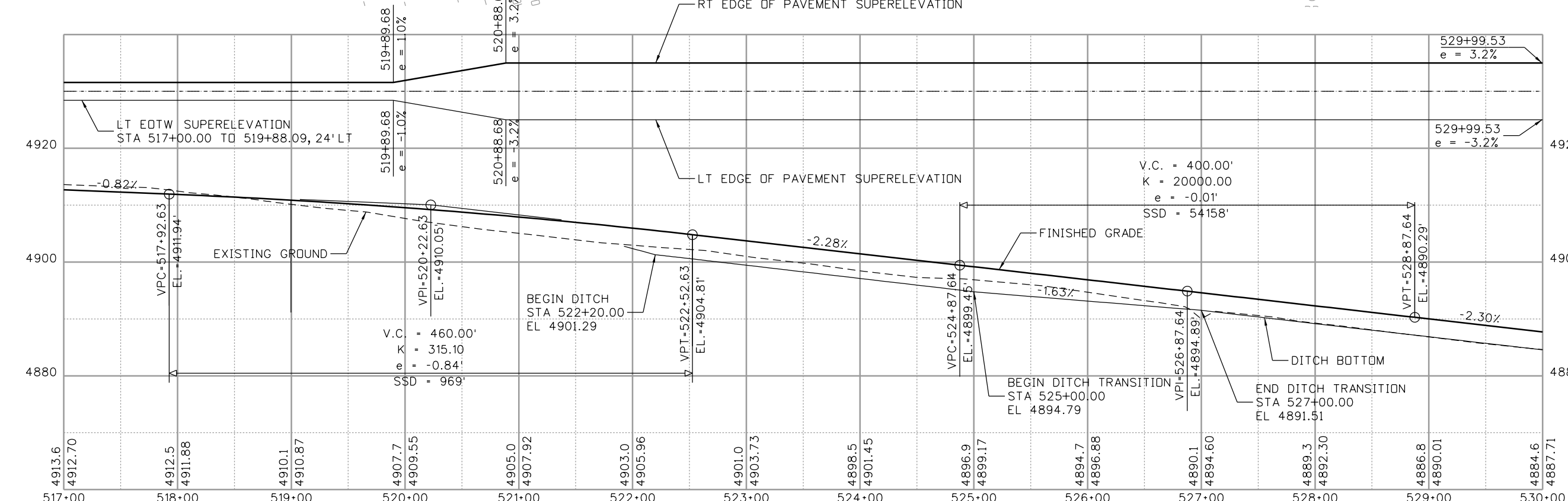
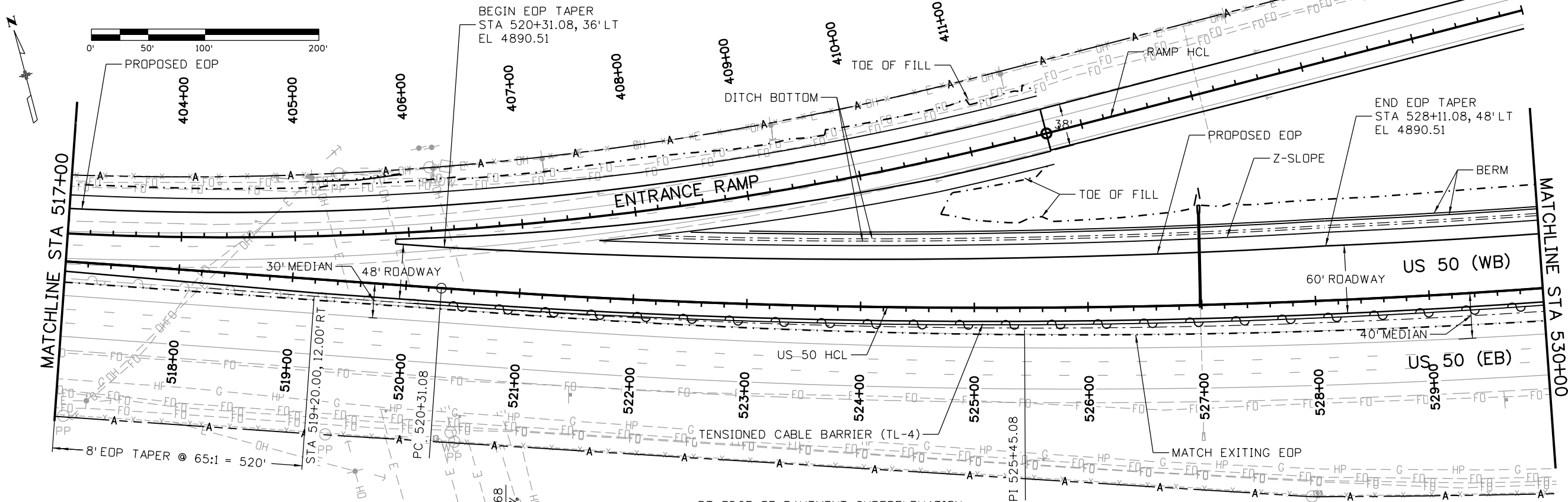
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No Revisions:
Revised:
Void:

**US 50 WEST WESTBOUND
 ROADWAY PLAN AND PROFILE
 US 50**

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	RPP	Subset Sheets: 01 of 14	

Project No./Code
STA 0503-085
20344
Sheet Number 45

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Print Date: 3/2/2017
 File Name: 20344-RoadwayPn02.dgn
 Horiz. Scale: 1:100 Vert. Scale:
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Region 2 **DTD**

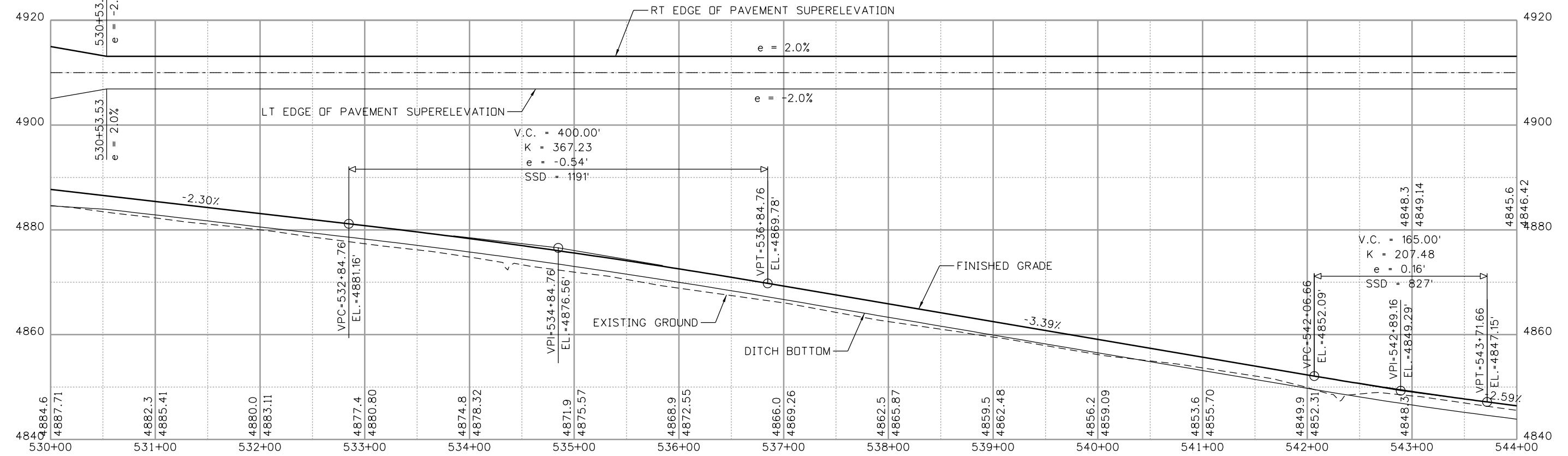
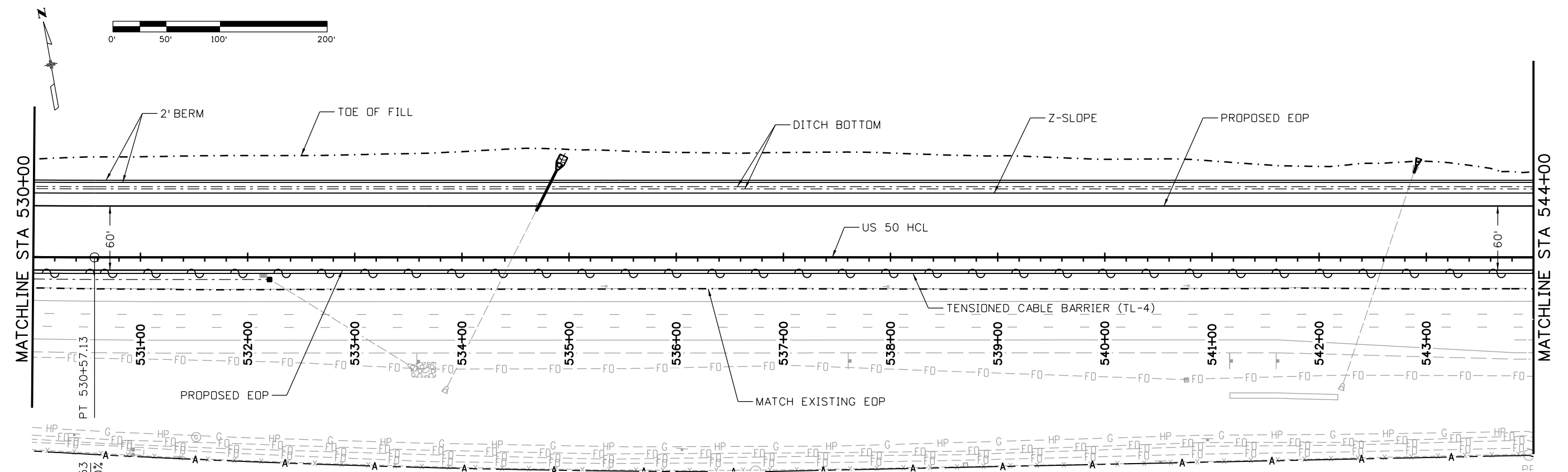
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**US 50 WEST WESTBOUND
 ROADWAY PLAN AND PROFILE
 US 50**
 Designer: ACE
 Detailer: ACE
 Subset: RPP
 Structure Numbers
 Subset Sheets: 02 of 14

Project No./Code
 STA 0503-085
 20344
 Sheet Number **46**

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Region 2 **DTD**

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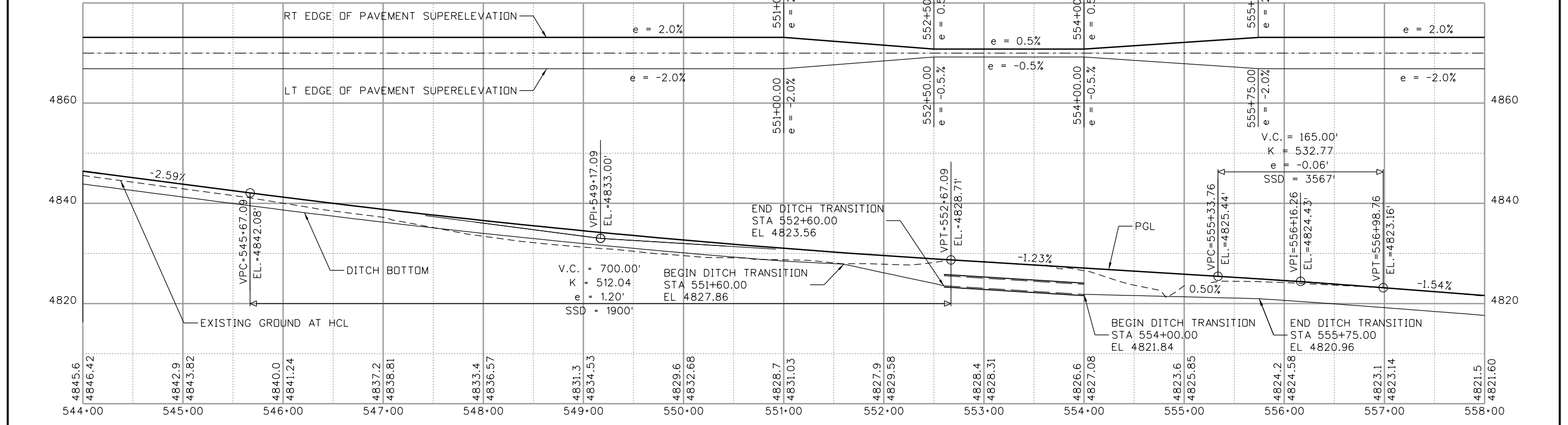
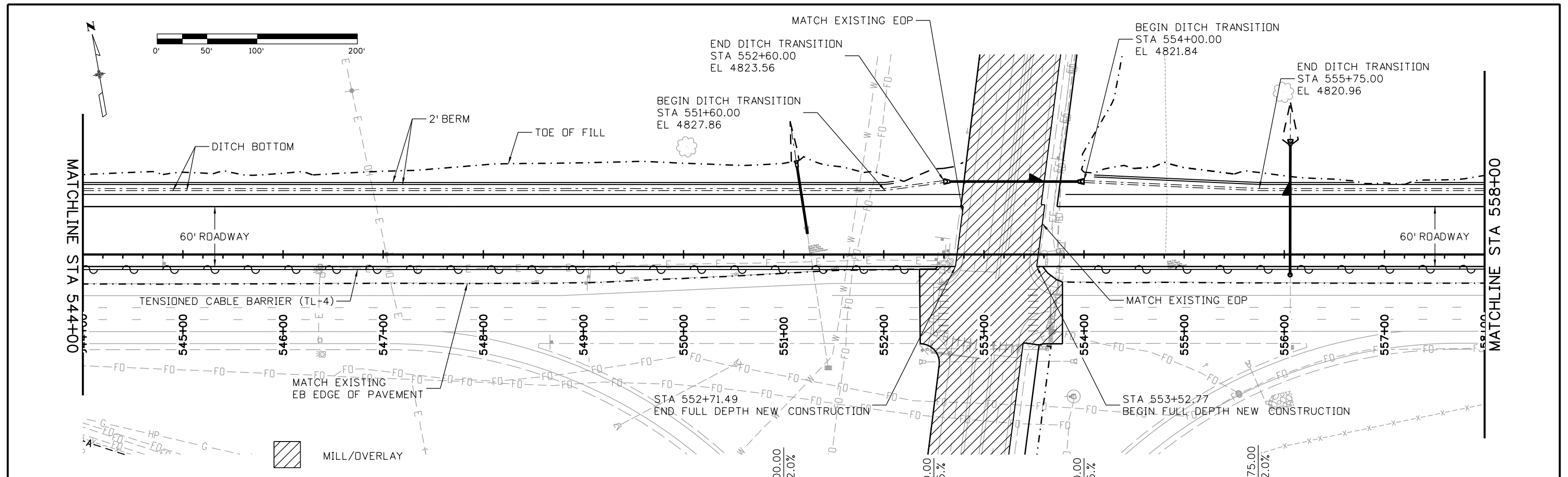
**US 50 WEST WESTBOUND
 ROADWAY PLAN AND PROFILE
 US 50**

Designer:
 Detailer:
 Subset:

Structure Numbers:
 Subset Sheets: 03 of 14

Project No./Code
STA 0503-085
20344
Sheet Number 47

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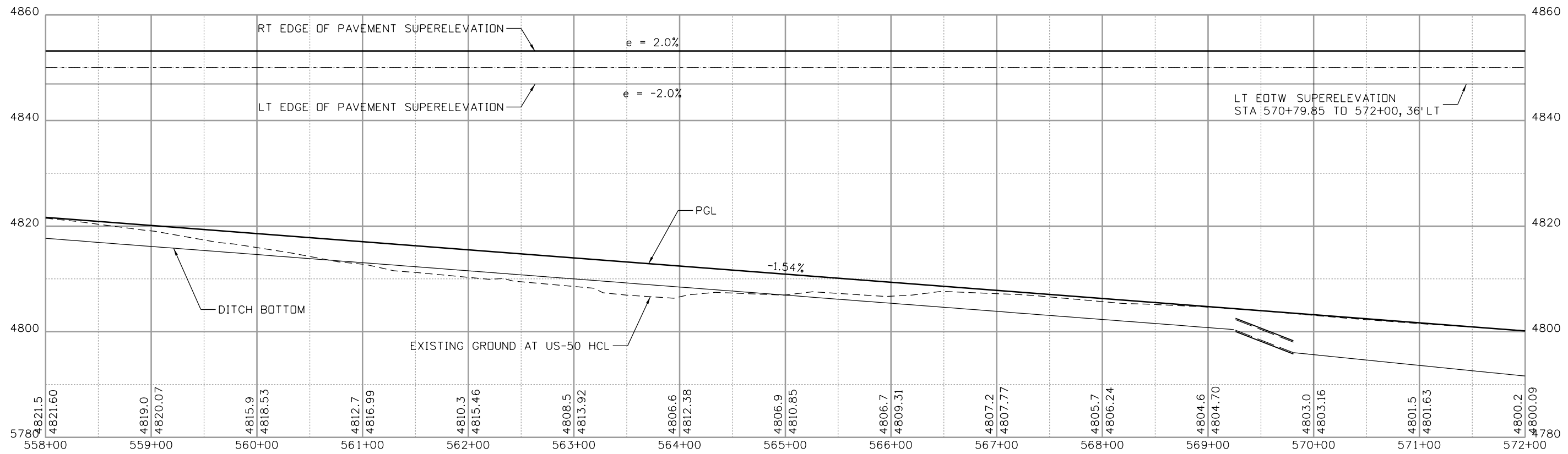
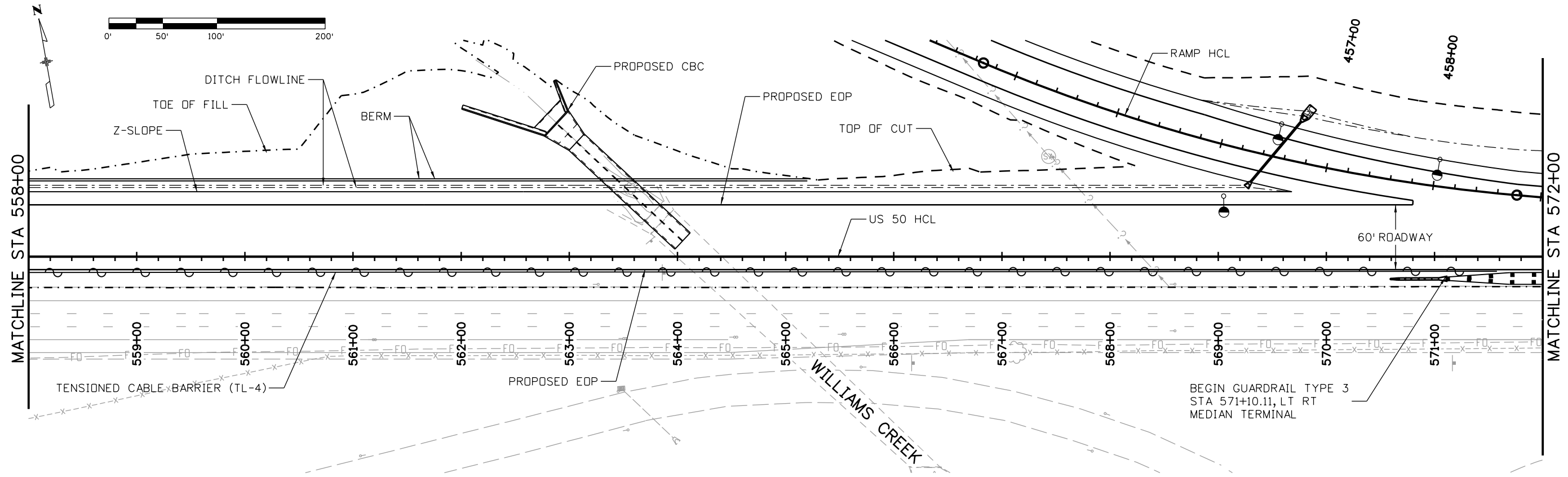
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Region 2 **DTD**

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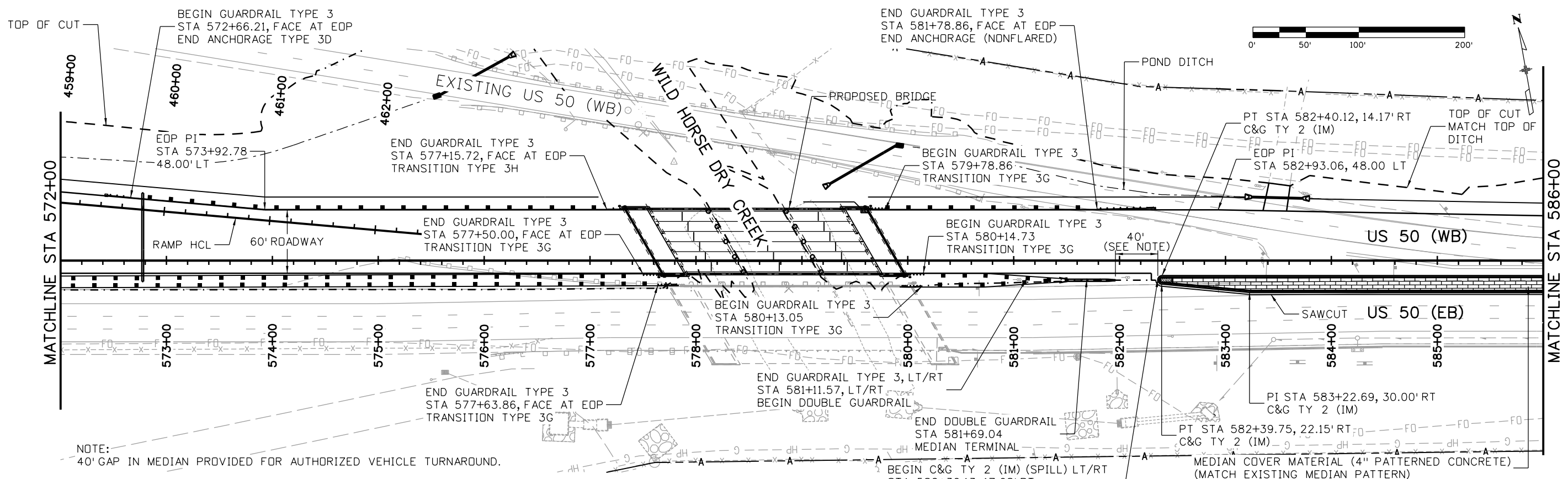
**US 50 WEST WESTBOUND
 ROADWAY PLAN AND PROFILE
 US 50**
 Designer: ACE
 Detailer: ACE
 Subset: RPP
 Structure Numbers
 Subset Sheets: 04 of 14

Project No./Code
 STA 0503-085
 20344
 Sheet Number **48**

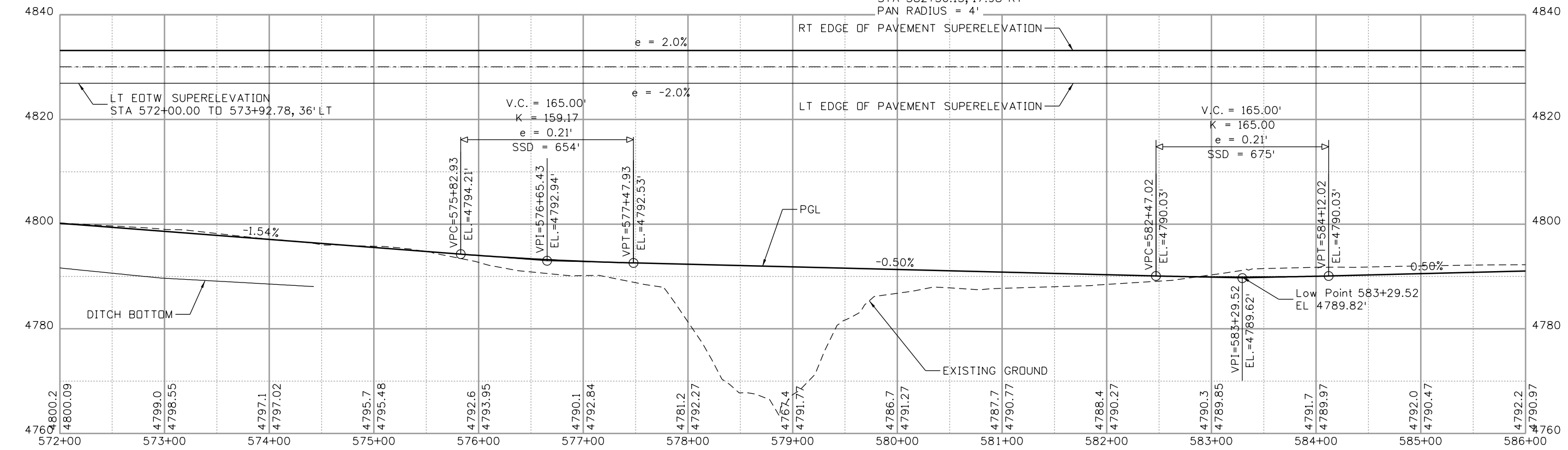


Print Date: 3/2/2017		Sheet Revisions	Colorado Department of Transportation	As Constructed	US 50 WEST WESTBOUND ROADWAY PLAN AND PROFILE US 50	Project No./Code
File Name: 20344-RoadwayPnP05.dgn		Date: Comments Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	No Revisions:	Designer: ACE	STA 0503-085
Horiz. Scale: 1:100 Vert. Scale:	0000			Revised:	Detailer: ACE	20344
J.F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120			Region 2	Void:	Subset: RPP	Sheet Number 49
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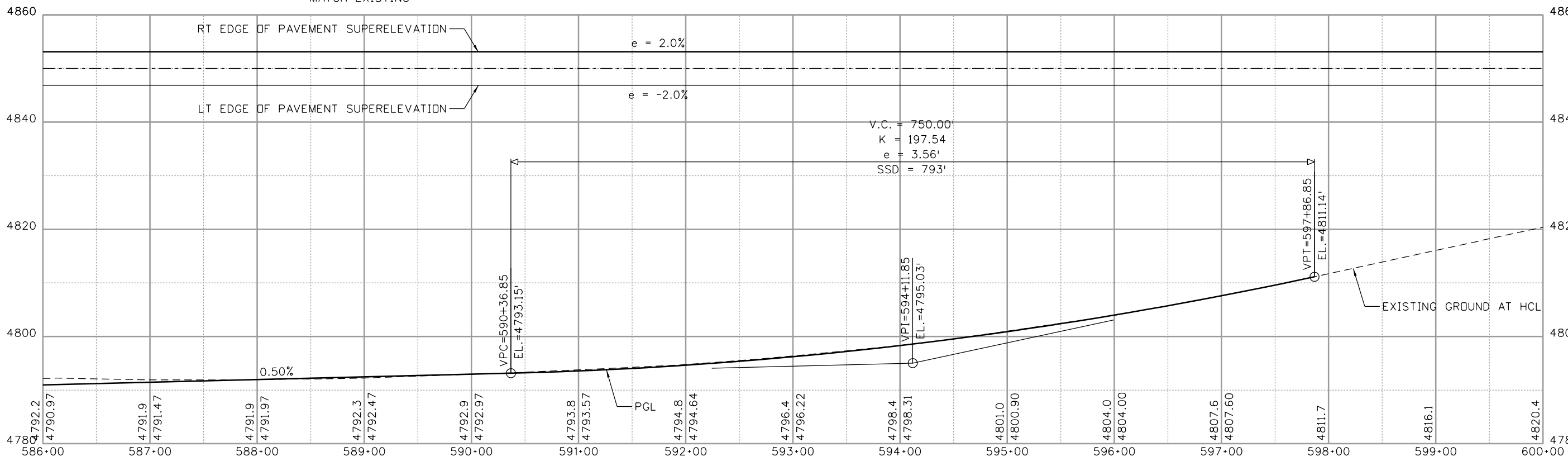
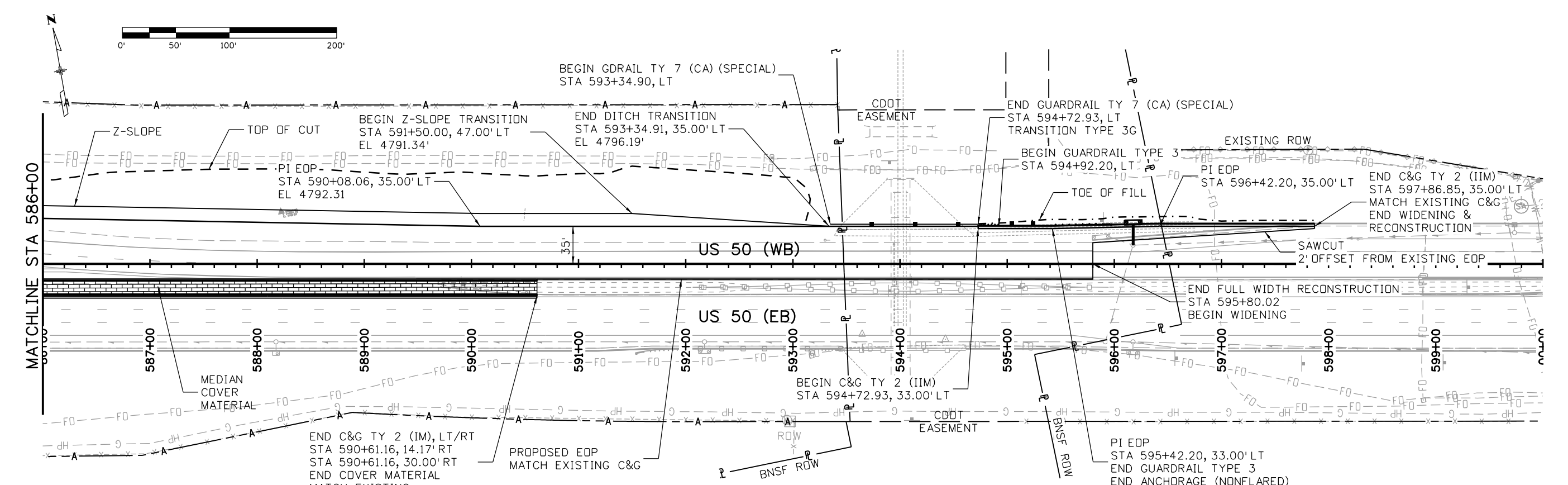
NOTE:
40' GAP IN MEDIAN PROVIDED FOR AUTHORIZED VEHICLE TURNAROUND.



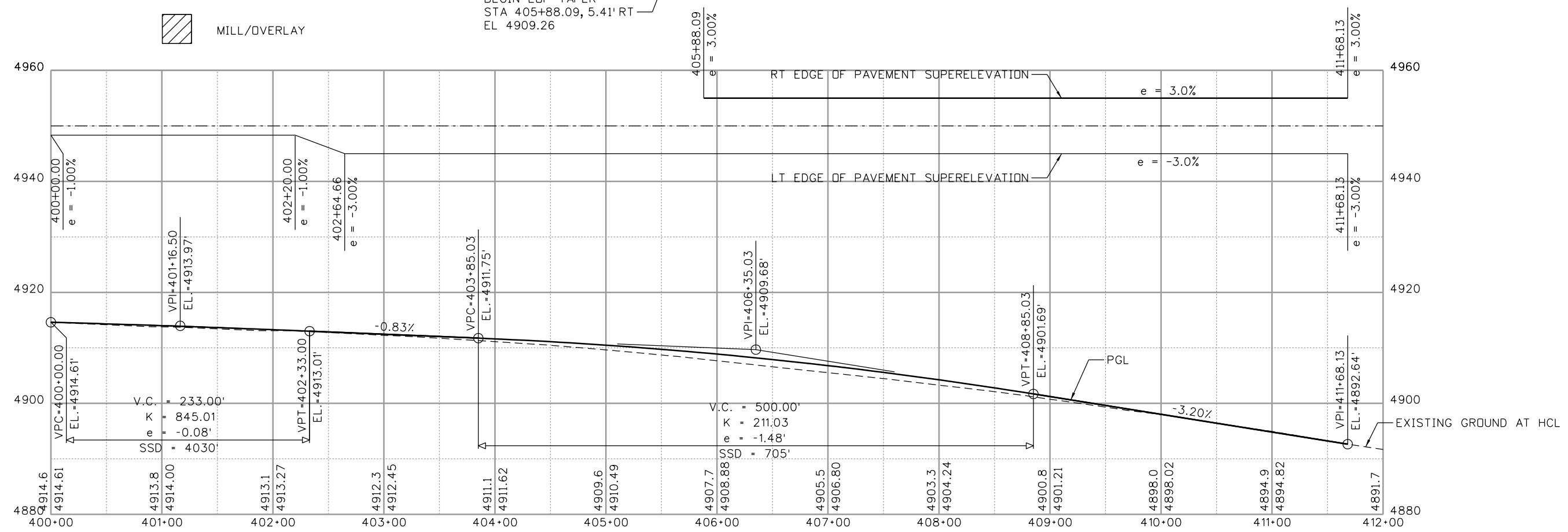
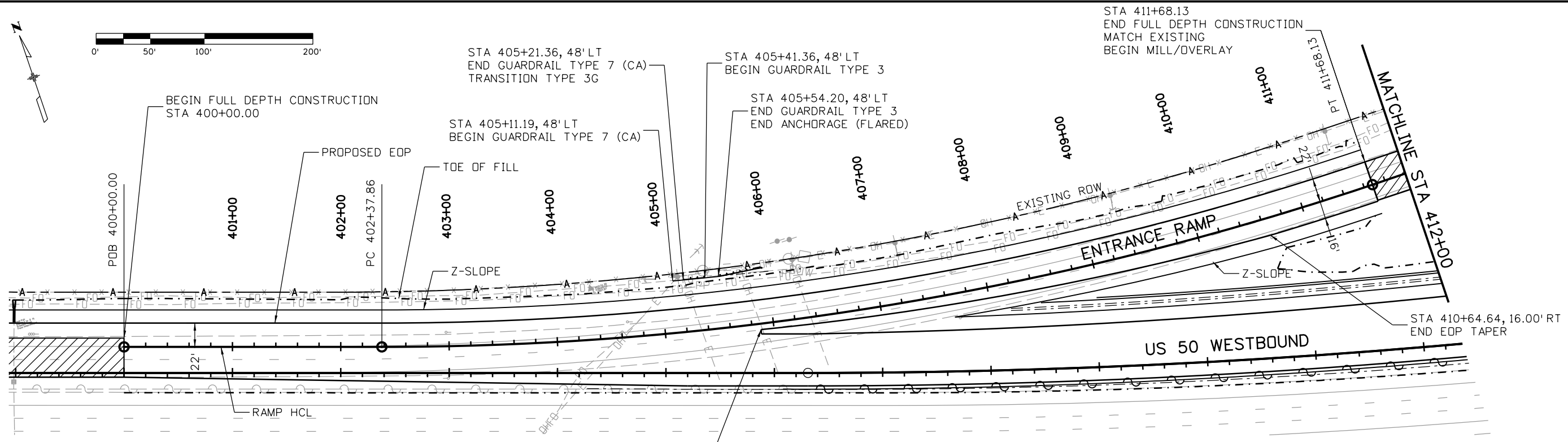
Print Date: 3/2/2017	Sheet Revisions			Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD	As Constructed No Revisions: Revised: Void:	US 50 WEST WESTBOUND ROADWAY PLAN AND PROFILE US 50			Project No./Code STA 0503-085 20344 Sheet Number 50
File Name: 20344-RoadwayPn06.dgn	Date:	Comments:	Init.			Designer: ACE Detailer: ACE Subset: RPP	Structure Numbers Subset Sheets: 06 of 14		
Horiz. Scale: 1:100 Vert. Scale: J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120									

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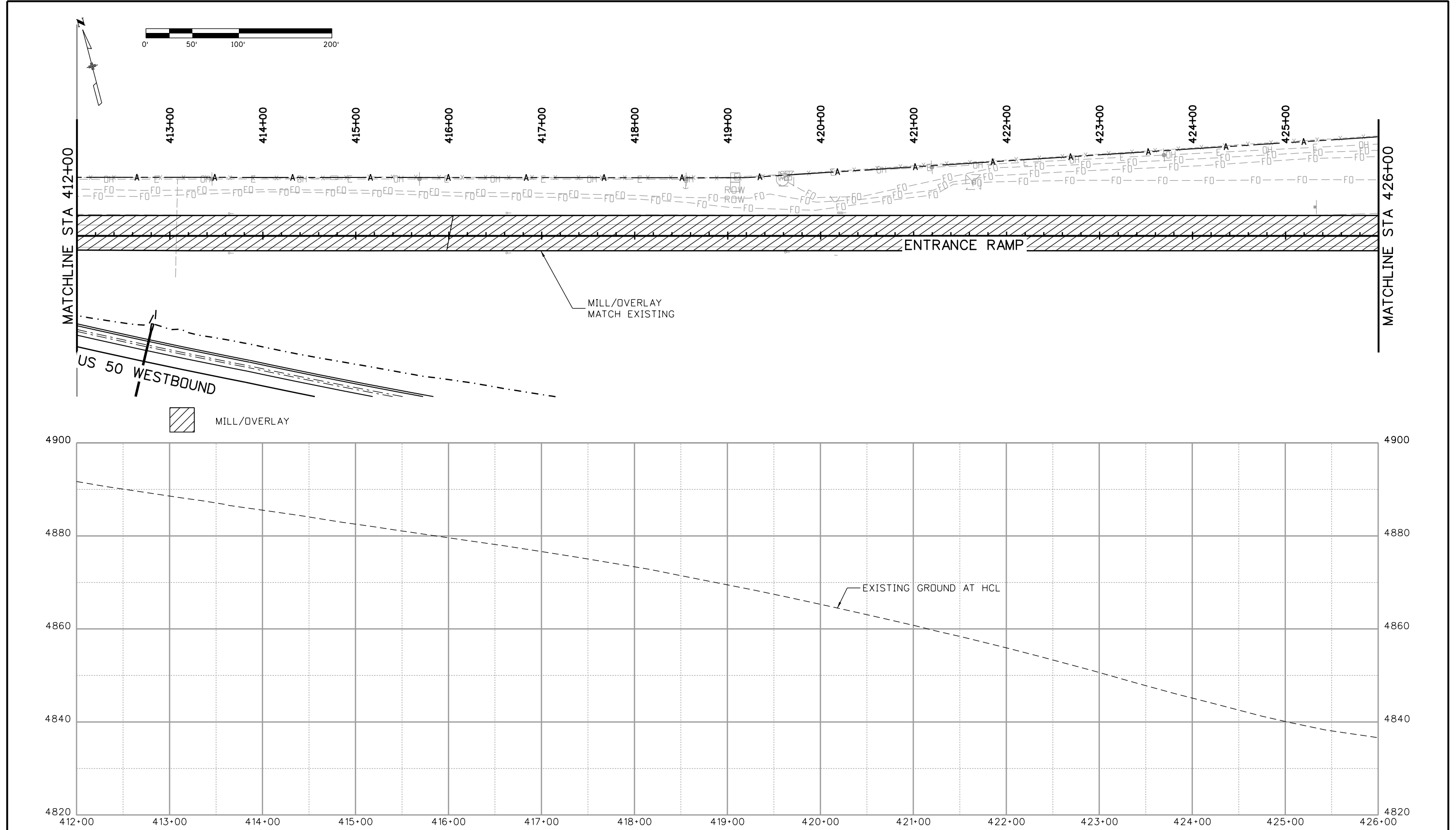
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Horiz. Scale: 1:100 Vert. Scale:					Region 2 DTD		Revised:		Designer: ACE		20344
JFS & A J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120							Void:		Detailer: ACE		Sheet Number 51
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Print Date: 3/2/2017		Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST WESTBOUND ROADWAY PLAN AND PROFILE US 50 ENTRANCE RAMP		Project No./Code	
File Name: 20344-RoadwayPnPO8.dgn		Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		Designer: ACE		STA 0503-085
Horiz. Scale: 1:100		Vert. Scale:		Region 2		Revised:		Detailer: ACE		20344	
JFS & A		J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120		CDOT		Void:		Subset: RPP		Structure Numbers	
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Print Date: 3/2/2017
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 Littleton, Colorado 80120

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Date:	Comments	Init.

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 Pueblo, CO 81001
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Region 2 DTD

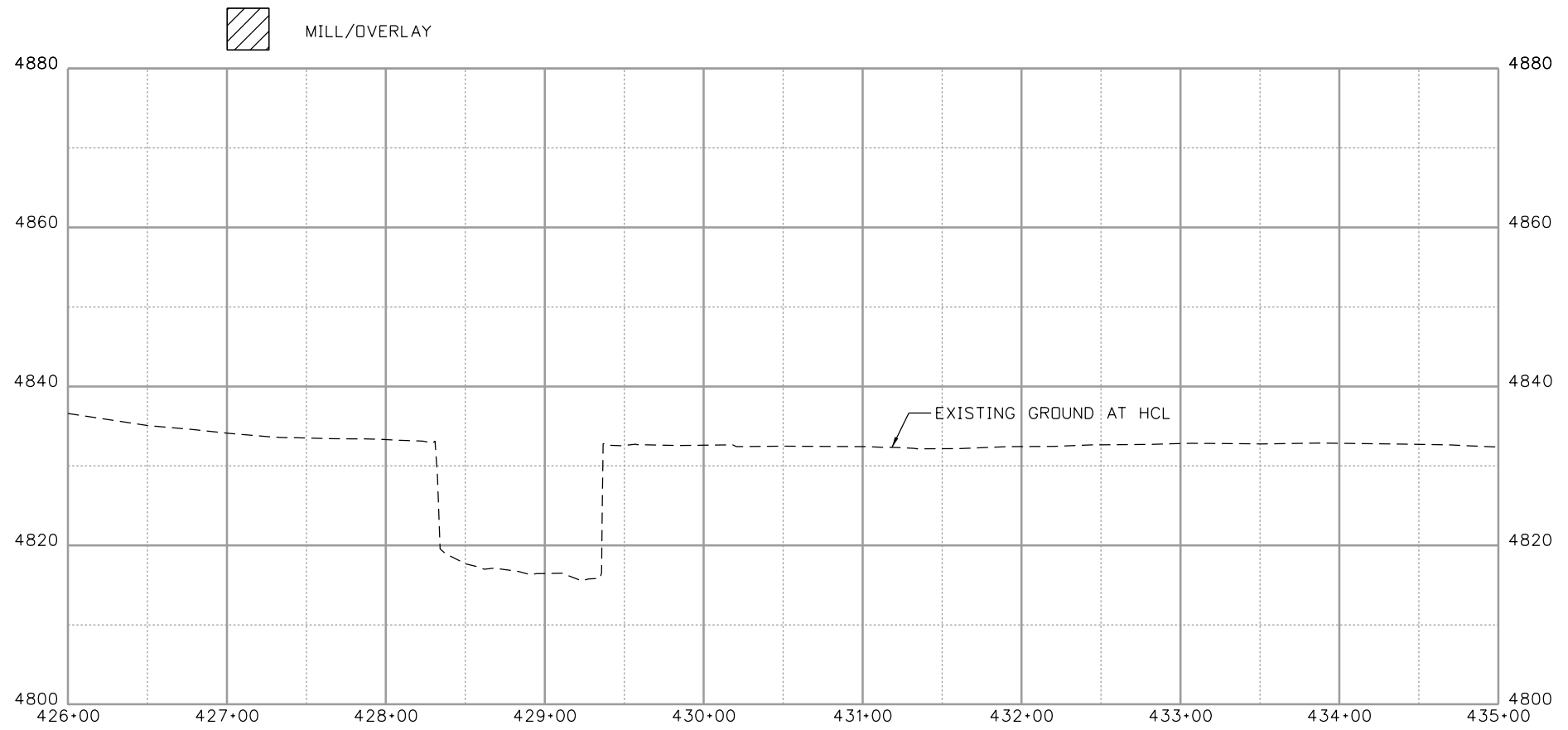
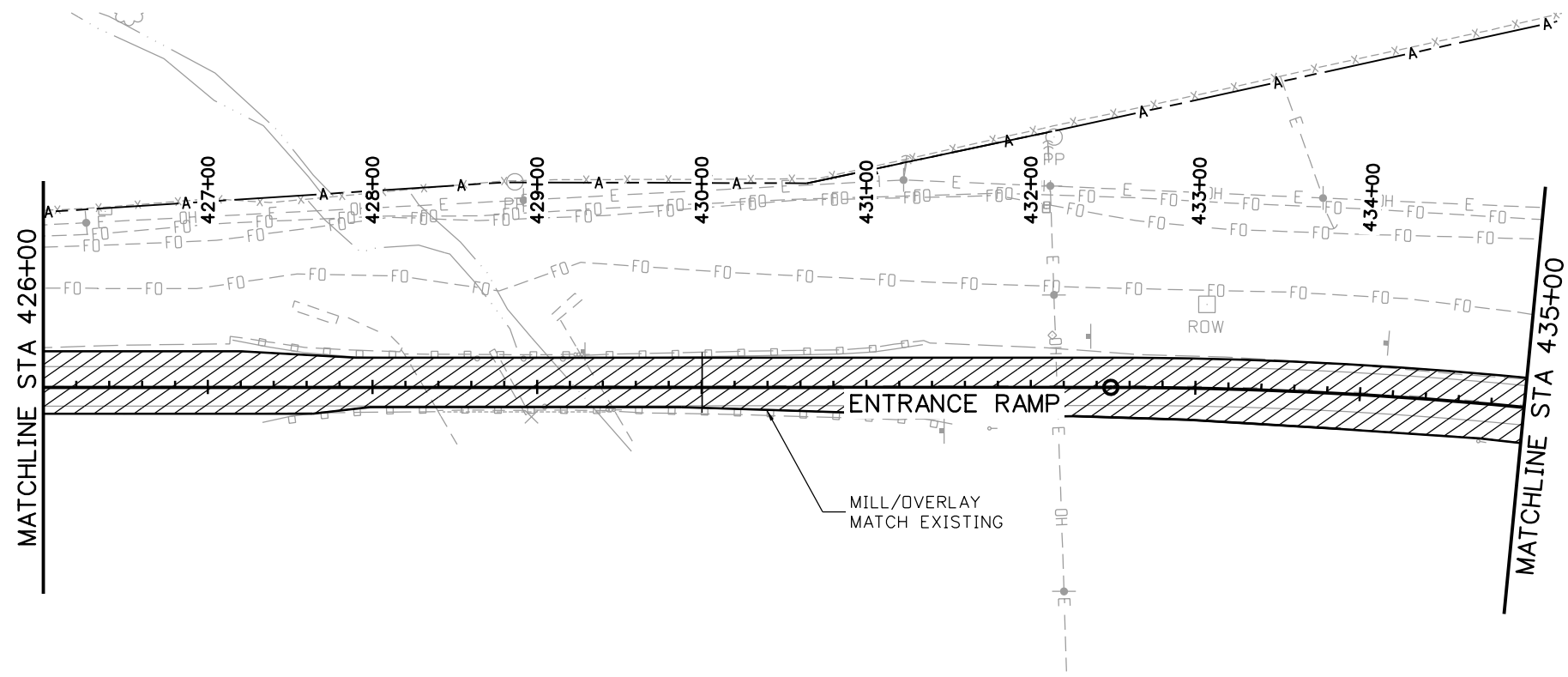
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No Revisions:
Revised:
Void:

**US 50 WEST WESTBOUND
 ROADWAY PLAN AND PROFILE
 US 50 ENTRANCE RAMP**

Designer: ACE Structure Numbers
 Detailer: ACE
 Subset: RPP Subset Sheets: 09 of 14

Project No./Code
STA 0503-085
20344
Sheet Number 53

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Print Date: 3/2/2017
 File Name: 20344-RoadwayPnPI0.dgn
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 5898 South Rapp Street
 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

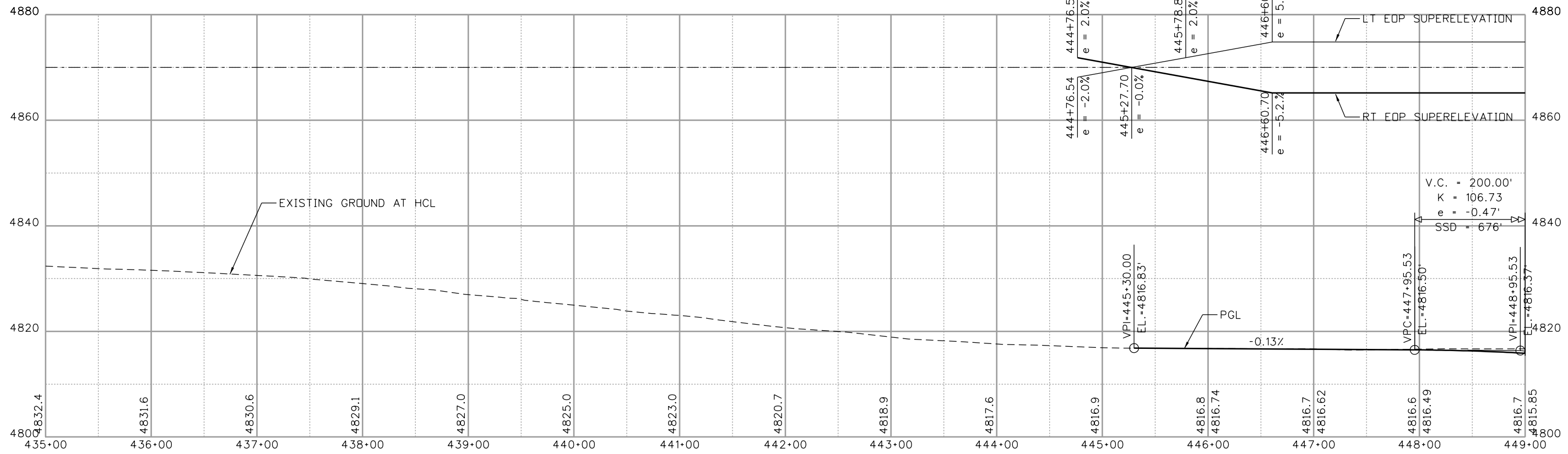
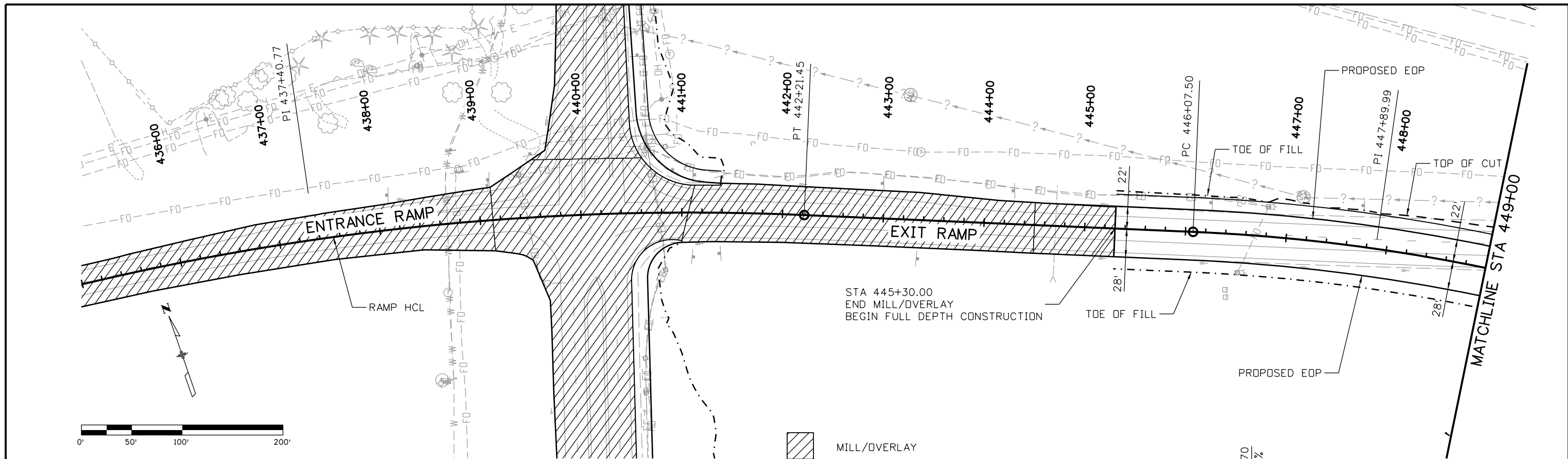
Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 **DTD**

As Constructed
No Revisions:
Revised:
Void:

**US 50 WEST WESTBOUND
 ROADWAY PLAN AND PROFILE
 US 50 ENTRANCE RAMP**

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	RPP	Subset Sheets: 10 of 14	

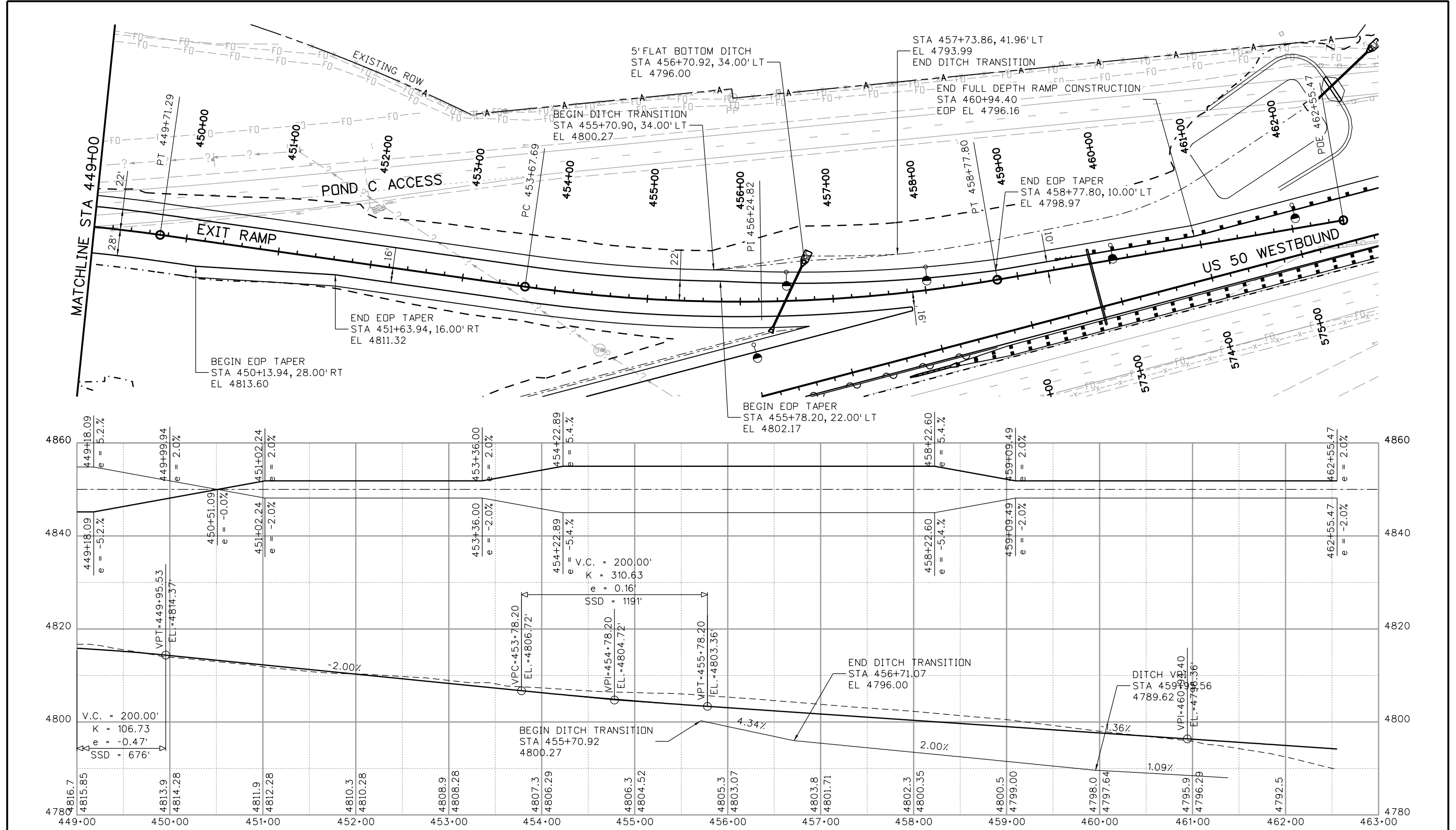
Project No./Code
STA 0503-085
20344
Sheet Number 54



Print Date: 3/2/2017		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:		US 50 WEST WESTBOUND ROADWAY PLAN AND PROFILE US 50 EXIT RAMP		Project No./Code STA 0503-085	
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J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120				Void:		Detailer: ACE	Subset Sheets: 11 of 14	Sheet Number 55			

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Print Date: 3/2/2017
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 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

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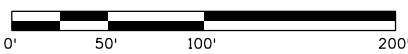
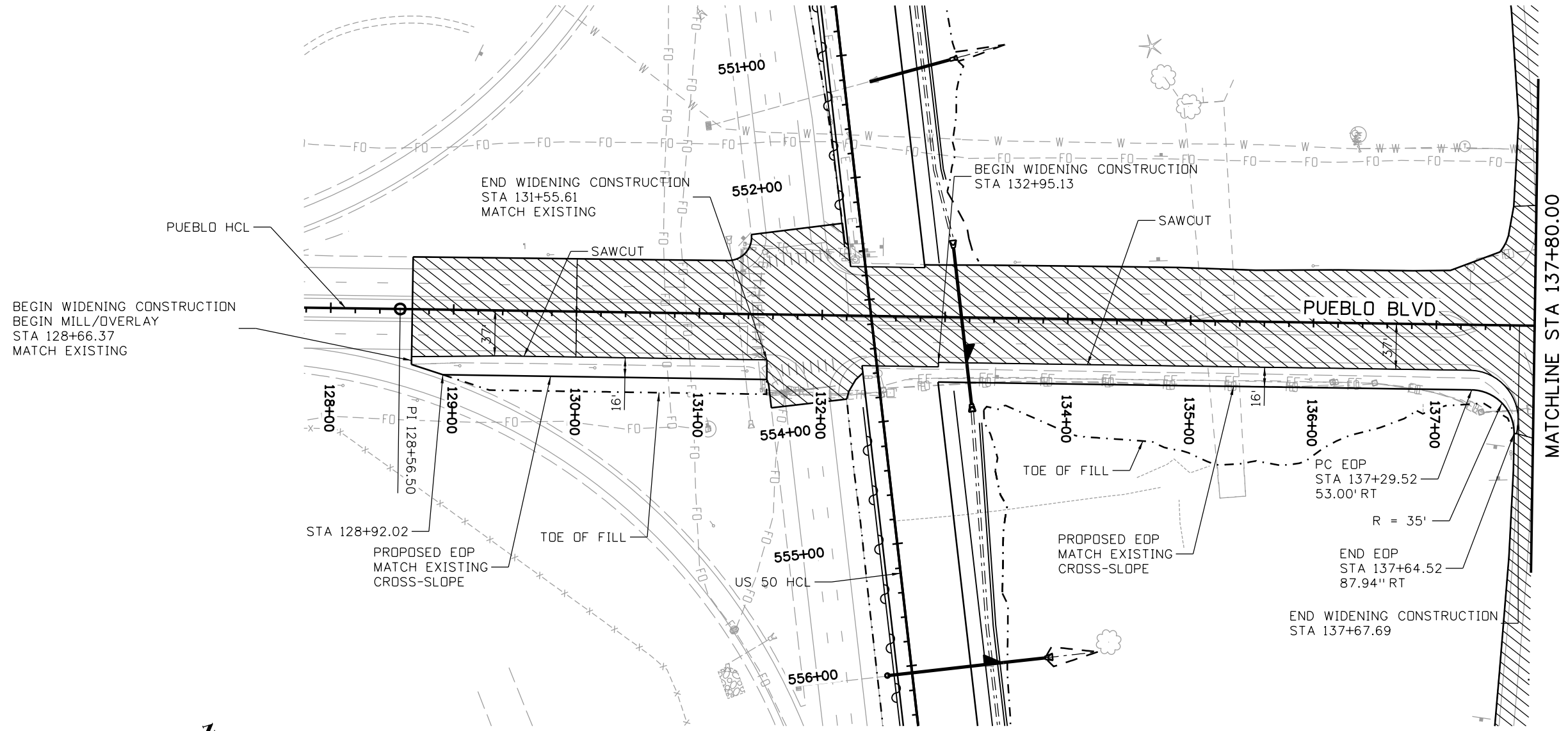
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 Pueblo, CO 81001
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 Region 2 DTD

As Constructed
 No Revisions:
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US 50 WEST WESTBOUND
 ROADWAY PLAN AND PROFILE
 US 50 EXIT RAMP
 Designer: ACE
 Detailer: ACE
 Subset: RPP
 Structure Numbers
 Subset Sheets: 12 of 14

Project No./Code
 STA 0503-085
 20344
 Sheet Number **56**

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 MILL/OVERLAY

Print Date: 3/2/2017
 File Name: 20344-RoadwayPnPI3.dgn
 Horiz. Scale: 1:100 Vert. Scale:
 J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

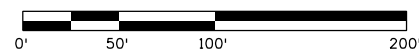
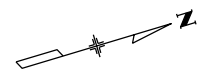
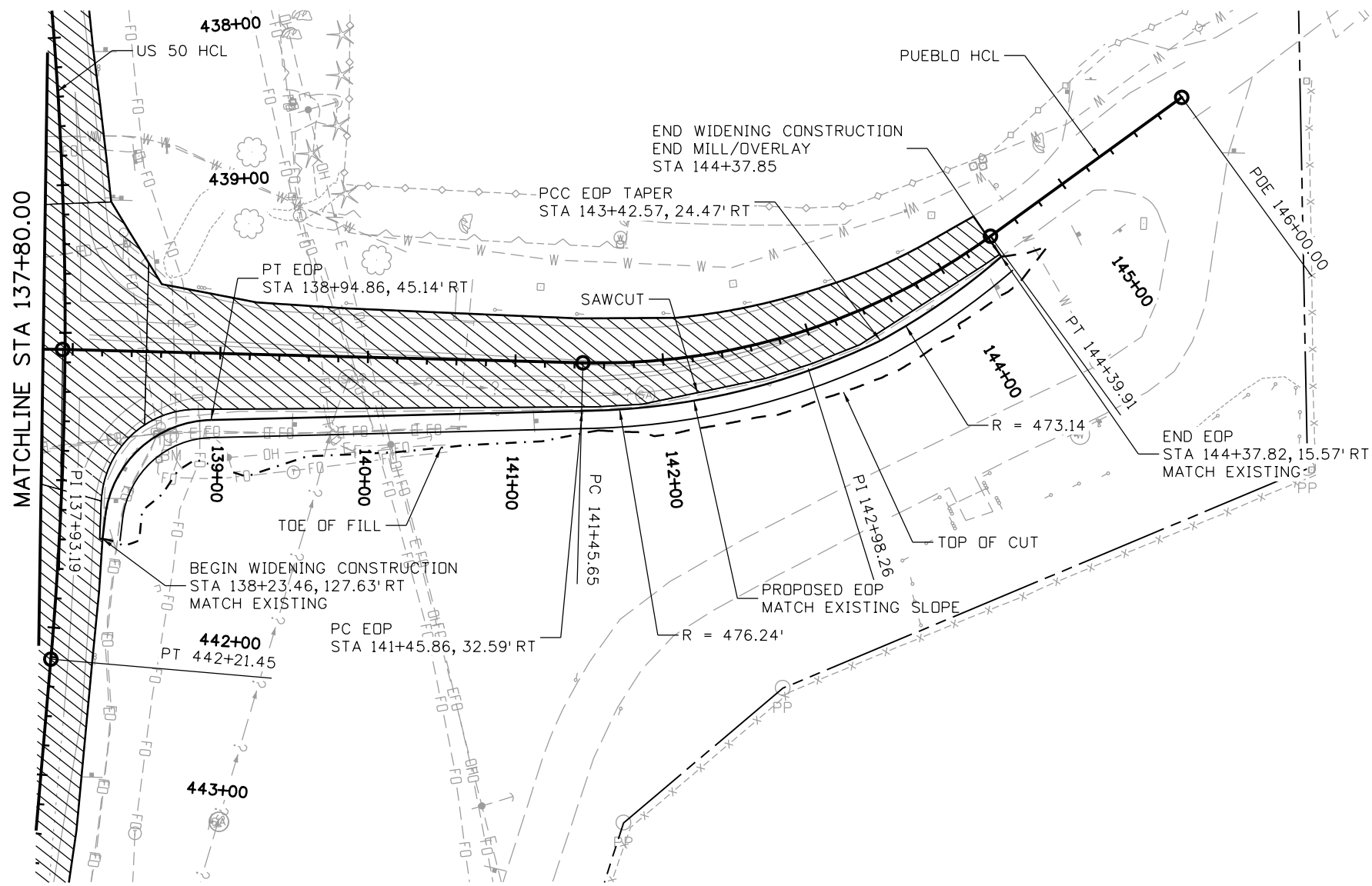
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Date:	Comments	Init.

Colorado Department of Transportation
 902 Erie Avenue
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 Region 2 DTD


As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND ROADWAY PLAN PUEBLO BLVD			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	RPP	Subset Sheets: 13 of 14	

Project No./Code
STA 0503-085
20344
Sheet Number 57



 MILL/OVERLAY

Print Date: 3/2/2017
 File Name: 20344-RoadwayPnP14.dgn
 Horiz. Scale: 1:100 Vert. Scale:
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 5898 South Rapp Street
 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

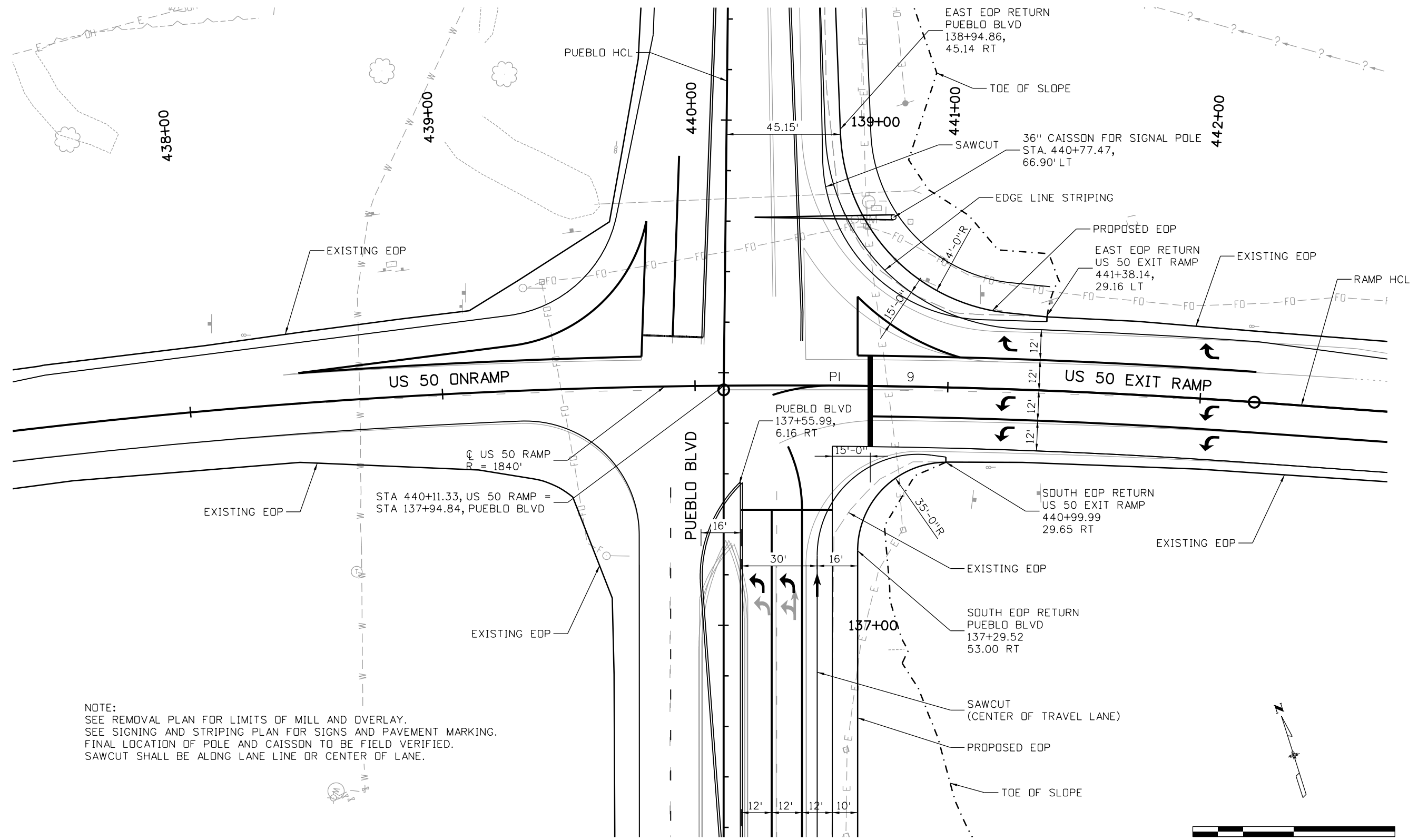
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 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

As Constructed
No Revisions:
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US 50 WEST WESTBOUND ROADWAY PLAN PUEBLO BLVD			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	RPP	Subset Sheets: 12 of 12	

Project No./Code
STA 0503-085
20344
Sheet Number 58

erfman 10:51:54 AM c:\projectwise\pwworking\dl756029\20344-RoadwayPnP14.dgn



NOTE:
 SEE REMOVAL PLAN FOR LIMITS OF MILL AND OVERLAY.
 SEE SIGNING AND STRIPING PLAN FOR SIGNS AND PAVEMENT MARKING.
 FINAL LOCATION OF POLE AND CAISSON TO BE FIELD VERIFIED.
 SAWCUT SHALL BE ALONG LANE LINE OR CENTER OF LANE.

Print Date: 3/2/2017
 File Name: 20344-IntDetail01.dgn
 Horiz. Scale: 1:40 Vert. Scale:

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Sheet Revisions		
Date:	Comments	Init.

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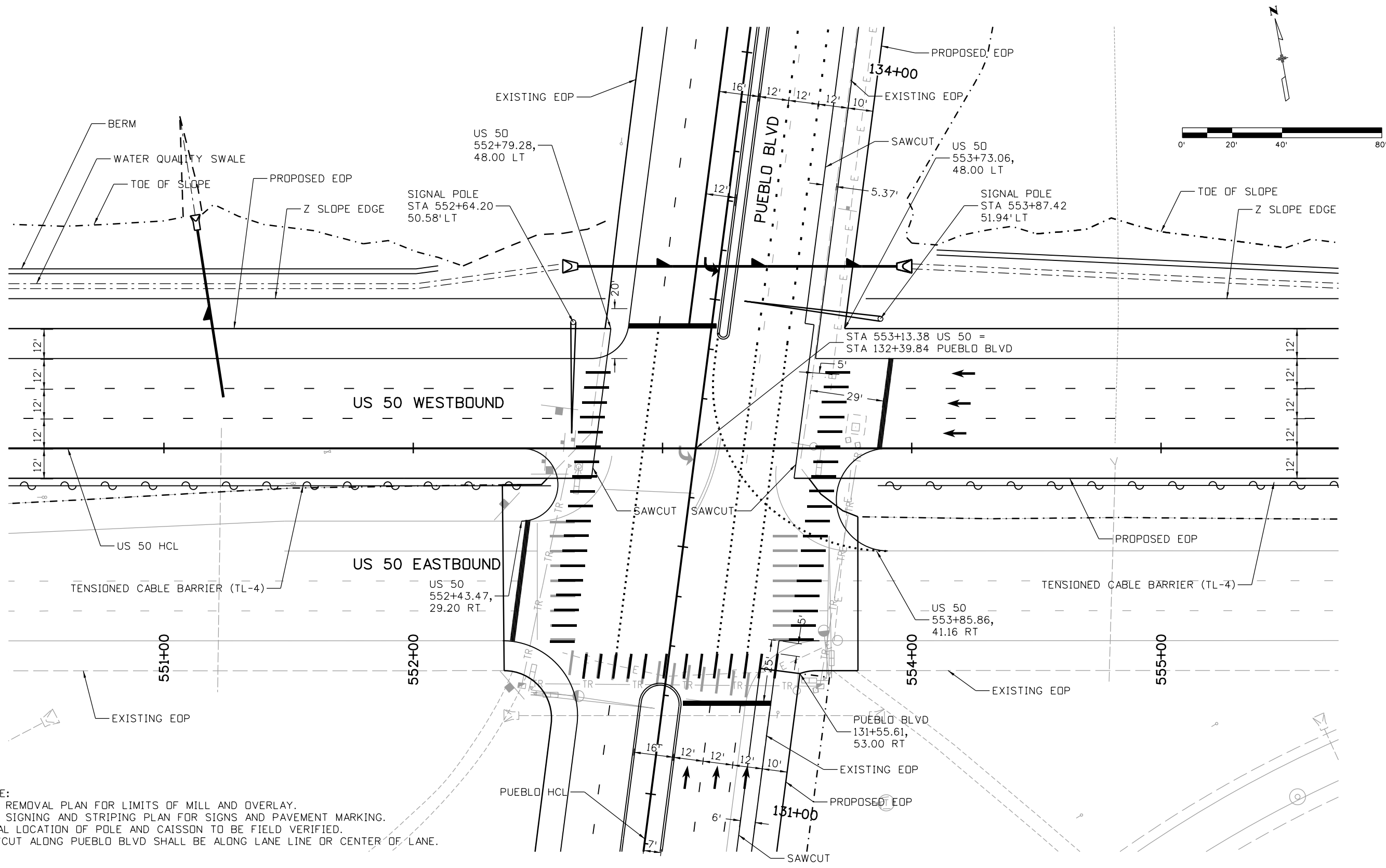
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND INTERSECTION DETAIL PUEBLO BLV/US 50 RAMP TERMINAL			
Designer:	ACE	Structure Numbers:	
Detailer:	ACE	Subset Sheets:	01 of 02
Subset:	INT		

Project No./Code
STA 0503-085
20344
Sheet Number 59

erfman 10:52:31 AM c:\projectwise\pwz_working\dl757491\20344-IntDetail01.dgn



NOTE:
 SEE REMOVAL PLAN FOR LIMITS OF MILL AND OVERLAY.
 SEE SIGNING AND STRIPING PLAN FOR SIGNS AND PAVEMENT MARKING.
 FINAL LOCATION OF POLE AND CAISSON TO BE FIELD VERIFIED.
 SAWCUT ALONG PUEBLO BLVD SHALL BE ALONG LANE LINE OR CENTER OF LANE.

Print Date: 3/2/2017

File Name: 20344-IntDetail02.dgn

Horiz. Scale: 1:40

Vert. Scale:



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 Littleton, Colorado 80120



Sheet Revisions

Date:	Comments	Init.

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Region 2

DTD

As Constructed

No Revisions:

Revised:

Void:

US 50 WEST WESTBOUND
 INTERSECTION DETAIL
 PUEBLO BLVD AND US 50

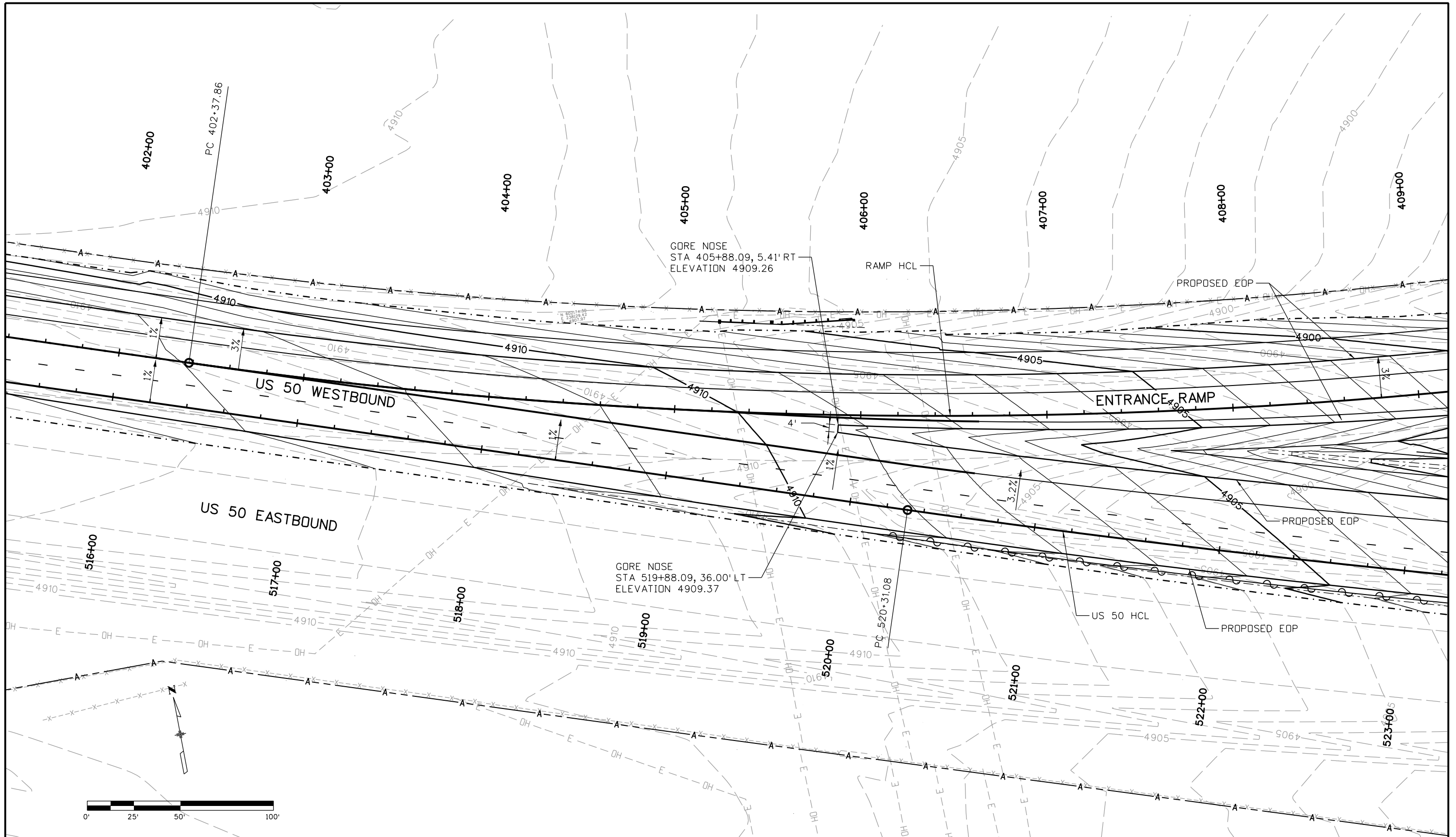
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Detailer:	ACE	Numbers	
Subset:	INT	Subset Sheets:	02 of 02

Project No./Code

STA 0503-085

20344

Sheet Number 60



Print Date: 3/2/2017
 File Name: 20344-GoreDetail01.dgn
 Horiz. Scale: 1:50 Vert. Scale:
JFS & A
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 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

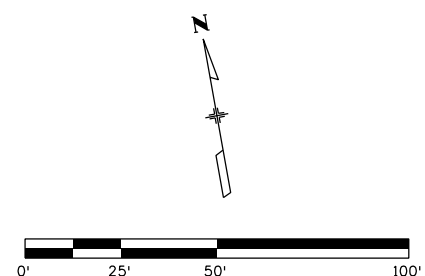
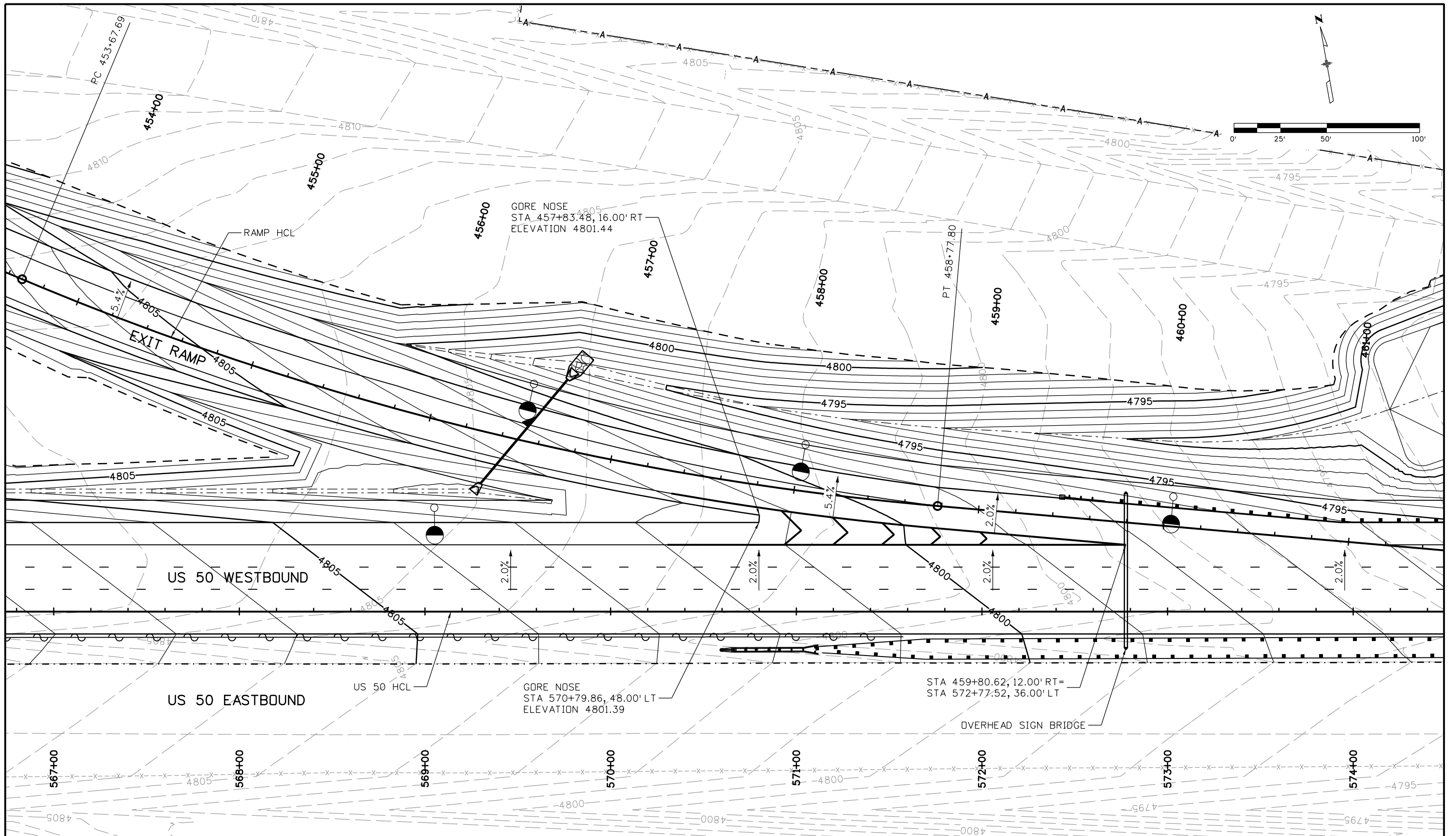
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

As Constructed
 No Revisions:
 Revised:
 Void:

US 50 WEST WESTBOUND
 GORE DETAIL
 US 50 ENTRANCE RAMP
 Designer: ACE
 Detailer: ACE
 Subset: GORE
 Structure Numbers
 Subset Sheets: 01 of 02

Project No./Code
 STA 0503-085
 20344
 Sheet Number 61

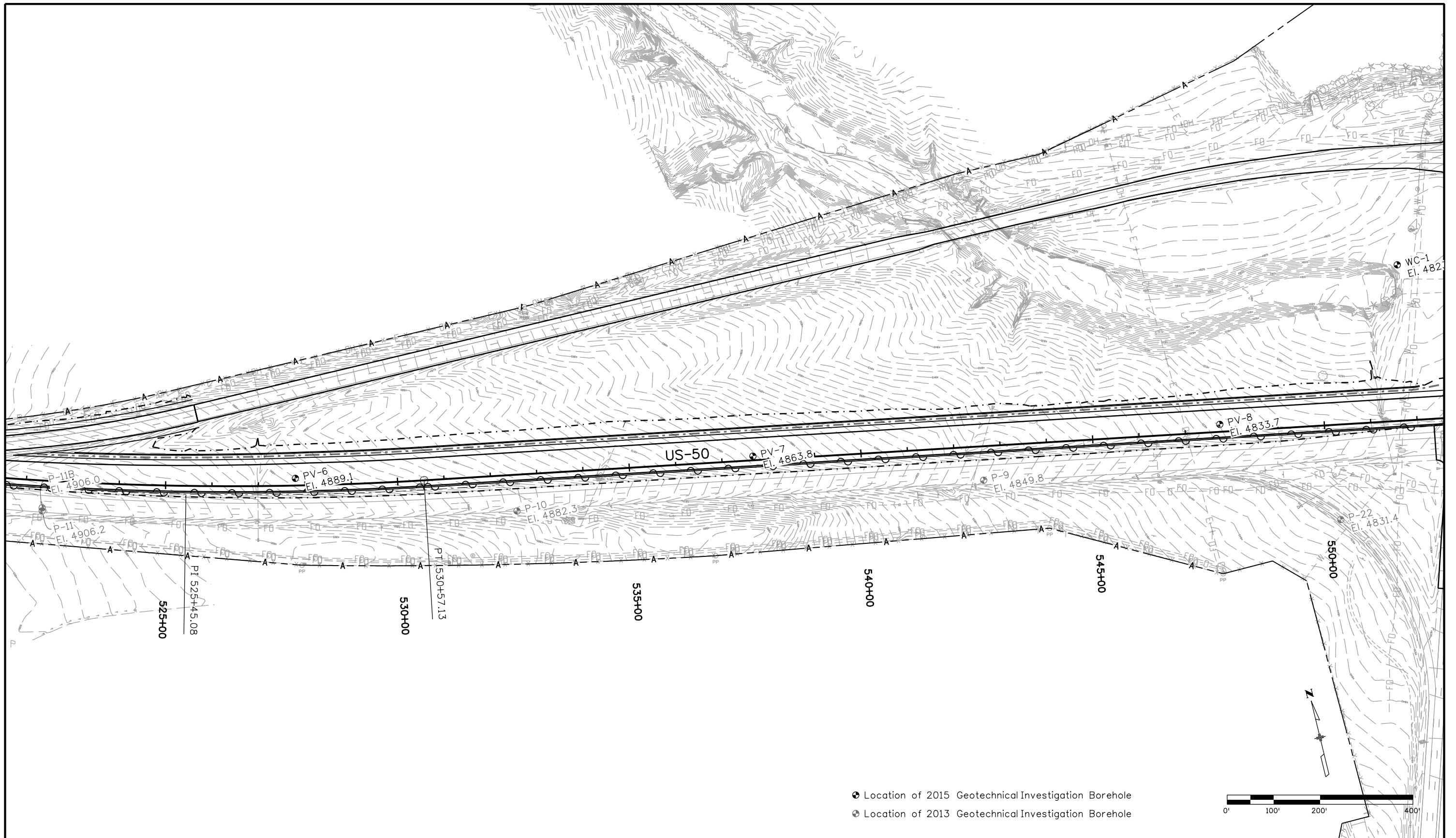
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Print Date: 3/2/2017		Sheet Revisions Date: Comments Init.			Colorado Department of Transportation  902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		As Constructed		US 50 WEST WESTBOUND GORE DETAIL US 50 EXIT RAMP		Project No./Code	
File Name: 20344-GoreDetail02.dgn							No Revisions:				Designer: ACE Detailer: ACE Subset: GORE	
Horiz. Scale: 1:50 Vert. Scale:				 Region 2		Revised: Void:		Structure Numbers Subset Sheets: 02 of 02		Sheet Number 62		

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 Littleton, Colorado 80120

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- Location of 2015 Geotechnical Investigation Borehole
- Location of 2013 Geotechnical Investigation Borehole

Print Date: 3/1/2017
 File Name: 20448GED_F3D BorePlan.dgn
 Horiz. Scale: 1:200 Vert. Scale:

JFS  **RockSol**
 Consulting Group, Inc.

Sheet Revisions		
Date:	Comments	Init.

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Region 2 DTD

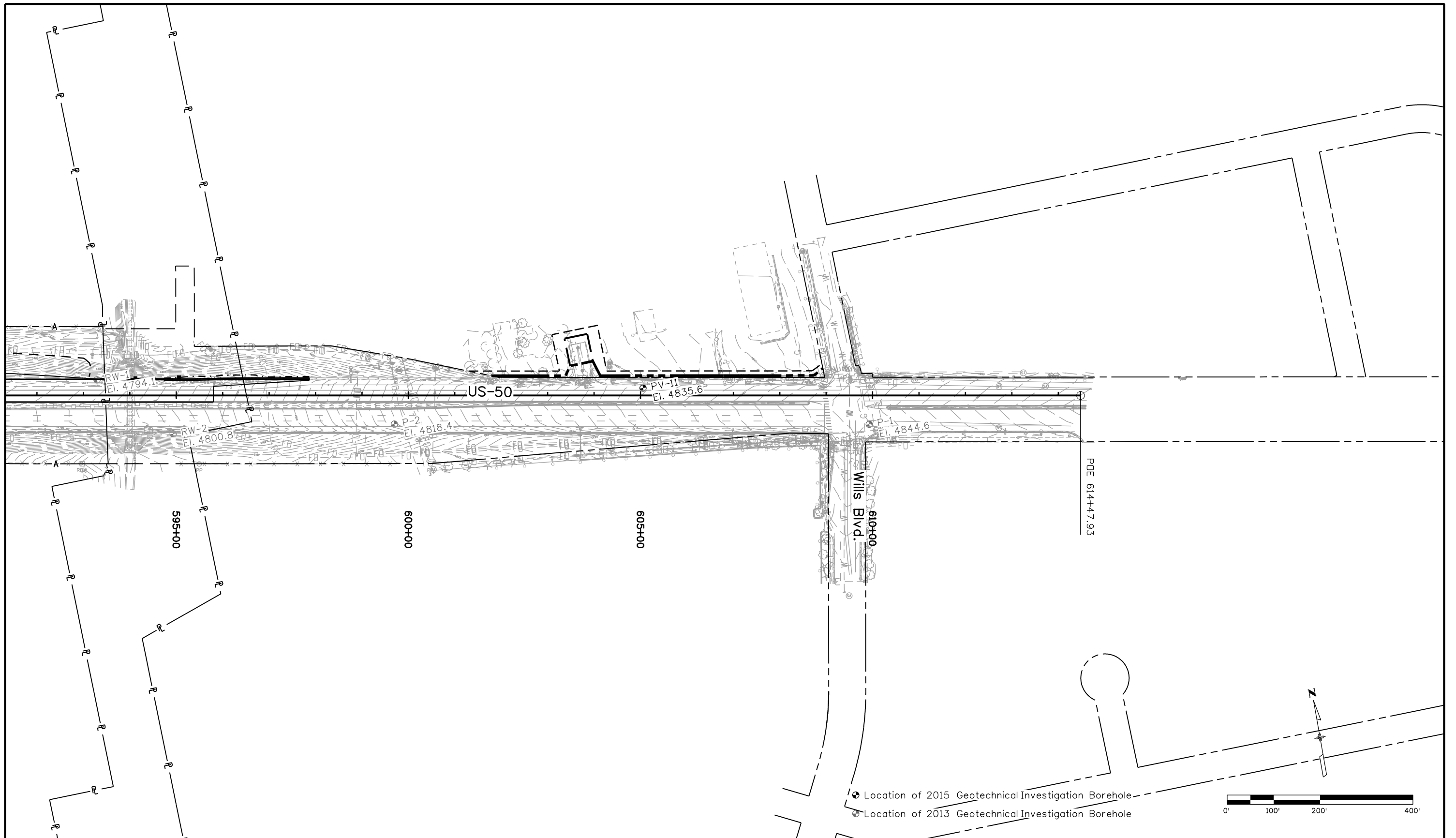
As Constructed
No Revisions:
Revised:
Void:

**US 50 WEST
 PURCELL BLVD. TO WILLIS BLVD.
 BOREHOLE LOCATION PLAN (4 OF 7)**

Designer: R. Lepro Structure Numbers
 Detailer: D. Knight
 Subset: Geotech Subset Sheets: 5 of 11

Project No./Code
STA 0503-085
20344
Sheet Number 67

dknight 1:07:53 PM M:\PROJECTS\302.02 US-50 West\Sheet Files\20448GED_F3D BorePlan.dgn



Print Date: 3/1/2017
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Date:	Comments	Init.

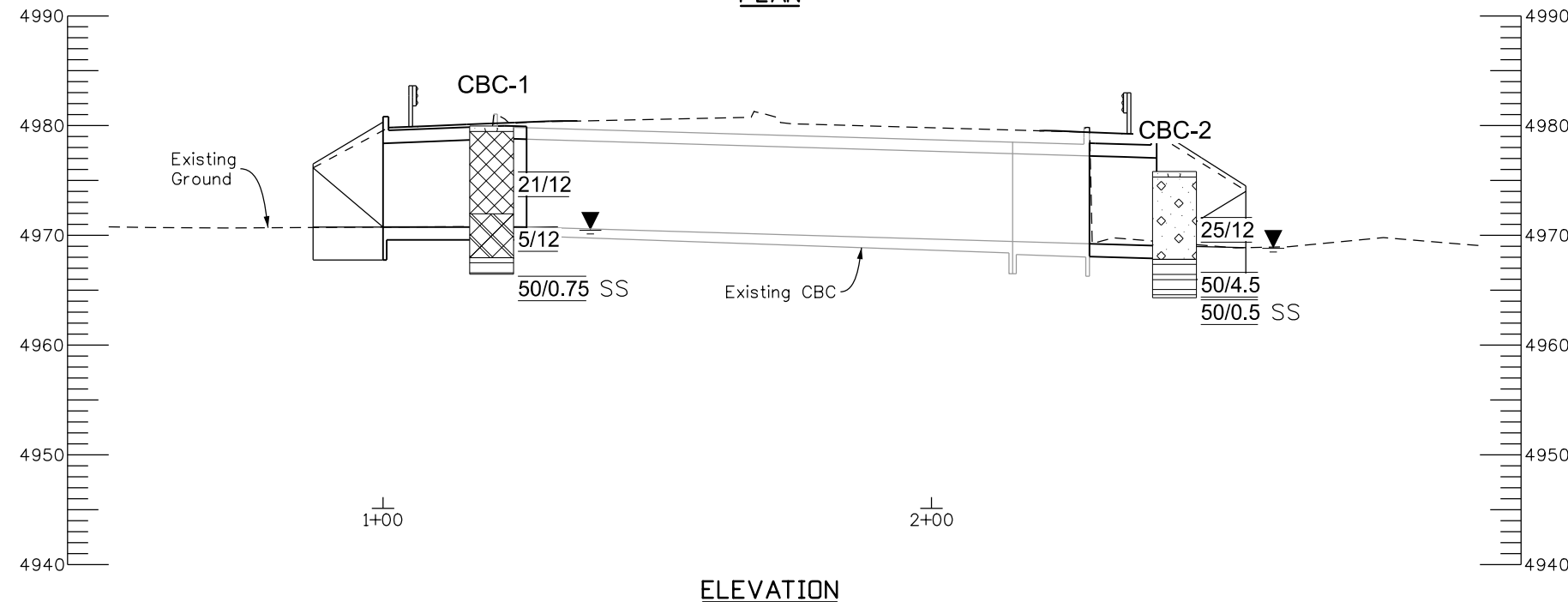
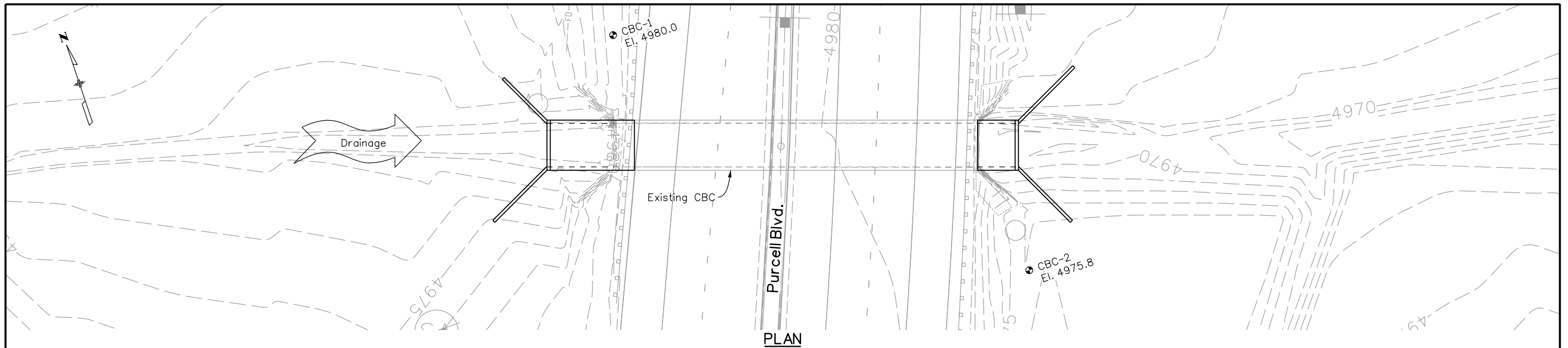
Colorado Department of Transportation
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 Pueblo, CO 81001
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 Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST PURCELL BLVD. TO WILLIS BLVD. BOREHOLE LOCATION PLAN (7 OF 7)		
Designer:	R. Lepro	Structure Numbers
Detailer:	D. Knight	
Subset:	Geotech	Subset Sheets: 8 of 11

Project No./Code
STA 0503-085
20344
Sheet Number 70

dknight 1:09:25 PM M:\PROJECTS\302.02 US-50 West\Sheet Files\20448GED_F4 EngGeo-PB CBC.dgn



SUMMARY OF TEST RESULTS																	TYPE OF MATERIAL								LEGEND	
Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification		Water Content (%)	Dry Density (%)	Sulfate (%)	Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification		Water Content (%)	Dry Density (%)	Sulfate (%)	TEST BORING						
CBC-1	0-5	27	12	64	CL	A-6 (5)			0.03																	
CBC-1	4						14.8	117.8																		
CBC-1	9			17			7.9	131.1																		
CBC-2	0-5	27	13	49	SC	A-6 (3)			0.77																	
CBC-2	4						8.9	127.8																		
CBC-2	9						7.9	134.4	0.10																	

Asphalt Pavement	Fill - Aggregate Base Course
Fill - CLAY	Fill - SAND
Fill - SAND	Fill - CLAY
TOPSOIL	Native - SAND, silty
Native - SAND, gravelly	Native - SAND, clayey
Native - CLAY	Native - CLAY, gravelly
Native - GRAVEL, silty	Native - CLAY, sandy
Bedrock - SANDSTONE	Bedrock - CLAYSTONE
Bedrock - SHALE	

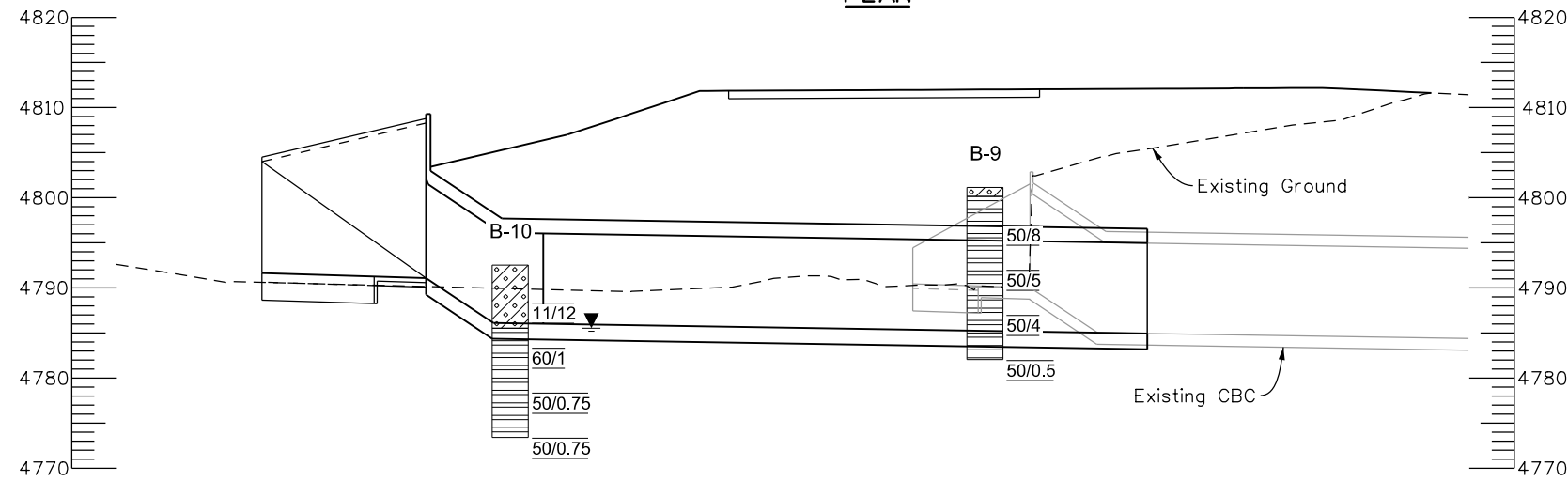
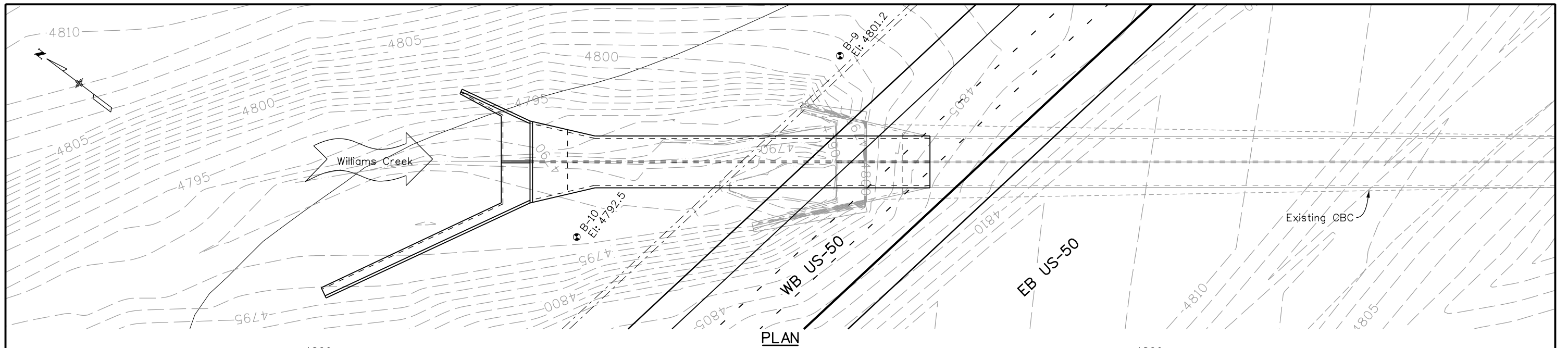
SEE INDIVIDUAL LOG SHEETS FOR ADDITIONAL DESCRIPTION OF MATERIAL ENCOUNTERED

TEST BORING

B Bridge Borehole
 ↓ Ground Water Level At Time of Drilling
 9/12 9 Blows for 12 Inches
 50/3 50 Blows for 3 Inches
 8/6/7 SS Split Spoon Sampler Required 8 Blows for 6 Inches Required 6 Blows for 6 Inches Required 7 Blows for 6 Inches

BORING ID NOTED AT THE TOP OF LOG
 BLOW COUNTS OBTAINED WITH SPLIT SPOON SAMPLERS ARE NOTED WITH "SS". ALL OTHER BLOW COUNTS OBTAINED WITH A MODIFIED CALIFORNIA BARREL SAMPLER
 SEE INDIVIDUAL LOG SHEETS FOR MORE DETAIL

Print Date: 3/1/2017	Sheet Revisions		Colorado Department of Transportation		As Constructed		US 50 WEST PURCELL BLVD. TO WILLIS BLVD. PURCELL CBC ENG. GEOLOGY		Project No./Code			
File Name: 20448GED_F4 EngGeo-PB CBC.dgn	Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		Structure Numbers		STA 0503-085		
Horiz. Scale: 1:30 Vert. Scale: 1:10				Region 2 DTD		Revised:		Designer: R. Lepro		20344		
					Void:		Detailer: D. Knight		Subset: Geotech		Subset Sheets: 9 of 11 Figure 71	



ELEVATION

SUMMARY OF TEST RESULTS

Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification		Water Content (%)	Dry Density (%)	Sulfate (%)	Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification		Water Content (%)	Dry Density (%)	Sulfate (%)
					USCS	AASHTO									USCS	AASHTO			
B-9	4	25	9	37	SC	A-4 (0)	8.0		0.92										
B-9	9						8.3												
B-9	14						7.9												
B-9	19						4.3												
B-10	0-4	29	15	46	SC	A-6 (3)			0.40										
B-10	4	26	11	58	CL	A-6 (3)	20.3	113.3											

TYPE OF MATERIAL

- Asphalt Pavement
- Fill - CLAY
- Fill - SAND
- TOPSOIL
- Native - SAND, gravelly
- Native - CLAY
- Native - GRAVEL, silty
- Bedrock - SANDSTONE
- Bedrock - SHALE
- Fill - Aggregate Base Course
- Fill - SAND
- Fill - CLAY
- Native - SAND, silty
- Native - SAND, clayey
- Native - CLAY, gravelly
- Native - CLAY, sandy
- Bedrock - CLAYSTONE

LEGEND

TEST BORING

B Bridge Borehole
 ↓ Ground Water Level At Time of Drilling
 9/12 9 Blows for 12 Inches
 50/3 50 Blows for 3 Inches
 8/6/7 SS Split Spoon Sampler Required 8 Blows for 6 Inches Required 6 Blows for 6 Inches Required 7 Blows for 6 Inches

BORING ID NOTED AT THE TOP OF LOG
 BLOW COUNTS OBTAINED WITH SPLIT SPOON SAMPLERS ARE NOTED WITH "SS". ALL OTHER BLOW COUNTS OBTAINED WITH A MODIFIED CALIFORNIA BARREL SAMPLER
 SEE INDIVIDUAL LOG SHEETS FOR MORE DETAIL

Print Date: 3/1/2017
 File Name: 20448GEO_F5 EngGeo-WC CBC.dgn
 Horiz. Scale: 1:40 Vert. Scale: 1:20

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:

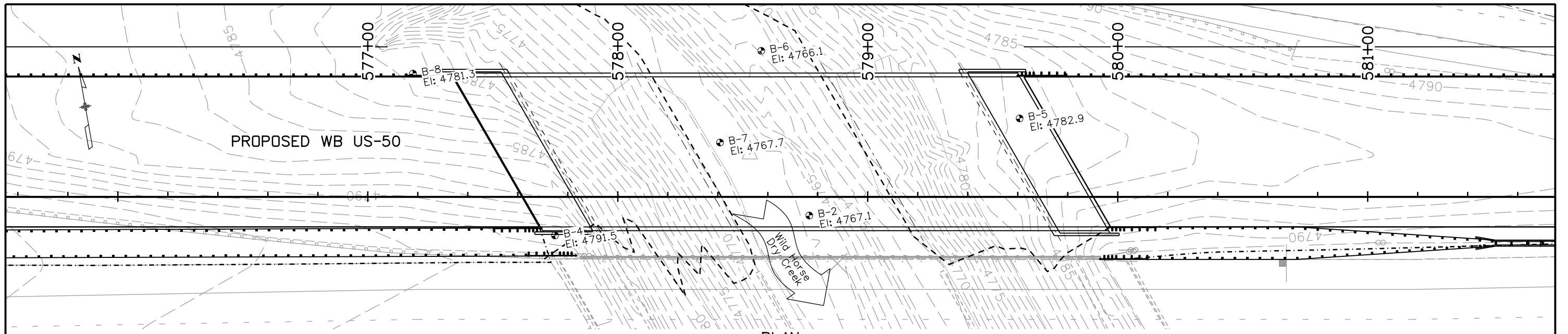
US 50 WEST
 PURCELL BLVD. TO WILLIS BLVD.
 WILLIAMS CREEK CBC ENG. GEOLOGY

Designer: R. Lepro
 Detailer: D. Knight
 Subset: Geotech

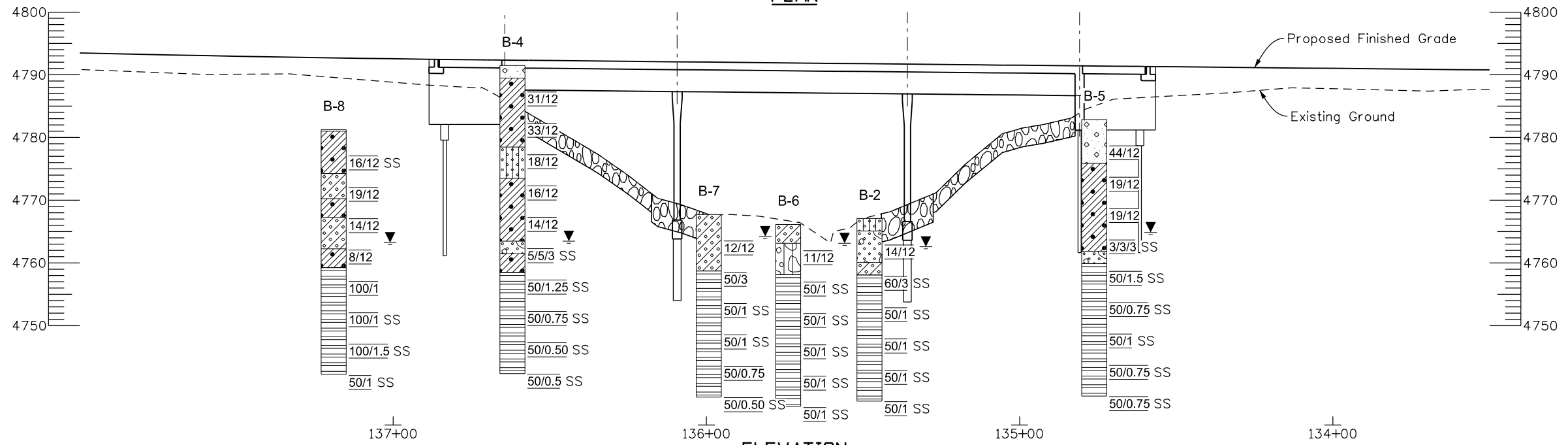
Structure Numbers
 Subset Sheets: 10 of 11

Project No./Code
 STA 0503-085
 20344
 Figure 72

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PLAN



ELEVATION

SUMMARY OF TEST RESULTS																		TYPE OF MATERIAL						LEGEND	
Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification	Water Content (%)	Dry Density (%)	Sulfate (%)	Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification	Water Content (%)	Dry Density (%)	Sulfate (%)	As Constructed	TEST BORING						
B-2	0-4	26	9	51	CL A-4 (2)	11.2	125.9		B-4	39					15.8			Asphalt Pavement	Bridge Borehole Ground Water Level At Time of Drilling 9 Blows for 12 Inches 50 Blows for 3 Inches Split Spoon Sampler Required 8 Blows for 6 Inches Required 6 Blows for 6 Inches Required 7 Blows for 6 Inches						
B-2	4								B-4	44					10.9			Fill - Aggregate Base Course							
B-2	9					12.1			B-4	49					5.0			Fill - CLAY							
B-2	9.5	24	8	22	SC A-2-4 (0)				B-5	4					9.3	131.0	2.07	Fill - SAND							
B-2	14					12.6			B-5	9	30	17	72	CL A-6 (10)	13.4	120.1		TOPSOIL							
B-2	19					9.4			B-5	14	32	17	80	CL A-6 (12)	17.7	112.5		Native - SAND, silty							
B-2	24					10.6			B-5	19					21.8			Native - SAND, gravelly							
B-4	0-15								B-5	24					8.7			Native - SAND, clayey							
B-4	4					10.7	124.0		B-5	29					6.4			Native - CLAY							
B-4	9	30	16	54	CL A-6 (5)	11.2	128.5		B-5	34					10.2			Native - CLAY, gravelly							
B-4	14					47	125.9		B-5	44					1.9			Native - GRAVEL, silty							
B-4	19	35	20	94	CL A-6 (18)	18.2	110.8	1.74	B-6	0-4	29	15	60	CL A-6 (6)	12.5	125.9		Bedrock - SANDSTONE							
B-4	24					20.6	107.4		B-6	4					7.2			Bedrock - CLAYSTONE							
B-4	29					13.9			B-6	5-8	NP	NP	5	SW A-1-a (0)											
B-4	34					10.3			B-6	14															

Print Date: 3/1/2017
 File Name: 20448GEO_F6 EngGeo-WHDC Bridge.dgn
 Horiz. Scale: 1:40 Vert. Scale: 1:20

JFS **RockSol**
 Consulting Group, Inc.

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
 PURCELL BLVD. TO WILLIS BLVD.
 WILD HORSE DRY CREEK BRDG. ENG. GEO.

Designer: R. Lepro
 Detailer: D. Knight
 Subset: Geotech

Structure Numbers
 Subset Sheets: 11 of 11

Project No./Code
 STA 0503-085
 20344
 Figure 73

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TO ESTABLISH GEOMETRIC CONTROL FOR THE CONSTRUCTION OF THIS PROJECT, THE DEPARTMENT HAS PROVIDED THE FOLLOWING INFORMATION:

- Horizontal Control Plan Sheet
- Vertical Control Plan Sheet
- Roadway Alignment Plan Sheet
- Original Terrain Data _____
- Other: _____

TYPE OF PROJECT

- Landscaping
- Signalization
- Safety Improvement
- Asphalt Overlay
- Concrete Overlay
- Minor Widening
- Major Reconstruction
- New Roadway Construction
- Bridge Replacement
- Bridge Widening
- New Bridge
- Other: Removal of Bridge, CBC Extension

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 625:

- Establish and Maintain Project Centerline or Engineer Approved Offset Line(s)
- Verification and Maintenance of Horizontal and Vertical Control
- Verify or Determine existing grades and alignments
- Verify or Determine existing topography
- Clearing and Grubbing Limits (Section 201)
- Removal Limits (Section 202)
- Reset Items (Section 210)
- Excavation and Embankment (Section 203)

	SLOPE STAKING (Y/N)	GRID (Y/N)	GRADE STAKES	SPECIAL INTERVAL
Excavation	<input checked="" type="checkbox"/> Unclassified	-	-	50'
	<input checked="" type="checkbox"/> Stripping	-	-	-
	<input checked="" type="checkbox"/> Muck	-	-	-
	<input checked="" type="checkbox"/> Rock	Y	-	50'
Embankment	<input checked="" type="checkbox"/> Borrow	Y	-	50'
	<input type="checkbox"/> Other: _____	-	-	-
	<input type="checkbox"/> Embankment	-	-	-

- Embankment
- Site Grading
- Erosion Control (Perm)
- Other: Blading, Dozing, Potholing
- As Staked Earthwork Quantities (See General Notes)

- Landscaping
 - Top Soil (Section 207)
 - Seeding (Section 212)
 - Mulching (Section 213)
 - Planting (Section 214)
 - Herbicide (Section 217)
 - Other: _____
- Erosion Control (Section 208)
 - Seeding (Temp)
 - Silt Fences
 - Straw Bales
 - Temporary Berm
 - Riprap (Temp)
 - Other (Temp Diversion, Temp Slope Drain, Brush Barrier, Check Dam, Other): Inlet Protection, Curb Check, Soil Retention Blankets
- Roadway Elements
 - Curb and Gutter (Section 609)
 - Drop inlets - alignment and grades (Section 604)
 - Retaining Walls
 - Guard Rail (Section 606)
 - Sidewalk (Section 608)
 - Other: End Anchorage, Median Cover Material

- Roadway Bases
 - Untreated Subgrade
 - Treated Subgrade
 - Aggregate Base Course (Section 304)
 - Reconditioning
 - PMBB - Plant Mix Bituminous Base
 - Other: _____
- Pavements
 - HBP - Hot Bituminous Pavement (Section 403)
 - Concrete (Section 412)
 - Overlay
 - Heating & Scarifying Treatment (Section 407)
 - Prime Coat, Tack Coat & Rejuvenating Agent (Section 409)
 - Seal Coat or Chip Seal (Section 409)
 - Other: Detour Pavement
- Riprap (Perm) (Section 506)
- Slope and Ditch Paving (Section 507)
- Minor Structures
 - Structure Excavation limits (Section 206)
 - Culverts (Section 603)
 - Culverts with Headwalls and Wingwalls (Section 601)
 - Concrete Box Culverts with Headwalls and Wingwalls
 - Pipes (Section 603)
 - Sanitary Sewer
 - Storm Sewer
 - Water
 - Irrigation
 - Miscellaneous
 - Manholes (Section 604)
 - Inlets (Section 604)
 - Other: _____
- Major Structures - Overhead Signs (Section 614), Concrete Box Culverts, Bridges - and all other structures assigned a structure number
 - Structure Excavation limits (Section 206)
 - Concrete Box Culverts (Section 603) with Headwalls and Wingwalls (Section 601)
 - Piling locations and cut off elevations (Section 502)
 - Caisson locations and elevations (Section 503)
 - Footing locations, alignment, and elevations
 - Abutment/Pier locations, alignment, and elevations
 - Wingwall skew angles/offsets
 - Structural concrete form locations
 - Substructure As-constructed survey (Required by Subsection 601.12 for Bridges and S-614-50 for Overhead signs)
 - Bridge expansion joint(s) alignment and grade (longitudinal and transverse)
 - Deck grades at Girder 10th or "n" th point locations and elevations
 - Slope and Ditch Paving (Section 507)
 - Other: _____
- Fencing (Section 607)
 - Temporary
 - Permanent
 - Sound Barriers
 - Other: _____
- Delineators (Section 612)
 - Temporary
 - Permanent
- Lighting (Section 613) and Traffic Control Devices (Permanent) (Section 614)
 - Signal pole locations and elevations
 - Light pole locations and elevations
 - Signs
 - Field verify sign post locations, elevations, and lengths before fabrication.
 - Other: Field verify signal pole locations and elevations.

Roadway Bases	GRID (Y/N)	SPECIAL INTERVAL	SPECIAL OFFSET
<input checked="" type="checkbox"/>	Y	50'	-
<input type="checkbox"/>	-	-	-
<input checked="" type="checkbox"/>	Y	50'	-
<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	-	-	-

Pavements	GRID (Y/N)	SPECIAL INTERVAL	SPECIAL OFFSET
<input checked="" type="checkbox"/>	Y	50'	-
<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	-	50'	-
<input type="checkbox"/>	-	-	-
<input type="checkbox"/>	Y	25'	-

Curb & Gutter	Tangent Interval	Curve Interval	Special Offset
<input type="checkbox"/>	-	-	-

- Pavement Marking (Section 627)
 - Striping (Temp)
 - Striping (Perm)
 - Symbols
 - Other: _____
- Temporary Lighting and Construction Traffic Control Devices (Section 630)
 - Signal pole locations and elevations (Temp)
 - Light pole locations and elevations (Temp)
 - Signs (Temp)
 - Other: Type 7 Barrier
- Easement (Temp) (Staking) (P.L.S. Only)
- Right of Way (Temp) (Staking) (P.L.S. Only)

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 629:

- Monumentation (Section 629)
 - Control
 - Right of Way
 - Land corners, Aliquot corners
 - Easement (Perm)
 - Reference the specified existing monuments: ** _____
 - Relocate the specified existing monuments: ** _____
 - Locate monuments. It is estimated _____ hours are required.

GENERAL NOTES:

- Unless indicated otherwise on this Survey Tabulation Sheet, all survey work and staking intervals shall be done in accordance with the latest edition of the entire CDDT Survey Manual.
- Adequate information for establishing lines, grades, and locations for all work items have been specified on the plans. Any additional information required to stake the item or element shall be generated by the Contractor's surveyor.
- The Contractor's surveyor shall provide an estimate of the man-hours necessary to complete the work items indicated on this sheet. A copy of this sheet, with the estimated man-hours written on the blank line to the left of the specified items, shall be submitted with the Survey Schedule to the Engineer 10 days prior to Presurvey Conference - Construction Survey.
- Stakes and Monuments which are damaged or destroyed by the progress of construction shall be replaced by the Contractor at no additional cost to the Department.
- The Contractor shall furnish an As Staked earthwork quantity to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per the CDDT Survey Manual. A printed copy of the As Staked earthwork data and a computer disk in the specified format shall be submitted to the Engineer. The Contractor shall field verify original ground cross sections at a maximum 500 feet intervals.
- Prior to beginning work on any subsequent operation, such as placing base course or paving, the Contractor shall certify in writing to the Engineer that the final grade is within specified tolerance.
- The Contractor's surveyor shall perform all field surveying and calculations necessary to tie plan grades into field grades.
- The Contractor shall coordinate construction staking on the project with any utility work.
- The Contractor's surveyor shall submit the following fieldbooks to the Engineer:
 - Horizontal Control (Primary & Secondary)
 - Vertical Control (i.e. Benchmarks)
 - Property Pin Ties
 - Horizontal Alignment
 - Grading
 - Slope Staking
 - Minor Structures
 - Major Structures
 - One fieldbook for each work category shown on this sheet
 - Other Fieldbook(s): _____

Print Date: 3/2/2017
 File Name: 20344_SurveyTabSheet.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted

JFS & A
 J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

Region 2 **DTD**

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

As Constructed	US 50 WEST WESTBOUND SURVEY TAB			Project No./Code
No Revisions:				STA 0503-085
Revised:	Designer: AB	Structure Numbers		20344
Void:	Detailer: AB	Subset: SURV	Subset Sheets: 1 of 1	Sheet Number 74



Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date	Description	Initials	Date	Description	Initials	Date	Description	Initials
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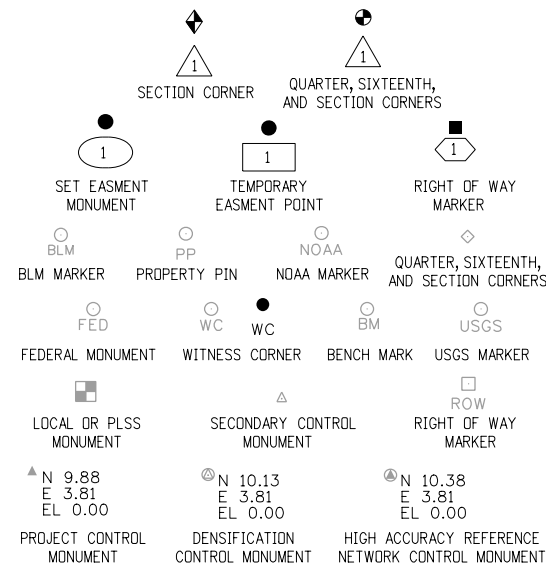
Project Control Diagram			
Title Sheet			
Project Number: STA 0503-085			
Project Location: US 50 WB			
Railroad Bridge to top of hill west of Pueblo Blvd			
Project Code:	Last Mod. Date:	Subset	Sheet No.
20344	06-15-15	3.01 of 3.05	3.01

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

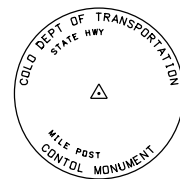
PROJECT CONTROL DIAGRAM

U.S. Highway 50 MP 309.70 to 313.15
Sections 7, 8, 9, 16, 15 & 14
Township 20 South, Range 65 West
of the 6th Principal Meridian
County of Pueblo

SHEET NO.	INDEX OF SHEETS
3.01	(1) Title Sheet
3.02	(1) Coordinate Tables
3.03-3.05	(3) Plan Sheets
	(5) Total Sheets



Note: For a complete listing of symbolology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale). Proposed or new features are shown as full weight without screening.

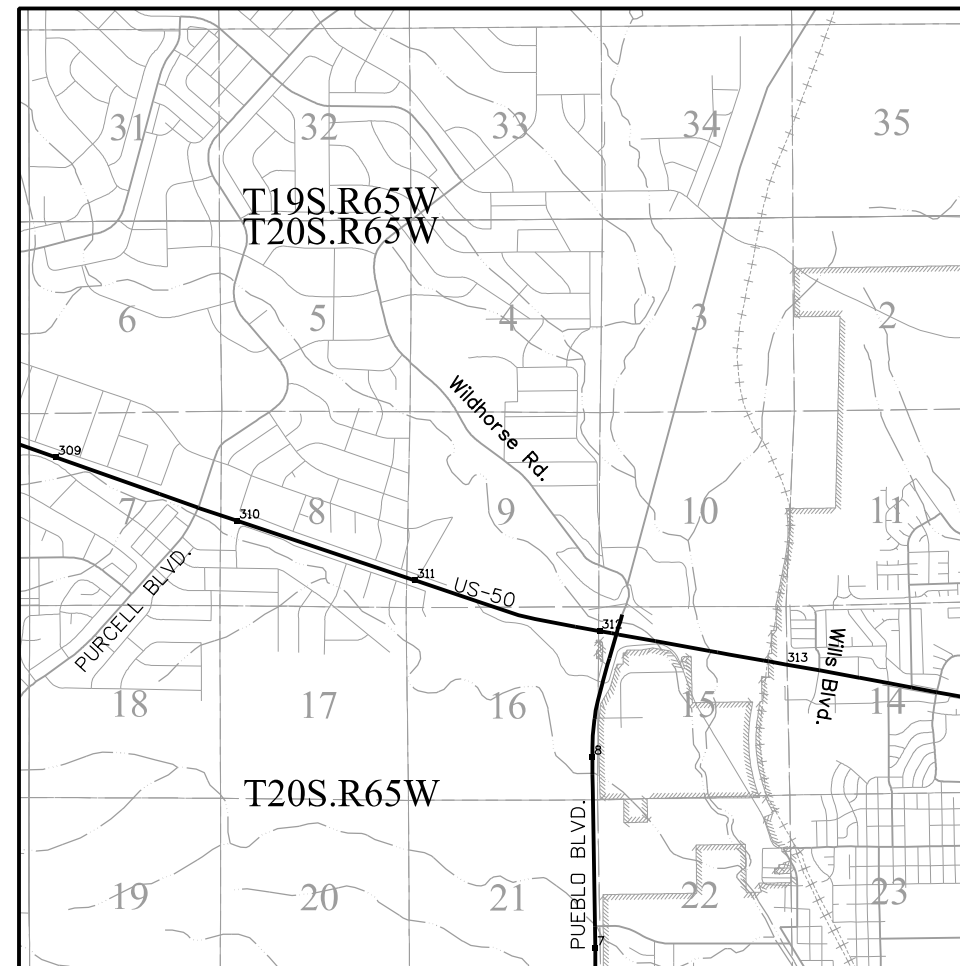


Typical Control Monument Cap
Not to Scale

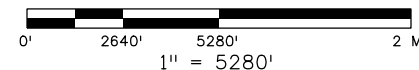
▲ CM-MP - Control Point Monuments set by CDOT. They are CDOT Type 2 monuments, a 3 3/4" dia. aluminum control monument cap (as shown) on a 3' x 3 3/4" dia. aluminum security rod on a 3' x 3 3/4" dia. smooth aluminum rod.

General Notes:

1. This Project Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only.
2. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
3. Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2006 found in The Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.



PROJECT LOCATION MAP



This Project Control was established as part of a larger control network under Project Number NH C020-027, Project Code 16379.

Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of N82°50'43"E from CM-MP 3118 to CM 3121. Both monuments are CDOT Type II, marked appropriately for their milepost location and control position. This survey data was obtained from a larger Global Positioning System (GPS) survey observed in July and August of 2012. This survey is based on the Colorado High Accuracy Reference Network (CHARN).

Basis of Elevations: Project elevations are based on multiple NGS First Order benchmarks using NAVD 88, Geoid 12A elevations.

COORDINATE DATUM: Project coordinates are modified Colorado State Plane South 0503 Zone NAD '83/(2011) coordinates. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates is 0.9997446793. The resulting project coordinates are truncated by 1,000,000sf in the Northing and 3,000,000sf in the Easting after converting from state plane coordinates to project coordinates. The CHARN is based on the NAD '83(2011) datum.

Project Coordinates Northing US Survey Feet = $\{[(\text{State Plane Coordinate Northing}(m) / 0.9997446793) * (3937\text{ft}/1200\text{m})] - 1,000,000\text{ft}\}$.

Project Coordinates Easting US Survey Feet = $\{[(\text{State Plane Coordinate Easting}(m) / 0.9997446793) * (3937\text{ft}/1200\text{m})] - 3,000,000\text{ft}\}$.

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

SURVEYOR STATEMENT (PROJECT CONTROL DIAGRAM)

I, Dennis Pirtle, a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation this Project Control Diagram was prepared and the field survey it represents was performed under my responsible charge and, based upon my knowledge, information and belief is in accordance with applicable standards of practice defined by Colorado Department of Transportation publications. This statement is not a guaranty or warranty, either expressed or implied.

PLS No. 33651



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Sheet Revisions		
Date	Description	Initials

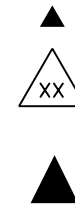
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Project Control Diagram			
Coordinate Tables			
Project Number: STA 0503-085			
Project Location: US 50 WB			
Railroad Bridge to top of hill west of Pueblo Blvd			
Project Code:	Last Mod. Date	Subset	Sheet No.
20344	05-26-15	3.02 of 3.05	3.02



CHARN GEODETIC COORDINATE SUMMARY TABLE

Point No.	Geodetic Coordinates NAD-83(2011) (CHARN)		Elip Height (NAVD88) (m)	Ortho Height (m)	Mapping Angle	Grid Scale Factor	NAD 83(2011) Zone Colorado South 0503		Description
	Latitude(N)	Longitude(W)					SP Northing(m)	SP Easting(m)	
W 430	N38°18'06.19491"	W104°39'46.57528"	1451.561	1470.585	0°30'48"	0.999978626	486597.583	987618.290	Deep Rod in Mon. Box
Y 430	N38°19'08.88073"	W104°41'05.69842"	1489.000	1507.910	0°30'00"	0.999981150	488513.324	985679.038	Deep Rod in Mon. Box
Z 430	N38°19'27.64878"	W104°42'05.74322"	1499.831	1518.660	0°29'23"	0.999981924	489079.390	984215.578	Deep Rod in Mon. Box



GEODETIC COORDINATE TABLE

Point No.	Geodetic Coordinates NAD-83(XX) (CHARN)		Elip Height (NAVD88) (m)	Ortho Height (m)	Mapping Angle	Grid Scale Factor	NAD 83(2011) Zone Colorado South 0503		Description
	Latitude(N)	Longitude(W)					SP Northing(m)	SP Easting(m)	
3097	N38°19'25.60105"	W104°42'06.85919"	1498.569	1517.397	0°29'22"	0.999981839	489016.022	984189.011	CDOT CM TYPE II @ MP 30.97
3098	N38°19'25.23628"	W104°41'58.20968"	1498.842	1517.680	0°29'28"	0.999981824	489006.573	984399.195	CDOT CM TYPE II @ MP 30.98
3101	N38°19'18.81336"	W104°41'41.61134"	1494.308	1513.170	0°29'38"	0.999981559	488812.004	984804.058	CDOT CM TYPE II @ MP 31.01
3104	N38°19'15.63213"	W104°41'22.62108"	1491.899	1510.785	0°29'49"	0.999981428	488717.908	985266.173	CDOT CM TYPE II @ MP 31.04
3111	N38°19'03.65009"	W104°40'46.48254"	1483.559	1502.494	0°30'12"	0.999980936	488356.138	986147.216	CDOT CM TYPE II @ MP 31.11
3114	N38°18'59.03594"	W104°40'22.46748"	1476.985	1495.951	0°30'26"	0.999980748	488219.017	986731.822	CDOT CM TYPE II @ MP 31.14
3118	N38°18'52.22343"	W104°39'59.37529"	1468.919	1487.914	0°30'41"	0.999980471	488013.959	987294.636	CDOT CM TYPE II @ MP 31.18
3121	N38°18'55.05783"	W104°39'28.47544"	1453.766	1472.796	0°30'59"	0.999980586	488108.082	988044.464	CDOT CM TYPE II @ MP 31.21
3127	N38°18'45.02472"	W104°38'56.79586"	1441.834	1460.900	0°31'19"	0.999980179	487805.714	988816.829	CDOT CM TYPE II @ MP 31.27
3128	N38°18'42.32115"	W104°38'47.95915"	1445.380	1464.456	0°31'24"	0.999980070	487724.316	989032.257	CDOT CM TYPE II @ MP 31.28
200	N38°18'35.03387"	W104°37'59.58218"	1469.674	1488.798	0°31'54"	0.999979776	487510.455	990209.551	Lead and Tack in Mon. Box



PROJECT COORDINATE TABLE

Point No.	Project Coordinates		Elev(ft) (NAVD88)	Description
	Northing(ft)	Easting(ft)		
3097	604789.80	229784.75	4978.33	CDOT CM TYPE II @ MP 30.97
3098	604758.79	230474.50	4979.26	CDOT CM TYPE II @ MP 30.98
3101	604120.28	231803.13	4964.46	CDOT CM TYPE II @ MP 31.01
3104	603811.49	233319.64	4956.63	CDOT CM TYPE II @ MP 31.04
3111	602624.28	236210.93	4929.43	CDOT CM TYPE II @ MP 31.11
3114	602174.30	238129.42	4907.97	CDOT CM TYPE II @ MP 31.14
3118	601501.36	239976.38	4881.60	CDOT CM TYPE II @ MP 31.18
3121	601810.24	242437.07	4832.00	CDOT CM TYPE II @ MP 31.21
3127	600817.97	244971.72	4792.97	CDOT CM TYPE II @ MP 31.27
3128	600550.85	245678.68	4804.64	CDOT CM TYPE II @ MP 31.28
W 430	596853.28	241038.51	4824.74	Deep Rod in Mon. Box
Y 430	603140.11	234674.52	4947.20	Deep Rod in Mon. Box
Z 430	604997.75	229871.93	4982.47	Deep Rod in Mon. Box
200	599849.03	249542.18	4884.50	Lead and Tack in Mon. Box



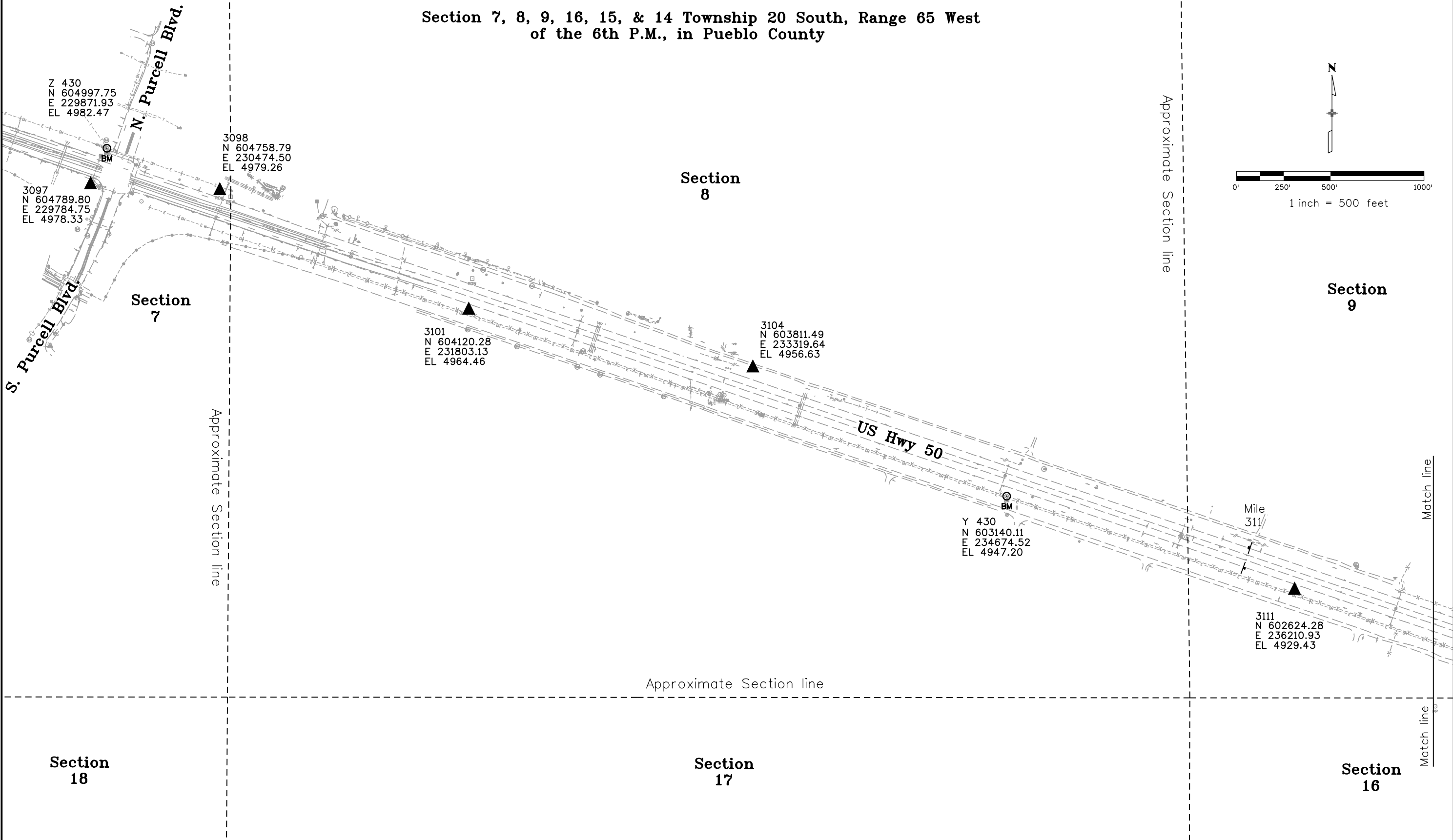
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Project Control Diagram			
Plan Sheet			
Project Number: STA 0503-085			
Project Location: US 50 WB			
Railroad Bridge to top of hill west of Pueblo Blvd			
Project Code:	Last Mod. Date	Subset	Sheet No.
20344	06-15-15	3.03 of 3.05	3.03

Section 7, 8, 9, 16, 15, & 14 Township 20 South, Range 65 West
of the 6th P.M., in Pueblo County



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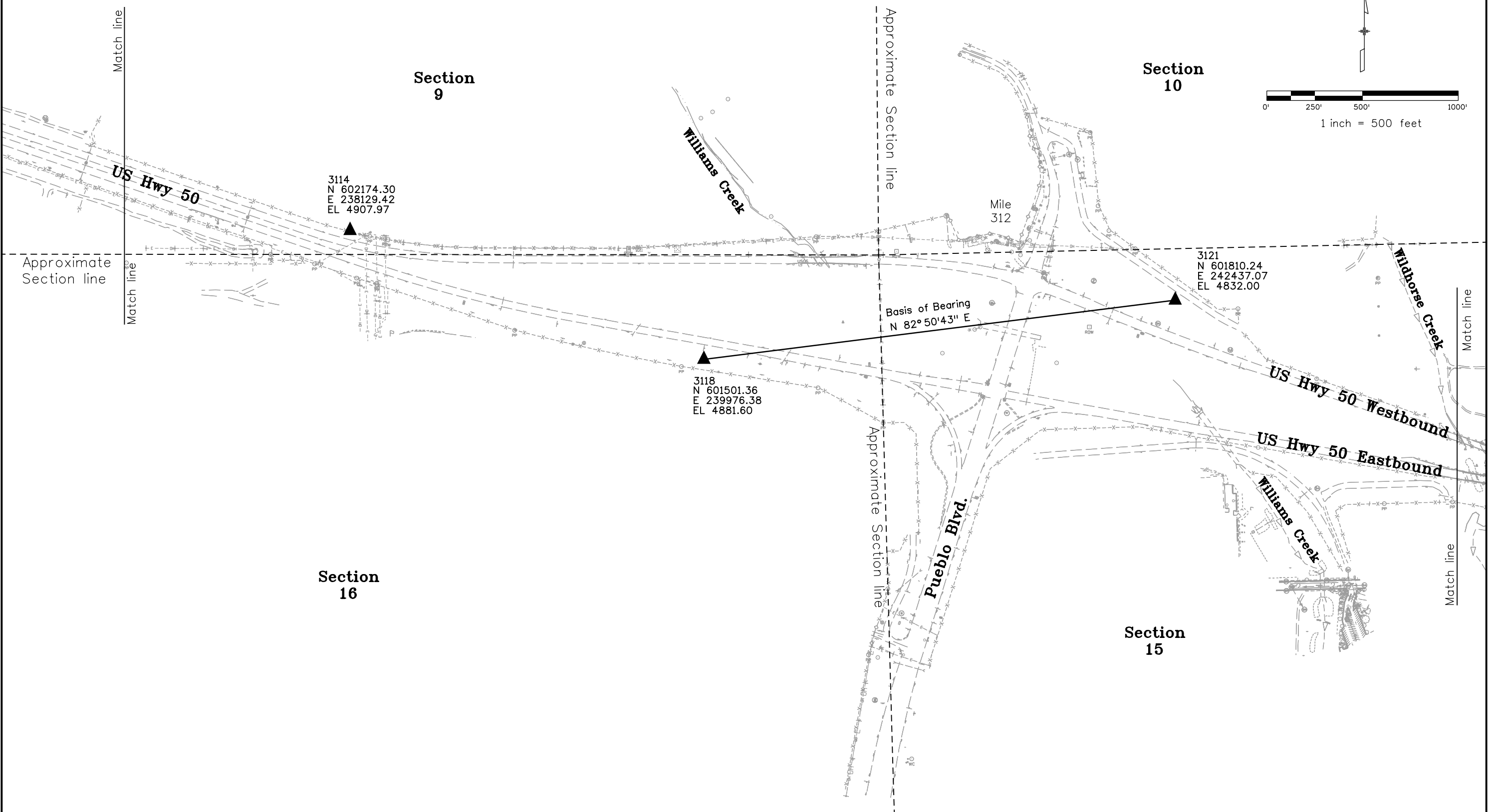
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Sheet Revisions		
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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Project Control Diagram			
Plan Sheet			
Project Number: STA 0503-085			
Project Location: US 50 WB			
Railroad Bridge to top of hill west of Pueblo Blvd			
Project Code:	Last Mod. Date	Subset	Sheet No.
20344	06-15-15	3.04 of 3.05	3.04

Section 7, 8, 9, 16, 15, & 14 Township 20 South, Range 65 West
of the 6th P.M., in Pueblo County



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Colorado Department of Transportation



P.O. Box 536
905 Erie Avenue
Pueblo, CO 81002
Phone: 719-546-5454 FAX: 719-546-5414

Region 2

TTA

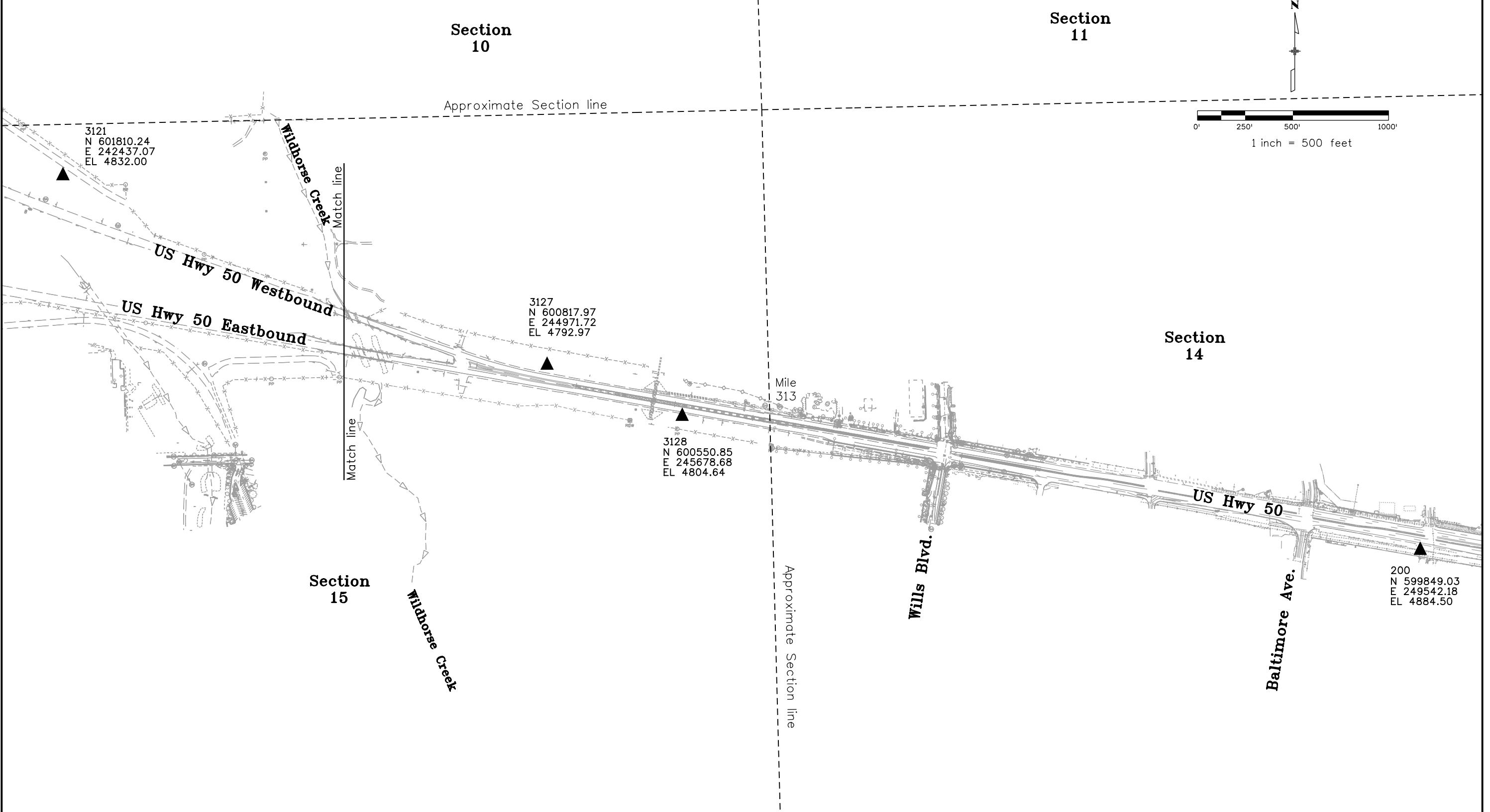
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Project Control Diagram			
Plan Sheet			
Project Number: STA 0503-085			
Project Location: US 50 WB			
Railroad Bridge to top of hill west of Pueblo Blvd			
Project Code:	Last Mod. Date	Subset	Sheet No.
20344	06-15-15	3.05 of 3.05	3.05

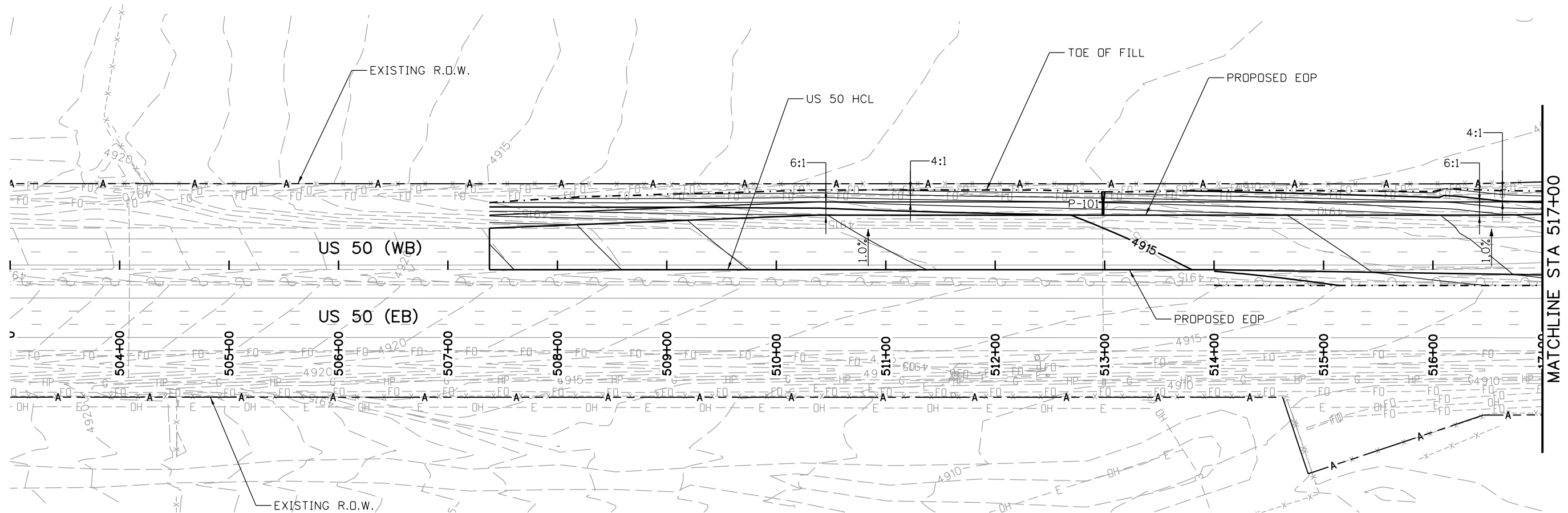
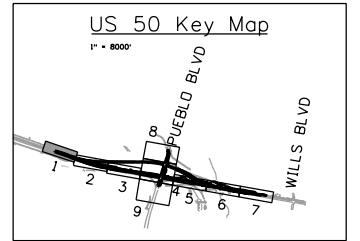
Section 7, 8, 9, 16, 15, & 14 Township 20 South, Range 65 West
of the 6th P.M., in Pueblo County



12/6/2016 3:29:56 PM C:\Projects\20448\RDW_Survey\Drawings\Control_Diagrams\20344\SURV_PCD-Plan3_05.dgn



Know what's below.
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MATCHLINE STA 517+00



NOTE
SEE REMOVAL PLAN FOR MILL AND OVERLAY LIMITS ON US 50.

Print Date: 3/2/2017
 File Name: 20344-Grading-Drainage01.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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Sheet Revisions		
Date:	Comments	Init.

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Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND
 GRADING AND DRAINAGE PLAN
 US 50

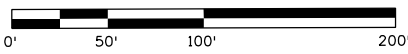
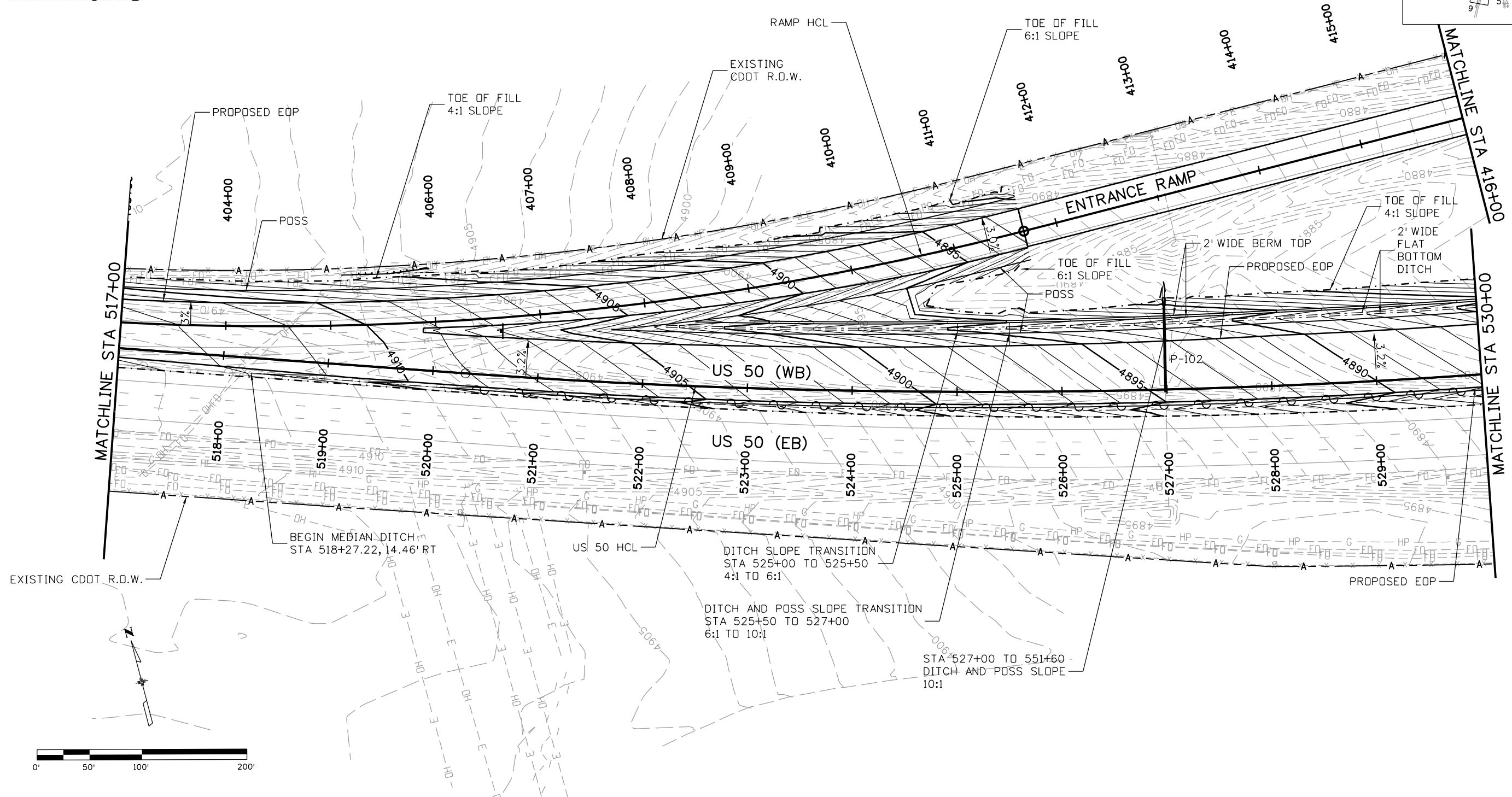
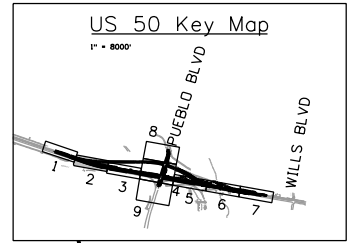
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 Detailer: ACE Numbers
 Subset: GR Subset Sheets: 01 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 80

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Know what's below.
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Print Date: 3/2/2017
 File Name: 20344-Grading-Drainage02.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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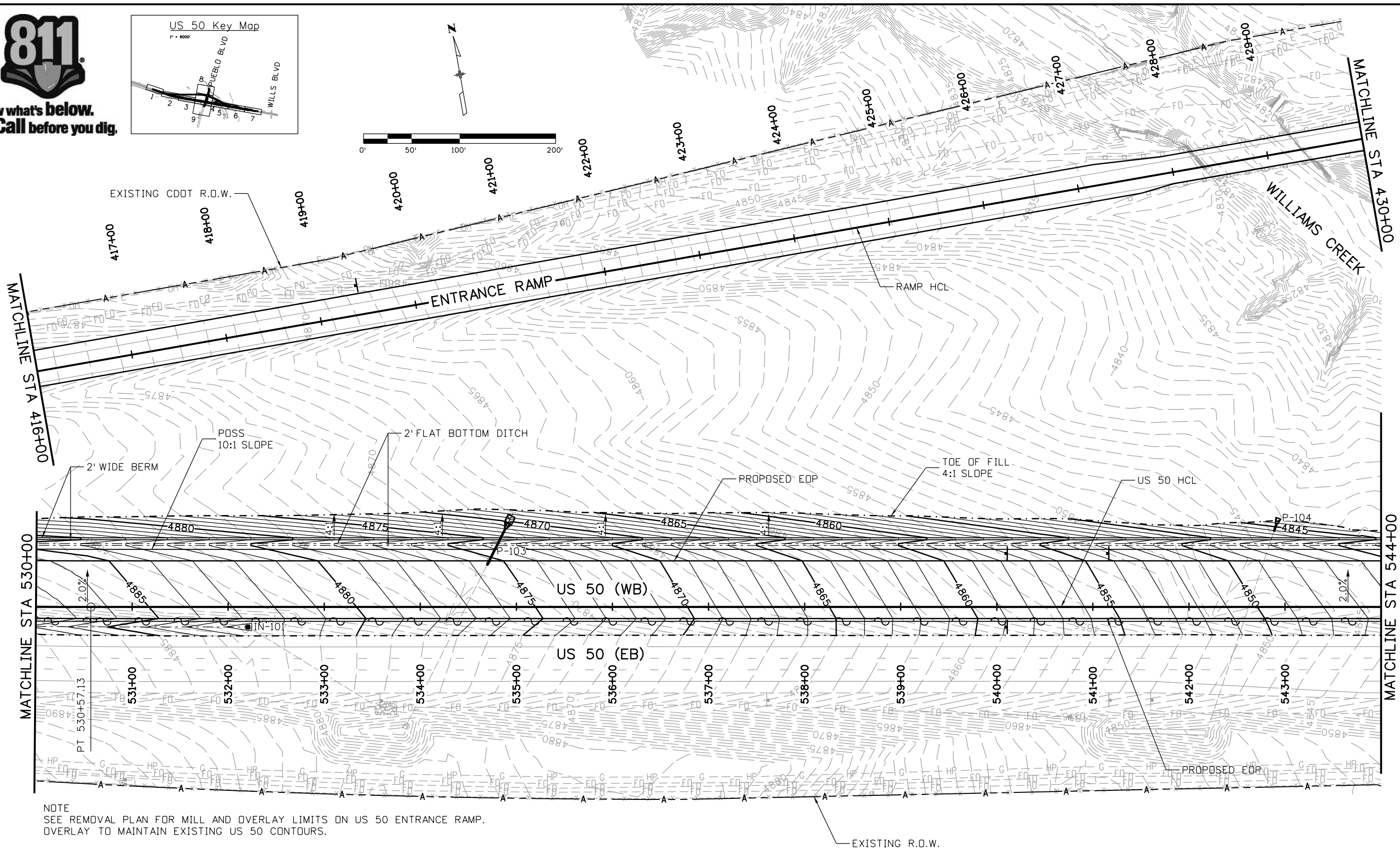
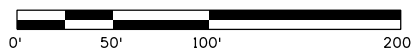
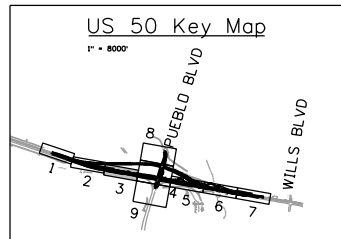
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Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	GR	Subset Sheets: 02 of 09	

Project No./Code
STA 0503-085
20344
Sheet Number 81



Know what's below.
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NOTE
SEE REMOVAL PLAN FOR MILL AND OVERLAY LIMITS ON US 50 ENTRANCE RAMP.
OVERLAY TO MAINTAIN EXISTING US 50 CONTOURS.

Print Date: 3/2/2017

File Name: 20344-Grading-Drainage03.dgn

Horiz. Scale: 1:100

Vert. Scale:



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US 50 WEST WESTBOUND
GRADING AND DRAINAGE PLAN
US 50

Designer:	ACE	Structure	
Detailer:	ACE	Numbers	
Subset:	GR	Subset Sheets:	03 of 09

Project No./Code

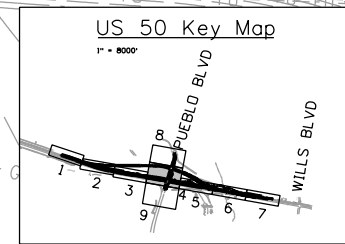
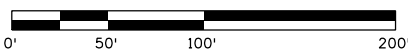
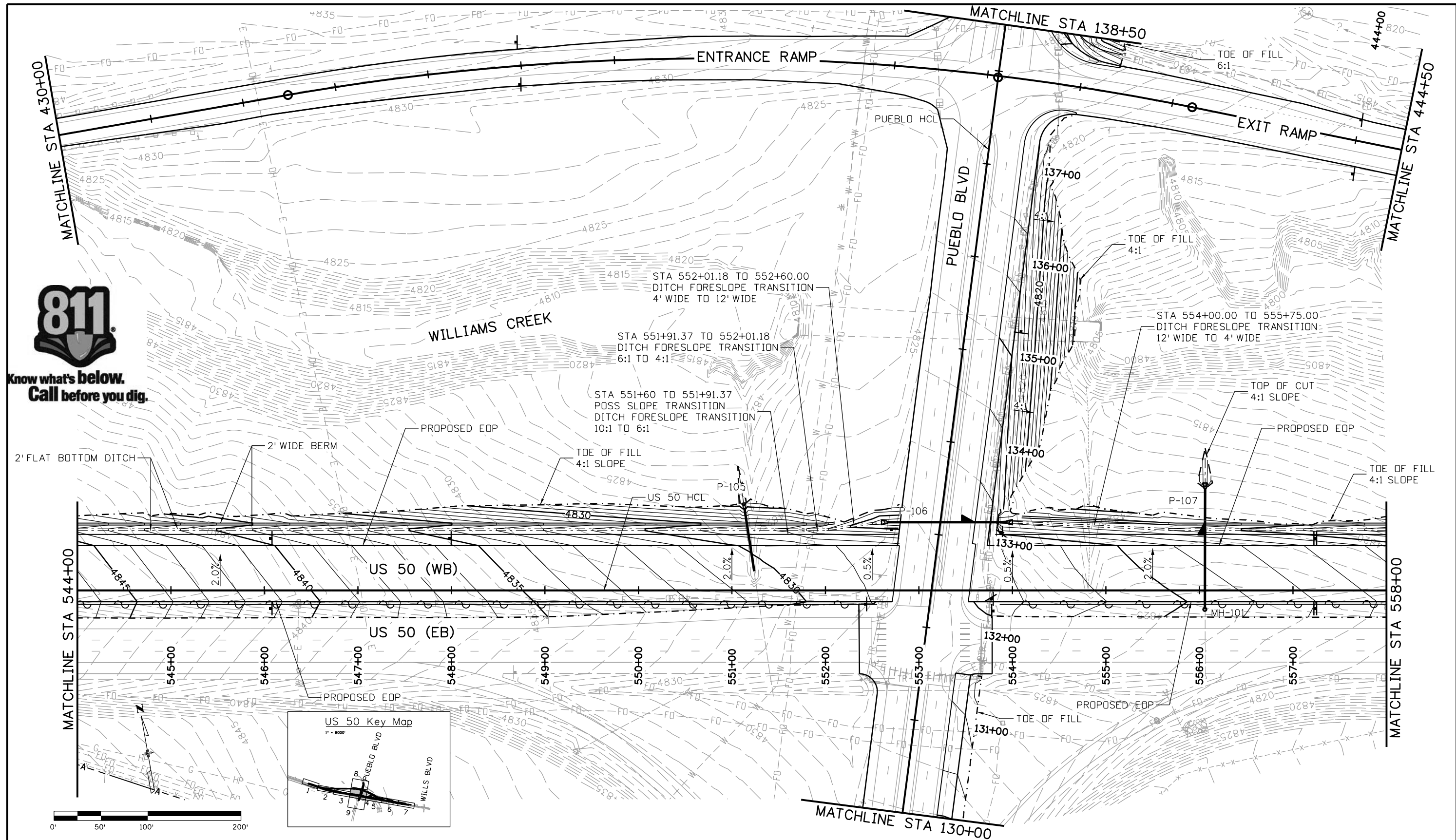
STA 0503-085

20344

Sheet Number 82



Know what's below.
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 Horiz. Scale: 1:100 Vert. Scale:

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US 50 WEST WESTBOUND
 GRADING AND DRAINAGE PLAN
 US 50

Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	GR	Subset Sheets:	04 of 09

Project No./Code
 STA 0503-085

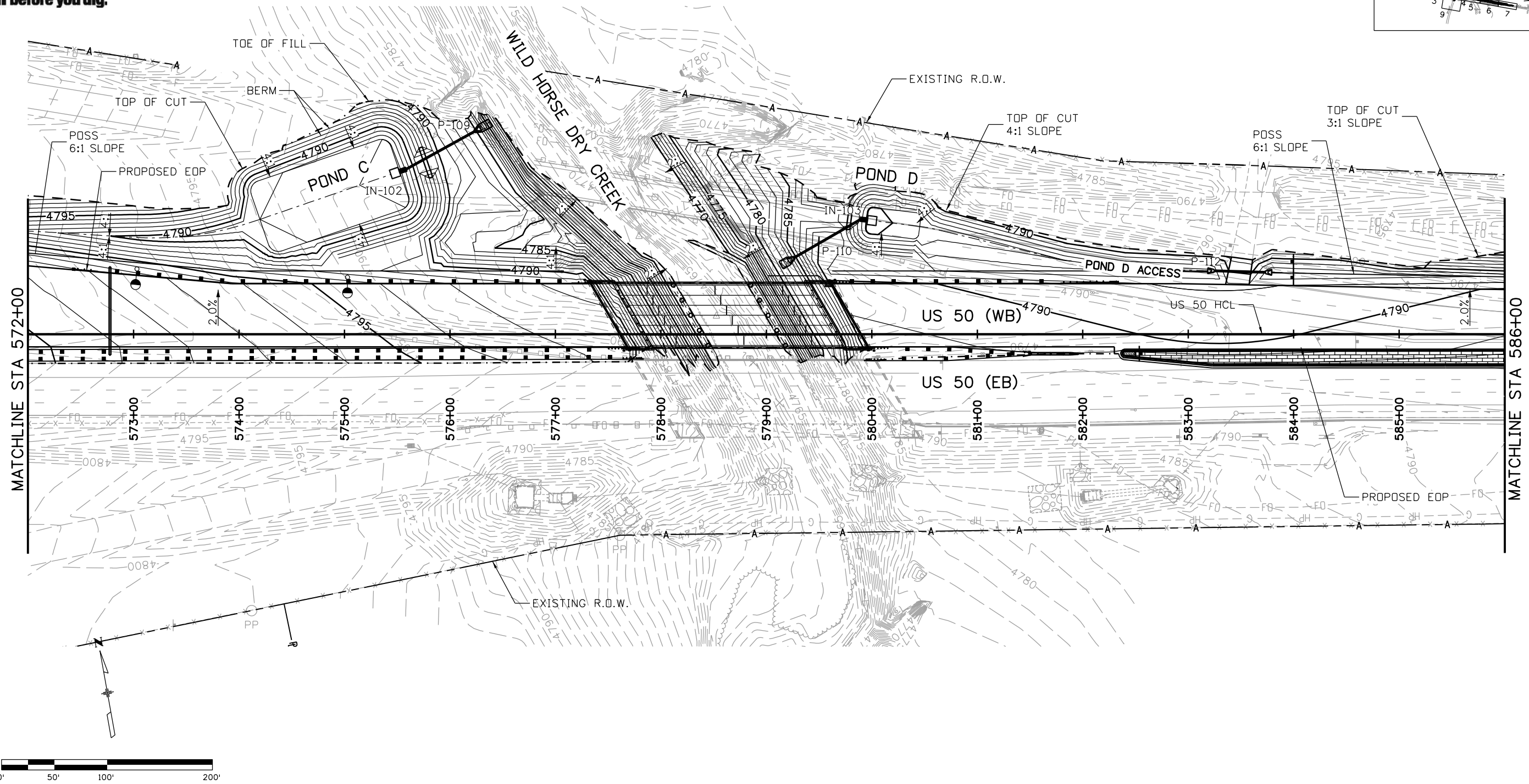
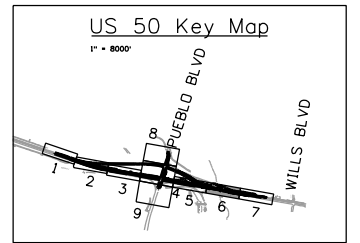
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Sheet Number **83**

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File Name: 20344-Grading-Drainage06.dgn	
Horiz. Scale: 1:100	Vert. Scale:
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Date:	Comments	Init.

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No Revisions:
Revised:
Void:

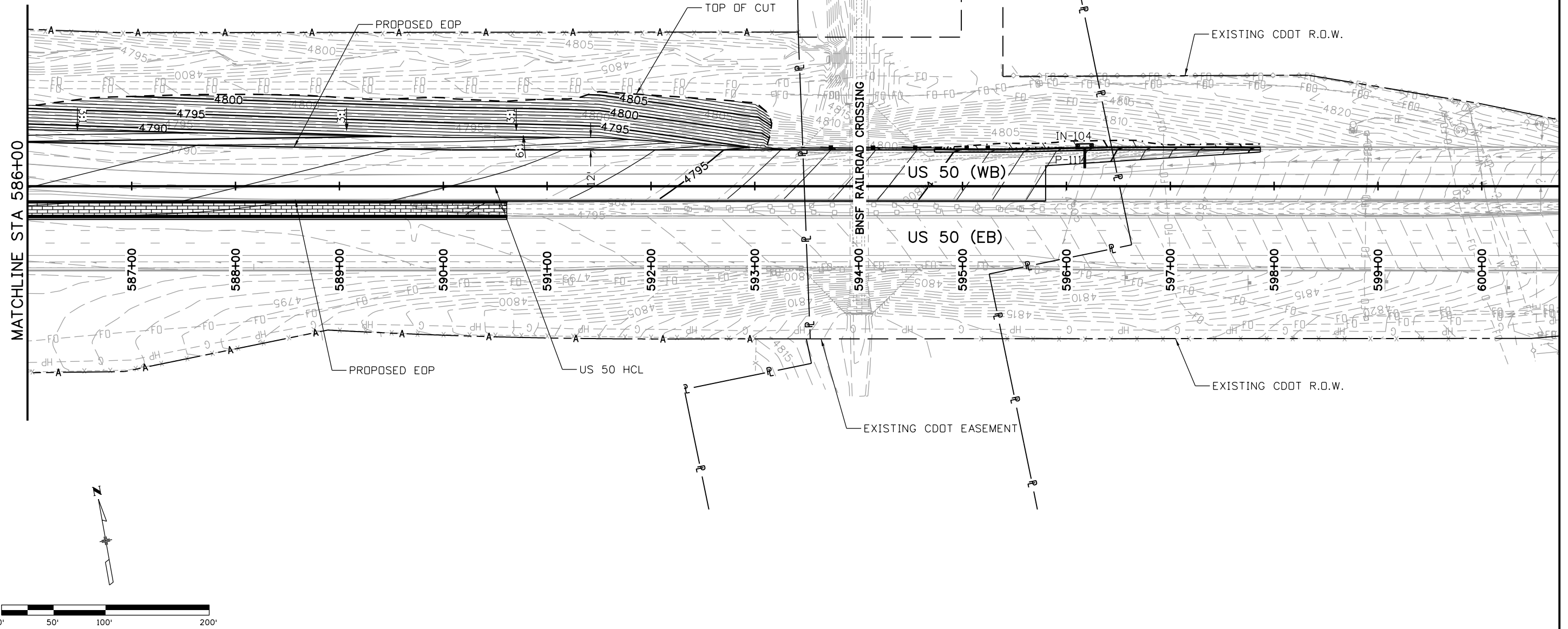
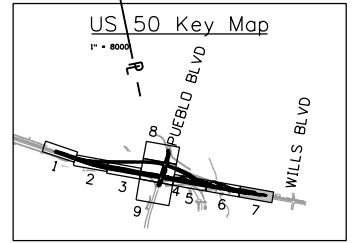
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	GR	Subset Sheets:	06 of 09

Project No./Code	STA 0503-085
	20344
Sheet Number	85

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Know what's below.
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Print Date: 3/2/2017
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 Horiz. Scale: 1:100 Vert. Scale:

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No Revisions:
Revised:
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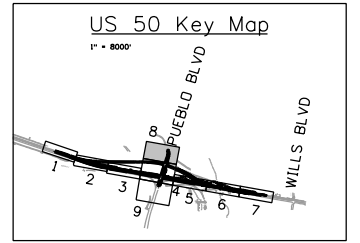
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Project No./Code
STA 0503-085
20344
Sheet Number 86

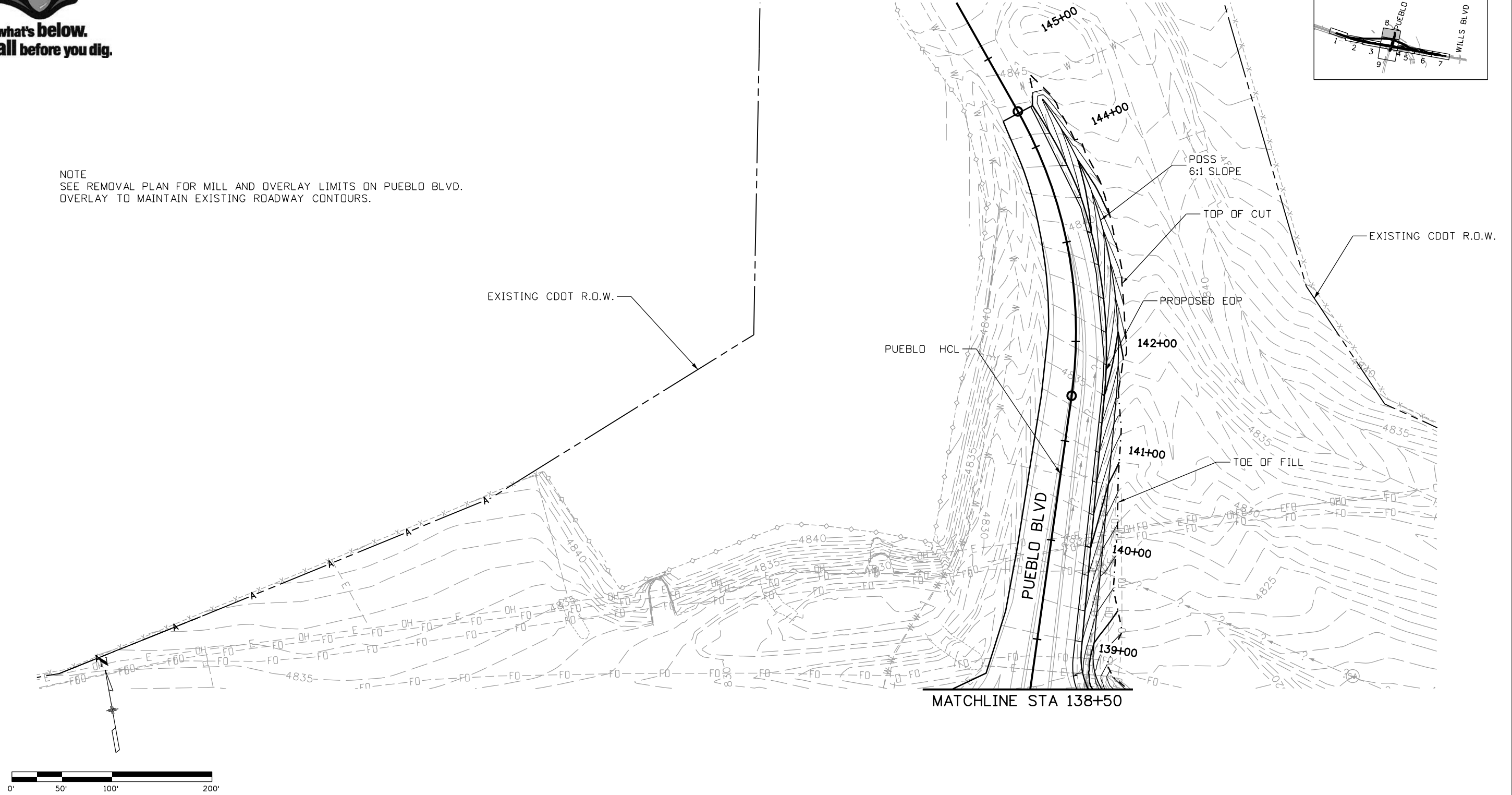
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NOTE
SEE REMOVAL PLAN FOR MILL AND OVERLAY LIMITS ON PUEBLO BLVD.
OVERLAY TO MAINTAIN EXISTING ROADWAY CONTOURS.



Print Date: 3/2/2017
File Name: 20344-Grading-Drainage08.dgn
Horiz. Scale: 1:100 Vert. Scale:
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Sheet Revisions		
Date:	Comments	Init.

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Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

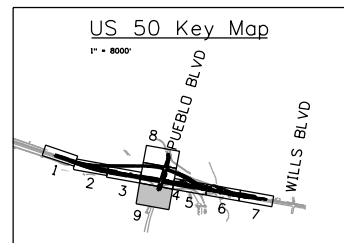
US 50 WEST WESTBOUND GRADING AND DRAINAGE PLAN PUEBLO BLVD			
Designer:	AB	Structure	
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Subset:	GR	Subset Sheets:	08 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 87

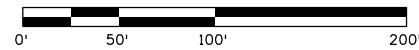
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NOTE
SEE REMOVAL PLAN FOR MILL AND OVERLAY LIMITS ON PUEBLO BLVD.
OVERLAY TO MAINTAIN EXISTING ROADWAY CONTOURS.



Print Date: 3/2/2017
 File Name: 20344-Grading-Drainage09.dgn
 Horiz. Scale: 1:100 Vert. Scale:

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Sheet Revisions		
Date:	Comments	Init.

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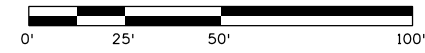
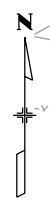
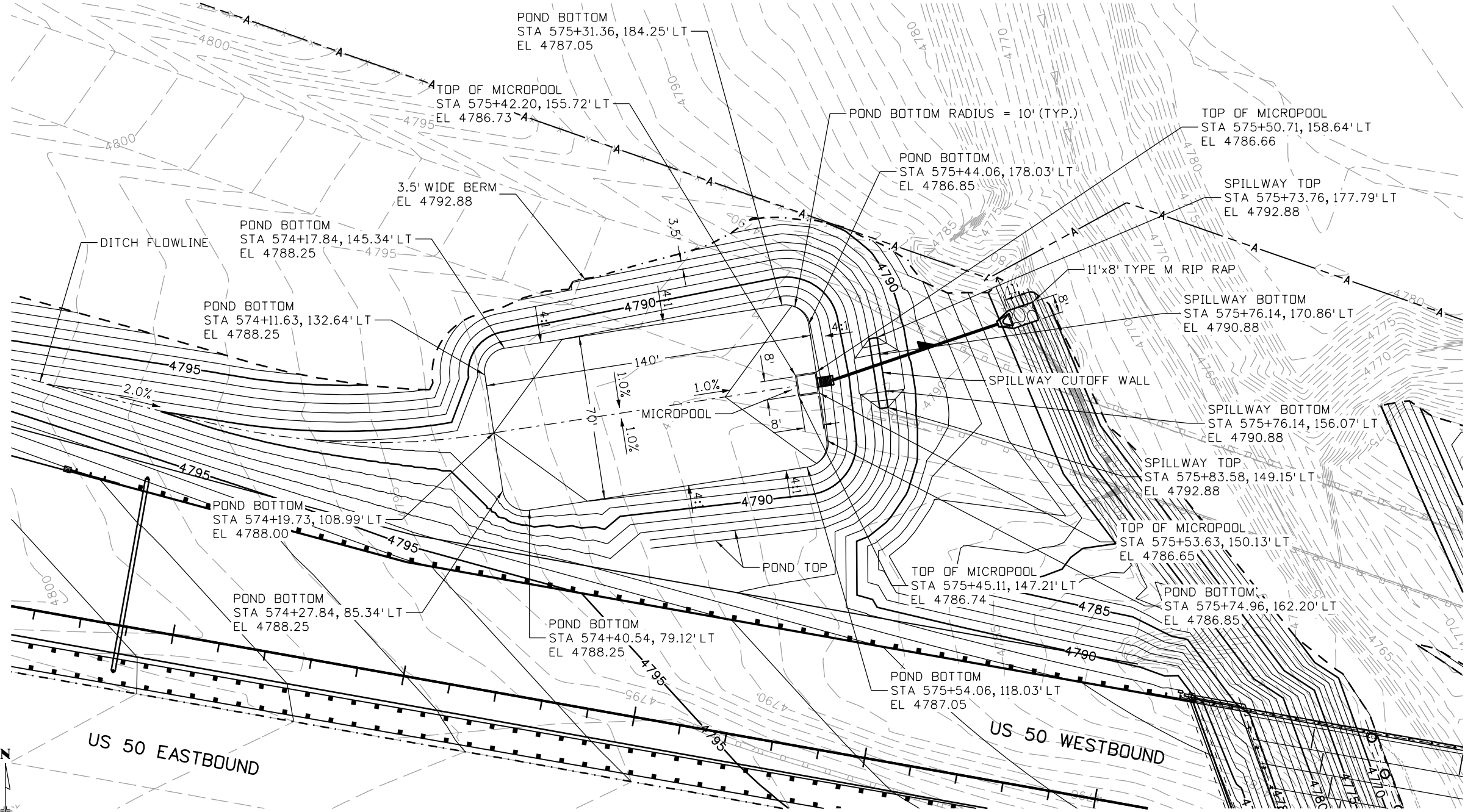
Region 2 DTD

As Constructed
No Revisions:
Revised:
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US 50 WEST WESTBOUND GRADING AND DRAINAGE PLAN PUEBLO BLVD			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	GR	Subset Sheets:	09 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 88

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Print Date: 3/2/2017
 File Name: 20344-PondDetail01.dgn
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Sheet Revisions		
Date:	Comments	Init.

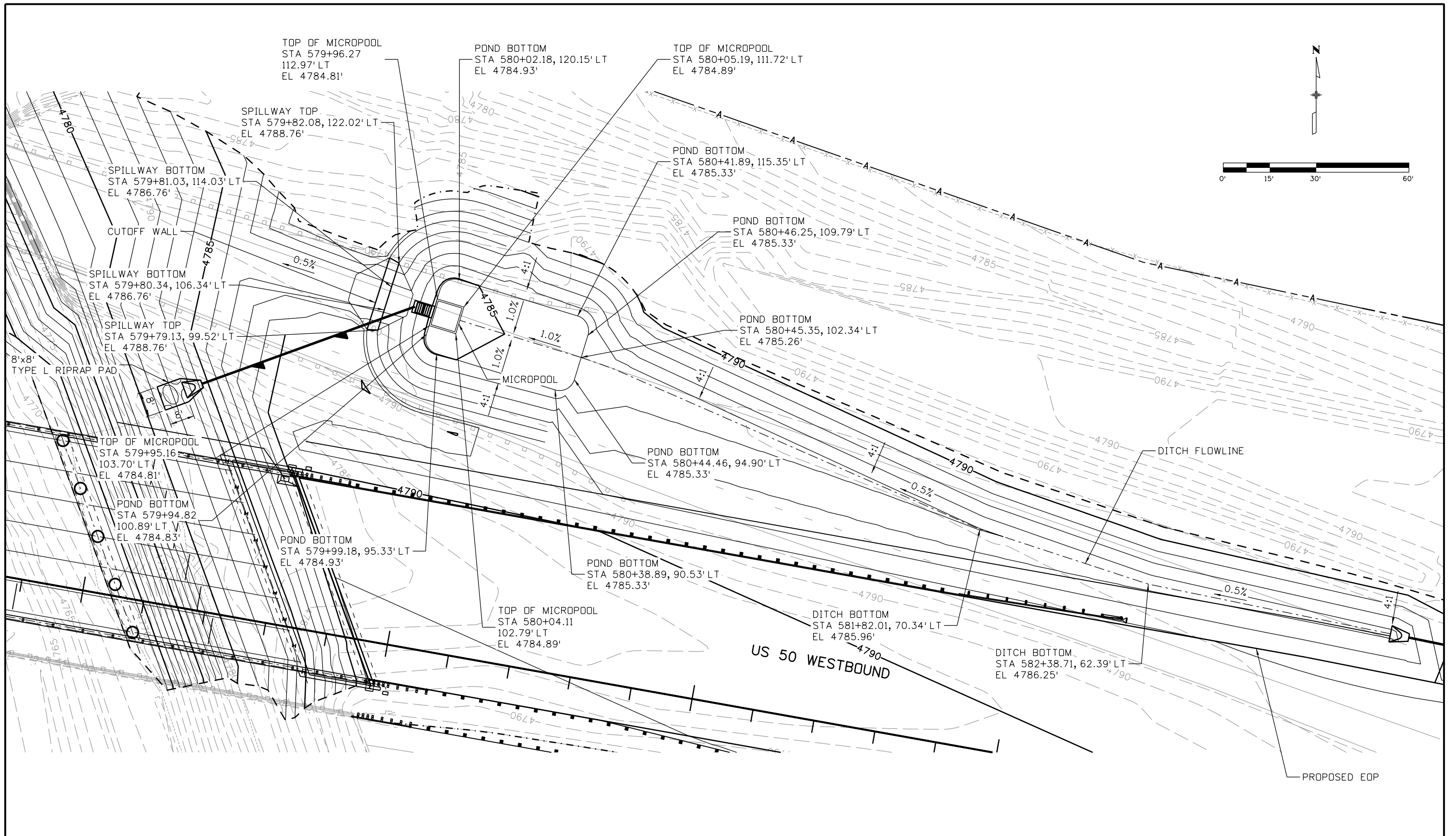
Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 **DTD**

As Constructed
 No Revisions:
 Revised:
 Void:

**US 50 WEST WESTBOUND
 POND DETAILS
 POND C**
 Designer: ACE
 Detailer: ACE
 Subset: DDT
 Structure Numbers
 Subset Sheets: 01 of 02

Project No./Code
 STA 0503-085
 20344
 Sheet Number **89**

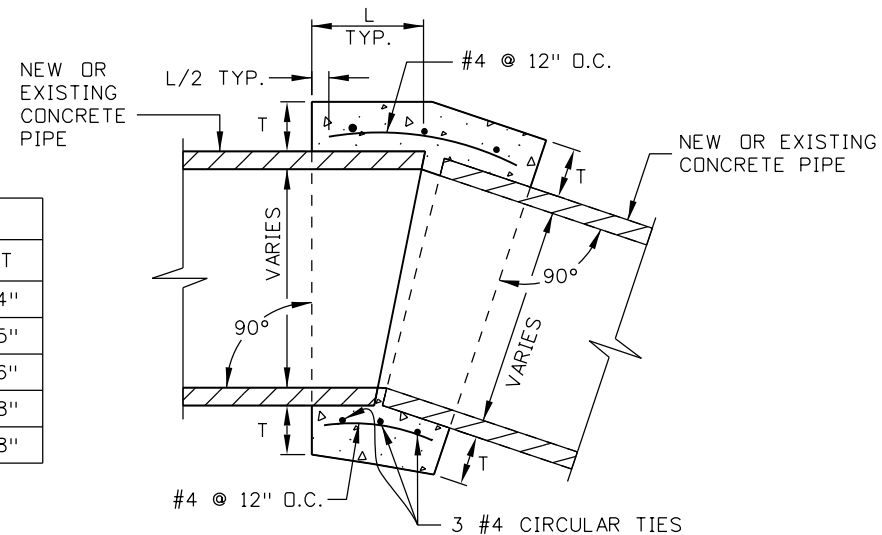
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Horiz. Scale: 1:30 Vert. Scale:							Revised:					Structure Numbers		20344	
 J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120							Void:					Subset Sheets: 02 of 02		Sheet Number 90	

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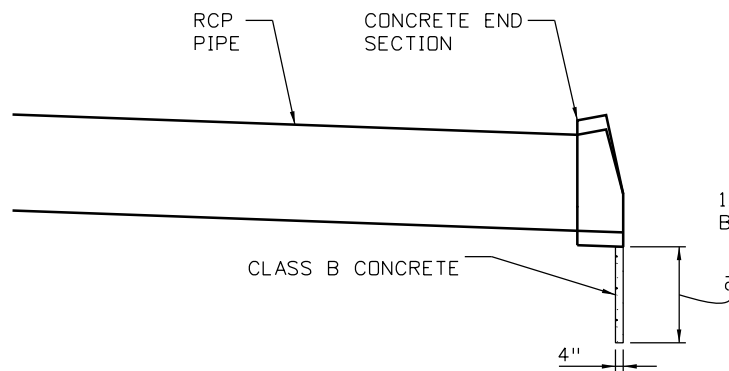
N.T.S.		
D	L	T
12"	1.0	4"
18"	1.0	5"
24"	1.0	6"
36"	1.5	8"
24" x 38" HERCP	1.5	8"



NOTES:

1. A CONCRETE COLLAR IS REQUIRED WHERE THE MAXIMUM PERMISSIBLE PULL AT THE JOINT, AS SPECIFIED BY THE MANUFACTURER, IS EXCEEDED.
2. CONCRETE PIPE COLLARS SHALL NOT BE USED FOR PIPES WITH DIFFERENT DIAMETERS.
3. FOR PIPE SIZE NOT LISTED, USE NEXT SIZE LARGER.
4. OMIT REINFORCING ON ALL PIPES LESS THAN 24" IN DIAMETER WITH MINIMUM 2' COVER, AND SUBSTITUTE WITH WIRE MESH.
5. CONCRETE SHALL BE CDDT CLASS B.
6. CONCRETE PIPE COLLARS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
7. THE INTERIOR SURFACE OF THE CONCRETE COLLAR SHALL BE FINISHED SMOOTH TO MATCH THE ADJOINING PIPE SURFACES. IF THE PROPOSED PIPE DEFLECTION CREATES A GAP WHICH PROHIBITS A SMOOTH INTERIOR FINISH, A MITERED CUT TO EACH PIPE SHALL BE REQUIRED.

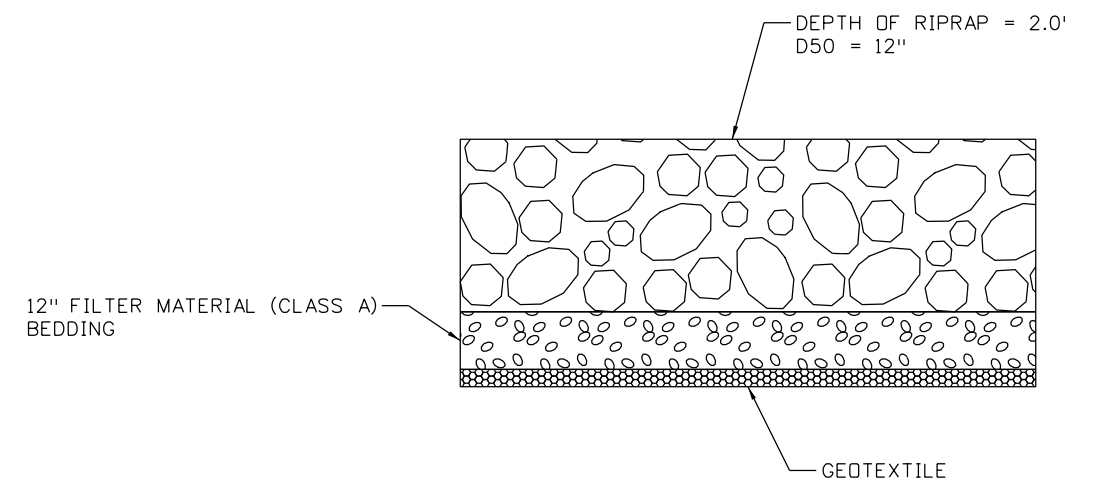
CONCRETE PIPE COLLAR
N.T.S.



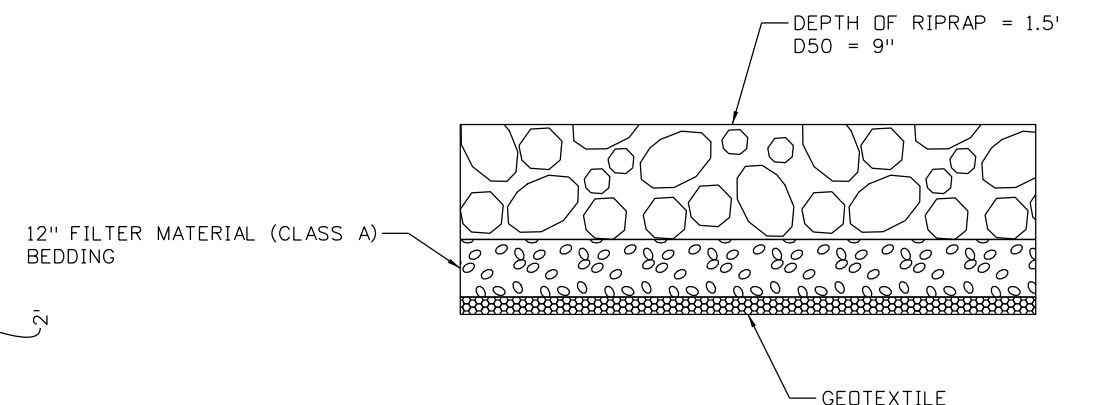
TOE WALL CROSS SECTION
N.T.S.

NOTE:

TOE WALL NOT BE PAID FOR SEPARATELY. COST IS INCIDENTAL TO THE COST OF END SECTION.



TYPICAL RIPRAP TYPE "M" DETAIL
N.T.S.



TYPICAL RIPRAP TYPE "L" DETAIL
N.T.S.

Print Date: 3/2/2017
 File Name: 20344DES_Misc_Pond_Det05.dgn
 Horiz. Scale: As Noted Vert. Scale:
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Sheet Revisions		
Date:	Comments	Init.

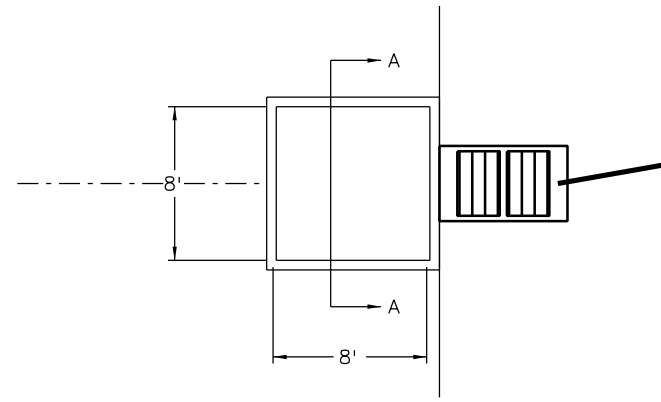
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CDOT
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No Revisions:
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US 50 WEST WESTBOUND DRAINAGE DETAILS			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	DDT	Subset Sheets: 06 of 06	

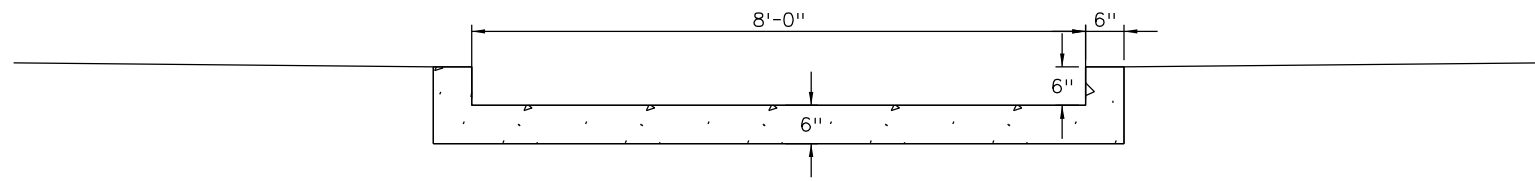
Project No./Code
STA 0503-085
20344
Sheet Number 91

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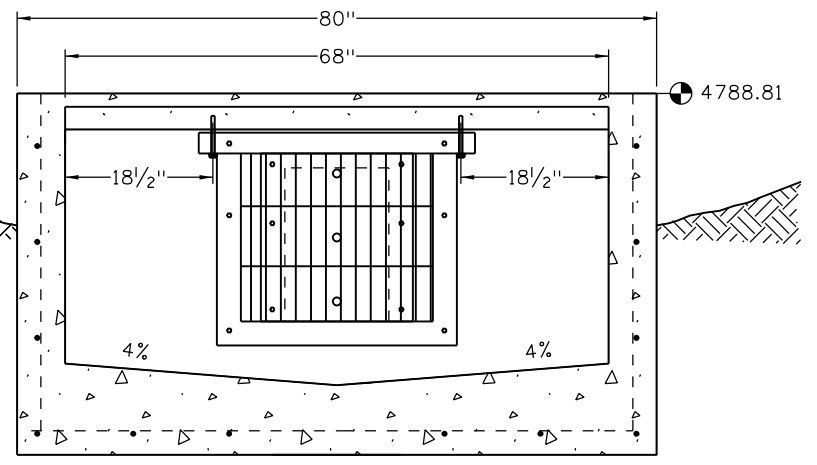
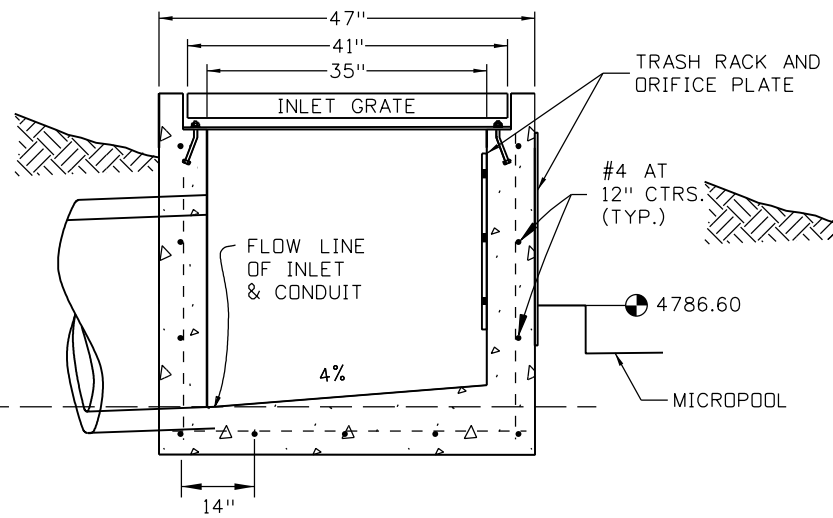
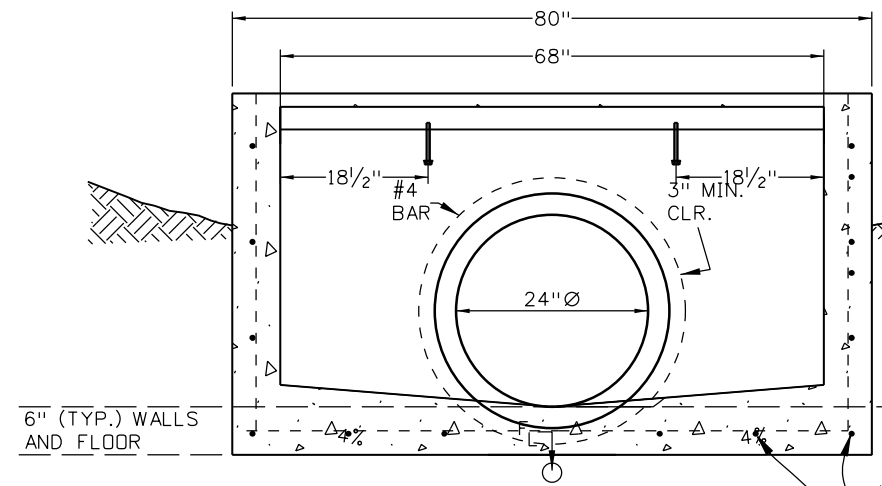


MICROPOOL DETAIL

MICROPOOL SHALL BE CONCRETE CLASS B AND SHALL BE PAID FOR AS ITEM 601-01000. IT IS EXPECTED THAT 1.9 CY WILL BE REQUIRED FOR THE MICROPOOL.

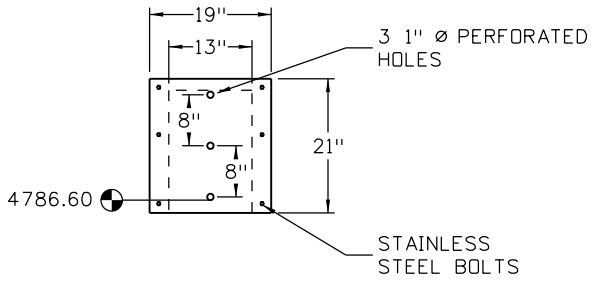


SECTION A-A

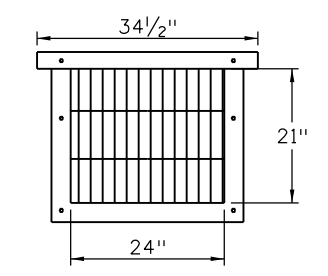


6" (TYP.) WALLS AND FLOOR

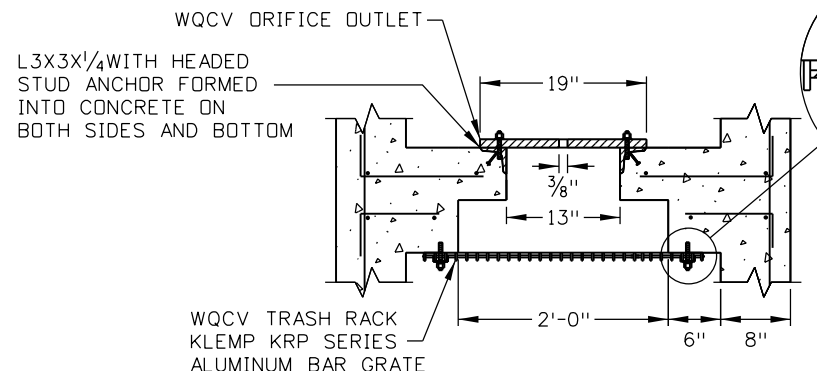
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POND C ORIFICE PLATE

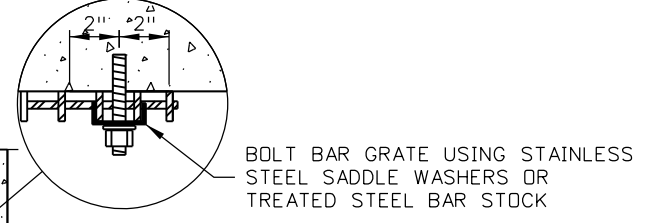


POND C TRASH RACK



WQCV TRASH RACK AND ORIFICE PLATE

ORIFICE PLATES:
1. STEEL ORIFICE PLATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER PAINTED AFTER GALVANIZING.

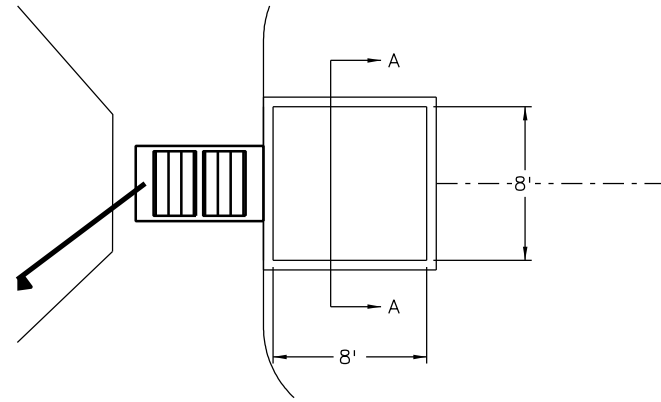


- WQCV TRASH RACKS:**
1. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE OR ATTACHED BY INTERMITTANT WELDS..
 2. TRASH RACK WIDTHS ARE FOR SPECIFIED TRASH RACK MATERIAL. FINER WELL-SCREEN OR MESH SIZE THAN SPECIFIED IS ACCEPTABLE, HOWEVER, TRASH RACK DIMENSIONS NEED TO BE ADJUSTED FOR MATERIALS HAVING A DIFFERENT OPEN AREA/GROSS AREA RATION (R VALUE).

GENERAL NOTE
1. WATER QUALITY POND OUTLET STRUCTURE PAID FOR AS INLET TYPE D (SPECIAL).

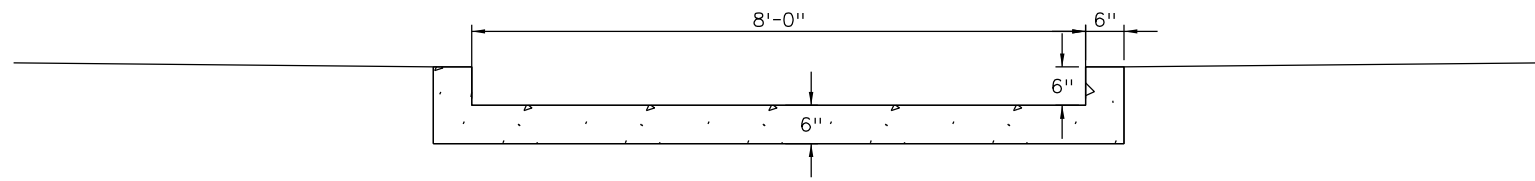
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Print Date: 3/2/2017		<table border="1"> <thead> <tr> <th colspan="3">Sheet Revisions</th> </tr> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Sheet Revisions			Date:	Comments	Init.										<table border="1"> <tr> <td colspan="2">As Constructed</td> <td colspan="2">US 50 WEST WESTBOUND DRAINAGE DETAILS</td> <td rowspan="2">Project No./Code</td> </tr> <tr> <td colspan="2">No Revisions:</td> <td colspan="2">POND C</td> </tr> <tr> <td colspan="2">Revised:</td> <td>Designer: ACE</td> <td>Structure Numbers</td> <td>STA 0503-085</td> </tr> <tr> <td colspan="2">Void:</td> <td>Detailer: ACE</td> <td>Subset Sheets: 01 of 06</td> <td>20344</td> </tr> <tr> <td colspan="2"> </td> <td>Subset: DDT</td> <td> </td> <td>Sheet Number 92</td> </tr> </table>		As Constructed		US 50 WEST WESTBOUND DRAINAGE DETAILS		Project No./Code	No Revisions:		POND C		Revised:		Designer: ACE	Structure Numbers	STA 0503-085	Void:		Detailer: ACE	Subset Sheets: 01 of 06	20344			Subset: DDT		Sheet Number 92
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As Constructed		US 50 WEST WESTBOUND DRAINAGE DETAILS		Project No./Code																																								
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Revised:		Designer: ACE	Structure Numbers	STA 0503-085																																								
Void:		Detailer: ACE	Subset Sheets: 01 of 06	20344																																								
		Subset: DDT		Sheet Number 92																																								
File Name: 20344DES_Misc_Pond_Det03.dgn		 Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD		 J.F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120																																								
Horiz. Scale: As Noted Vert. Scale:																																												

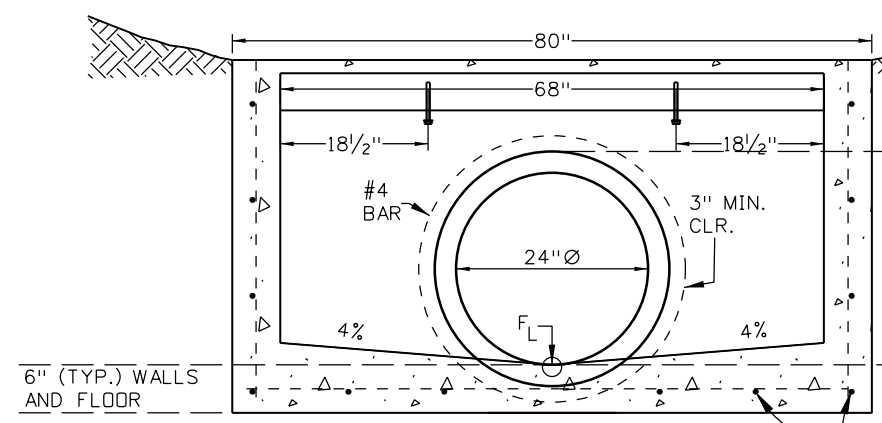


MICROPOOL DETAIL

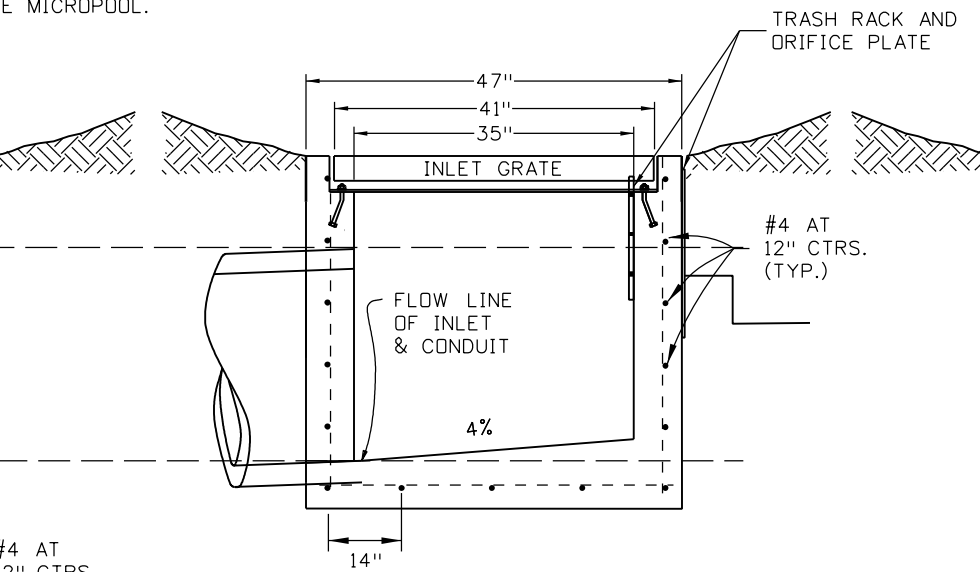
MICROPOOL SHALL BE CONCRETE CLASS B AND SHALL BE PAID FOR AS ITEM 601-01000. IT IS EXPECTED THAT 1.9 CY WILL BE REQUIRED FOR THE MICROPOOL.



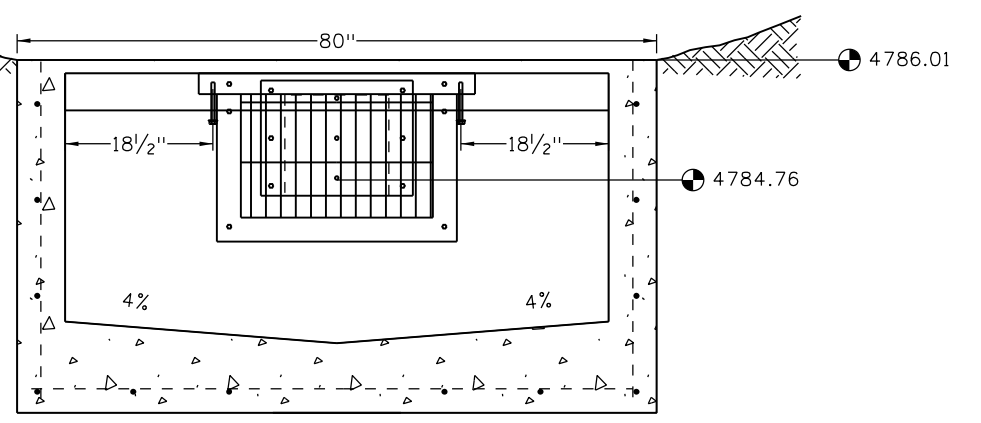
SECTION A-A



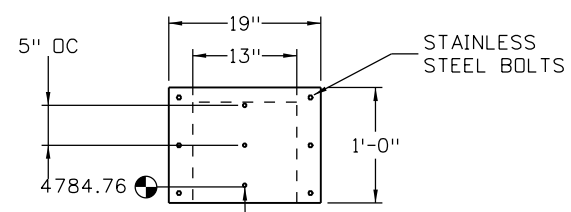
TRANSVERSE CROSS-SECTION



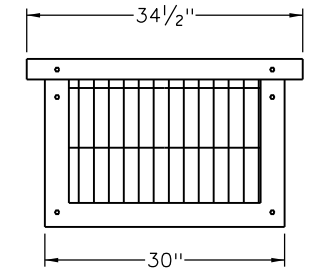
LONGITUDINAL CROSS-SECTION



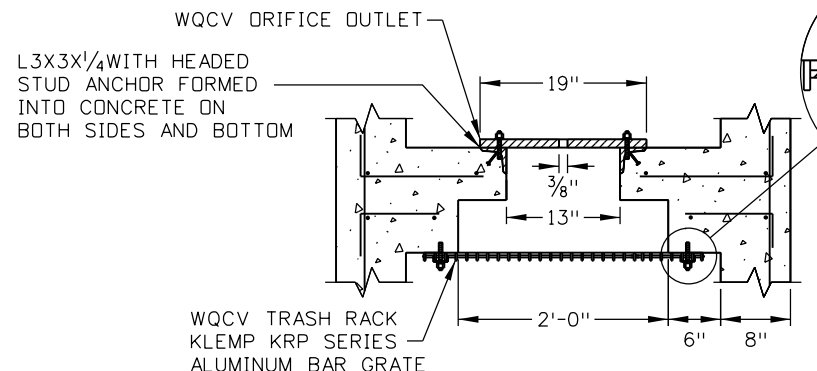
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POND D ORIFICE PLATE

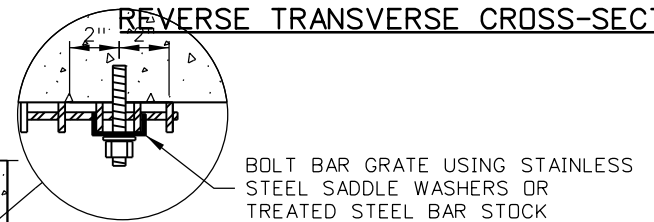


POND D TRASH RACK



WQCV TRASH RACK AND ORIFICE PLATE

ORIFICE PLATES:
 1. STEEL ORIFICE PLATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER PAINTED AFTER GALVANIZING.



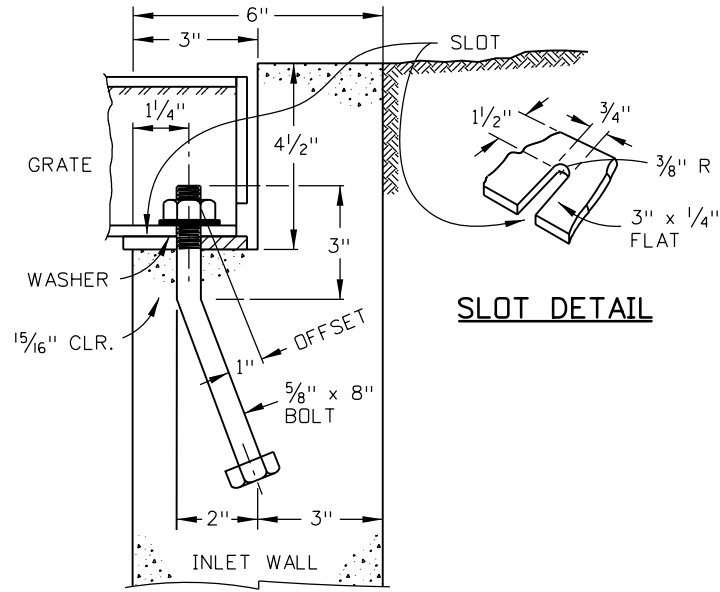
BOLT BAR GRATE USING STAINLESS STEEL SADDLE WASHERS OR TREATED STEEL BAR STOCK

- WQCV TRASH RACKS:**
1. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE OR ATTACHED BY INTERMITTANT WELDS..
 2. TRASH RACK WIDTHS ARE FOR SPECIFIED TRASH RACK MATERIAL. FINER WELL-SCREEN OR MESH SIZE THAN SPECIFIED IS ACCEPTABLE, HOWEVER, TRASH RACK DIMENSIONS NEED TO BE ADJUSTED FOR MATERIALS HAVING A DIFFERENT OPEN AREA/GROSS AREA RATION (R VALUE).

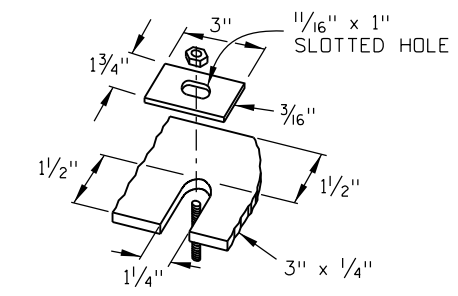
GENERAL NOTE
 1. WATER QUALITY POND OUTLET STRUCTURE PAID FOR AS INLET TYPE D (SPECIAL).

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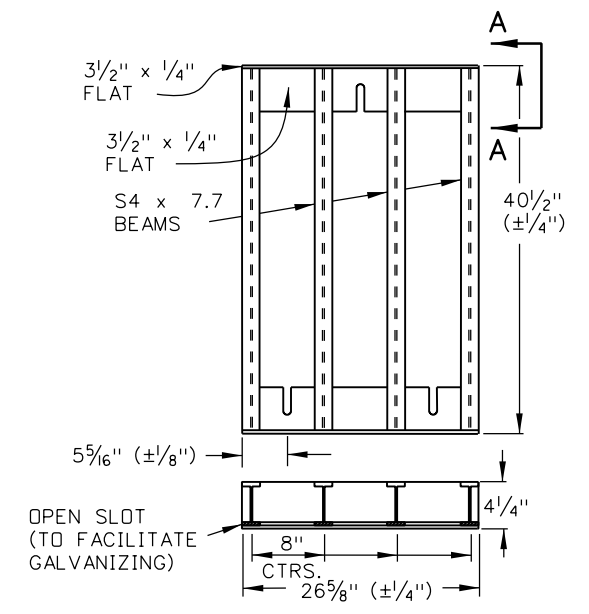
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File Name: 20344DES_Misc_Pond_Det04.dgn		Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		POND D		STA 0503-085
Horiz. Scale: As Noted Vert. Scale:					Region 2 DTD		Revised:		Designer: ACE		20344
JFS & A J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120							Void:		Detailer: ACE		Sheet Number 93
									Subset: DDT		Subset Sheets: 02 of 06



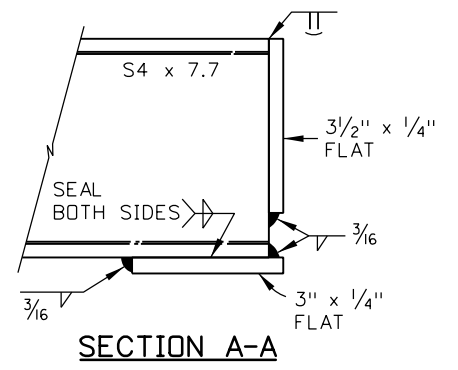
GRATE INSTALLATION DETAIL



ALTERNATE SLOT AND HOLD DOWN PLATE DETAIL



GRATE INSTALLATION



SECTION A-A

Print Date: 3/2/2017		Sheet Revisions				As Constructed		US 50 WEST WESTBOUND DRAINAGE DETAILS		Project No./Code		
File Name: 20344DES_Misc_Pond_Det06.dgn		Date:	Comments	Init.		No Revisions:		Designer: ACE		Structure Numbers		
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J.F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120					Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		Void:		Subset: DDT		Subset Sheets: 03 of 06 Sheet Number 94	

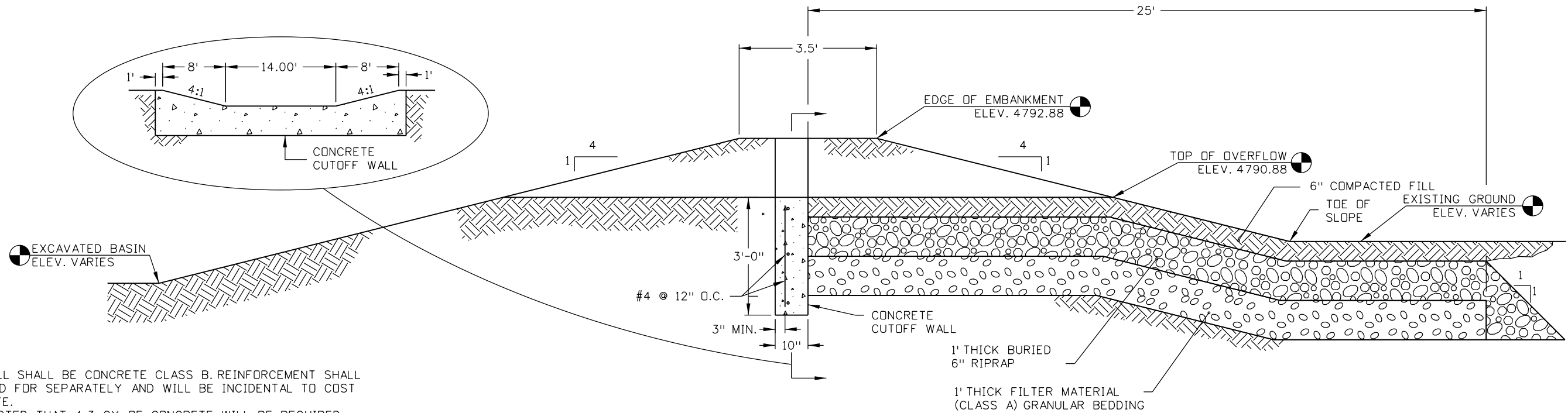
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GRADATION FOR GRANULAR BEDDING	
U.S. STANDARD SIEVE SIZE	PERCENT WEIGHT BY PASSING SQUARE-MESH SIEVES
	TYPE II CDDT SECT. 703.09 CLASS A
3 INCHES	100
1 1/2 INCH	----
3/4 INCH	20-90
3/8 INCH	----
#4	0-20
#16	----
#50	----
#100	----
#200	0-3

RIPRAP (6") GRADATION		
% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSIONS (INCHES)	D50 (inches)
70-100	12	6
50-70	9	
35-50	6	
2-10	2	
RIPRAP (9") GRADATION		
		D50 (inches)
70-100	15	9
50-70	12	
35-50	9	
2-10	3	

D50 = MEAN PARTICLE SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.

MIX RIPRAP WITH 30% (BY VOLUME) TOPSOIL AND BURY IT WITH 6" OF TOPSOIL, ALL VIBRATION COMPACTED, AND REVEGETATED.



CUTOFF WALL SHALL BE CONCRETE CLASS B. REINFORCEMENT SHALL NOT BE PAID FOR SEPARATELY AND WILL BE INCIDENTAL TO COST OF CONCRETE. IT IS EXPECTED THAT 4.3 CY OF CONCRETE WILL BE REQUIRED FOR THE POND C CUTOFF WALL.

POND C SPILLWAY SECTION

Print Date: 3/2/2017

File Name: 20344DES_Misc_Pond_Det07.dgn

Horiz. Scale: As Noted Vert. Scale:

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Littleton, Colorado 80120



Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation



Region 2

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

DTD

As Constructed

No Revisions:

Revised:

Void:

US 50 WEST WESTBOUND
DRAINAGE DETAILS
POND C

Designer:	ACE	Structure	
Detailer:	ACE	Numbers	
Subset:	DDT	Subset Sheets:	04 of 06

Project No./Code

STA 0503-085

20344

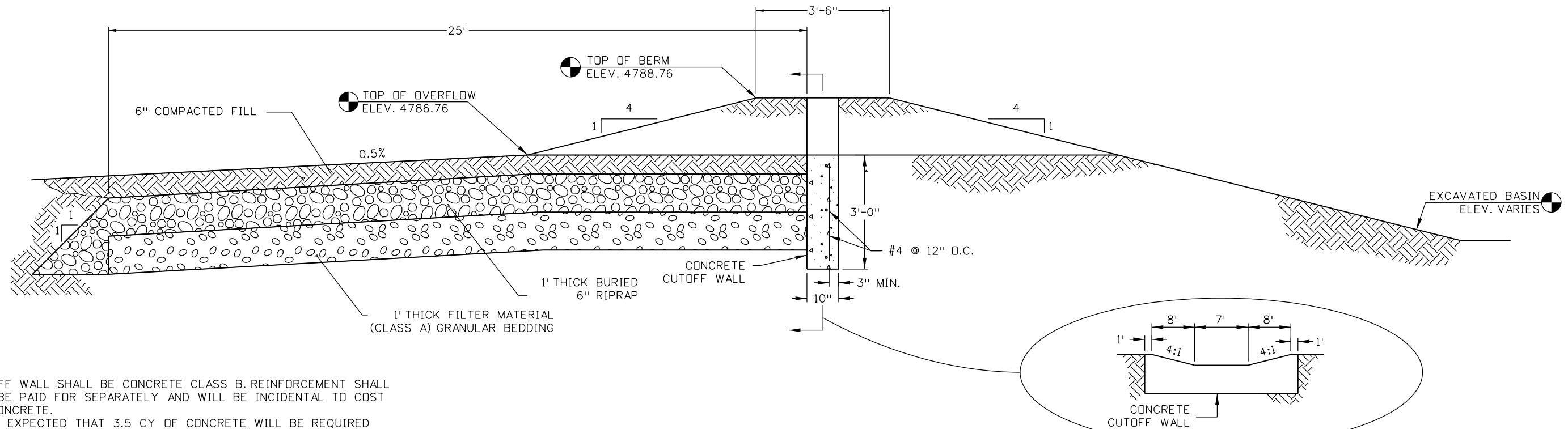
Sheet Number 95

GRADATION FOR GRANULAR BEDDING	
U.S. STANDARD SIEVE SIZE	PERCENT WEIGHT BY PASSING SQUARE-MESH SIEVES
	TYPE II CDDT SECT. 703.09 CLASS A
3 INCHES	100
1 1/2 INCH	----
3/4 INCH	20-90
3/8 INCH	----
#4	0-20
#16	----
#50	----
#100	----
#200	0-3

RIPRAP (6") GRADATION		
% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSIONS (INCHES)	D50 (inches)
70-100	12	6
50-70	9	
35-50	6	
2-10	2	
RIPRAP (9") GRADATION		
		D50 (inches)
70-100	15	9
50-70	12	
35-50	9	
2-10	3	

D50 = MEAN PARTICLE SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.

MIX RIPRAP WITH 30% (BY VOLUME) TOPSOIL AND BURY IT WITH 6" OF TOPSOIL, ALL VIBRATION COMPACTED, AND REVEGETATED.

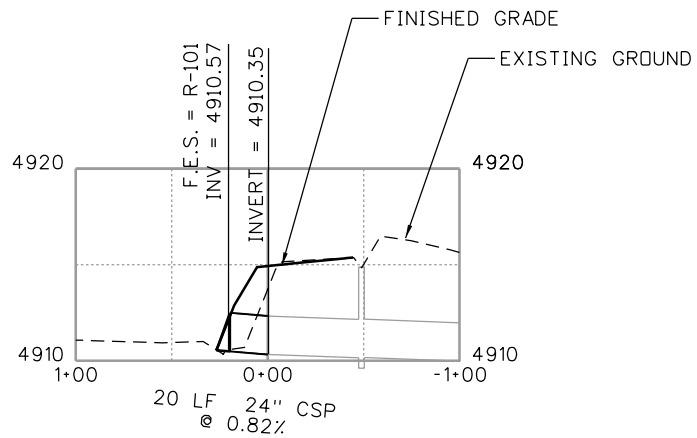
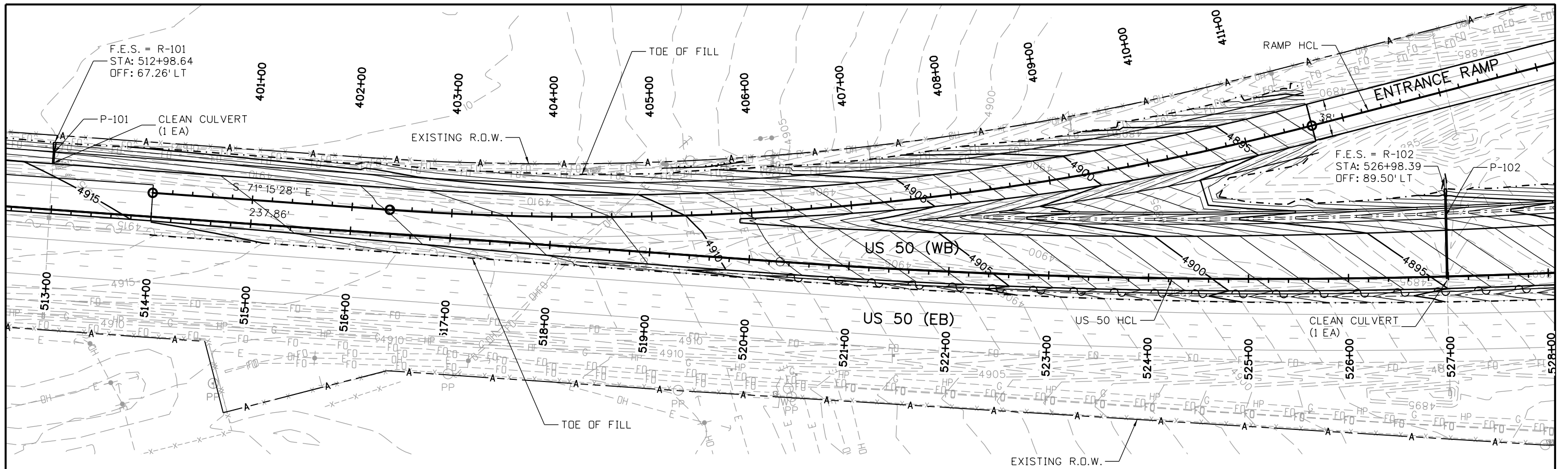


CUTOFF WALL SHALL BE CONCRETE CLASS B. REINFORCEMENT SHALL NOT BE PAID FOR SEPARATELY AND WILL BE INCIDENTAL TO COST OF CONCRETE. IT IS EXPECTED THAT 3.5 CY OF CONCRETE WILL BE REQUIRED FOR THE POND D CUTOFF WALL.

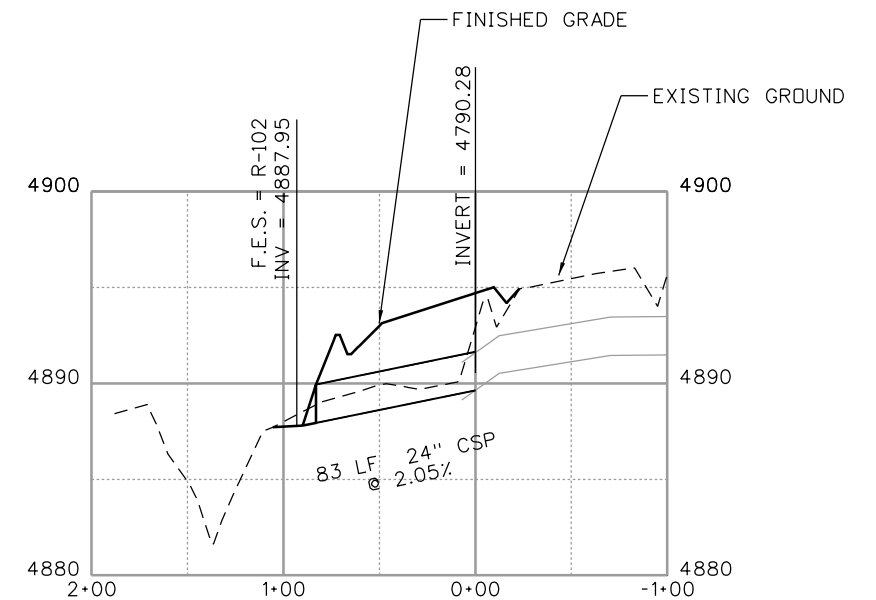
POND D OUTLET CROSS-SECTION

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File Name: 20344DES_Misc_Pond_Det08.dgn						
Horiz. Scale: As Noted Vert. Scale:		Region 2	DTD	Sheet Number	96	

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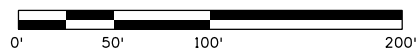
P-101



P-102

NOTE:

1. STATION AND OFFSET CALL-OUTS AND GRATE ELEVATIONS FOR ALL TYPE C INLETS ARE AT CENTER OF STRUCTURE.
2. PIPE LENGTHS ARE MEASURED END OF PIPE TO END OF PIPE.
3. UTILITY INFORMATION IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY ALL INFORMATION.



Print Date: 3/2/2017
 File Name: 20344-PipePn01.dgn
 Horiz. Scale: 1:100 Vert. Scale:
JFS & A
 J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

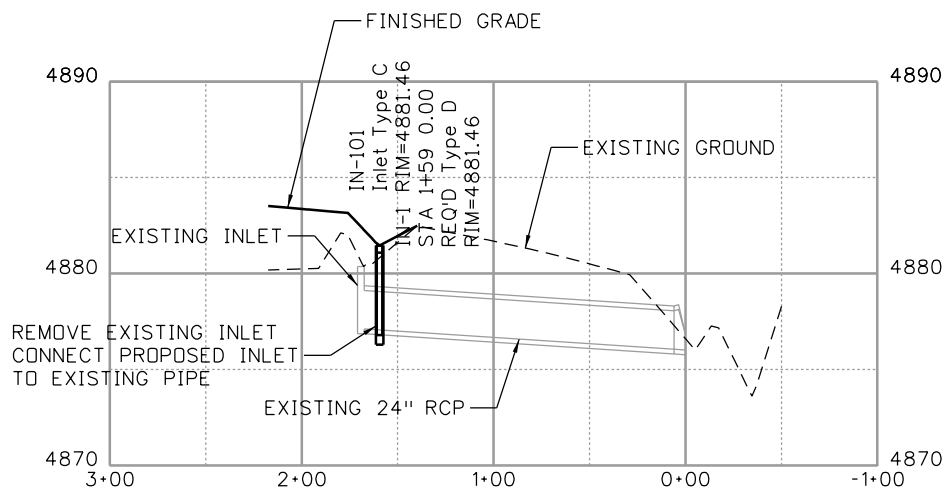
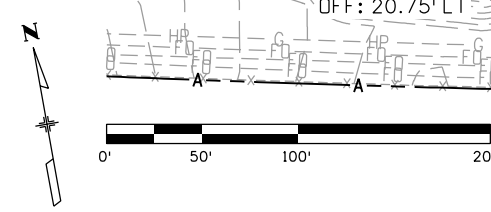
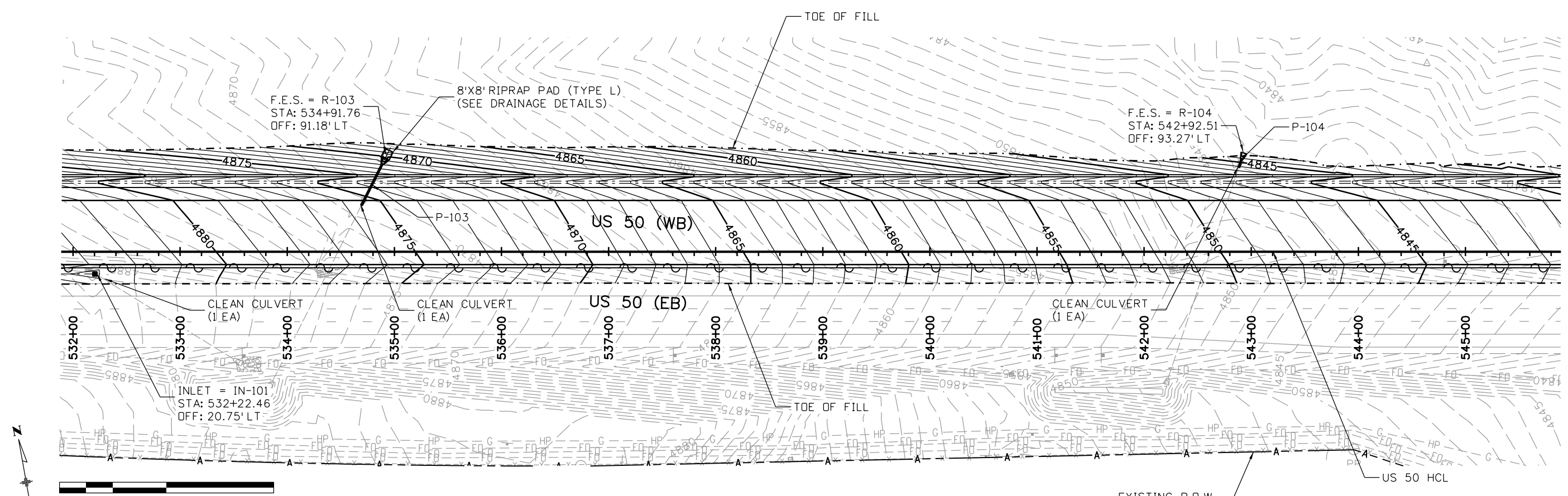
Colorado Department of Transportation

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

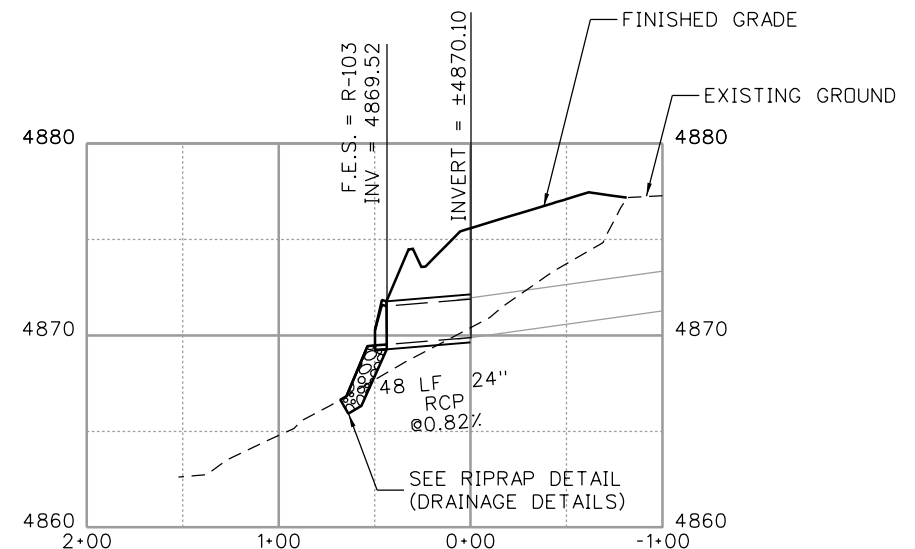
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No Revisions:
Revised:
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US 50 WEST WESTBOUND PIPE PLAN AND PROFILE US 50			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	PNP	Subset Sheets: 01 of 05	

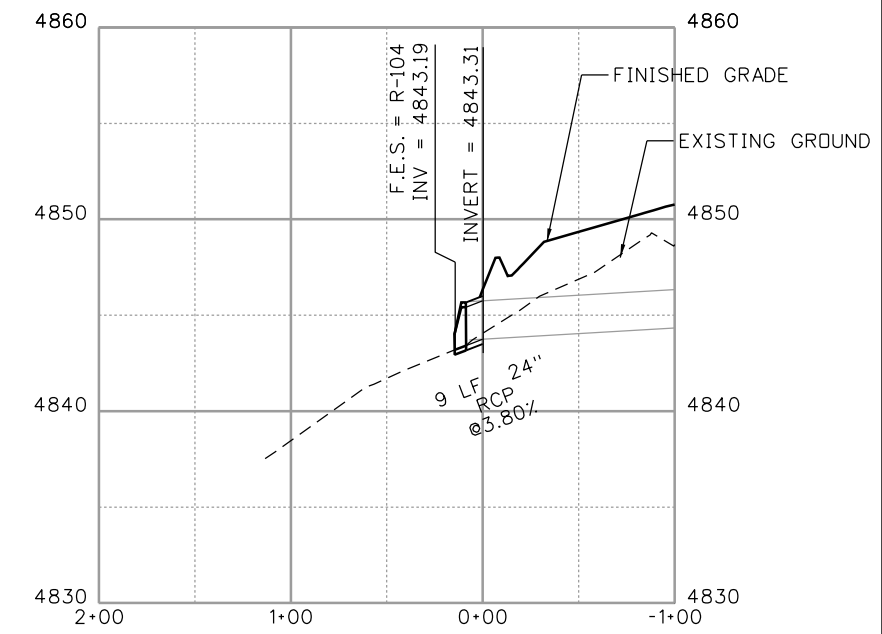
Project No./Code	
	STA 0503-085
	20344
Sheet Number	97



IN-101



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P-104

- NOTE:**
1. STATION AND OFFSET CALL-OUTS AND GRATE ELEVATIONS FOR ALL TYPE C INLETS ARE AT CENTER OF STRUCTURE.
 2. PIPE LENGTHS ARE MEASURED END OF PIPE TO END OF PIPE.
 3. UTILITY INFORMATION IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY ALL INFORMATION.

Print Date: 3/2/2017
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 Littleton, Colorado 80120

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Date:	Comments	Init.

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 Pueblo, CO 81001
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Region 2 **DTD**

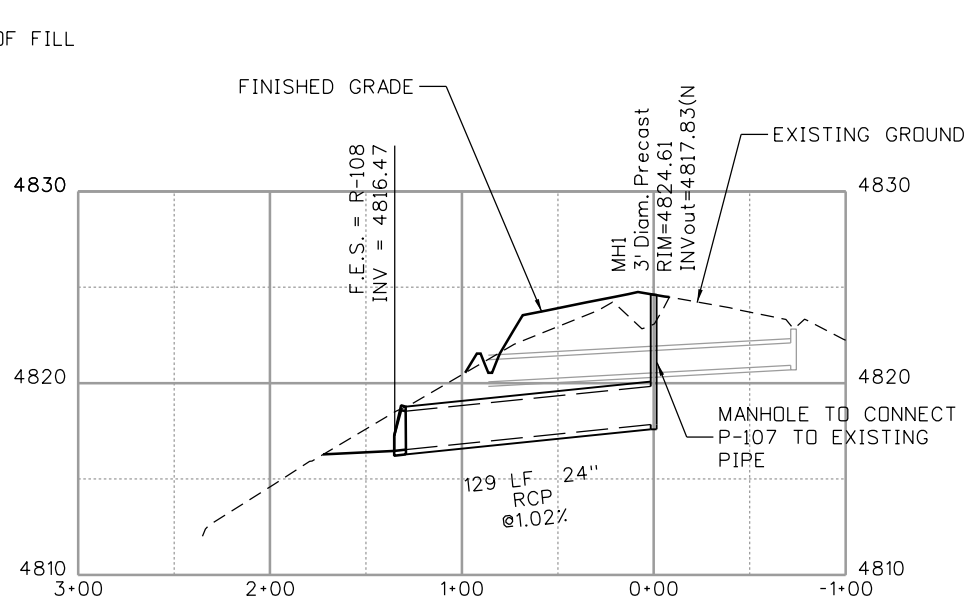
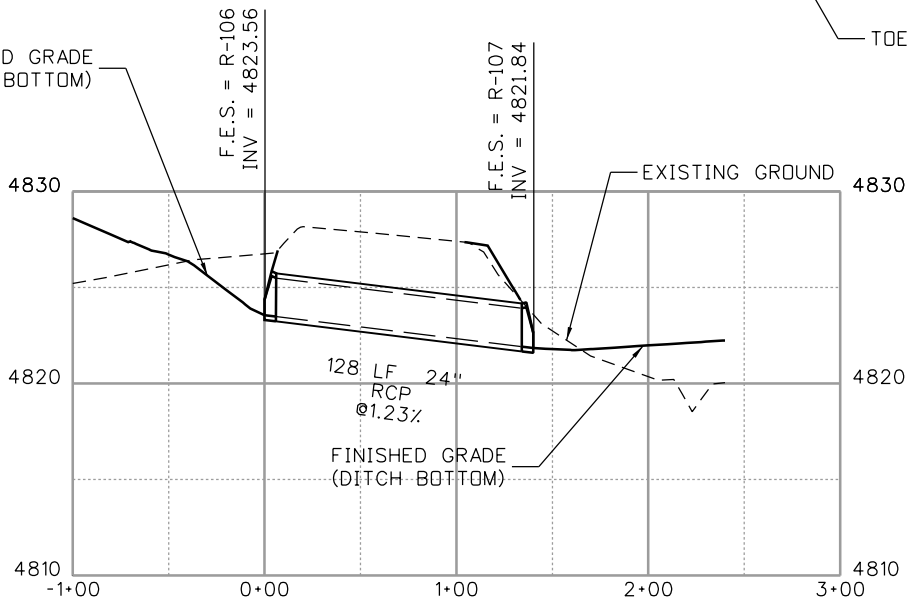
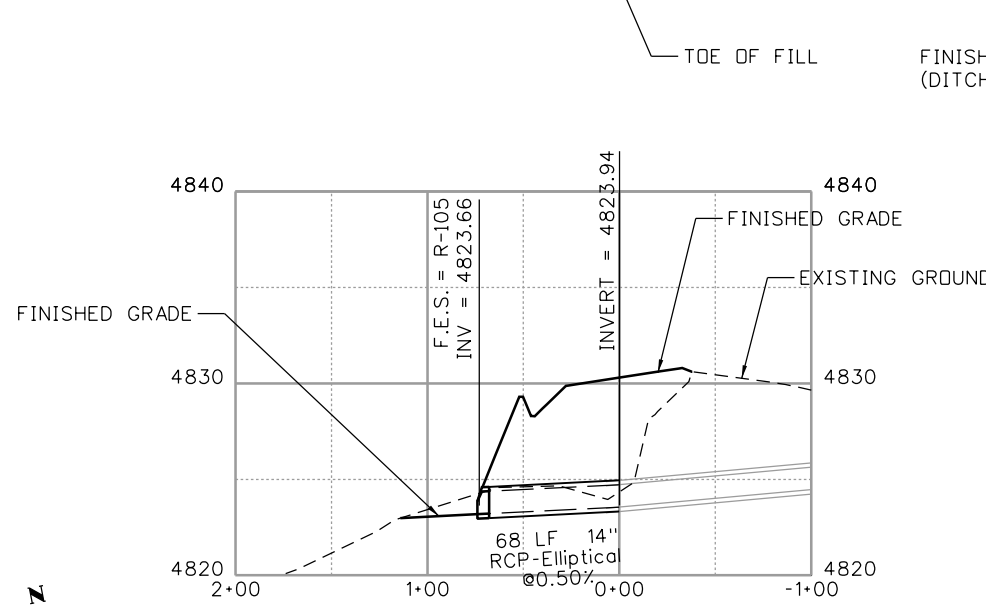
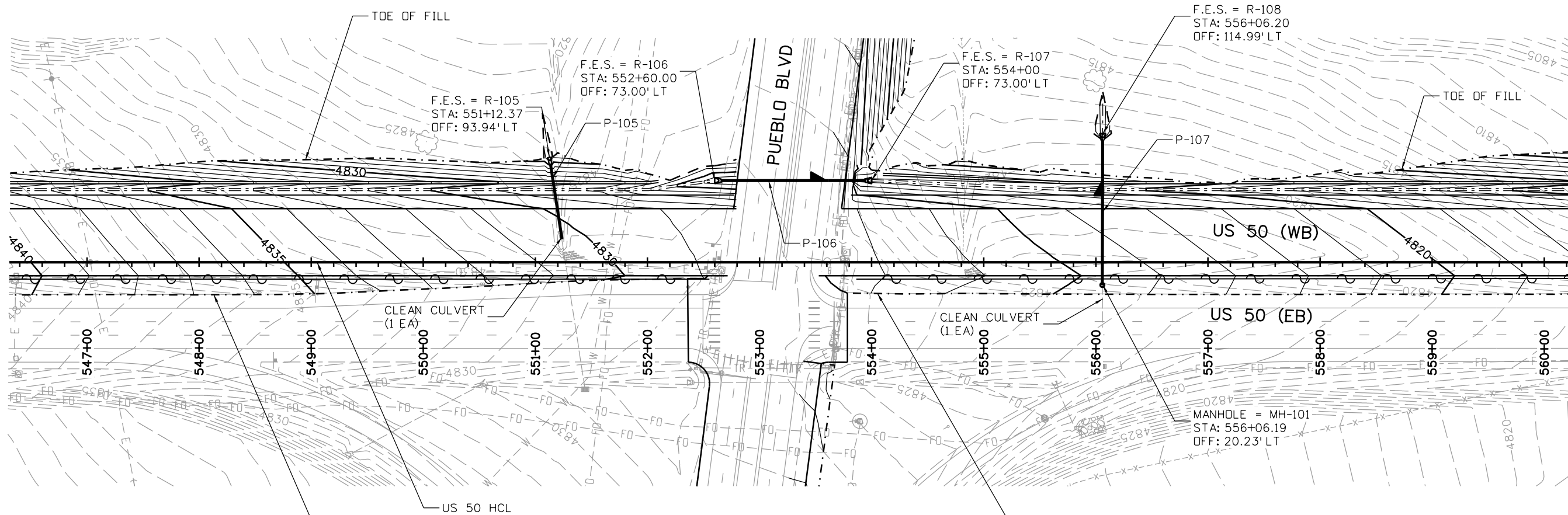
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**US 50 WEST WESTBOUND
 PIPE PLAN AND PROFILE
 US 50**

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	PNP	Subset Sheets: 02 of 05	

Project No./Code
STA 0503-085
20344
Sheet Number 98

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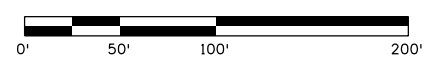


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P-106

P-107

NOTE:
 1. STATION AND OFFSET CALL-OUTS AND GRATE ELEVATIONS FOR ALL TYPE C INLETS ARE AT CENTER OF STRUCTURE.
 2. PIPE LENGTHS ARE MEASURED END OF PIPE TO END OF PIPE.
 3. UTILITY INFORMATION IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY ALL INFORMATION.



Print Date: 3/2/2017
 File Name: 20344-PipePnP03.dgn
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 5898 South Rapp Street
 Littleton, Colorado 80120

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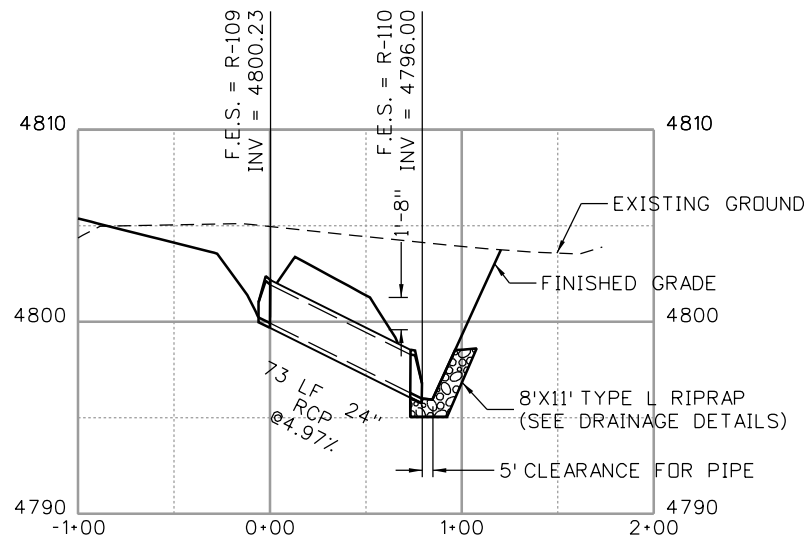
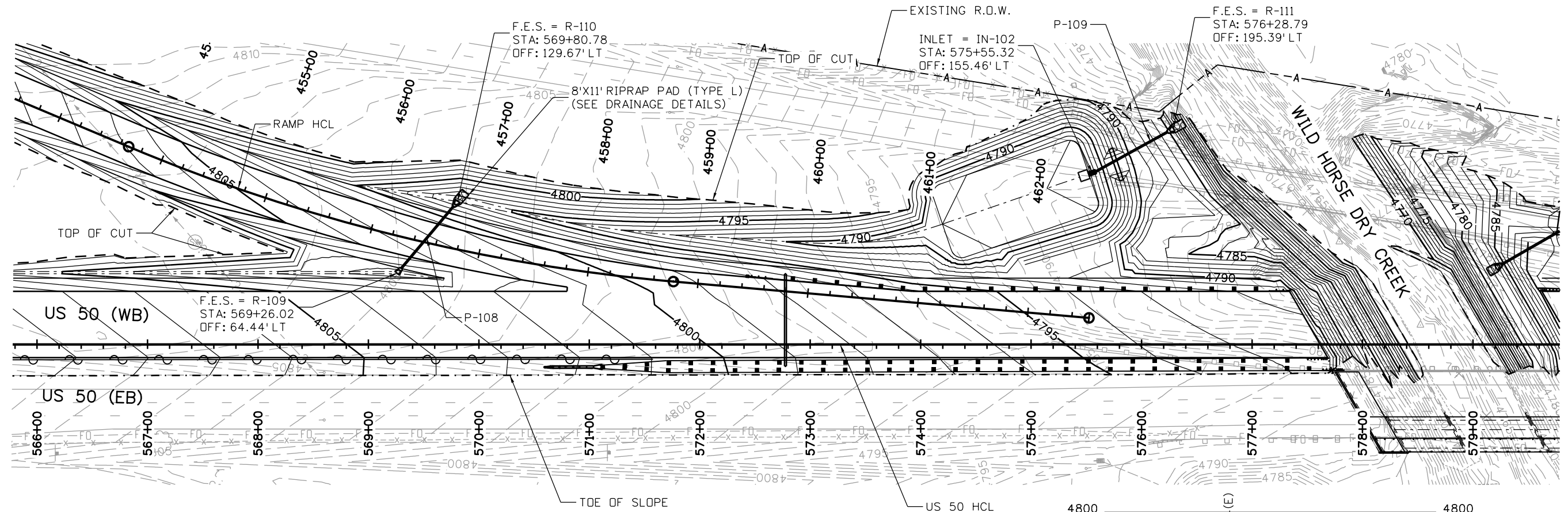
Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 **DTD**

As Constructed
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Revised:
Void:

US 50 WEST WESTBOUND PIPE PLAN AND PROFILE US 50			
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Project No./Code
STA 0503-085
20344
Sheet Number 99

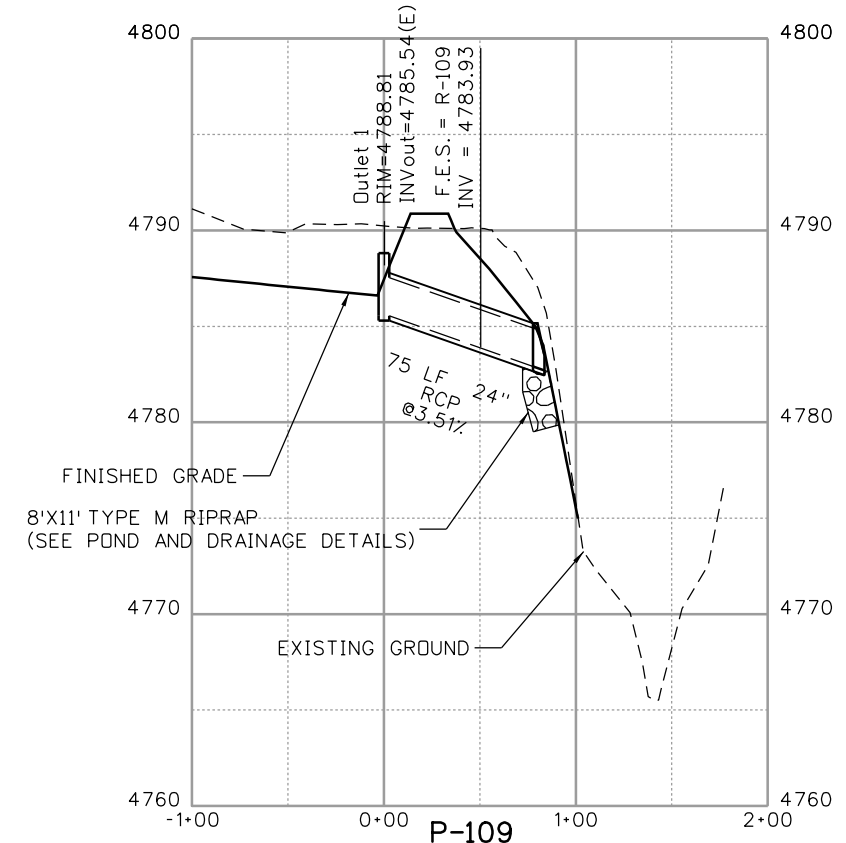
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P-108

NOTE:

1. STATION AND OFFSET CALL-OUTS AND GRATE ELEVATIONS FOR ALL TYPE C INLETS ARE AT CENTER OF STRUCTURE.
2. PIPE LENGTHS ARE MEASURED END OF PIPE TO END OF PIPE.
3. UTILITY INFORMATION IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY ALL INFORMATION.



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Print Date: 3/2/2017
 File Name: 20344-PipePn04.dgn
 Horiz. Scale: 1:100 Vert. Scale:
JFS J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

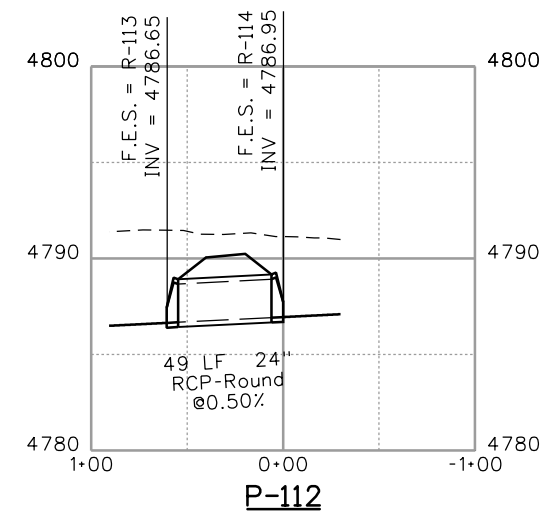
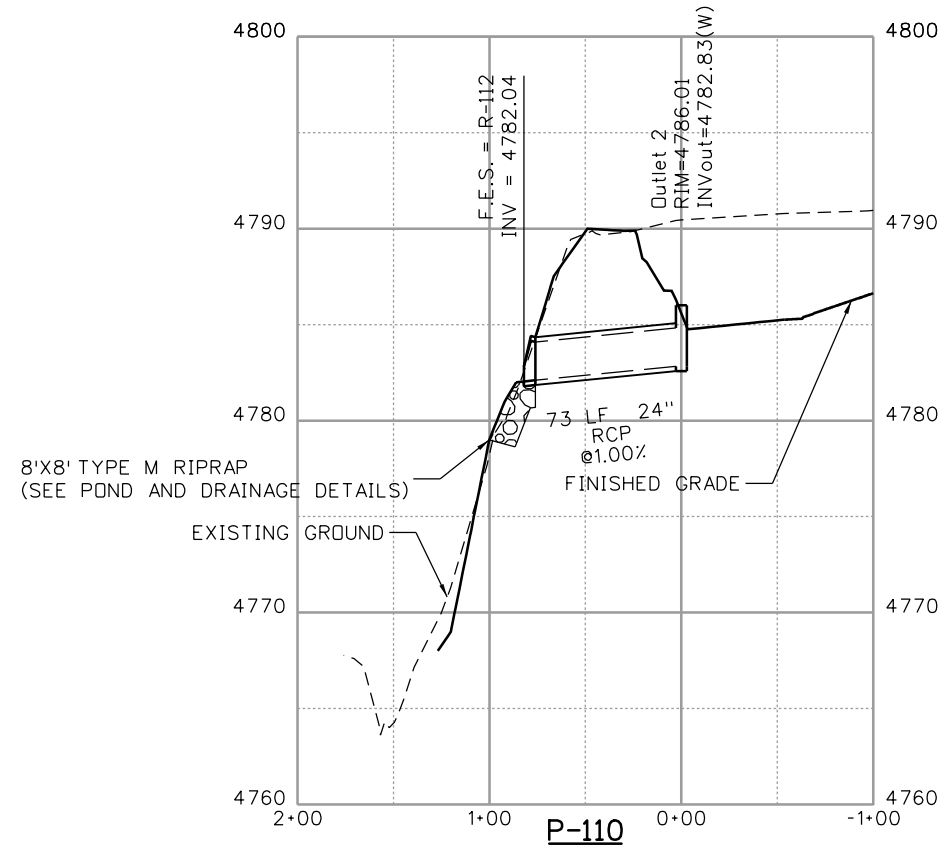
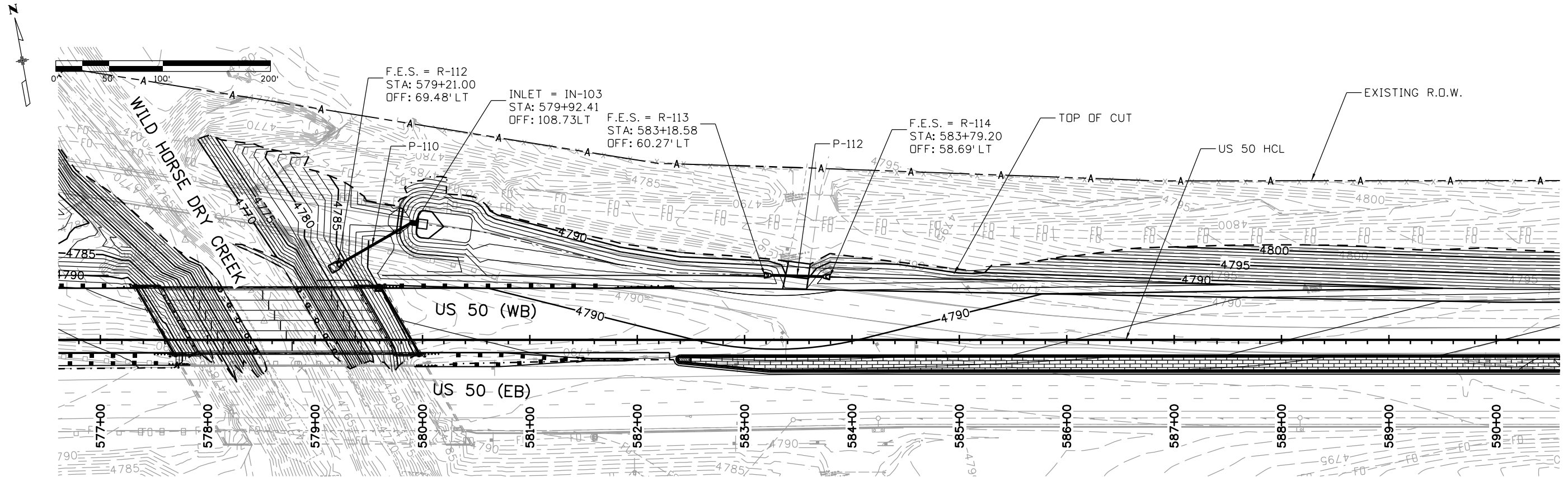
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 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 **DTD**

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND PIPE PLAN AND PROFILE US 50		
Designer:	ACE	Structure Numbers
Detailer:	ACE	
Subset:	PNP	Subset Sheets: 04 of 05

Project No./Code
STA 0503-085
20344
Sheet Number 100



- NOTE:
1. STATION AND OFFSET CALL-OUTS AND GRATE ELEVATIONS FOR ALL TYPE C INLETS ARE AT CENTER OF STRUCTURE.
 2. PIPE LENGTHS ARE MEASURED END OF PIPE TO END OF PIPE.
 3. UTILITY INFORMATION IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY ALL INFORMATION.

Print Date: 3/2/2017
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 Horiz. Scale: 1:100 Vert. Scale:
JFS J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

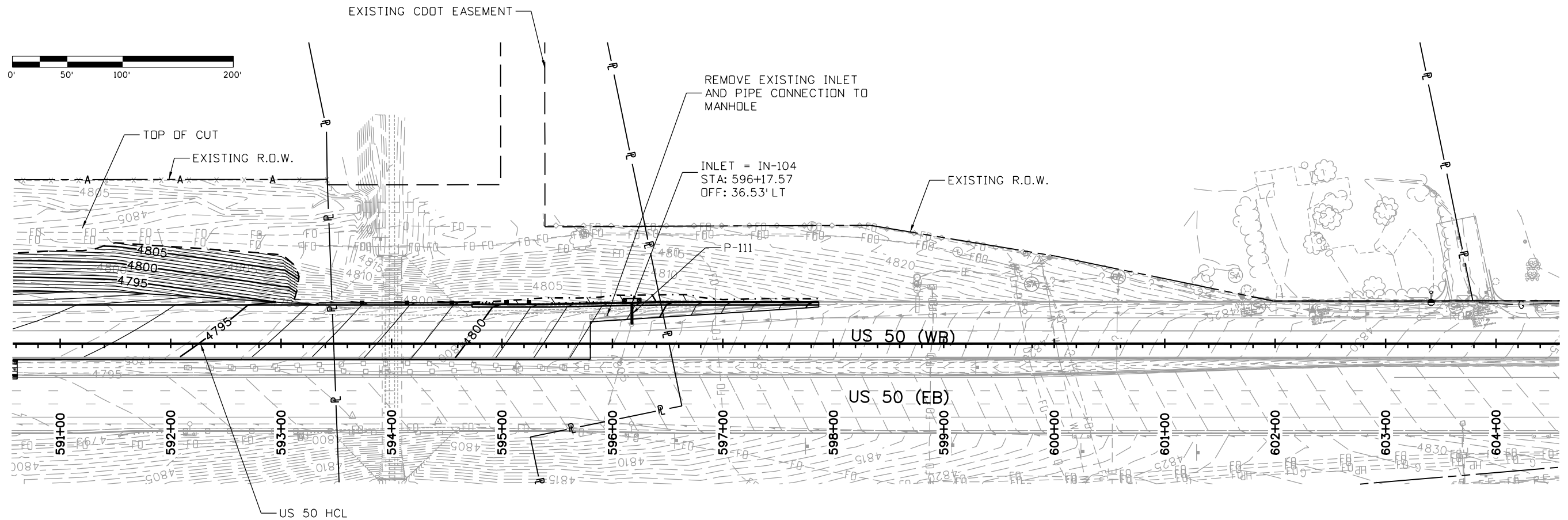
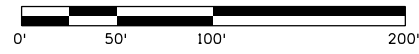
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 Pueblo, CO 81001
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 Region 2 DTD

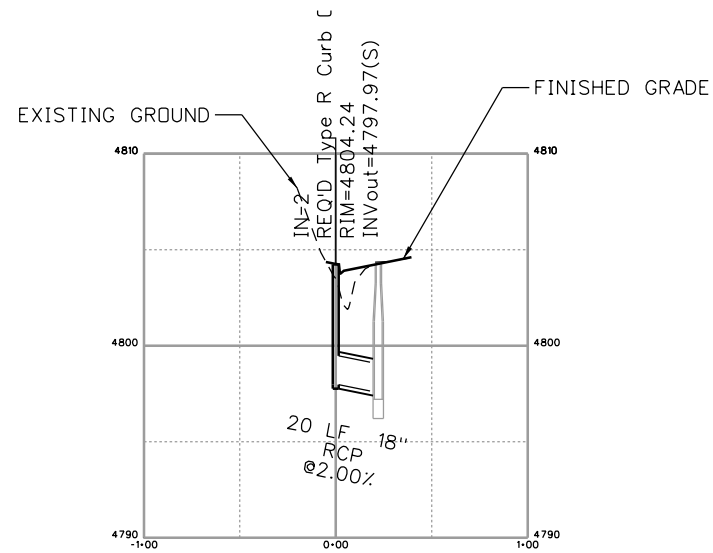
As Constructed
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US 50 WEST WESTBOUND
 PIPE PLAN AND PROFILE
 US 50
 Designer: ACE
 Detailer: ACE
 Subset: STRM
 Structure Numbers
 Subset Sheets: 05 of 05

Project No./Code
 STA 0503-085
 20344
 Sheet Number 101



NOTE:
 1. STATION AND OFFSET CALL-OUTS FOR DRAINAGE STRUCTURES ARE AT MIDPOINT OF STRUCTURE ALONG FLOW LINE
 2. PIPE LENGTHS ARE MEASURED END OF PIPE TO END OF PIPE.
 3. UTILITY INFORMATION IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY ALL INFORMATION.
 4. CONTRACTOR SHALL VIDEO THE PROPOSED STORM SYSTEM UPON COMPLETION OF WORK AND PROVIDE CDOT THE VIDEO. THIS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF WORK.



P-111

Print Date: 3/2/2017
 File Name: 20344-STM_PnP01.dgn
 Horiz. Scale: 1:100 Vert. Scale:
JFS & A
 J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

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

As Constructed
No Revisions:
Revised:
Void:

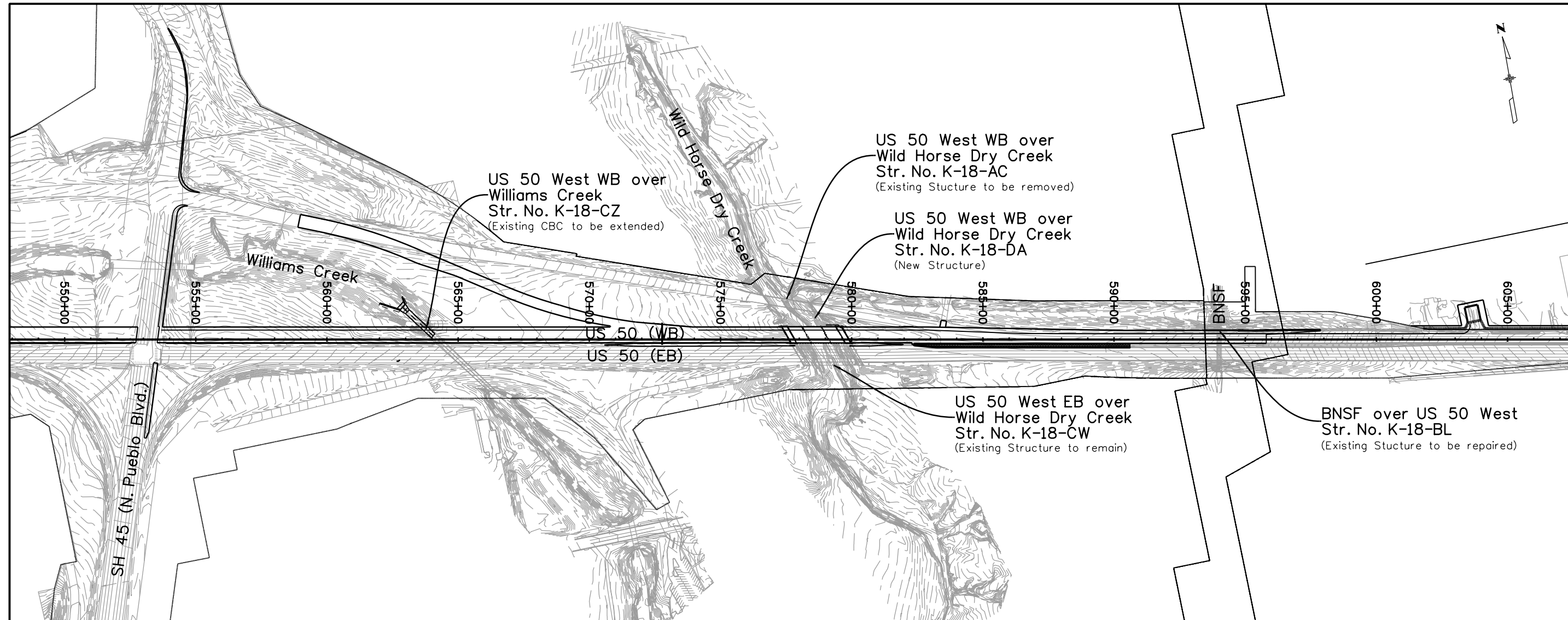
**US 50 WEST WESTBOUND
 STORM SYSTEM PLAN AND PROFILE
 US 50**

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	STM	Subset Sheets: 01 of 01	

Project No./Code
STA 0503-085
20344
Sheet Number 102

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DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
06/16	SCR	06/16	CDM	06/16	SCR
07/16	CAO	07/16	SCR	07/16	KJS
Checked By		Checked By		Checked By	



PLAN

INDEX OF DRAWINGS

LMI	STRUCTURE LOCATION MAP
B1-B31	US 50 WEST WB OVER WILD HORSE CREEK
BA1	BNSF OVER US 50 WEST (ROADWAY DETAILS)
BB1-BB2	BNSF OVER US 50 WEST (STRUCTURE REPAIRS)
C1-C8	US 50 WEST WB OVER WILLIAMS CREEK (CBC EXTENSION)

Print Date: 1/19/2017
File Name: 20344BRDG_LocationMap.dgn
Horiz. Scale: 1:400 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440

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 WESTBOUND OVER WILD HORSE DRY CREEK STRUCTURE LOCATION MAP			
Designer:	S. Redd	Structure Numbers	Varies
Detailer:	K. Soellner	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets:	LMI of 1

Project No./Code
STA 0503-085
20344
Sheet Number 103

GENERAL NOTES

Except as shown in the plans, structure excavation and backfill shall be in accordance with M-206-2, for Bridges.

Shoring may be required for excavation adjacent to the existing roadway and bridge. Temporary excavation support shall be paid for by Item 206 - Shoring.

Expansion joint material shall meet AASHTO Specification M213.

All concrete exposed to soil shall conform to Cementitious Materials Requirements Class 2, corresponding to sulfate exposure Class 2.

The final finish for all exposed concrete surfaces shall be a Class 2 final finish to one foot below the ground line.

Leveling pads are unlaminated bearings. They shall be cut or molded from AASHTO elastomer grade 3, 4, or 5 as described in Tables 705-1 and 705-2 with a durometer (Shore "A") hardness of 60.

The following structural steel shall be AASHTO M270 Grade 36 (ASTM A-36): diaphragms and expansion devices.

The following structural steel shall be AASHTO M270 Grade 50 (ASTM A-572): piling.

AASHTO M-222 (ASTM A-588) may be substituted for M270 Grade 50 (ASTM A-572) at no additional cost to the project.

Grade 60 reinforcing steel is required.

All reinforcing steel shall be epoxy coated unless otherwise noted.

Ⓝ denotes non coated reinforcing steel.

All the provisions for bridge deck concrete shall also apply to approach slab concrete.

The deck and girder designs assume the bridge deck can and shall be placed in a continuous, uninterrupted sequence between abutments. The bridge deck geometry and girder dead load deflections reflect this assumption.

An emergency deck construction joint may be located at the one quarter span point back from a pier or abutment with respect to the direction of the deck placement.

The following table gives the minimum lap splice length for epoxy coated reinforcing bars placed in accordance with subsection 602.06, unless noted otherwise. These splice lengths shall be increased by 25% for bars spaced at less than 6" on center or less than 2" of lateral cover.

Bar size	#4	#5	#6	#7	#8	#9	#10	#11
----------	----	----	----	----	----	----	-----	-----

Splice length for Class D Concrete	1'-10"	2'-3"	3'-4"	3'-11"	4'-5"	5'-6"	6'-10"	8'-2"
------------------------------------	--------	-------	-------	--------	-------	-------	--------	-------

When the Contractor elects to substitute epoxy coated reinforcement for black reinforcing bars, the minimum lap splice shall be as described above.

The following table gives the minimum lap splice length for black reinforcing bars placed in accordance with Subsection 602.06, unless noted otherwise. These splice lengths shall be increased by 25% for bars spaced at less than 6" on center or less than 2" of lateral cover.

Bar size	#4	#5	#6	#7	#8	#9	#10	#11
----------	----	----	----	----	----	----	-----	-----

Splice length for Class D Concrete	1'-6"	1'-11"	2'-3"	2'-7"	3'-0"	3'-8"	4'-7"	5'-5"
------------------------------------	-------	--------	-------	-------	-------	-------	-------	-------

The above splice lengths shall be increased by 20% for 3 bar bundles and 33% for 4 bar bundles.

The Contractor shall be responsible for the stability of the structure during construction.

Permanent precast concrete deck forms are not allowed.

- B.F. = Back Face
- Brg. = Bearing
- El. = Elevation
- HCL = Horizontal Control Line
- Typ. = Typical
- d_b = Bar Diameter

For structure number installation, see Standard S-614-12.

Stations, Elevations, and Dimensions contained in these plans are calculated from a recent field survey. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.

All longitudinal and transverse dimensions are measured horizontally and include no correction for grade.

The information shown on these plans concerning the type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determination as to the type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall contact the Utility Notification Center of Colorado at 811 (1-800-922-1987) at least 3 days (2 days not including the day of notification) prior to any excavation or other earthwork.

DESIGN DATA

AASHTO, Seventh Edition LRFD with current interims

Design Method: Load and Resistance Factor Design

Live Load: HL-93 (design truck or tandem, and design lane load, Colorado Permit Vehicle)

Dead Load: Assumes 36 lbs. per sq. ft. for bridge deck overlay
Assumes 5 lbs. per sq. ft. for utility loads
Assumes 5 lbs. per sq. ft. for permanent deck forms

Reinforced Concrete:
Class D Concrete: f'c = 4,500 psi
Reinforcing Steel: fy = 60,000 psi

Caisson Concrete:
Class BZ Concrete: f'c = 4,000 psi
Reinforcing Steel: fy = 60,000 psi

Precast prestressed Concrete:
Class PS Concrete f'c = (see details)
f's = 270,000 psi

SEISMIC DESIGN CRITERIA

Earthquake Design method: Forced Based (General Procedure per AASHTO 3.10.2.1)

Latitude = 38.312682°
Longitude = -104.652254°

AASHTO Spectrum for 7% PE in 75 years (1000yr Return Period)

Period (sec)	Sa (g)
0.0	0.052 PGA - Site Class B
0.2	0.114 Ss - Site Class B
1.0	0.036 S1 - Site Class B

Spectral Response Accelerations:
As = Fpga*PGA, SDs = Fa*Ss, and SD1 = Fv*S1

Fpga = 1.6, Fa = 1.6, Fv = 2.4	
Period (sec)	Sa (g)
0.0	0.083 As - Site Class D
0.2	0.182 SDs - Site Class D
1.0	0.086 SD1 - Site Class D

Operational Class:

Seismic Zone or Seismic Design Category: Zone= 1 or Category= A

Response Modification Factors:
R-Factor: 1.5 (Substructure type), R-Factor: 1.0 (Connections)

INDEX OF DRAWINGS

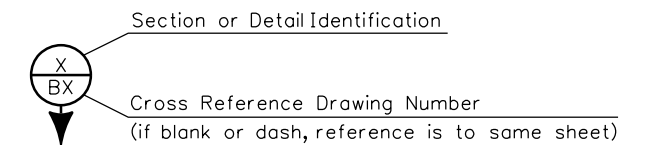
- B1 GENERAL INFORMATION
- B2 SUMMARY OF QUANTITIES
- B3 GENERAL LAYOUT
- B4 ENGINEERING GEOLOGY
- B5 HYDRAULIC INFORMATION (1 OF 2)
- B6 HYDRAULIC INFORMATION (2 OF 2)
- B7 CONSTRUCTION LAYOUT
- B8 FOUNDATION LAYOUT
- B9 FOUNDATION DETAILS
- B10 ABUTMENT 1 PLAN & ELEVATION
- B11 ABUTMENT 4 PLAN & ELEVATION
- B12 ABUTMENT DETAILS
- B13 WINGWALL DETAILS
- B14 PIER 2 & 3 PLAN & ELEVATION
- B15 PIER DETAILS
- B16 PRESTRESSED CONCRETE BT42 GIRDER
- B17 GIRDER DIAPHRAGM DETAILS
- B18 DECK REINFORCING PLAN
- B19 SUPERSTRUCTURE DETAILS
- B20 BRIDGE RAIL TYPE 10 (1 OF 2)
- B21 BRIDGE RAIL TYPE 10 (2 OF 2)
- B22 APPROACH SLAB DETAILS
- B23 APPROACH SLAB INLET DETAILS (1 OF 2)
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- B25 EXPANSION DEVICE (0-4 INCH)
- B26 EXPANSION DEVICE DETAILS
- B27 MECH. STAB. EARTH BACKFILL
- B28 BRIDGE DECK ELEVATIONS (1 OF 4)
- B29 BRIDGE DECK ELEVATIONS (2 OF 4)
- B30 BRIDGE DECK ELEVATIONS (3 OF 4)
- B31 BRIDGE DECK ELEVATIONS (4 OF 4)

BRIDGE DESCRIPTION

3-Span (55'-0"/73'-6"/55'-0") Bridge
Composite Concrete Slab
& Precast/Prestressed Concrete I Girder (BT42)
WB US 50 West over Wild Horse Dry Creek
60'-0" Roadway Curb to Curb
60°00'00" Skew
Bridge Rail Type 10



**Know what's below.
Call before you dig.**



Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	06/16	CDM	06/16	Quantities By	07/16
Checked By	07/16	JVL	07/16	Checked By	08/16
				KJS	

Print Date: 1/19/2017
File Name: 20344BRDG_GenNotes.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440

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 WESTBOUND OVER WILD HORSE DRY CREEK GENERAL INFORMATION			
Designer: S. Redd	Structure Numbers: K-18-DA	Project No./Code: STA 0503-085	
Detailer: K. Soellner	Sheet Subset: Bridge	Subset Sheets: B1 of 31	Sheet Number: 104
Near: Pueblo, CO.	Sec. 15	Township 20S	Range 65W

Station 577+81.86 to Station 579+68.82
--

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06/16	SCR	06/16	CDM	07/16	SCR
07/16	Checked By	07/16	Checked By	07/16	Checked By
					KJS

ITEM NO.	DESCRIPTION	UNIT	SUPERSTRUCTURE	ABUTMENT 1	PIER 2	PIER 3	ABUTMENT 4	APPRDACH SLABS (2)	TOTALS
① 202-00400	REMOVAL OF BRIDGE	EA							1
206-00000	STRUCTURE EXCAVATION	CY		205	105	136	135		581
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY		414			399		813
206-00360	MECHANICAL REINFORCEMENT OF SOIL	CY		373			356		729
206-01781	SHORING (AREA 1)	LS							1
206-01782	SHORING (AREA 2)	LS							1
208-00400	WATER CDNTROL	LS							0.5
② 210-02900	RELAY RIPRAP	CY		332			347		679
211-03005	DEWATERING	LS							0.5
403-34871	HDT MIX ASPHALT (GRADING SX) (100) (PG 76-28)	TON	201					44	245
420-00102	GEOTEXTILE (EROSION CONTROL) (CLASS 1)	SY		1,246	302	302	1,060		2,910
502-11274	STEEL PILING (HP 12x74)	LF		301			280		581
503-00048	DRILLED CAISSON (48 INCH)	LF			125	125			250
506-00218	RIPRAP (18 INCH)	CY		1,063	280	280	703		2,326
515-00120	WATERPROOFING (MEMBRANE)	SY	1,238					274	1,512
518-01004	BRIDGE EXPANSION DEVICE (0-4 INCH)	LF						152	152
601-03040	CONCRETE CLASS D (BRIDGE)	CY	480	47	74	74	47	128	850
602-00000	REINFORCING STEEL	LB		210	12,425	12,340	210		25,185
602-00020	REINFORCING STEEL (EPOXY COATED)	LB	108,515	7,590	180	180	7,585	19,615	143,665
603-50015	15 INCH PLASTIC PIPE	LF						68	68
606-11000	BRIDGE RAIL TYPE 10	LF	372					95	467
613-00200	2 INCH ELECTRICAL CONDUIT	LF	372					110	482
618-00142	PRESTRESSED CONCRETE I (BT42)	LF	1,270						1,270

① Removal of Bridge shall include existing Str. No. K-18-AC to be removed a minimum of 2' below Finished Grade.

② Relay Riprap assumes 75% usable material of existing Riprap (18 Inch). Existing material is assumed to be Riprap (18 Inch) at least two layers (3.0') thick and measured from limits provided from EB Bridge Widening Plans.

Print Date: 1/19/2017
File Name: 20344BRDG_SAQ.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
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Date:	Comments	Init.

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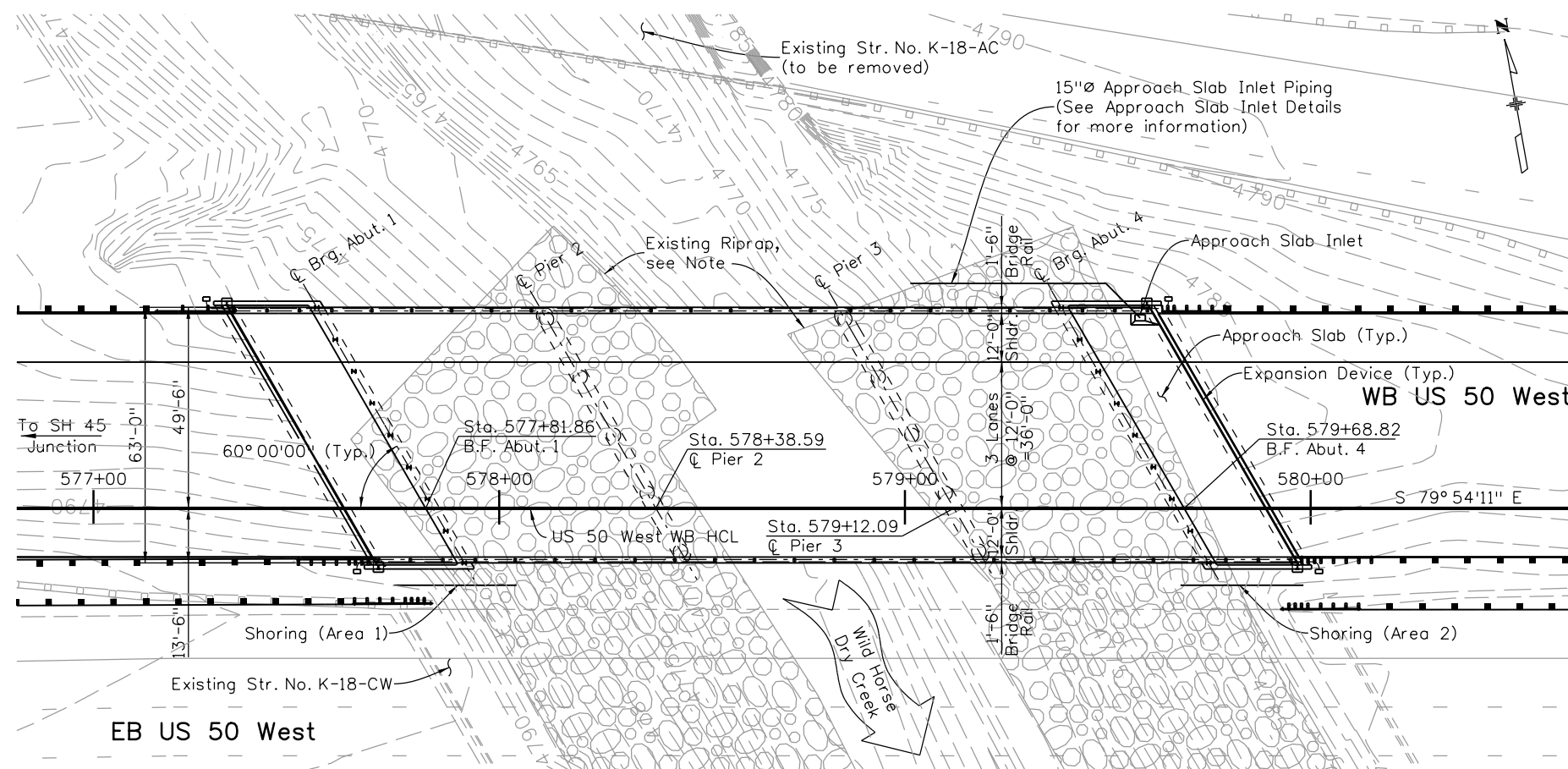
As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK SUMMARY OF QUANTITIES			
Designer: S. Redd	Structure Numbers	K-18-DA	
Detailer: K. Soellner			
Sheet Subset: Bridge	Subset Sheets: B2 of 31		

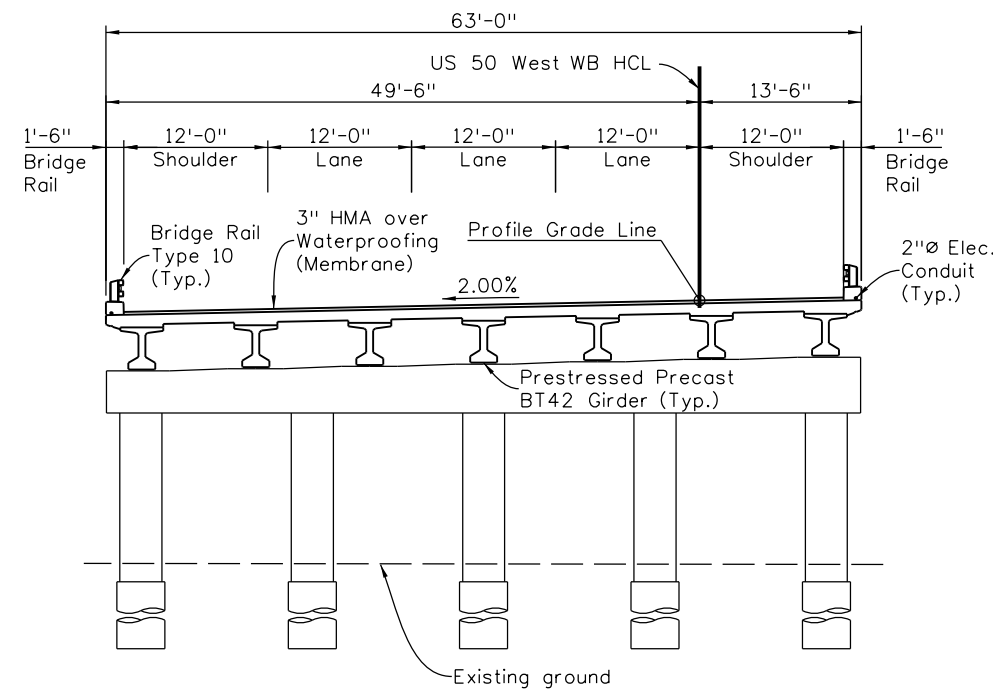
Project No./Code
STA 0503-085
20344
Sheet Number 105

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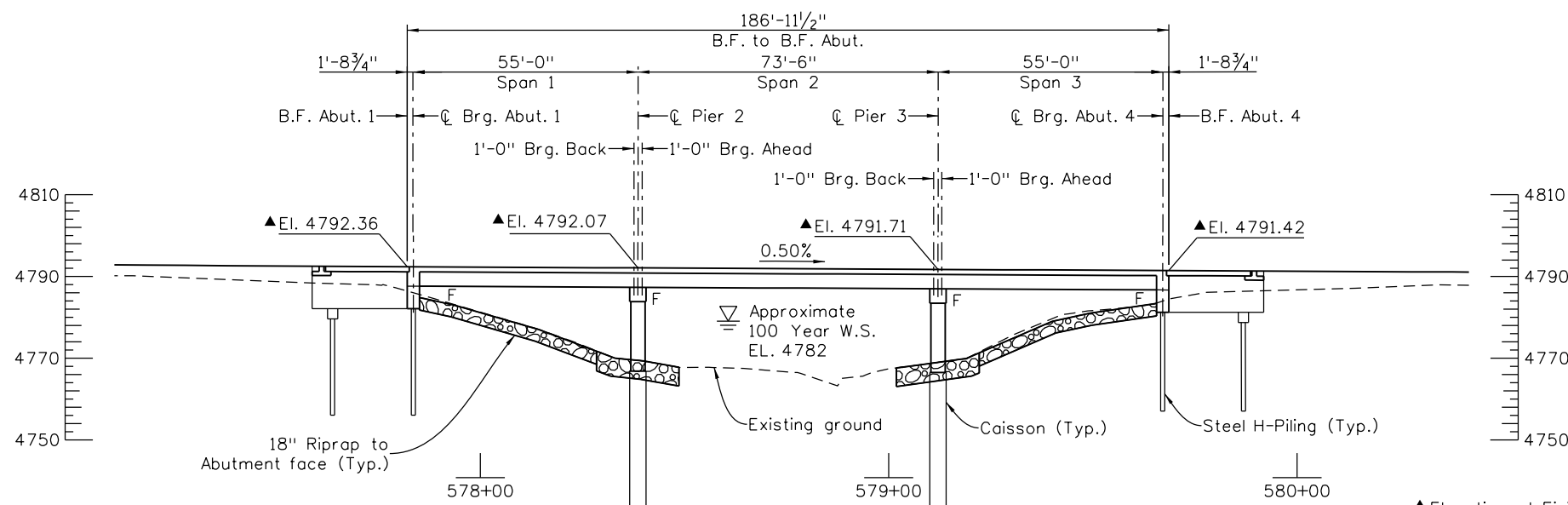
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Checked By	Checked By	Checked By	Checked By	Checked By	Checked By



PLAN

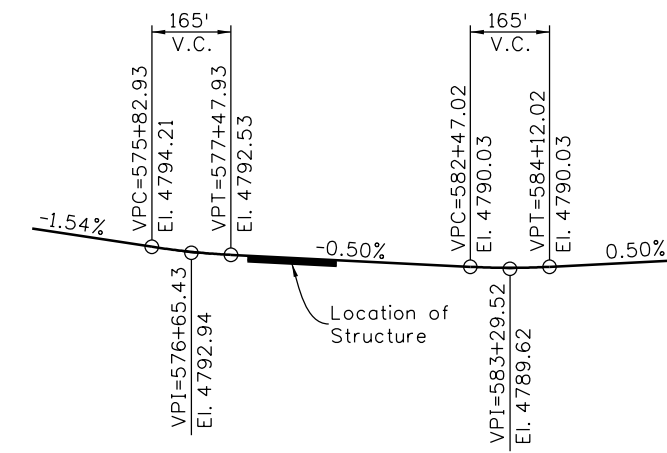


TYPICAL SECTION
(Looking East)



ELEVATION

(Taken at US50 West WB HCL)



PROFILE GRADE

NOTE:

Riprap shown in plan is from EB Bridge construction, to be modified as needed for final design. See Hydraulic Information Sheet for final riprap layout.

Print Date: 1/19/2017
File Name: 20344BRDG_GenLayout.dgn
Horiz. Scale: 1:40 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
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Region 2 DTD

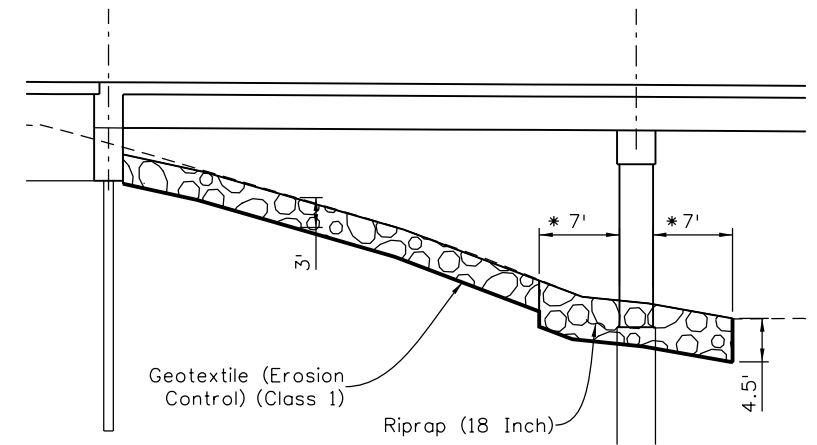
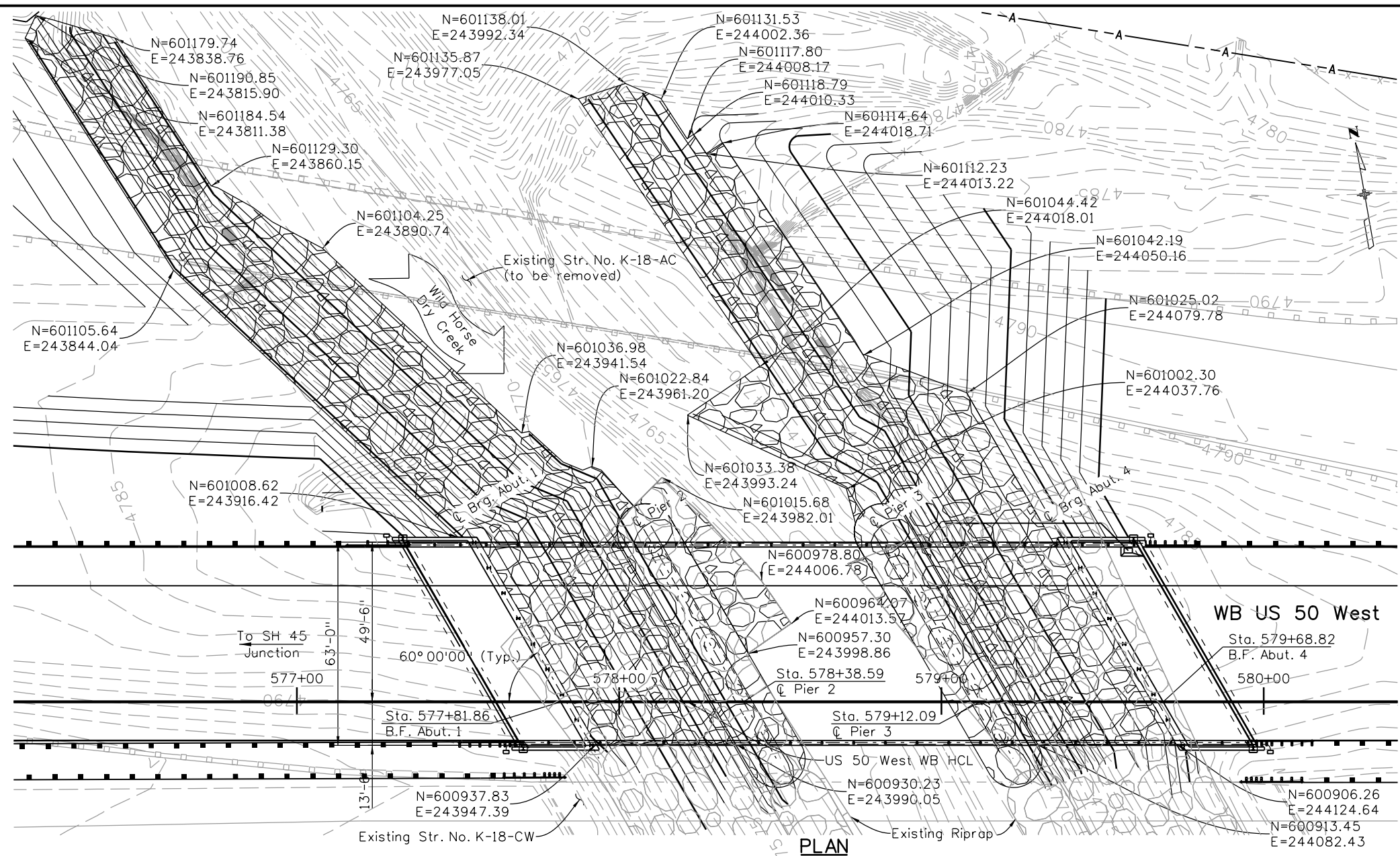
As Constructed
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Revised:
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US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK GENERAL LAYOUT			
Designer:	S. Redd	Structure Numbers:	K-18-DA
Detailer:	K. Soellner	Subset Sheets:	B3 of 31
Sheet Subset:	Bridge		

Project No./Code
STA 0503-085
20344
Sheet Number 106

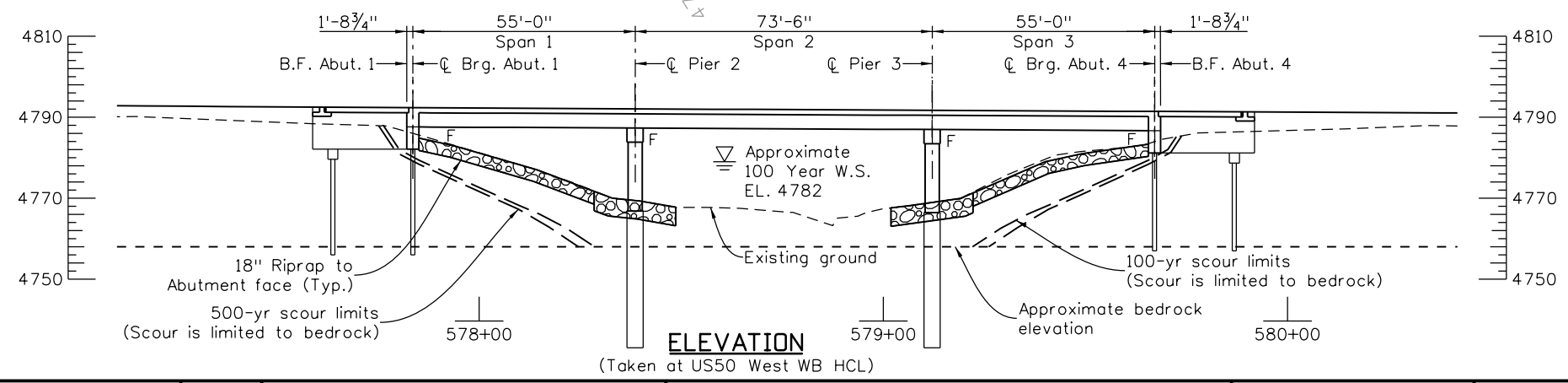
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06/16	SCR	06/16	CDM	06/16	SCR
07/16	CAD	07/16	Checked By	07/16	KJS
	Checked By		Checked By		Checked By



For Information Only

I.D.	Riprap (18") (CY)	Geotextile (Erosion Control) (Class 1) (SY)	Relay Riprap (CY)
Abut. 1	1063	1246	332
Pier 2	280	302	-
Pier 3	280	302	-
Abut. 4	703	1060	347



Print Date: 1/19/2017	Sheet Revisions			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 WESTBOUND OVER WILD HORSE DRY CREEK HYDRAULIC INFORMATION (1 OF 2)		Project No./Code	
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Horiz. Scale: 1:40	Vert. Scale: As Noted			6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440	DTD	Designer: M. Love Detailer: K. Soellner	Structure Numbers: K-18-DA	20344	
Staff Bridge Branch - Unit 0226	Unit Leader: DDG							Sheet Number 108	

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 0.069 OVERBANK 0.04
 DEBRIS: BRUSH TREES ICE OTHER _____

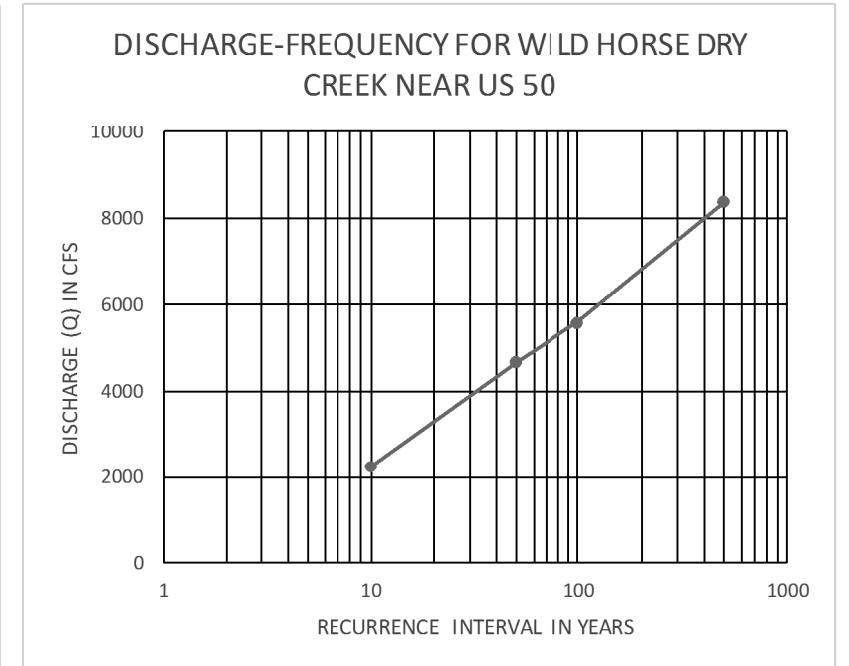
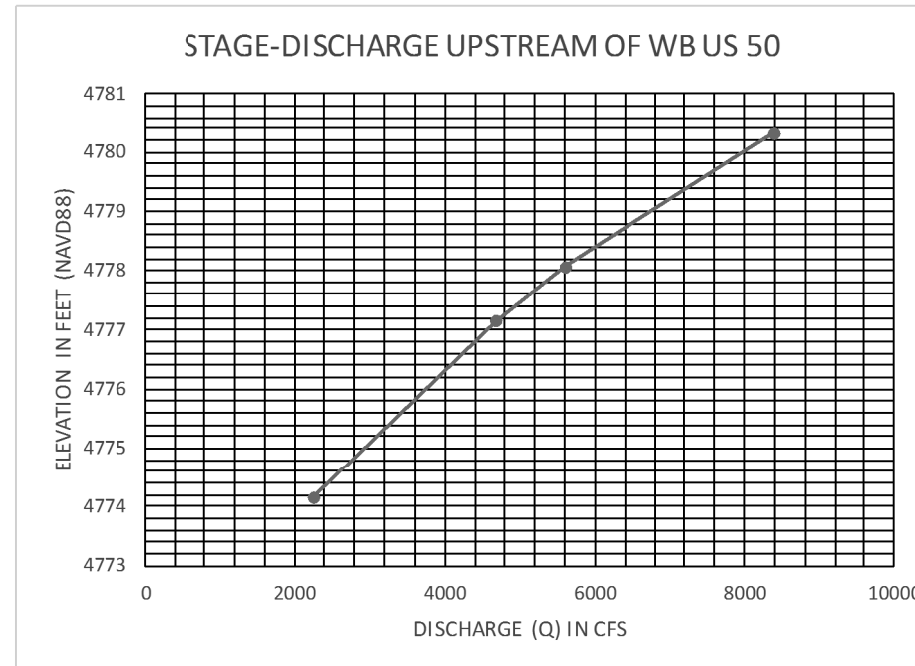
COMPARISON HYDRAULICS (100 YEAR EVENT)

AT SECTION 1639.716 LOCATED 56 FT UPSTREAM OF PROPOSED US50 BRIDGE

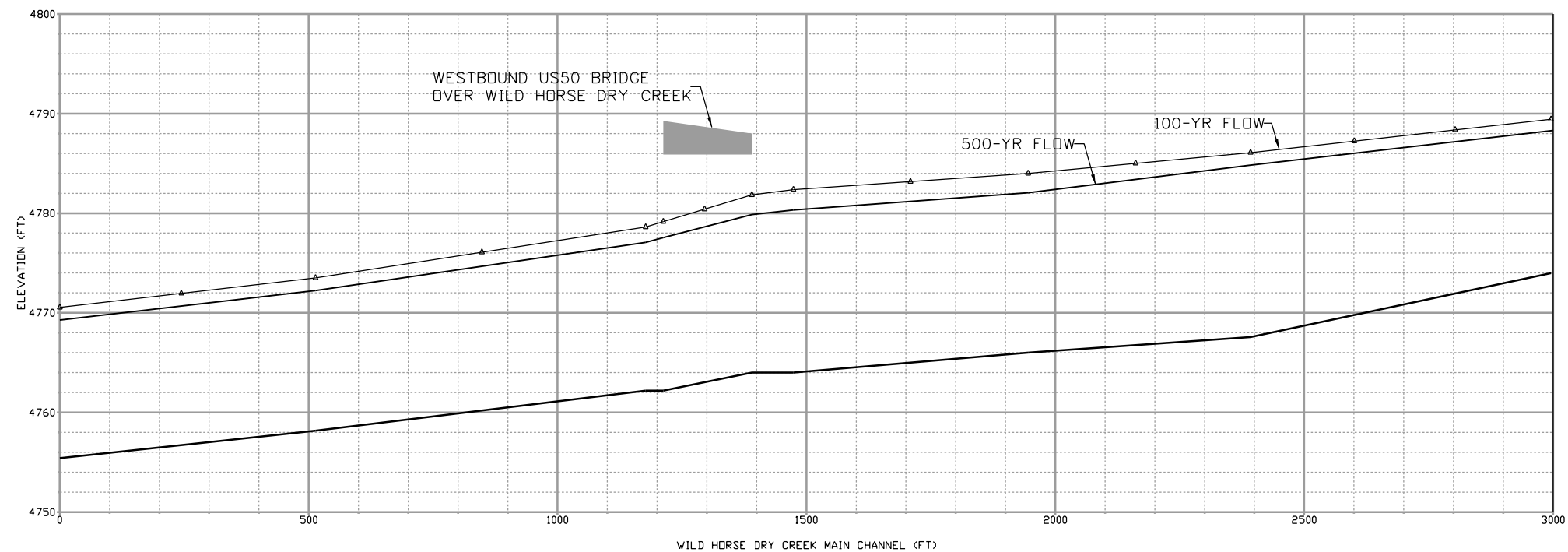
	VELOCITY (fps)		WS EL. (ft.)	MAX BACKWATER (ft.)	FROUDE NO.
	AVERAGE	CHANNEL			
EXISTING CONDITIONS	4.68	4.68	4783.27		0.23
PROPOSED CONDITIONS	5.70	5.70	4782.36	-0.91	0.32

HYDRAULIC DATA

LOCATION	LOW CHORD ELEVATION AT ABUT. FRONT FACE		100-YEAR WATER SURFACE ELEVATION
	ABUT. 1	ABUT. 4	
US50 BRIDGE, N. SIDE (DOWNSTREAM)	4787.77	4786.86	4779.16
US50 BRIDGE, S. SIDE (UPSTREAM)	4786.80	4785.89	4781.85



WILD HORSE DRY CREEK MAIN CHANNEL PROFILE



Design: Initial Date 06/16/16, Checked By CAD, Detailed By SCR, Checked By KJS, Quantities Initial Date 07/16/16, Checked By KJS, Quantities By SCR, Checked By KJS
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Print Date: 1/19/2017
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Horiz. Scale: 1:300 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440

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Date:	Comments	Init.

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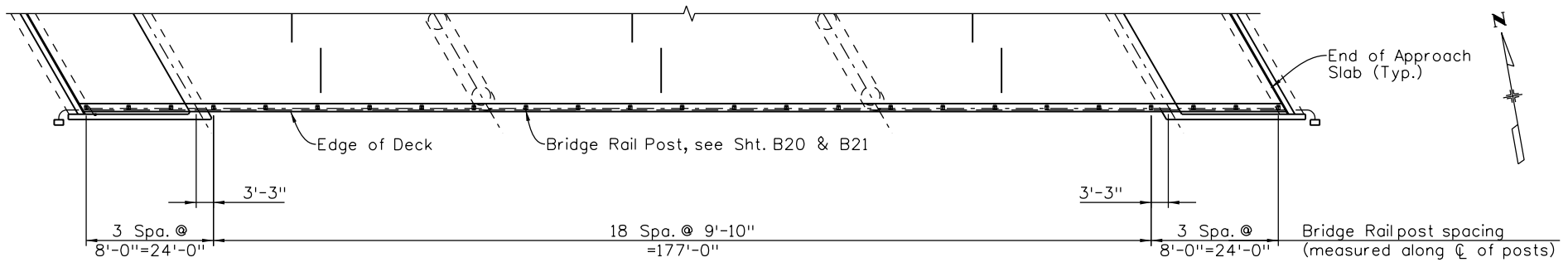
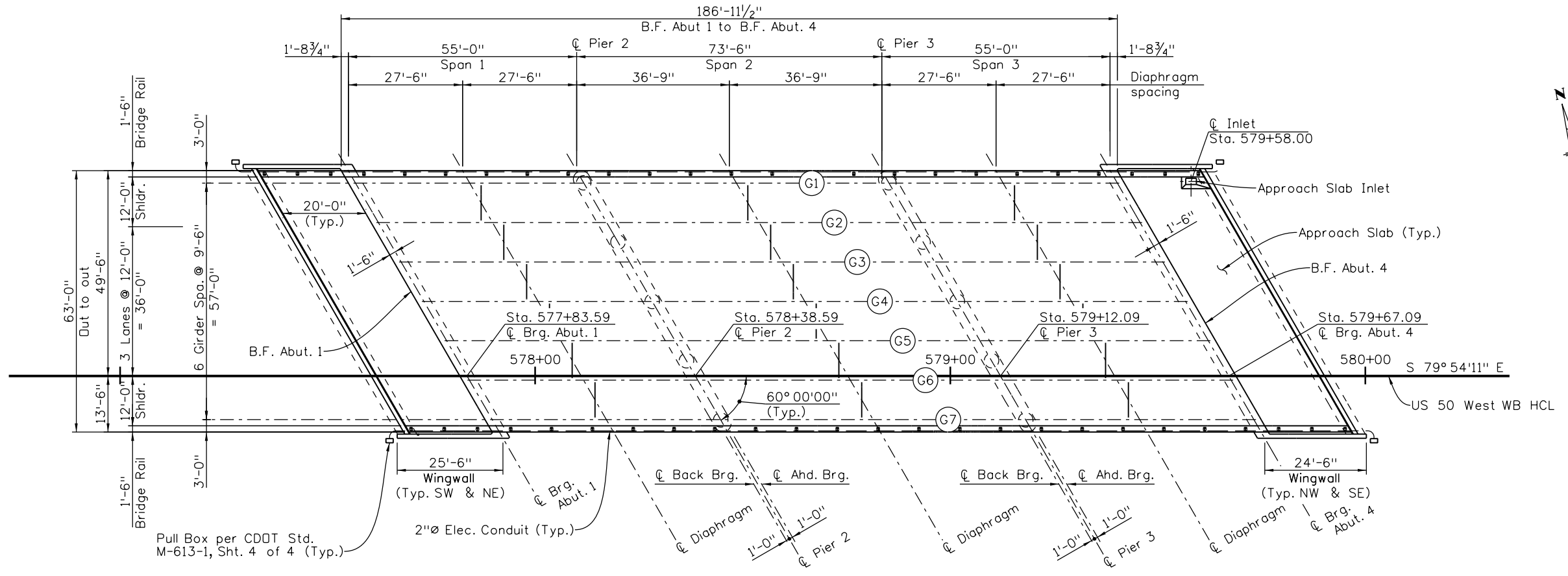
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Region 2 DTD

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Void:

US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK HYDRAULIC INFORMATION (2 OF 2)			
Designer:	M. Love	Structure Numbers:	K-18-DA
Detailer:	K. Soellner	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets:	B6 of 31

Project No./Code
STA 0503-085
20344
Sheet Number 109



NOTES:

- Pull Boxes will not be paid for separately, but shall be included in the cost of Item 613 - 2 Inch Electrical Conduit.

Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
06/16	SCR	06/16	CDM	07/16	SCR
07/16	CAO	07/16	SCR	07/16	KJS
Designed By	Checked By	Detailed By	Checked By	Quantities By	Checked By

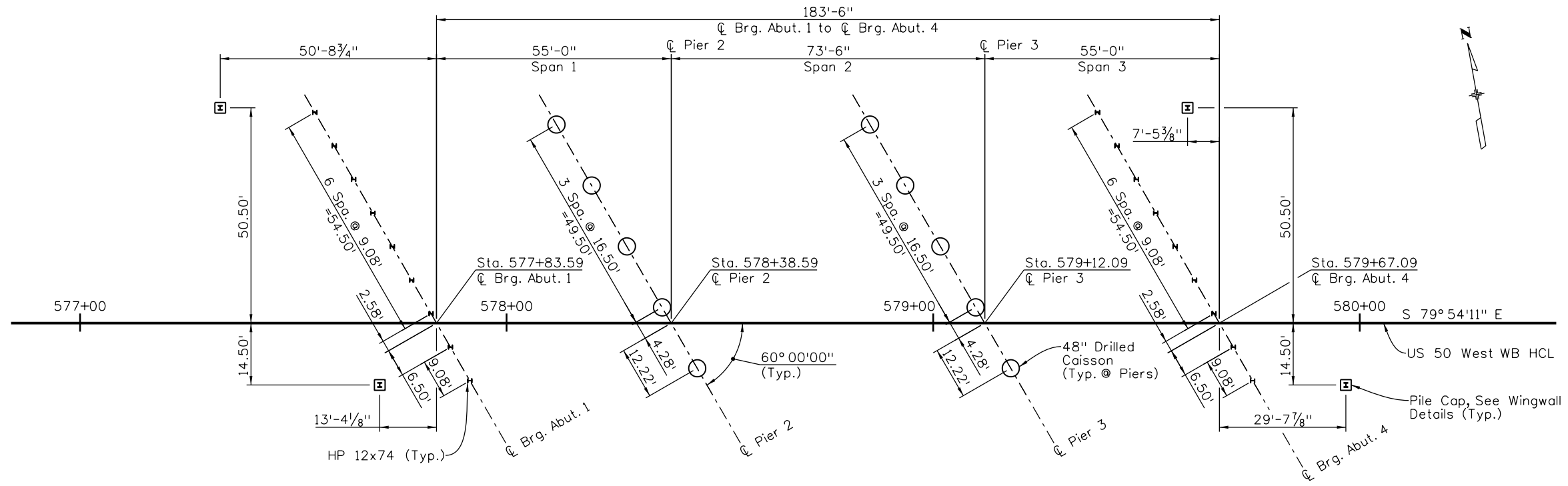
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File Name: 20344BRDG_ConstLayout.dgn		Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702			Designer: S. Redd Detailer: K. Soellner	Structure Numbers: K-18-DA		
Horiz. Scale: 1:30 Vert. Scale: As Noted Staff Bridge Branch - Unit 0226 Unit Leader: DDG		0000			Sheet Subset: Bridge Subset Sheets: B7 of 31			

FELSBURG HOLT & ULLEVIG
 6300 South Syracuse Way
 Suite 600
 Centennial, CO 80111
 (303) 721-1440

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Checked By CAD	07/16	SCR	07/16	Checked By KJS	08/16



FOUNDATION LAYOUT

Print Date: 1/19/2017
File Name: 20344BRDG_FoundLayout.dgn
Horiz. Scale: 1:30 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440

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Region 2 DTD

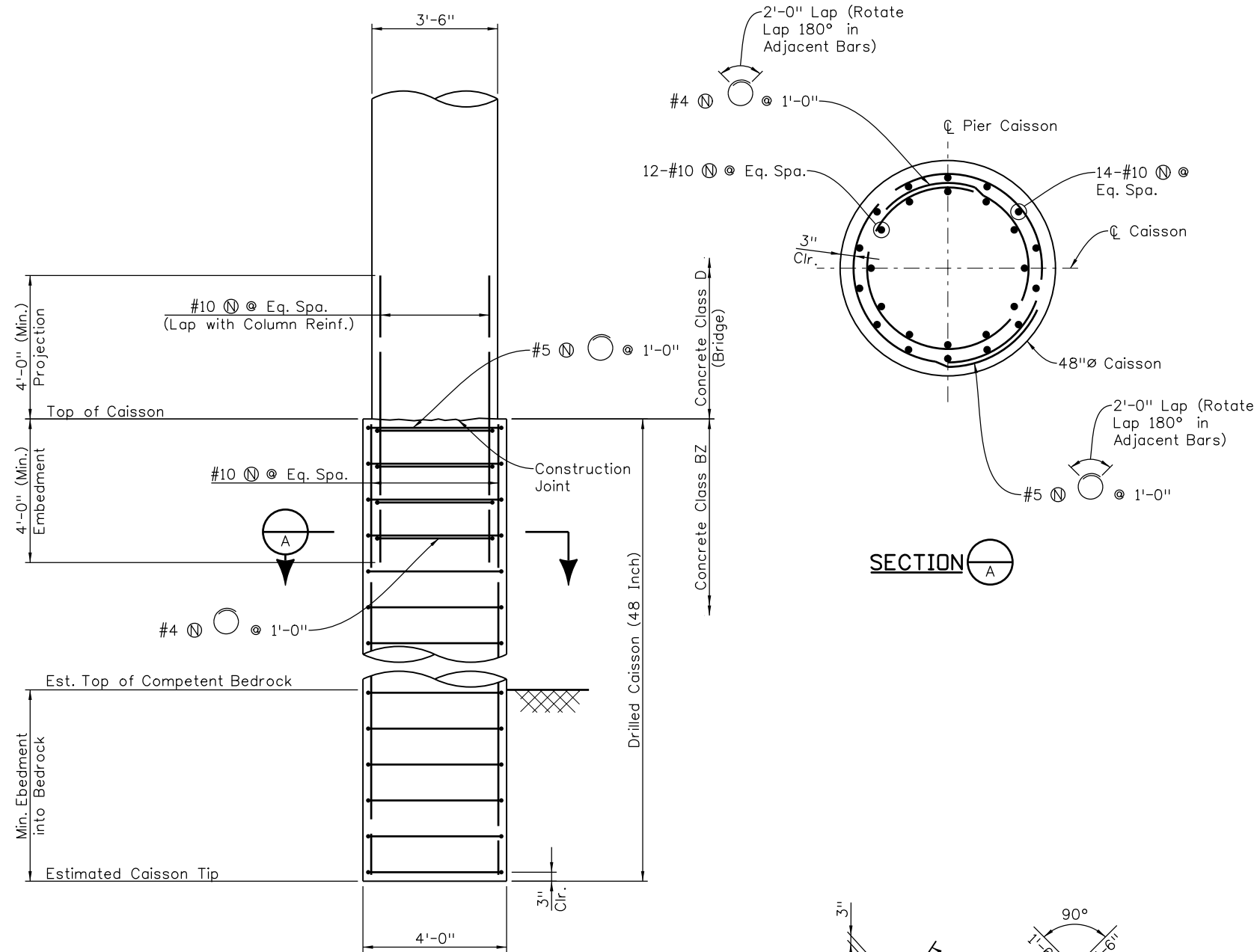
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No Revisions:
Revised:
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US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK FOUNDATION LAYOUT			
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Detailer:	K. Soellner	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets:	B8 of 31

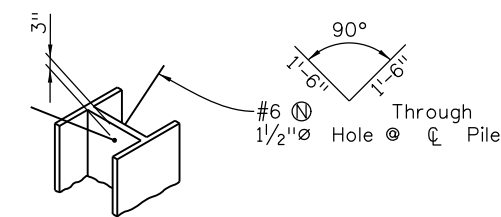
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20344
Sheet Number 111

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07/16	CAO	07/16	SCR	07/16	KIS
Designed By	Checked By	Detailed By	Checked By	Quantities By	Checked By



CAISSON DETAIL



PILE ANCHORAGE DETAIL

PILE & CAISSON DATA							
LOCATION	MAX. LOAD (UNFACTORED) (kips)	MAX. LOAD (FACTORED) (kips)	ESTIMATED TOP OF BEDROCK ELEV.	ESTIMATED TIP ELEV.	CAISSON SIZE	PILE SIZE	MIN. EMBEDMENT INTO BEDROCK (FT.)
ABUTMENT 1	150	217	4759	4756	-	HP12x74	3
PIER 2 & 3	459	636	4758	4740	48"	-	18
ABUTMENT 4	150	217	4760	4757	-	HP12x74	3

DESIGN DATA:

Caissons and piles are designed per AASHTO LRFD.

Caissons:

Nominal Tip Resistance in Bedrock = 184 ksf
 Nominal Side Resistance in Bedrock = 15 ksf
 Resistance factors for Tip and Side Resistance are 0.55 and .60, respectively

Piles:

Nominal Bearing Resistance in Bedrock = 40 ksi (Grade 50 Steel)
 Resistance factor for Bearing Resistance is 0.65

PILING NOTES:

- All Piles are End Bearing HP12x74.
- All Piles shall be driven vertical. The web and flanges shall be aligned per the layout shown on sheets B8.
- Pile Driving Analyzer (PDA) is required for this project. The PDA monitoring shall be performed by the Contractor on one pile at each abutment in accordance with Section 502 of the Standard Specifications.
- Piles may stop above the Estimated Tip Elevation if the PDA Analysis indicates capacity has been reached and the pile has obtained the specified minimum embedment.
- Elevations shown shall be verified at the time of construction by the Geotechnical Engineer.

CAISSON NOTES:

- Caissons shall extend at least to the estimated tip elevation. Caissons shall be further advanced into the bedrock as determined by the geotechnical engineer, to obtain the specified minimum embedment.
- Top of competent bedrock elevation shall be verified at time of construction by the Engineer.
- The use of temporary casing during drilling caissons may be required. The cost of temporary casing shall not be paid for separately but shall be included in Item 503 - Drilled Caisson (48 Inch).
- The Contractor shall anticipate encountering hard bedrock during drilling.
- Contractor may be required to provide additional permanent casing above bedrock to facilitate caisson construction.
- Lap splices shall be securely tied or clamped. Approved mechanical couplers or butt welds in conformance with AWS may be substituted for lap splices. The Contractor is responsible for assembling and bracing the reinforcing cage to safely resist all loads imposed during handling and concrete placement.

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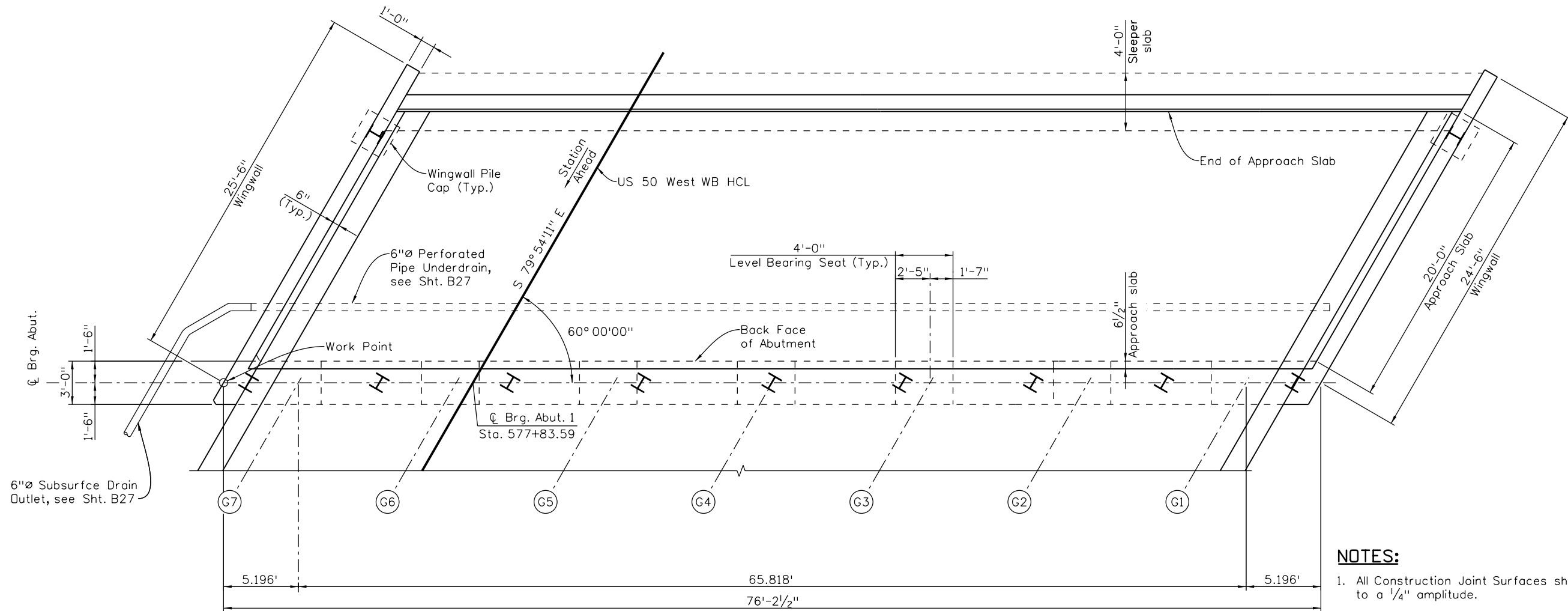
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Designer:	S. Redd	Structure	K-18-DA
Detailer:	K. Soellner	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B9 of 31

Project No./Code
STA 0503-085
20344
Sheet Number 112

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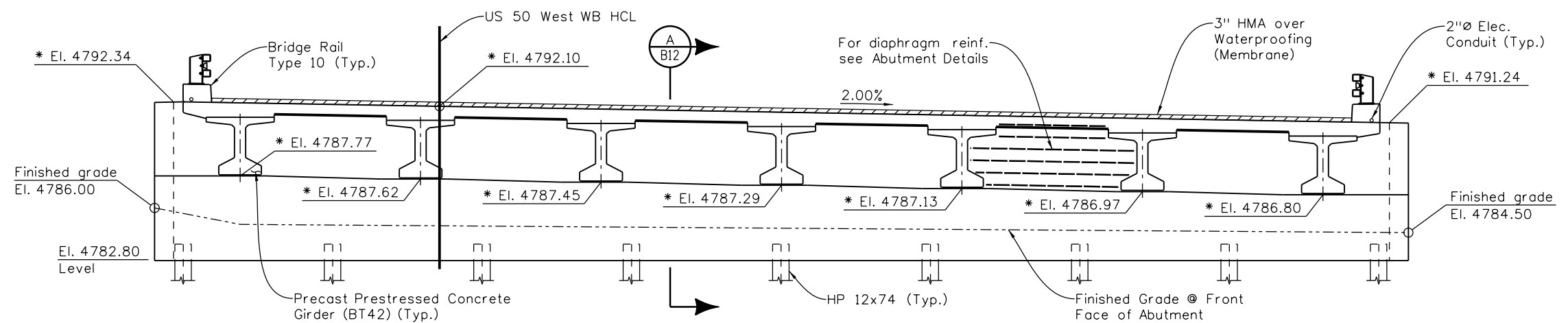


PLAN

NOTES:

- All Construction Joint Surfaces shall be roughened to a 1/4" amplitude.
- Alternate splice locations in adjacent lines. See General Notes for lap splice lengths.

* Elevations given at ϕ Brg.



ELEVATION

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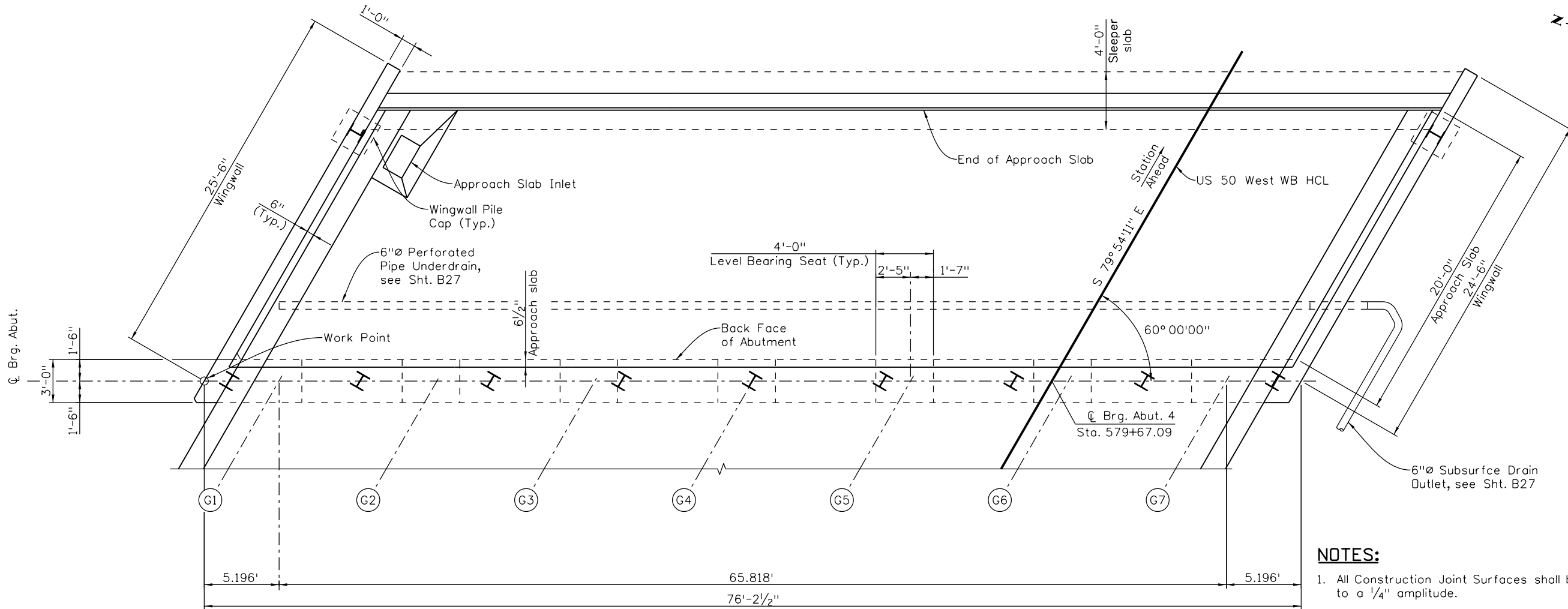
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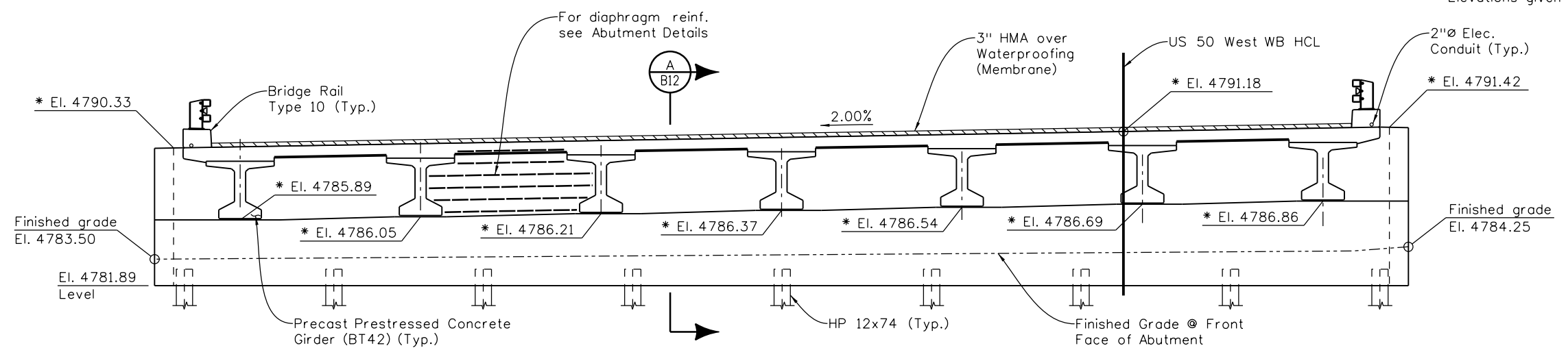
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Detailer:	K. Soellner	Subset Sheets:	B10 of 31
Sheet Subset:	Bridge		

Project No./Code
STA 0503-085
20344
Sheet Number 113



PLAN



ELEVATION

- NOTES:**
1. All Construction Joint Surfaces shall be roughened to a 1/4" amplitude.
 2. Alternate splice locations in adjacent lines. See General Notes for lap splice lengths.
- * Elevations given at \bar{C} Brg.

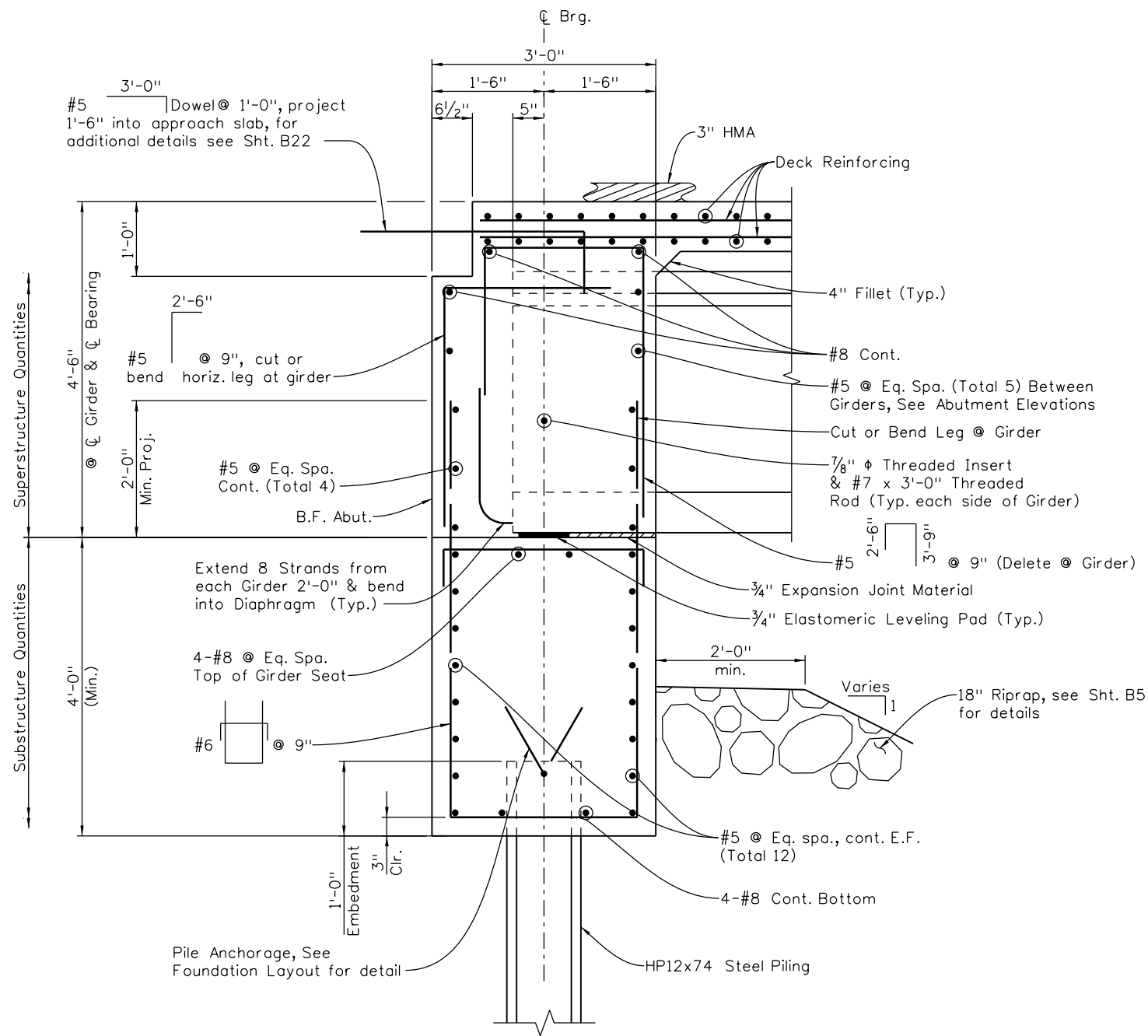
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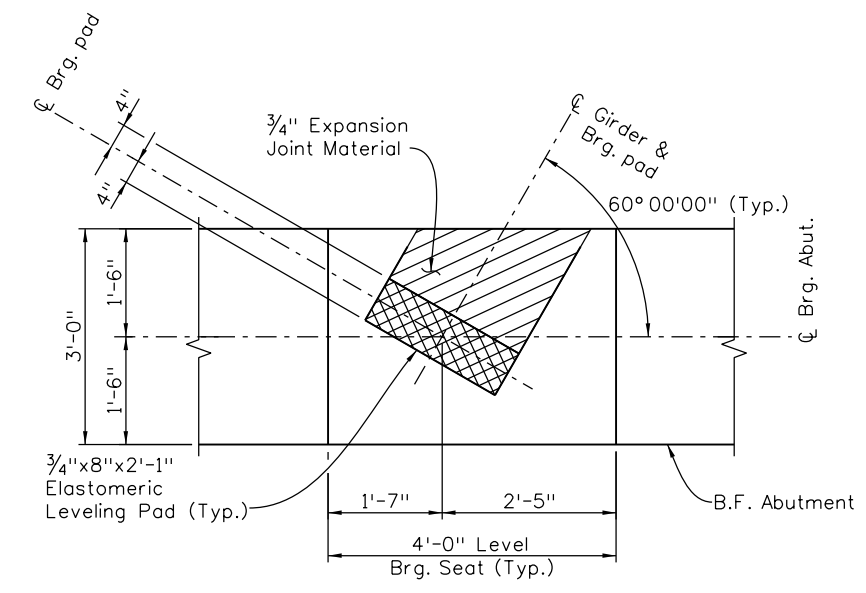
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Checked By	Checked By	Checked By	Checked By	Checked By	Checked By



SECTION A-A
 B10 B11



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).

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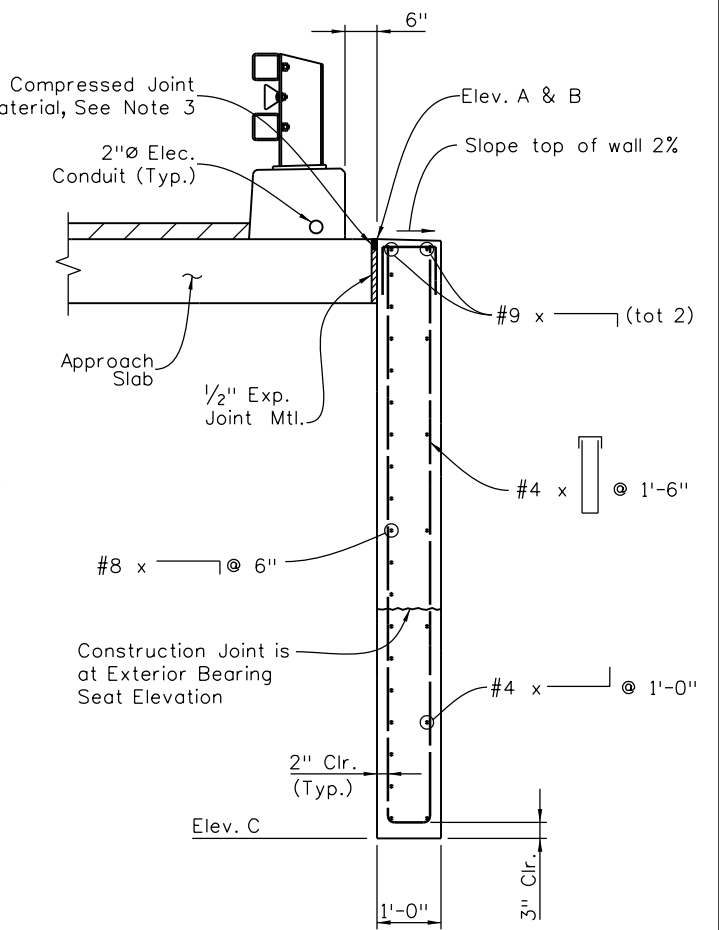
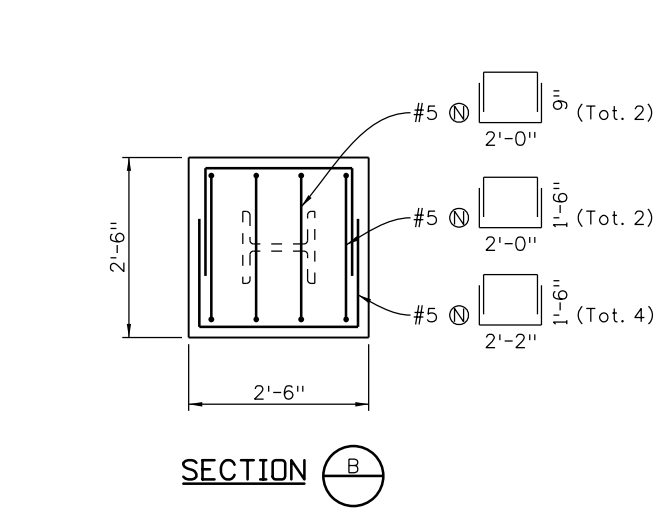
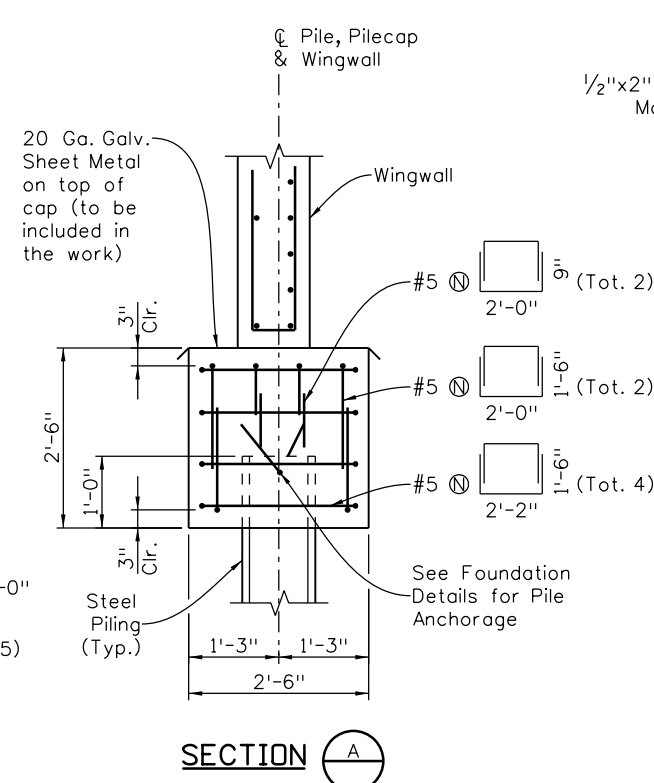
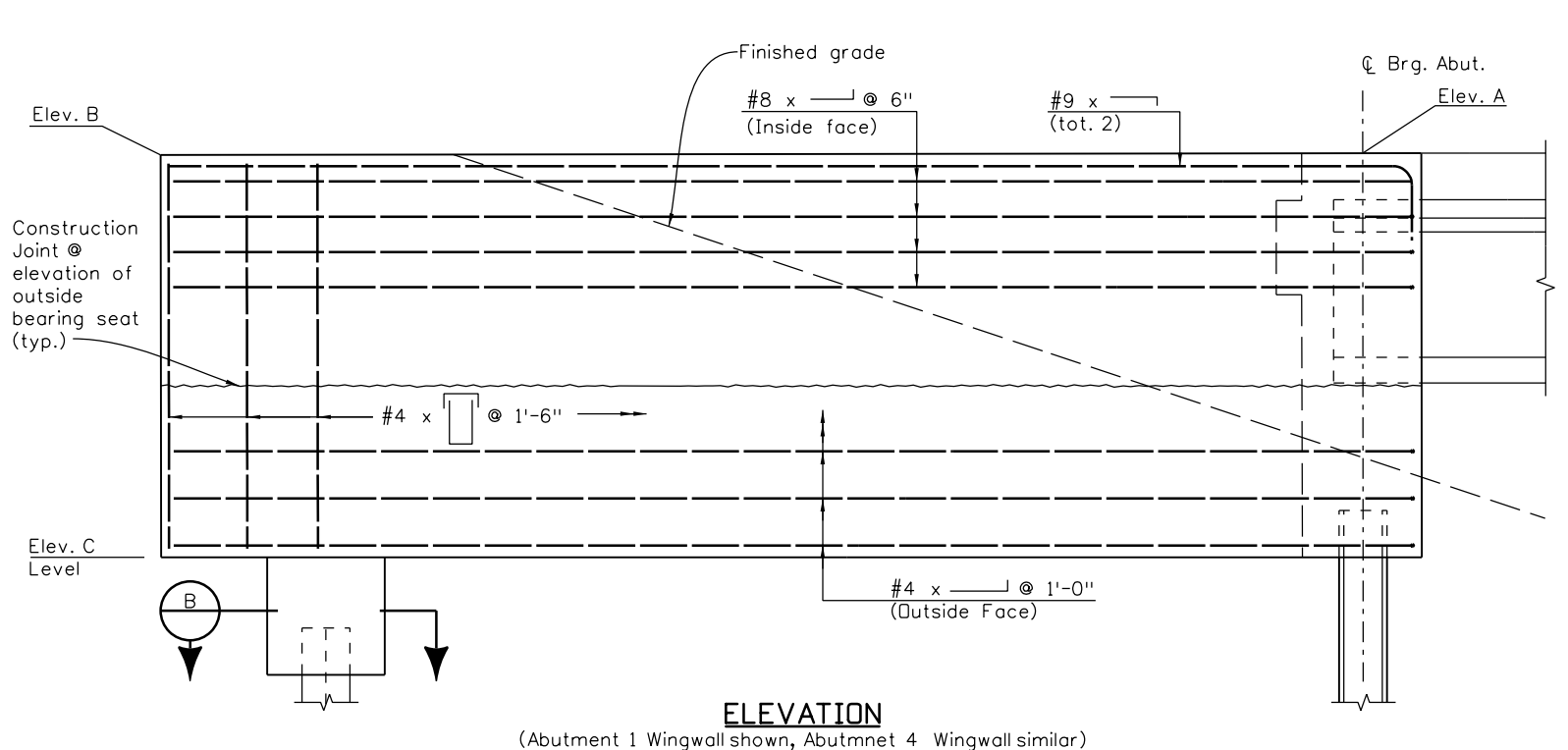
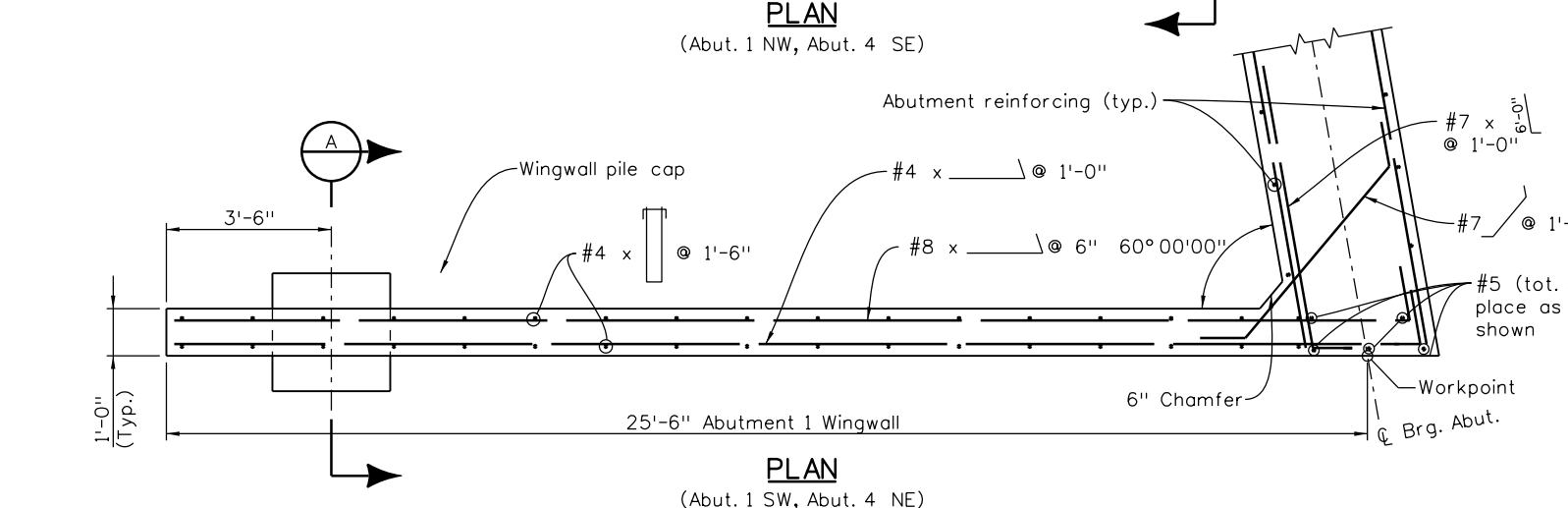
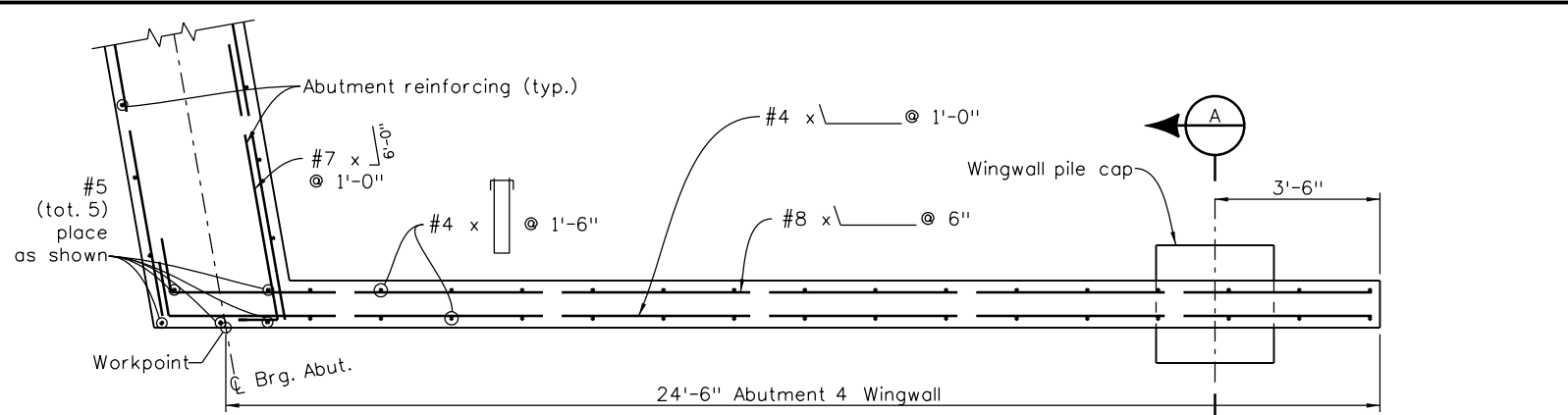
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Detailer:	K. Soellner	Sheet Subset:	Bridge
Sheet Subset:	Bridge	Subset Sheets:	B12 of 31

Project No./Code
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20344
Sheet Number 115

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Wingwall	Elev. A	Elev. B	Elev. C
Abut. 1 NW Wingwall	4791.24	4791.38	4782.80
Abut. 1 SW Wingwall	4792.34	4792.46	4782.80
Abut. 4 NE Wingwall	4790.33	4790.20	4781.89
Abut. 4 SE Wingwall	4791.42	4791.30	4781.89

- NOTES:**
- Contractor shall fill back face and front face of wingwall simultaneously (± 2 ft.)
 - Wingwall design assumes passive pressure from front face soil per CDDT Bridge Design Manual 7.1
 - Compressed Joint Material shall be pre-compressed, chemically resistant, open cell polyurethane foam sealant, impregnated with a water-repellent 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"
 Or Approved Equal

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US 50 WEST WESTBOUND
 OVER WILD HORSE DRY CREEK
 WINGWALL DETAILS

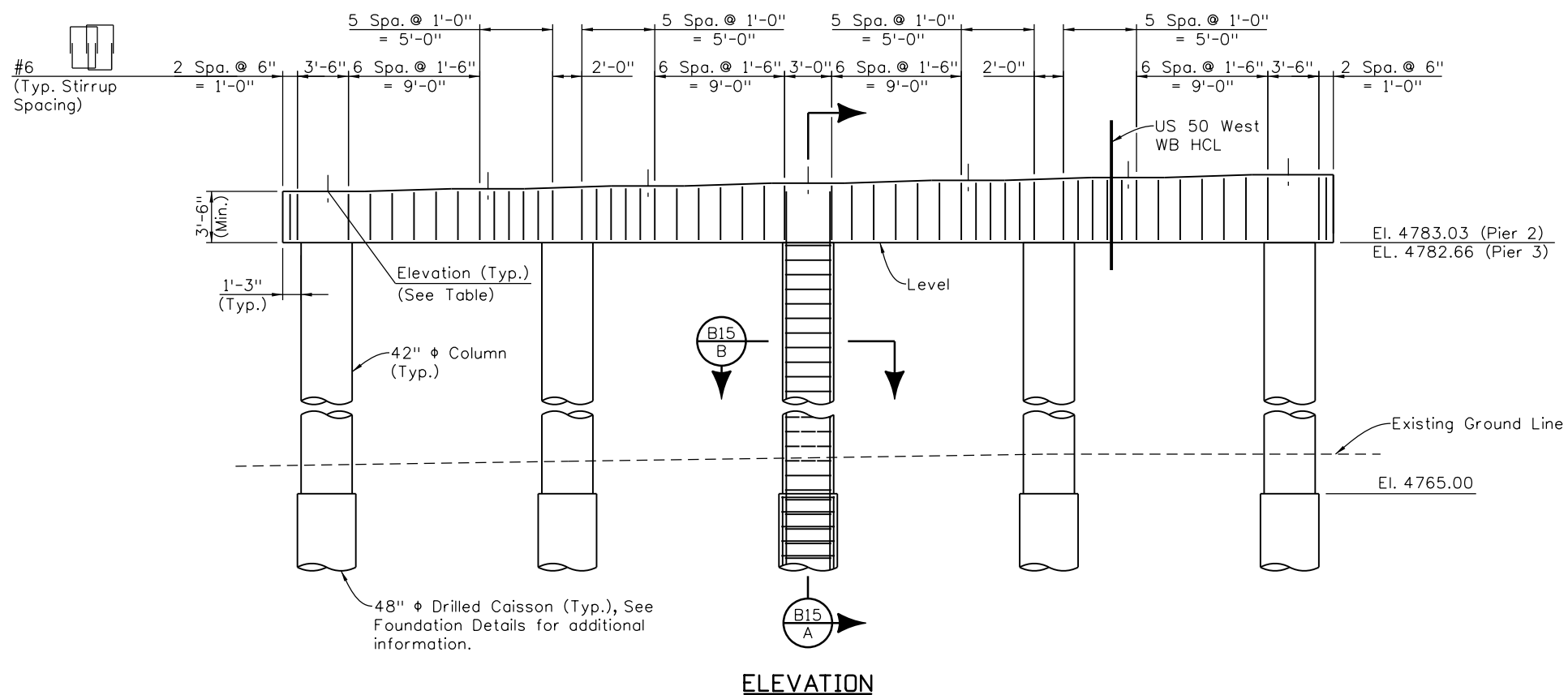
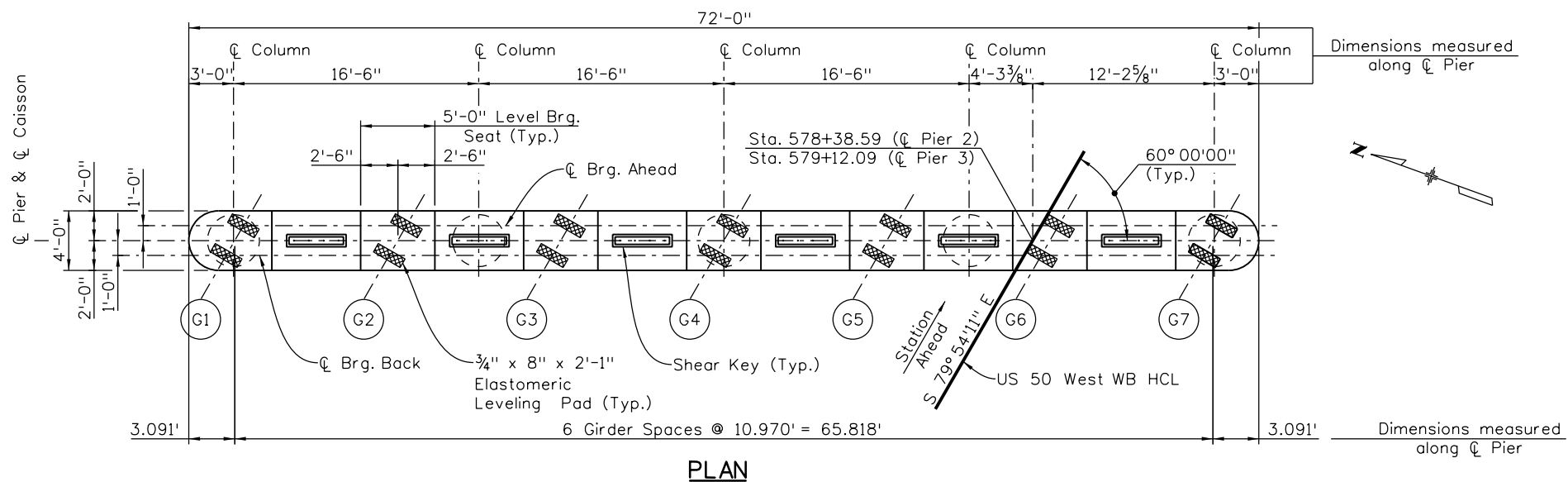
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 Detailer: K. Soellner
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Structure Numbers: K-18-DA
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Project No./Code
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 20344
 Sheet Number 116

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GIRDER	PIER 2	PIER 3
G1	4786.53	4786.16
G2	4786.69	4786.32
G3	4786.85	4786.49
G4	4787.02	4786.65
G5	4787.18	4786.81
G6	4787.34	4786.97
G7	4787.50	4787.14

BAR SIZE	SPLICE LENGTH
#4	2'-0"
#5	2'-6"
#8	4'-0"

NOTES:

- Lap splice lengths shown on the General Notes may be used if splice locations in adjacent lines are alternated.
- Place splice for top #8 bar between columns. Place splice for bottom #8 bar over column.

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**US 50 WEST WESTBOUND
 OVER WILD HORSE DRY CREEK
 PIER 2 & 3 PLAN & ELEVATION**

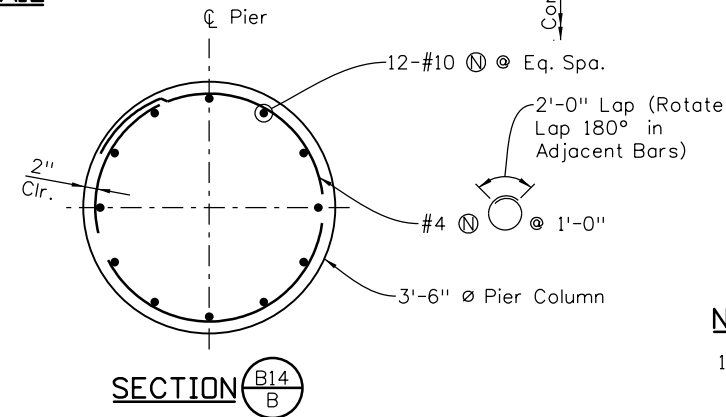
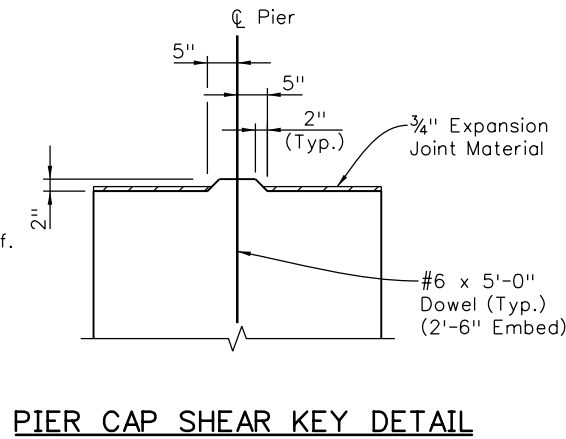
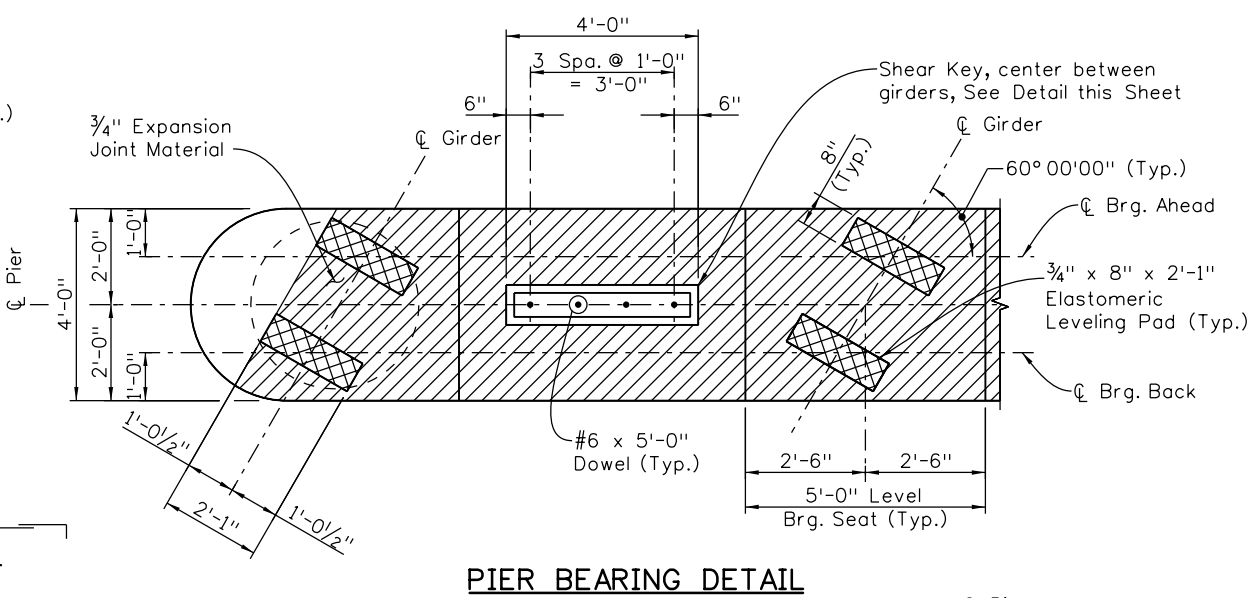
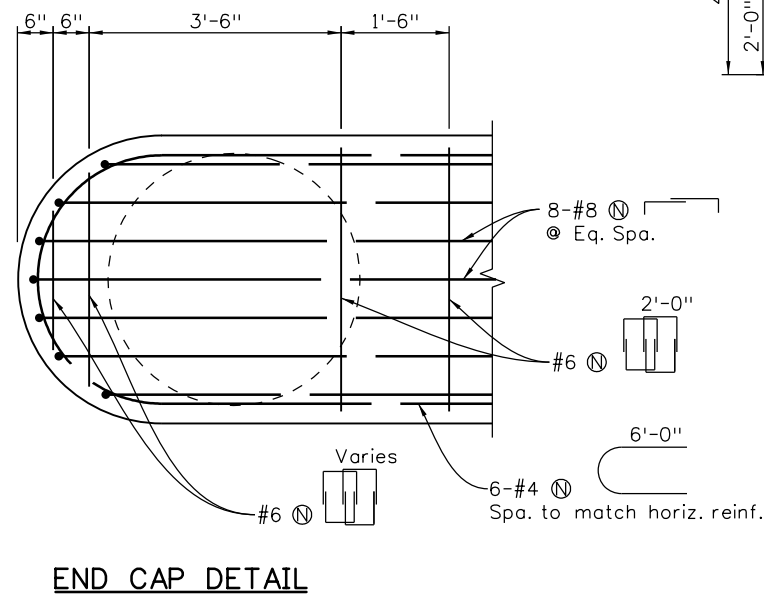
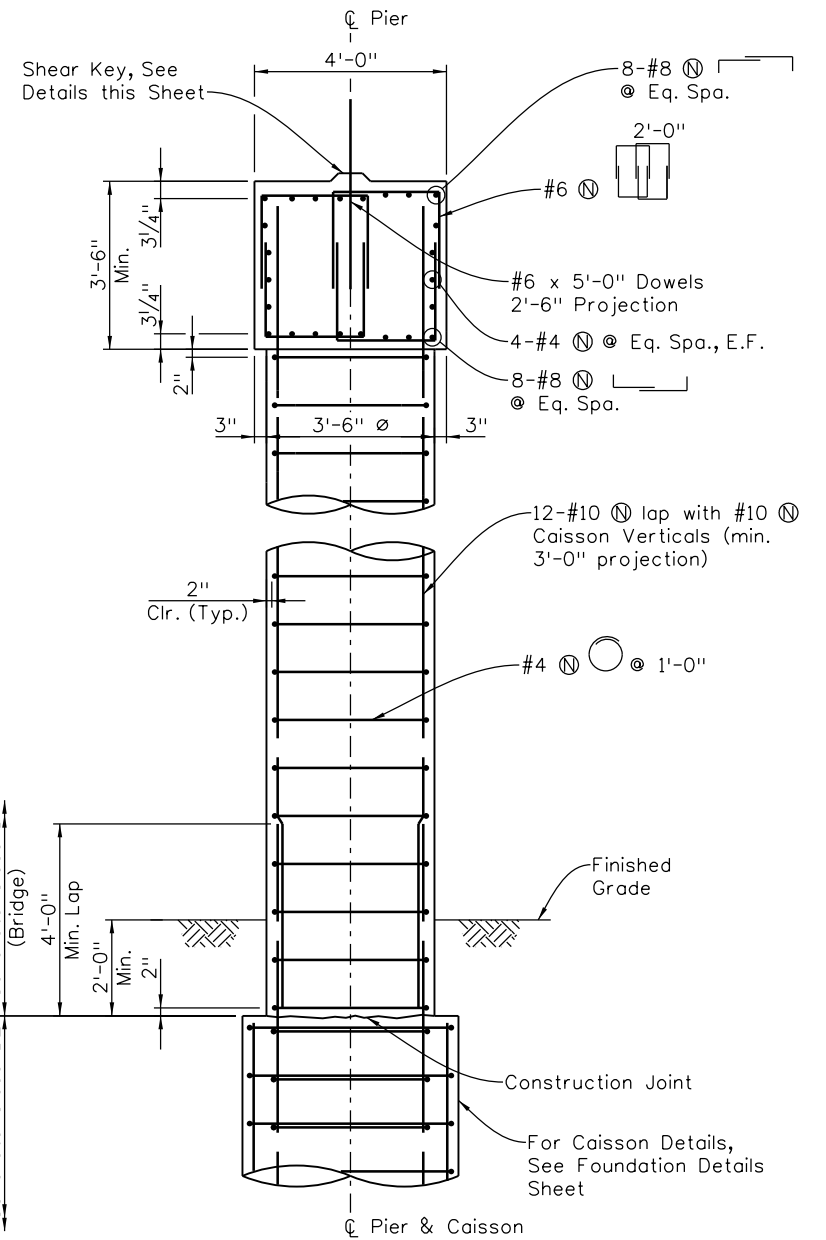
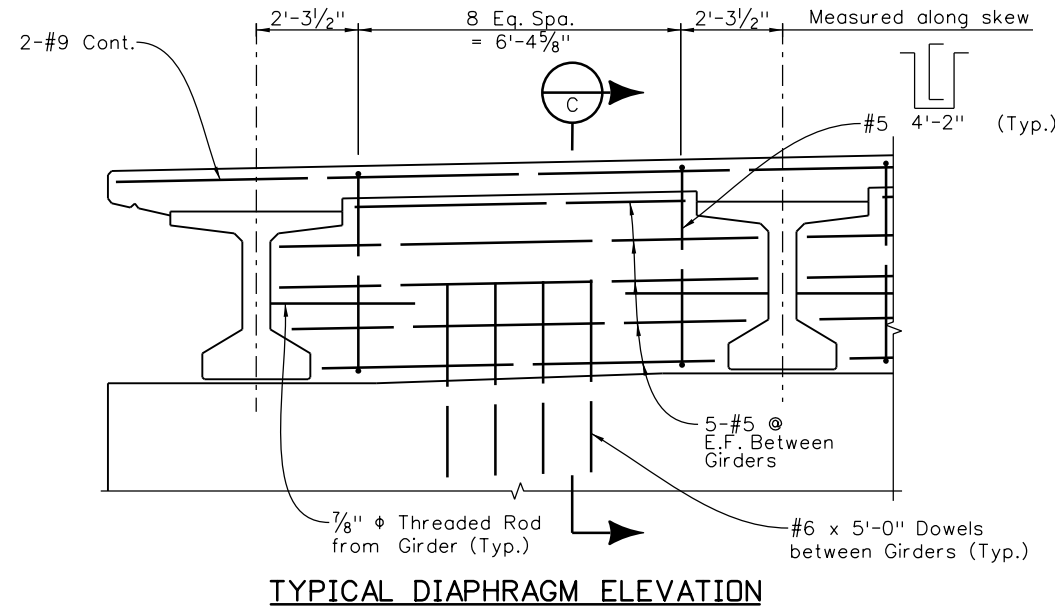
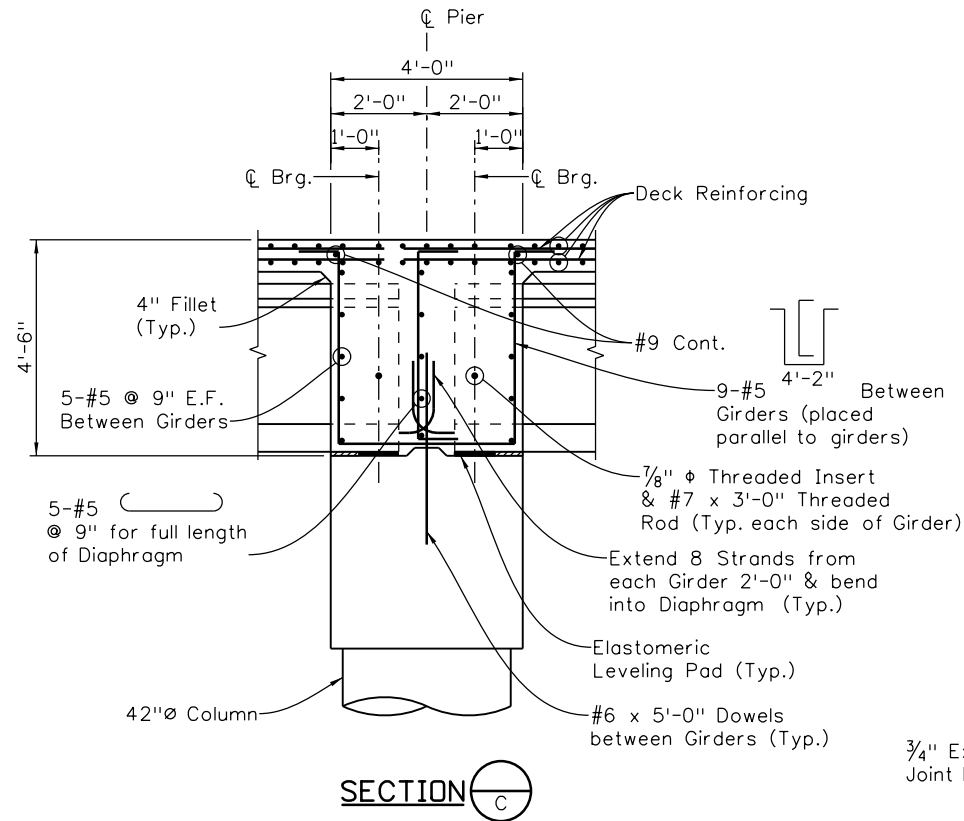
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 Detailer: K. Soellner Numbers:
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Project No./Code
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20344
Sheet Number 117



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Designed By	Checked By	Detailed By	Checked By	Quantities By	Checked By



- NOTES:**
- All Construction Joint Surfaces shall be roughened to a 1/4" amplitude.
 - See Sheet B14 for splice lengths.

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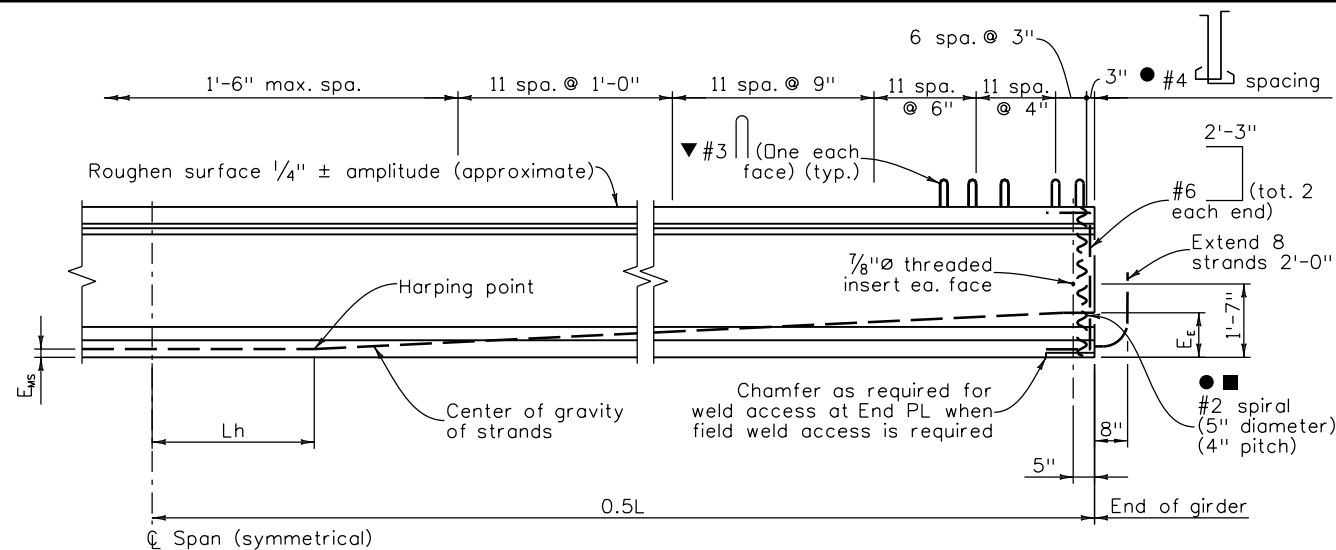
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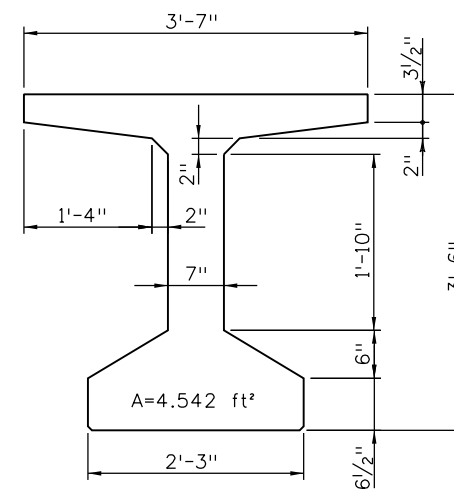
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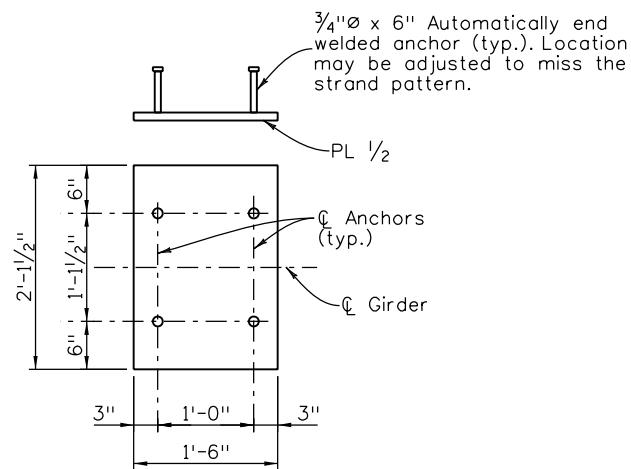
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Revised:		Designer: S. Redd	Structure Numbers: K-18-DA	20344
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GIRDER ELEVATION



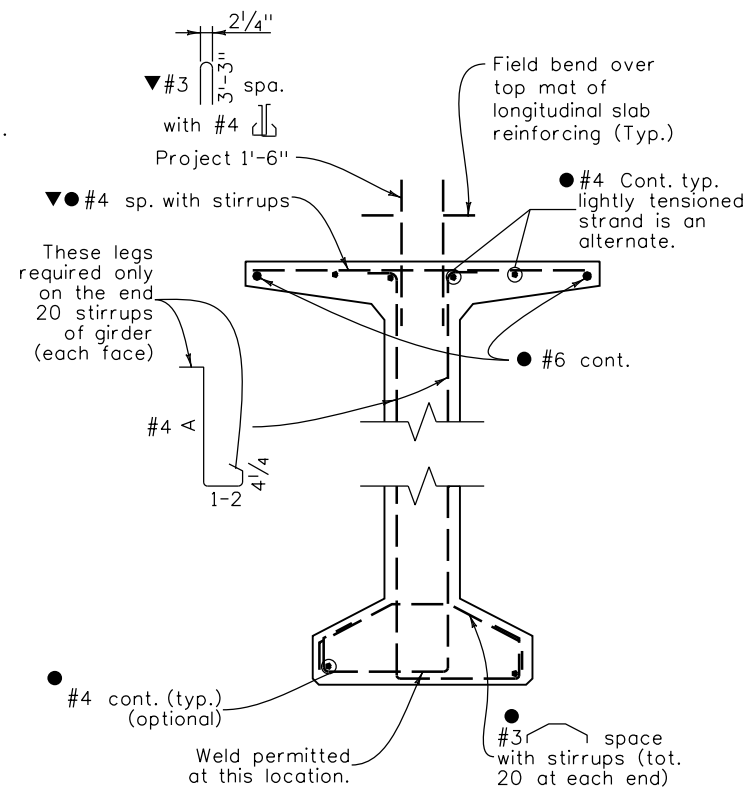
BT 42 DETAIL



END PLATE DETAIL

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.



TYPICAL GIRDER SECTION

A = girder depth - 3"

NOTES:

All work necessary to fabricate and install the integral parts of the girder (including the intermediate diaphragms, 7/8"Ø threaded rods, and leveling pads), as shown on the plans, shall be included in the bid price for Item No. 618, Prestressed Concrete I (BT42), with a pay unit of LF which shall be measured by dimension L.

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 within the girder 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 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_s = ultimate strength of prestressing steel.
F_j = jacking force per girder.
F_f = final force per girder after all losses.
f_{ci} = required concrete strength at release of prestress force.
f_c = 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 60 days. Acceptable camber variability is limited to 20% over the predicted camber and 50% under the predicted camber or ± 1 inch, whichever is greater. The Contractor shall report to the Engineer values of camber which require remedial measures. The remedial measures shall be reviewed and approved by the Engineer. The costs associated with all remedial measures shall be borne by the Contractor.

GIRDER SCHEDULE														
Girder Type	Span No.	Girder No.	L (Feet)	Lh (Feet)	A _s * (Square Inch)	E _{MS} (Inch)	E _E (Inch)	F _j (KIPS)	F _f (KIPS)	Concrete Strength		Δ (Inch)	Predicted Release Camber (Inch)	Predicted Camber (Inch)
										f _{ci} (PSI)	f _c (PSI)			
BT42	1 & 3	G1,G7	54.68	5.47	2.604	3.00	11.00	527	473	6000	7000	0.29	0.43	0.76
BT42	1 & 3	G2-G6	54.68	5.47	2.604	3.00	11.00	527	474	6000	7000	0.31	0.43	0.76
BT42	2	G1,G7	72.02	7.20	4.340	3.40	9.40	879	770	6000	7000	0.76	1.18	2.09
BT42	2	G2-G6	72.02	7.20	4.340	3.40	9.40	879	773	6000	7000	0.87	1.18	2.09

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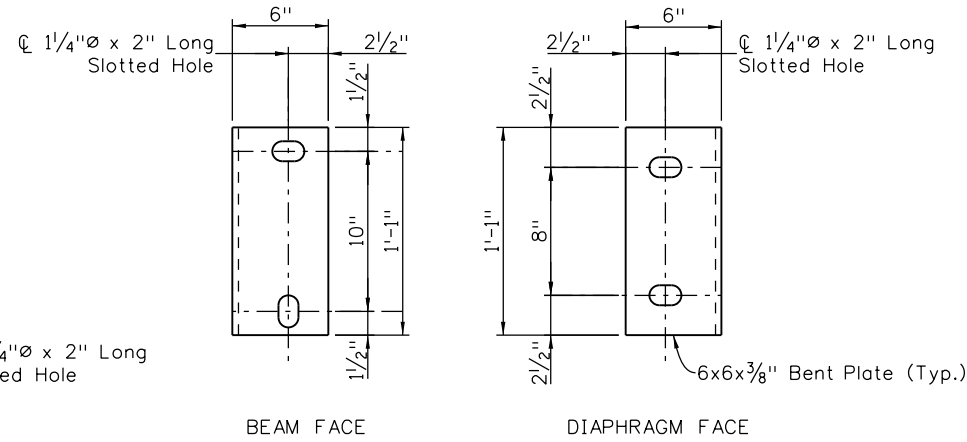
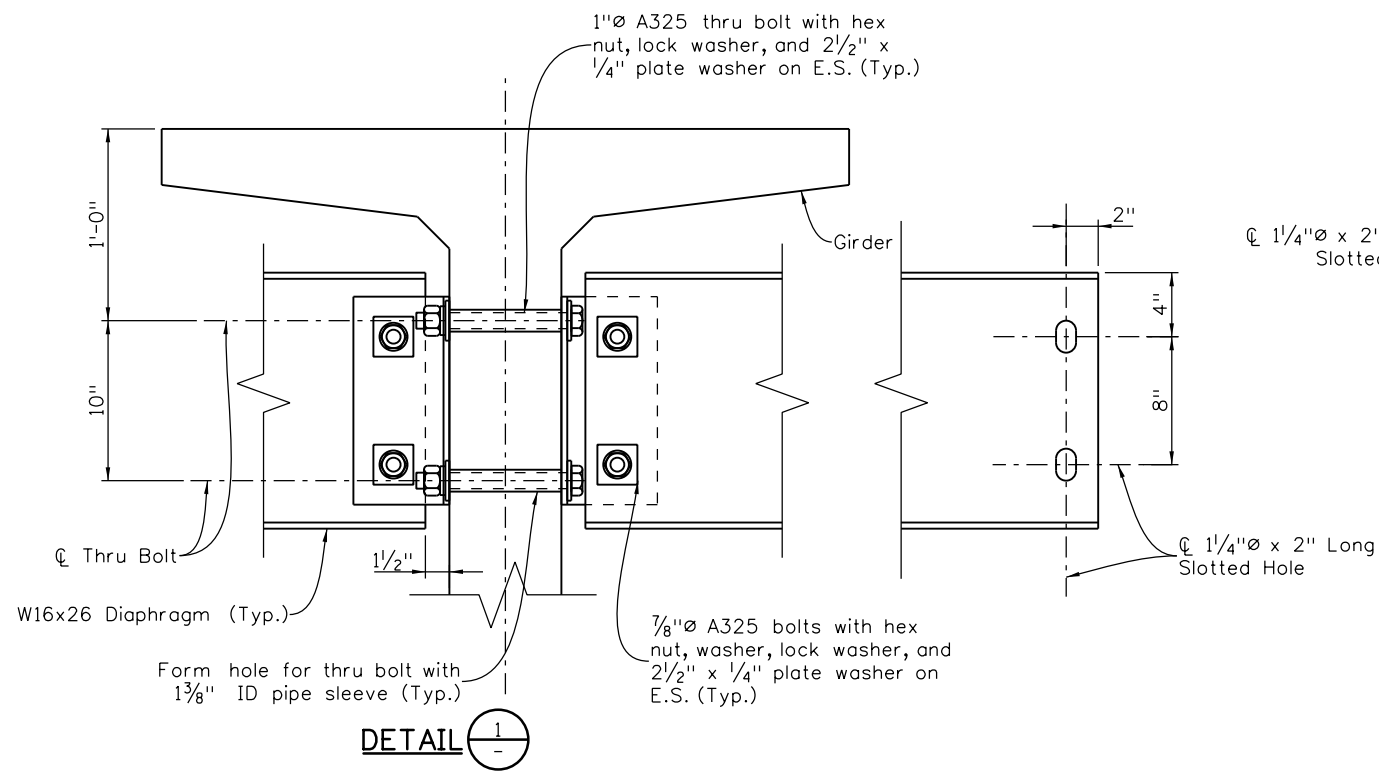
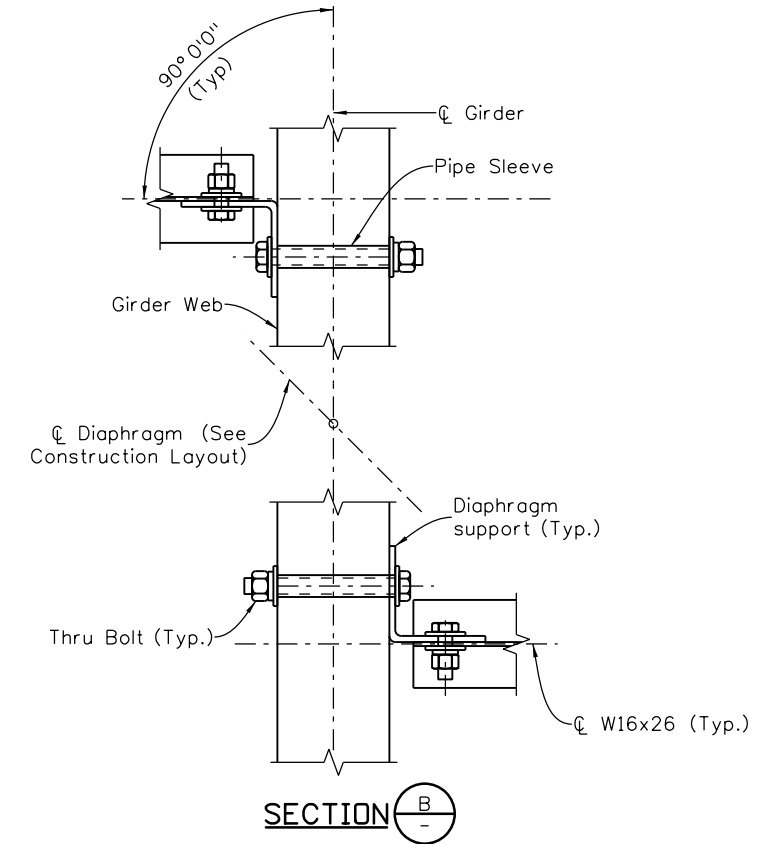
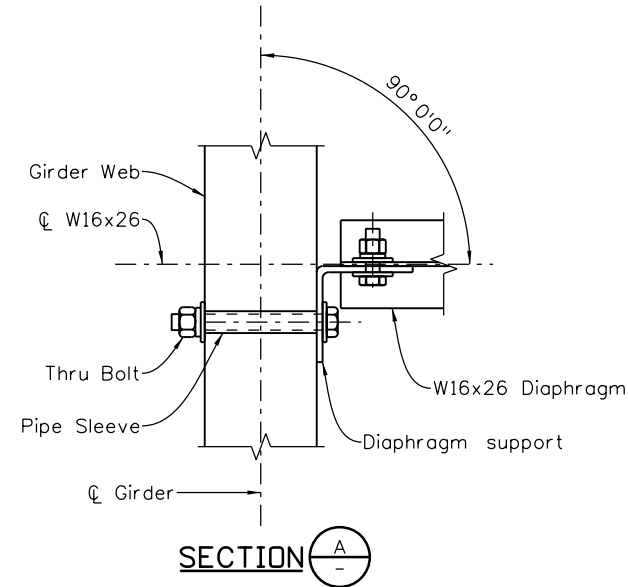
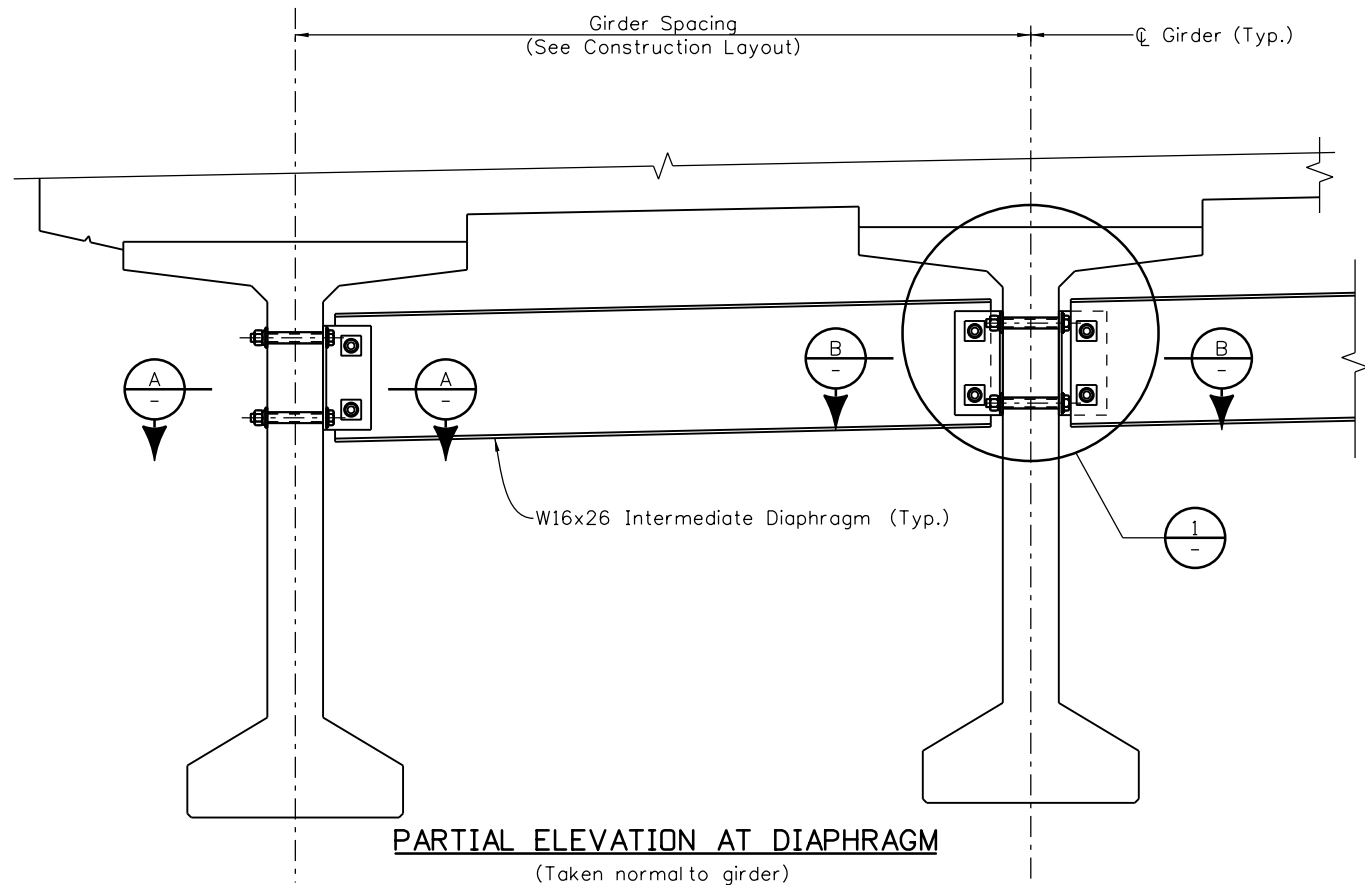
US 50 WEST WESTBOUND
OVER WILD HORSE DRY CREEK
PRESTRESSED CONCRETE BT42 GIRDER

Designer:	S. Redd	Structure Numbers:	K-18-DA
Detailer:	K. Soellner	Subset Sheets:	B16 of 31

Project No./Code
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20344
Sheet Number 119

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07/16	Checked By	07/16	Checked By	07/16	Checked By



NOTES

1. See Construction Layout for Intermediate Diaphragm locations.
2. All diaphragm materials, including bolts, nuts, and washers shall be galvanized. Galvanize after fabrication.
3. Bolts, nuts and lock washers may be zinc plated in lieu of being galvanized.
4. 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.
5. 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.
6. 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.

Print Date: 1/19/2017
File Name: 20344BRDG_GirderDiaphragm.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440

Sheet Revisions			
Date:	Comments	Init.	

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 Region 2 DTD

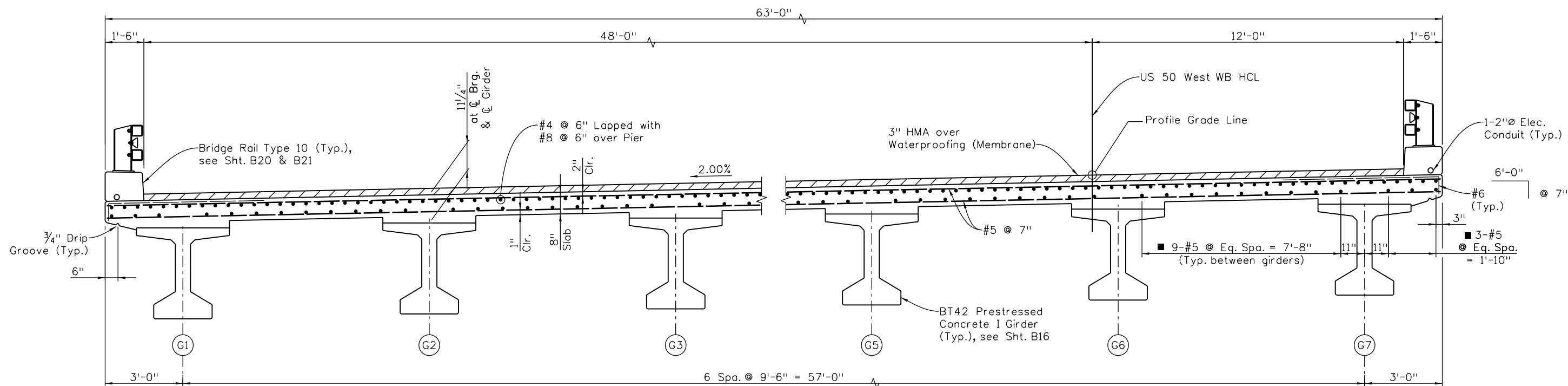
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Designer:	S. Redd	Structure	K-18-DA
Detailer:	K. Soellner	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B17 of 31

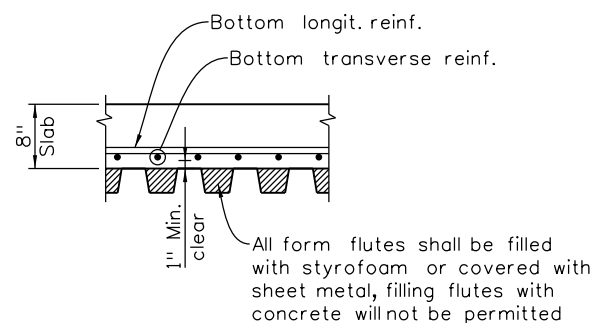
Project No./Code
STA 0503-085
20344
Sheet Number 120

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 ken.soellner 11:06:55 AM

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07/16	CAO	07/16	SCR	07/16	KJS
Checked By		Checked By		Checked By	
Designed By		Detailed By		Quantities By	



SUPERSTRUCTURE SECTION



PERMANENT STEEL DECK FORM

NOTES:

- Deck concrete shall be Concrete Class D (Bridge).
- Alternate splices in adjacent lines

Print Date: 1/19/2017	0000
File Name: 20344BRDG_SuperDetails.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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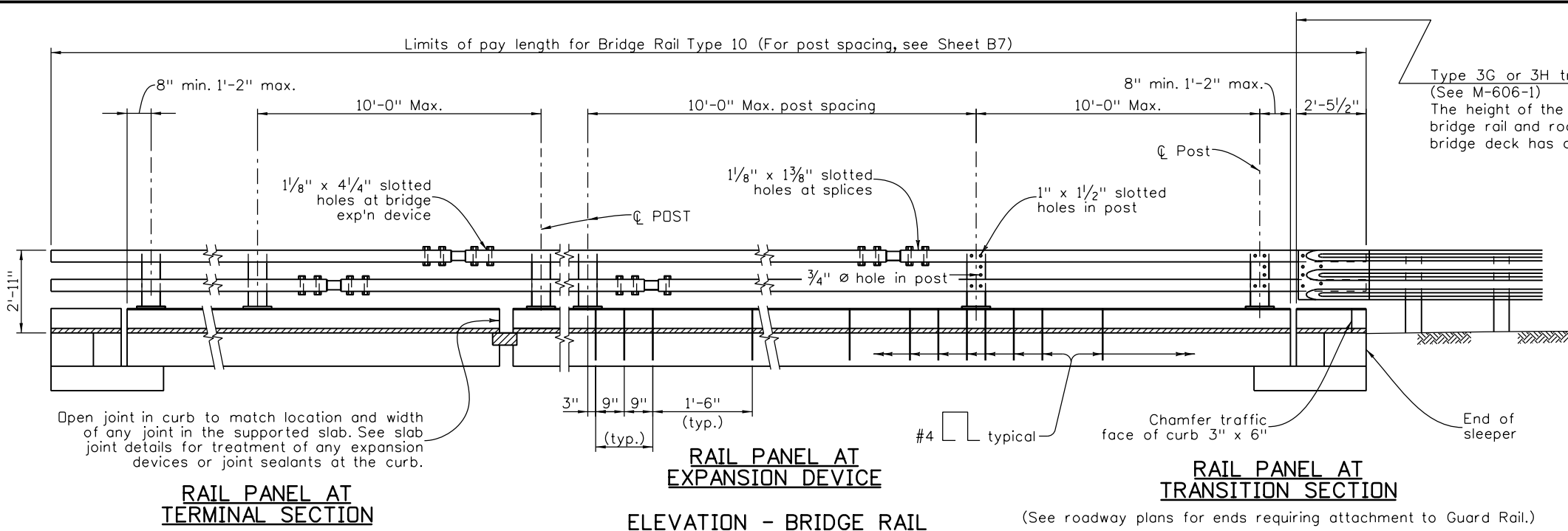
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Revised:
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Designer:	S. Redd	Structure Numbers	K-18-DA
Detailer:	K. Soellner	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets:	B19 of 31

Project No./Code
STA 0503-085
20344
Sheet Number 122

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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 Section 509. 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.

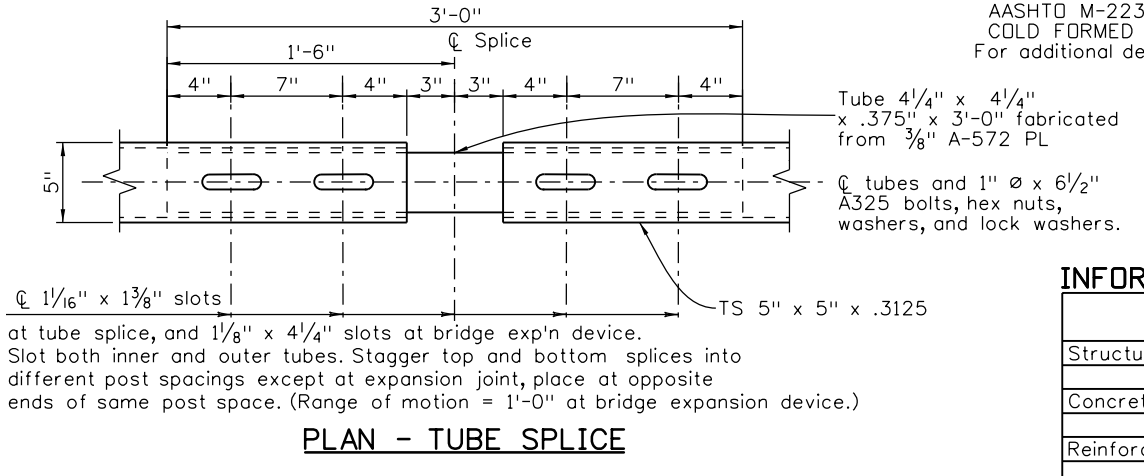
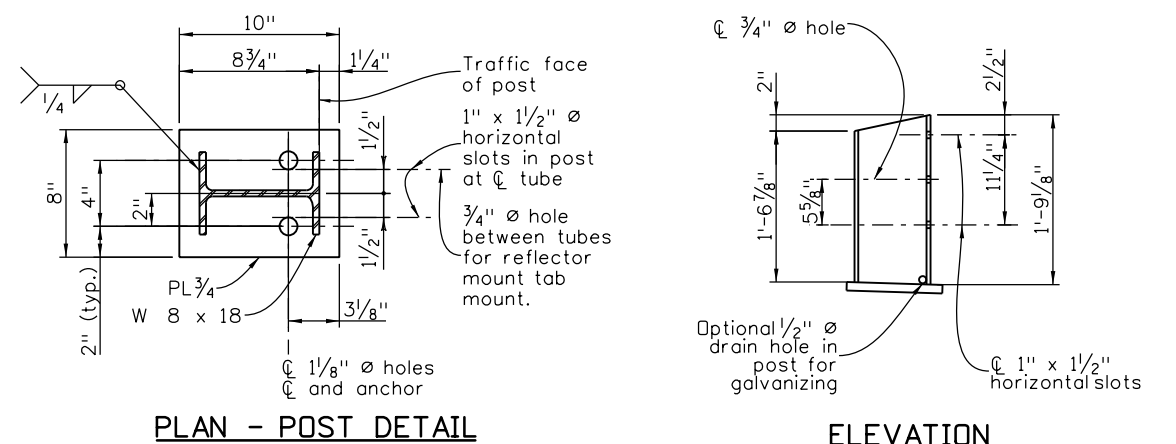
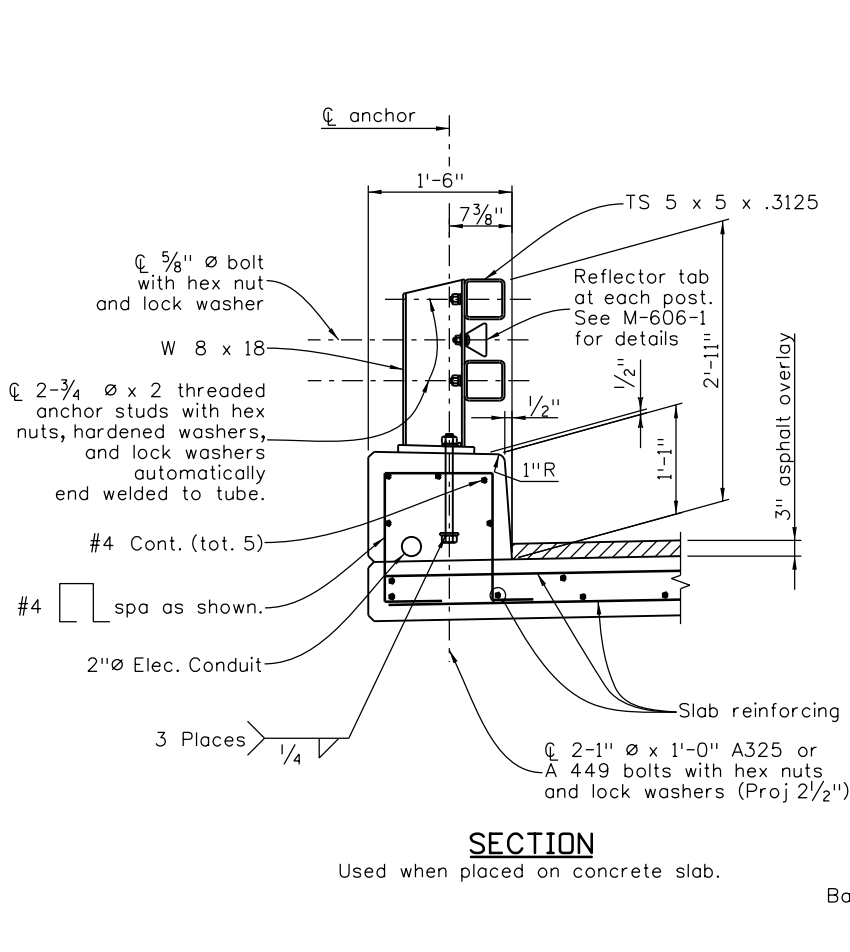
Posts shall be perpendicular to the longitudinal roadway grade.

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 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, and reflector tabs.

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 next rail sheets.



INFORMATION ONLY

DESCRIPTION	UNIT	PER LIN. FT.
Structural Steel (Galvanized)	LB.	45.1
Concrete Class D (Bridge)	CU.YD.	.06
Reinforcing Steel (Epoxy Coated)	LB.	6.6

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07/16	CAO	07/16	CAO	07/16	KJS
Checked By	Checked By	Checked By	Checked By	Checked By	Checked By

Print Date: 1/19/2017

File Name: 20344BRDG_BridgeRail01.dgn

Horiz. Scale: 1:1 Vert. Scale: As Noted

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Sheet Revisions

Date:	Comments	Init.

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No Revisions:

Revised:

Void:

US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK BRIDGE RAIL TYPE 10 (1 OF 2)

Designer: S. Redd Structure: K-18-DA

Detailer: K. Soellner Numbers:

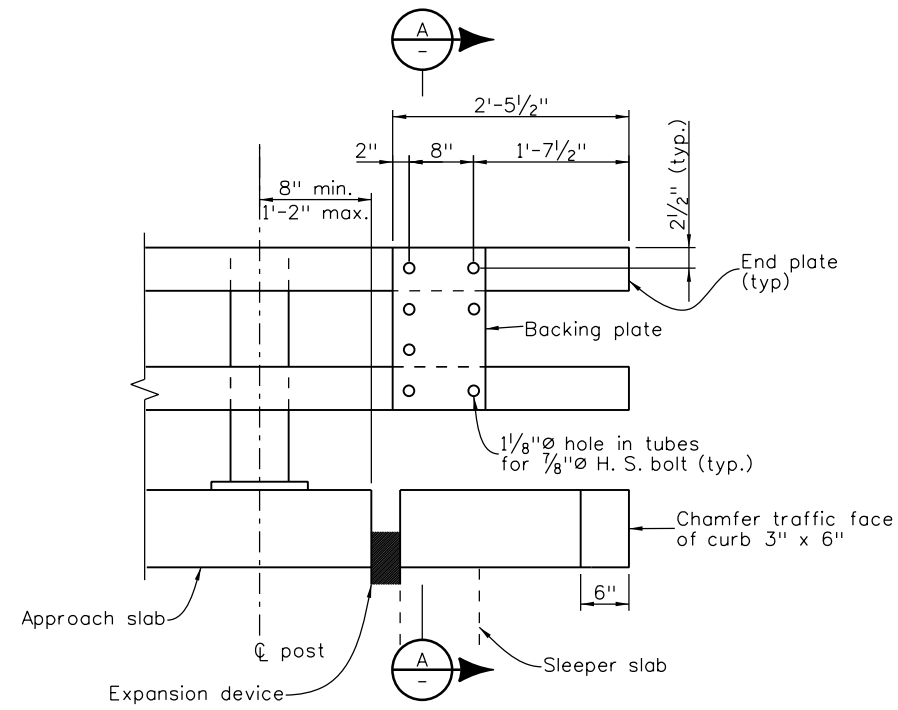
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Project No./Code

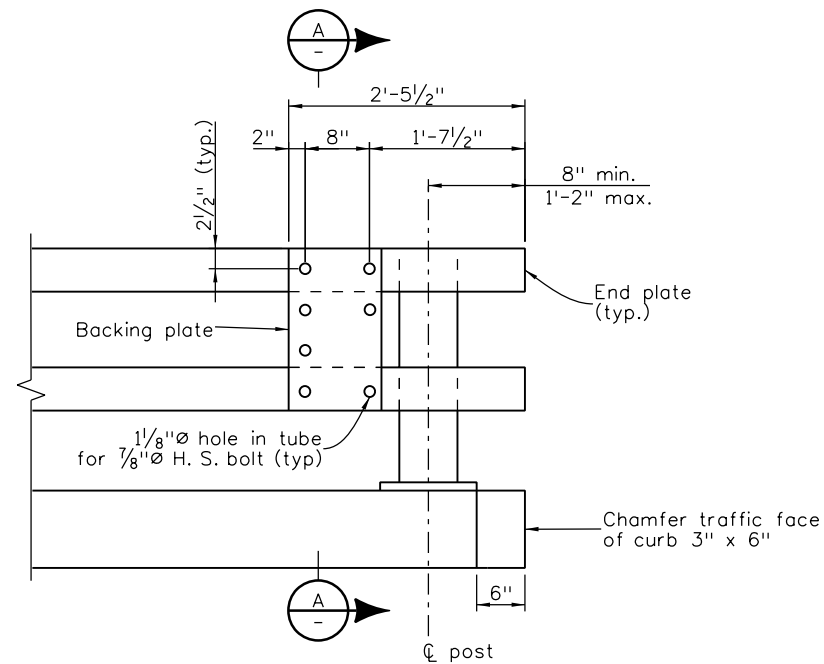
STA 0503-085

20344

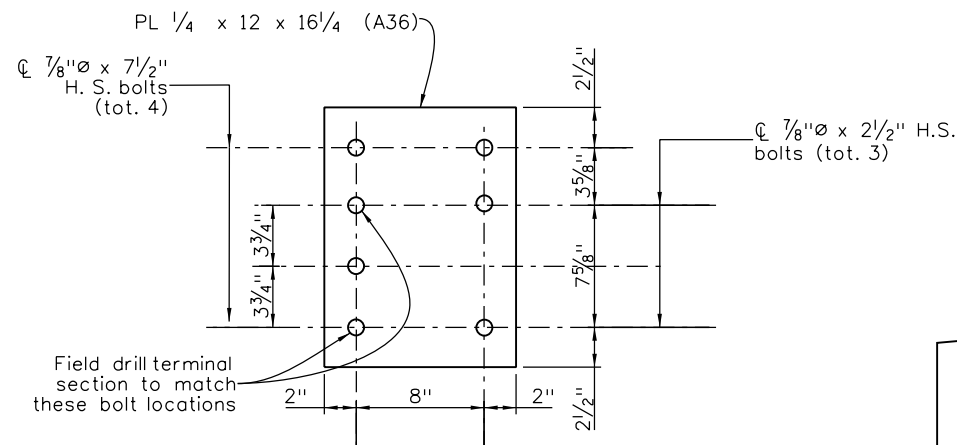
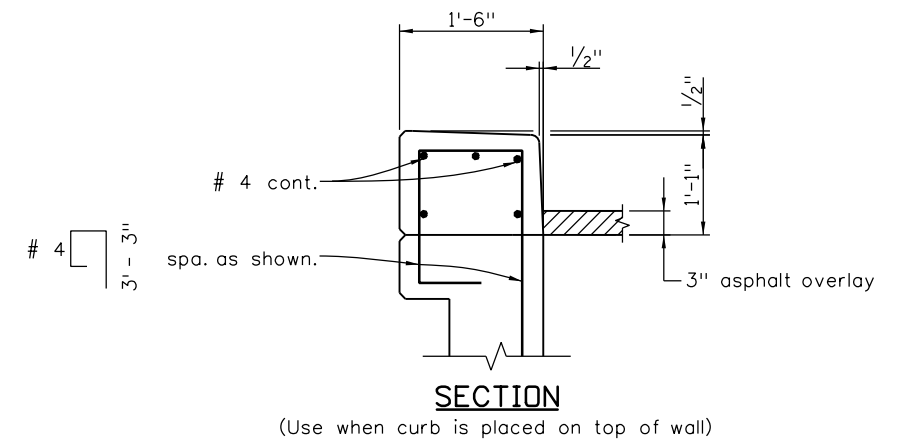
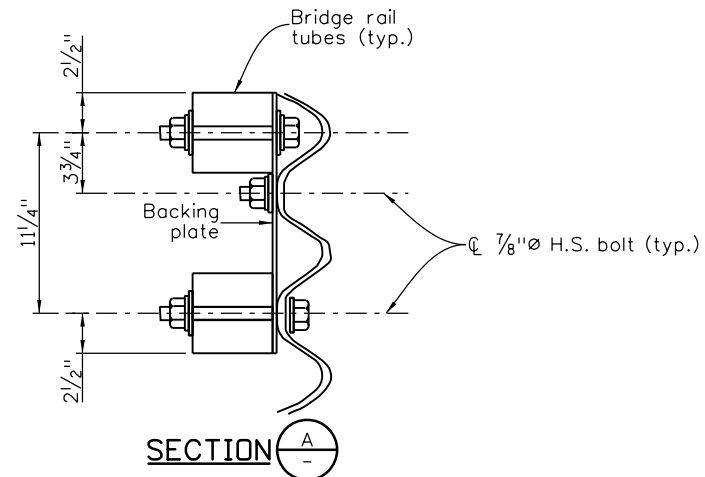
Sheet Number **123**



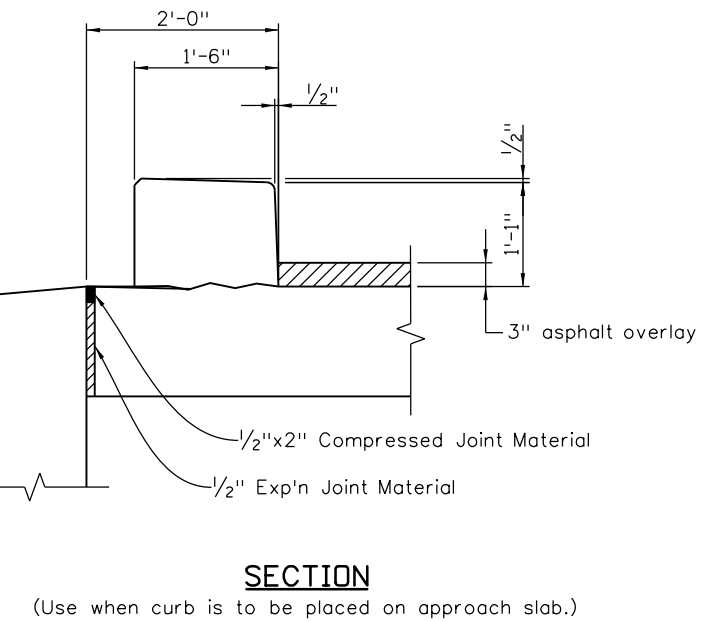
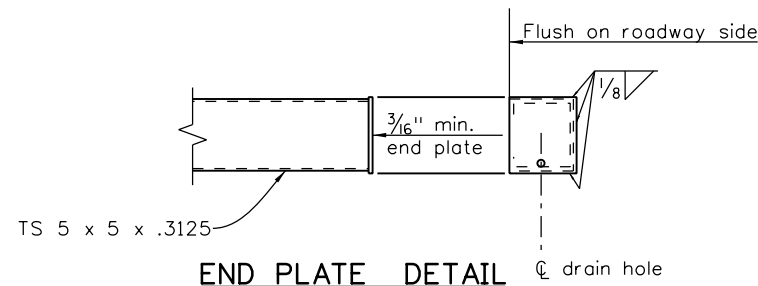
RAIL TUBE DETAILS
(Use with Bridge Rail Type 10.)
Thrie beam not shown.



RAIL TUBE DETAILS
(Use with Bridge Rail Type 10H or 10R.)
Thrie beam not shown.



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



Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
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07/16	CAD	07/16	SCR	07/16	KJS
07/16	Checked By	07/16	Checked By	07/16	Checked By

Print Date: 1/19/2017	
File Name: 20344BRDG_BridgeRail02.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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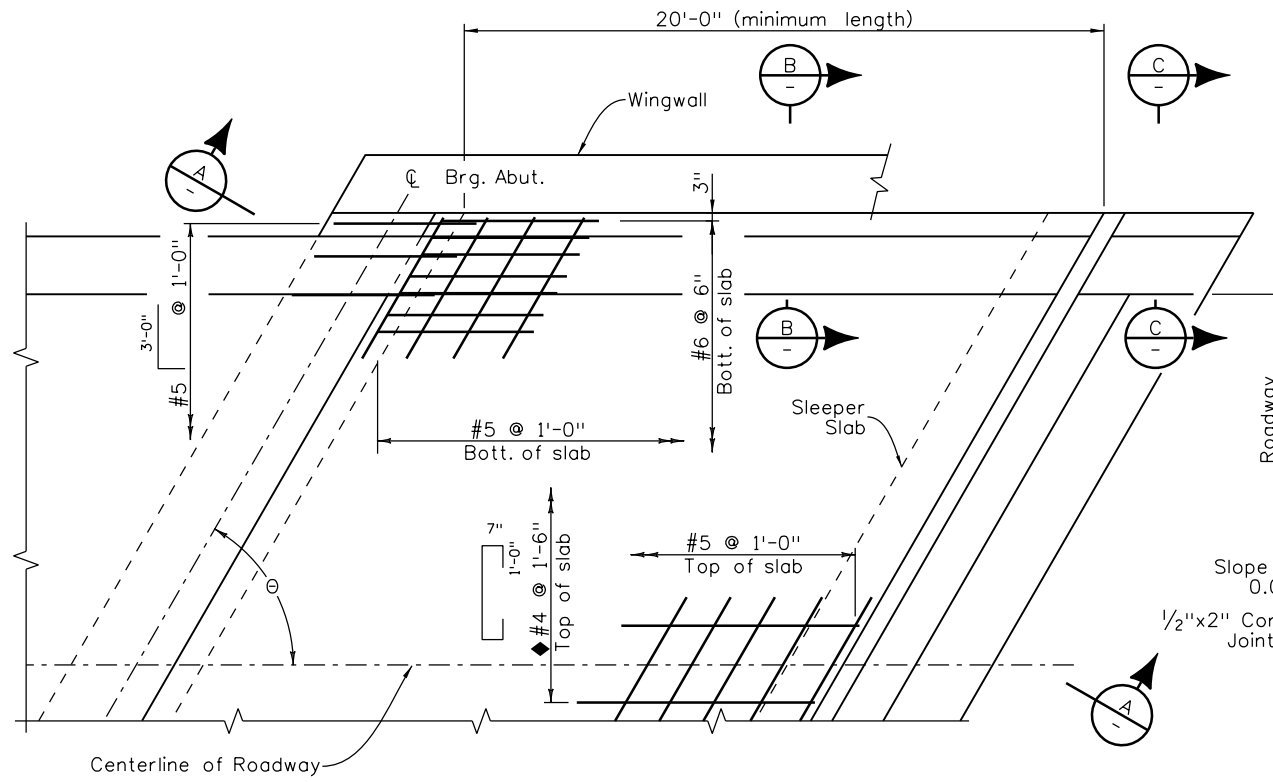
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Revised:
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US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK BRIDGE RAIL TYPE 10 (2 OF 2)			
Designer:	S. Redd	Structure Numbers	K-18-DA
Detailer:	K. Soellner	Subset Sheets:	B21 of 31
Sheet Subset:	Bridge		

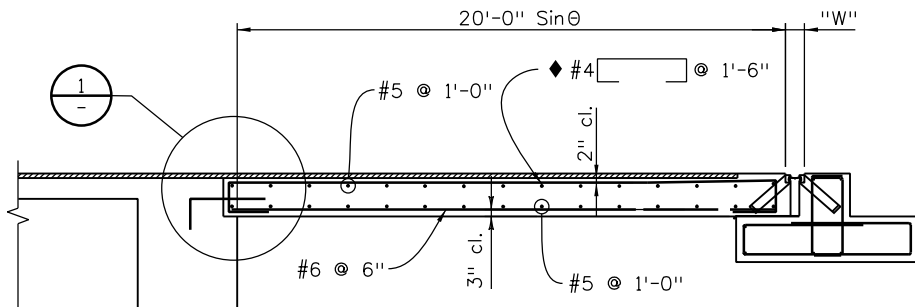
Project No./Code
STA 0503-085
20344
Sheet Number 124

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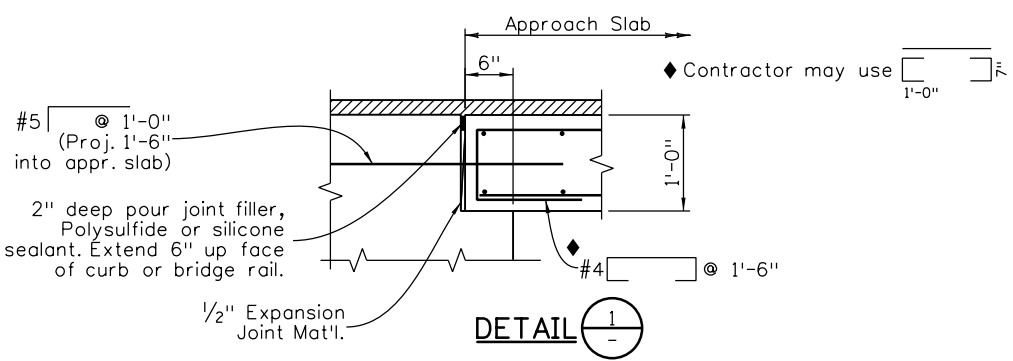


PLAN

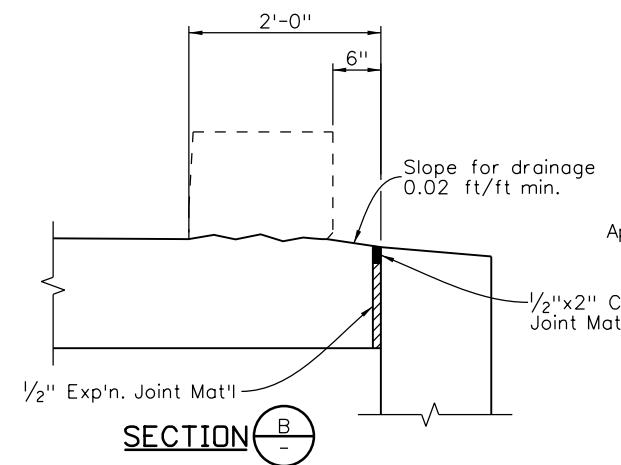


SECTION A

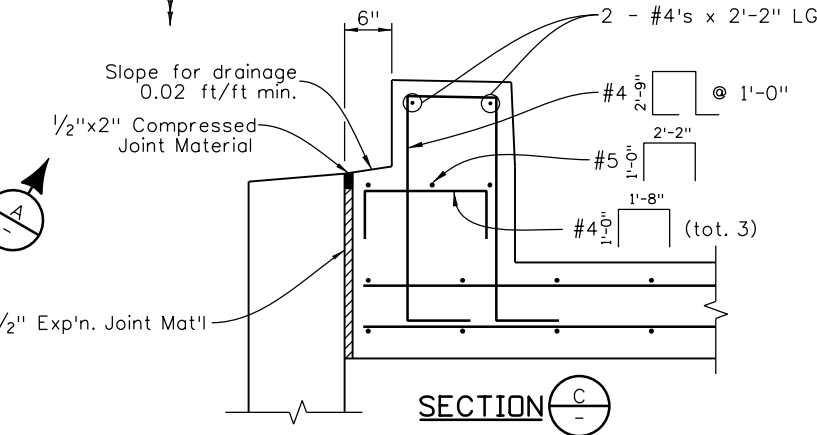
With Hot Mix Asphalt roadway



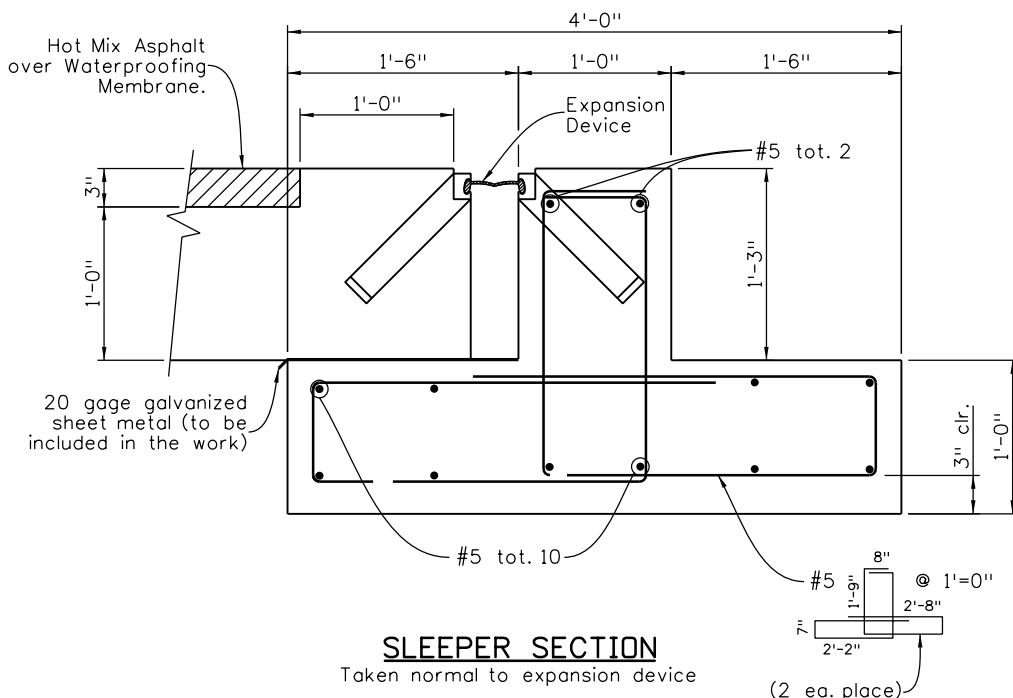
DETAIL 1



SECTION B

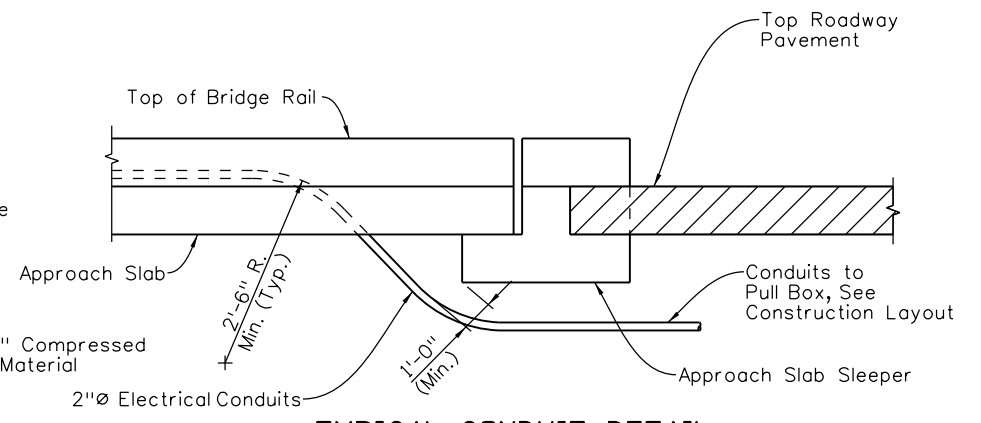


SECTION C

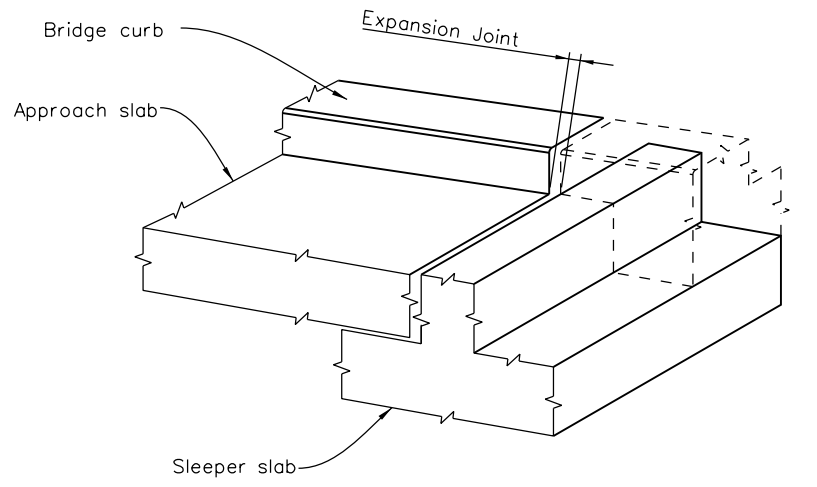


SLEEPER SECTION

Taken normal to expansion device



TYPICAL CONDUIT DETAIL



ISOMETRIC VIEW TYPE 3 OR 10 RAILS

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 Sht. B25 & B26.
- For curb and rail details see Sht. B20 & B21.
- Approach slab concrete shall be cured in accordance with the Specifications for Bridge Deck Concrete in Subsection 601.
- The top surface of the post-tensioning block, if any, shall be covered with 1" of low density polystyrene foam.
- For Compressed Joint Material see Sht. B13.
- See Sht. B23 & B24 for approach slab inlet details. See Construction Layout for location.

Print Date: 1/19/2017	0000
File Name: 20344BRDG_ApprSlab.dgn	
Horiz. Scale: 1:1 Vert. Scale: As Noted	
Staff Bridge Branch - Unit 0226 Unit Leader: DDG	

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Date:	Comments	Init.

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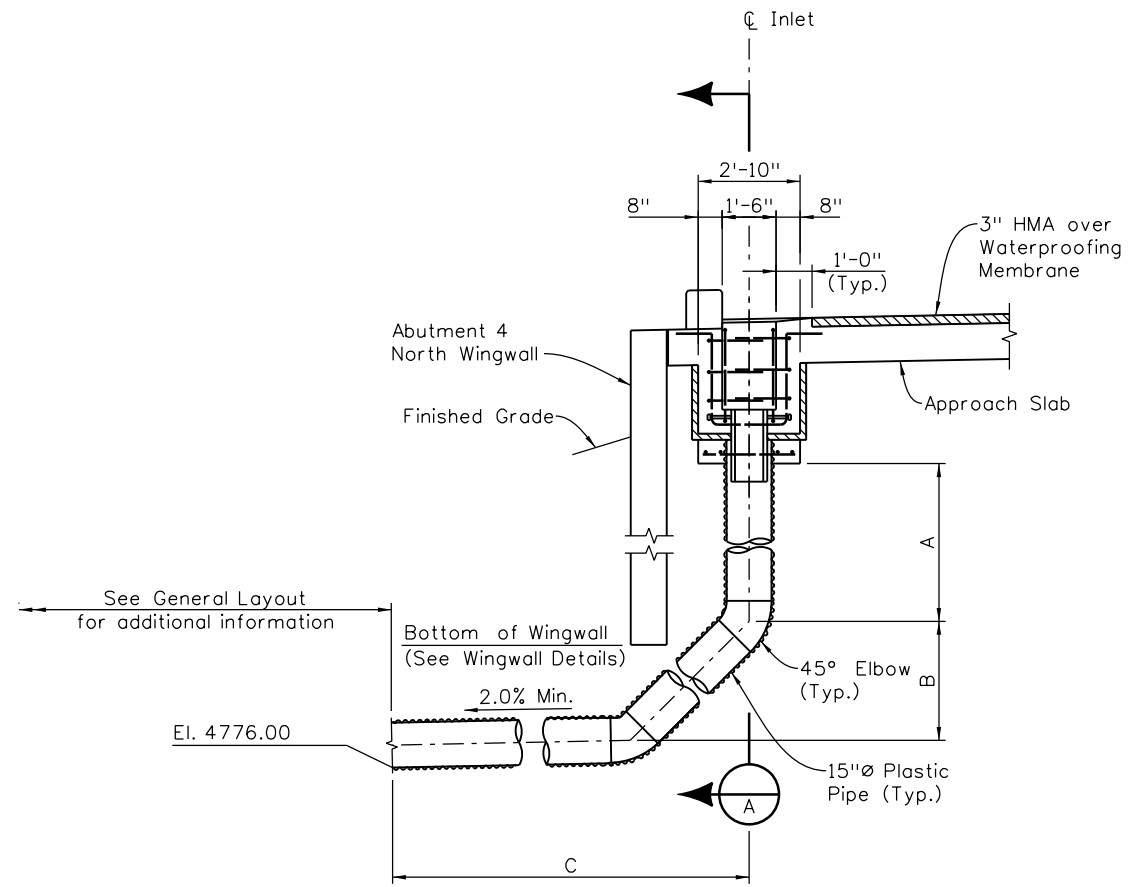
As Constructed
No Revisions:
Revised:
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US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK APPROACH SLAB DETAILS			
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Detailer:	K. Soellner	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets:	B22 of 31

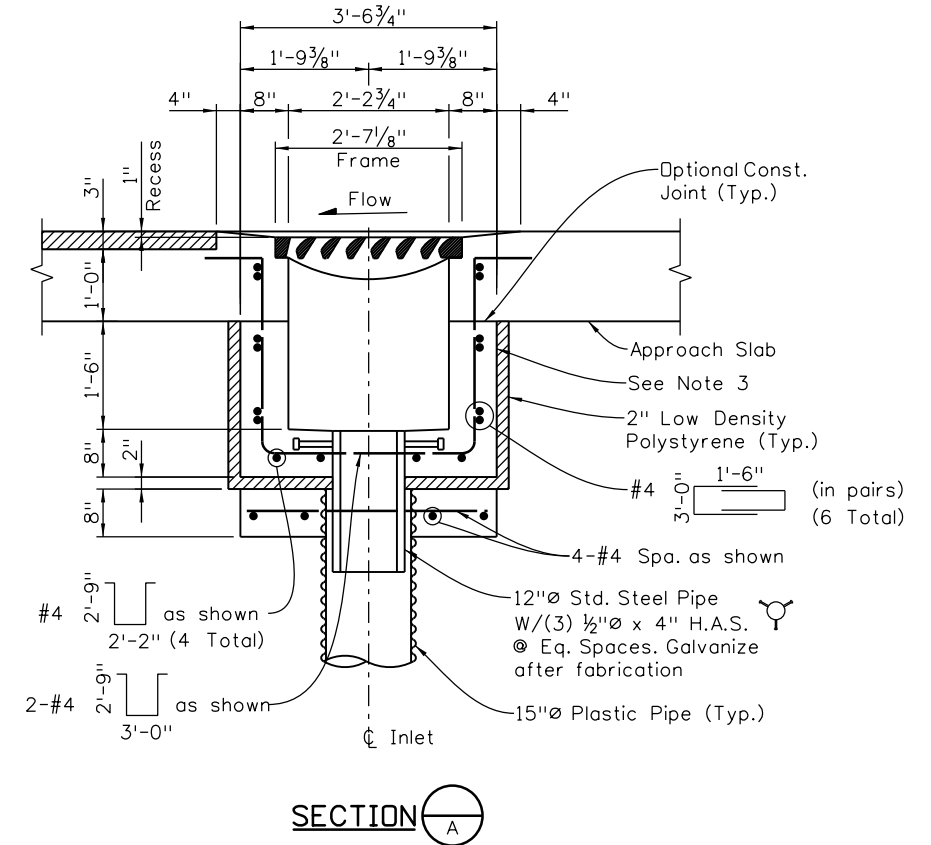
Project No./Code
STA 0503-085
20344
Sheet Number 125

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Checked By		Checked By		Checked By	
Designed By		Designed By		Designed By	



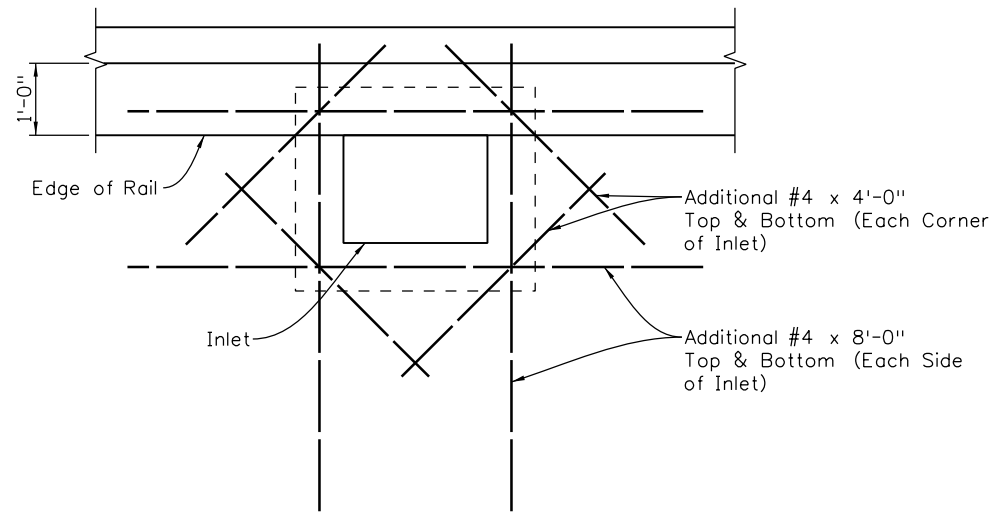
TYPICAL SECTION



SECTION A

NOTES:

1. Cut approach slab reinforcing as required for inlet opening. Point cut ends of epoxy coated reinforcing with and approved coating.
2. Concrete shall be Class D (Bridge).
3. Provide inlet grate as shown on Sheet B24. 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. The cost of the grate, grate frame, expn. joint material, expanded polystyrene, steel pipe and all miscellaneous items required to install the grate shall be included in the work.
5. For Grate & Frame Details, See Sheet B24.
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. The cost of all materials needed to construct and install the approach slab inlet will not be paid for separately, but shall be included in the Item 603, 15 Inch Plastic Pipe.
8. See General Layout for outlet pipe plan view.



ADDITIONAL SLAB REINFORCING AT INLET

INLET	A	B	C
Abut. 4	4'-0"	3'-10"	60'
-	-	-	-

Print Date: 1/19/2017
File Name: 20344BRDG_ApprInlet01.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted
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Date:	Comments	Init.

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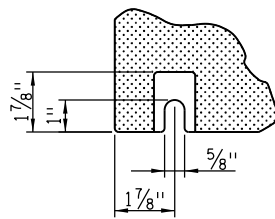
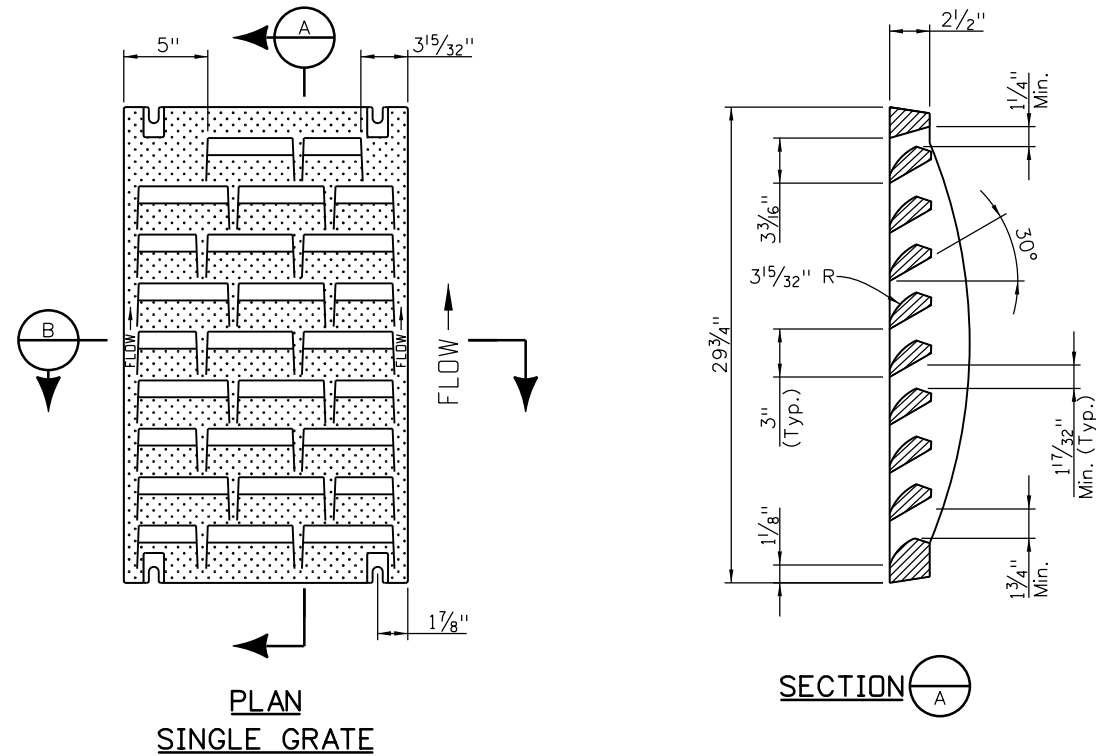
As Constructed
No Revisions:
Revised:
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US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK APPROACH SLAB INLET DETAILS (1 OF 2)			
Designer:	S. Redd	Structure	K-18-DA
Detailer:	K. Soellner	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B23 of 31

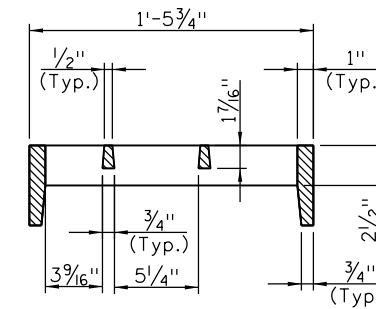
Project No./Code
STA 0503-085
20344
Sheet Number 126

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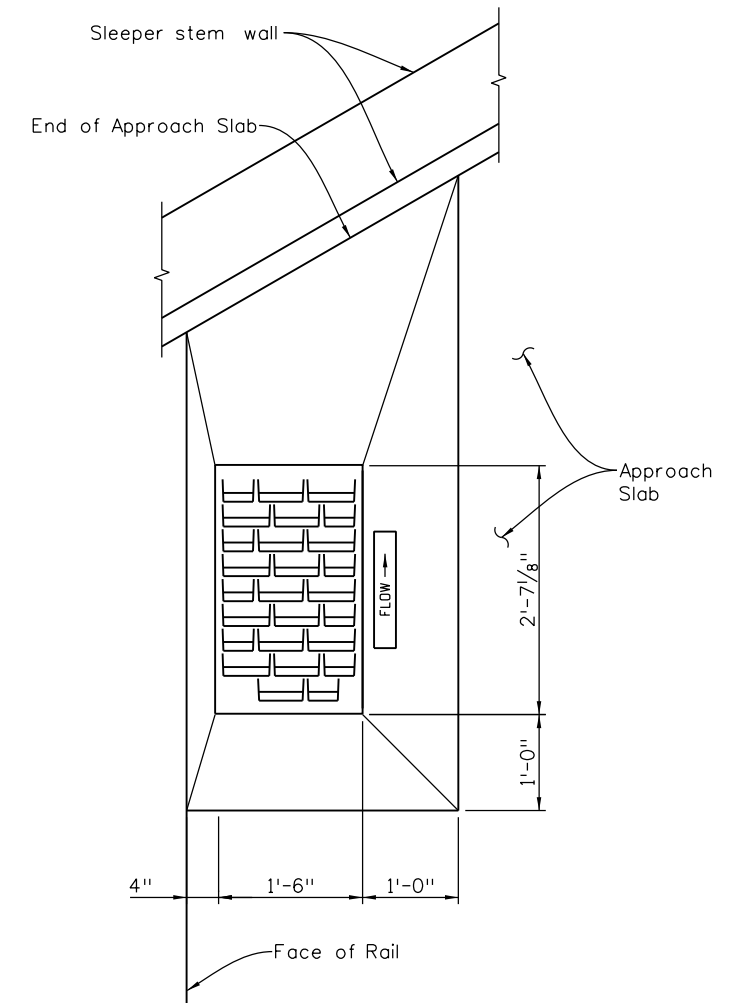


BOLT SLOT DETAIL
(Typ. @ each corner)



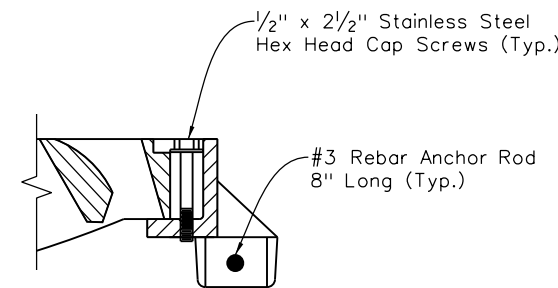
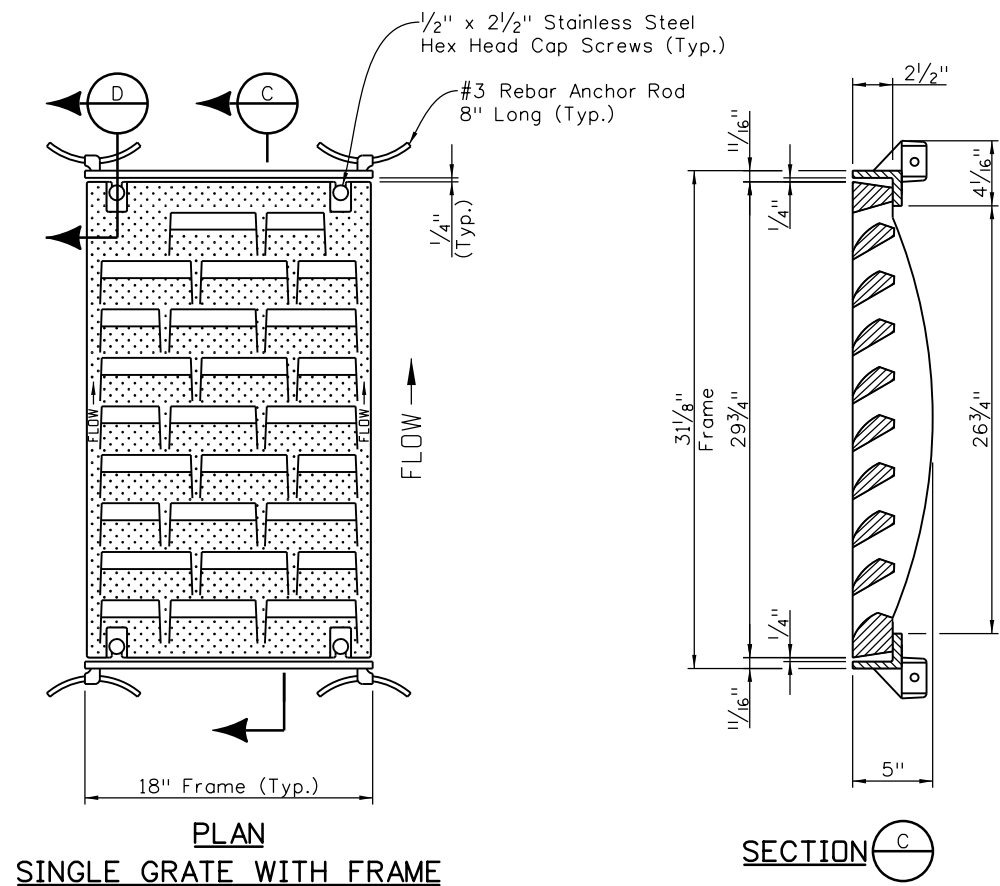
SECTION B

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 paint
 Weight: Grate 170 lb each; Frame 29 lb each

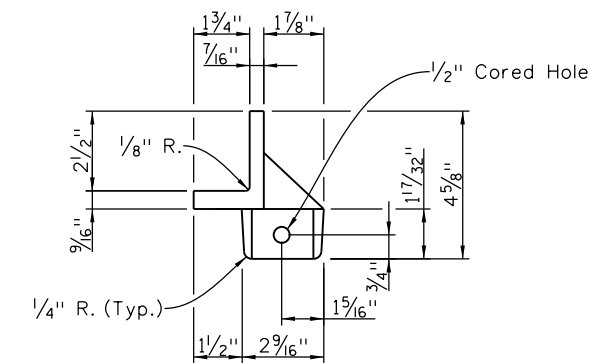


Note:
 The Contractor shall stamp Flow Arrow into top surface of the apron to indicate the direction of flow. These stamped arrows shall be 6" long, 1" high & 3/8" deep.

VANE GRATE INLET APRON



SECTION D



SECTION THRU FRAME

Print Date: 1/19/2017
 File Name: 20344BRDG_ApprInlet02.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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 Revised:
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**US 50 WEST WESTBOUND
 OVER WILD HORSE DRY CREEK
 APPROACH SLAB INLET DETAILS (2 OF 2)**

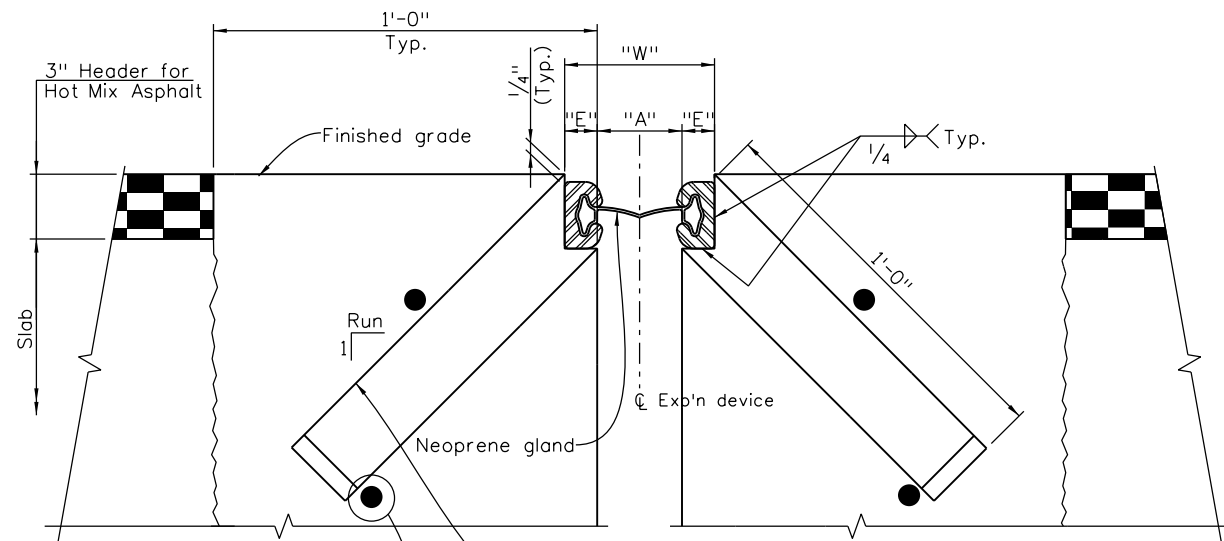
Designer: S. Redd Structure: K-18-DA
 Detailer: K. Soellner Numbers:
 Sheet Subset: Bridge Subset Sheets: B24 of 31

Project No./Code
 STA 0503-085
 20344
 Sheet Number **127**

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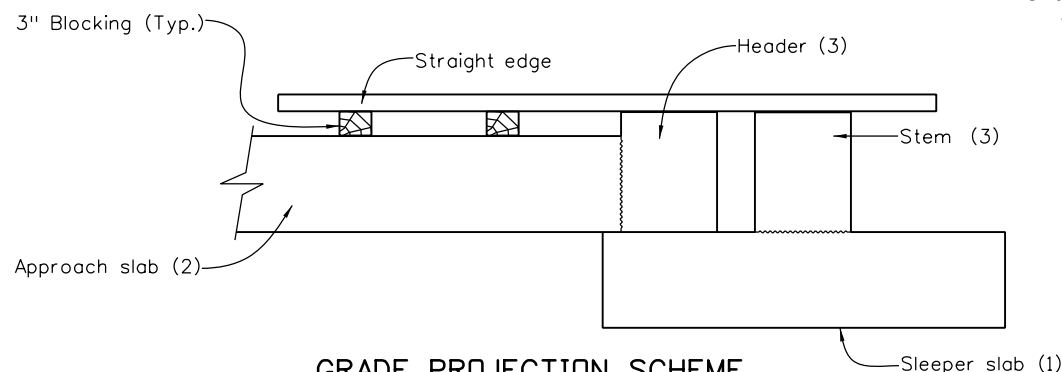
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07/16	SCR	07/16	SCR	07/16	KJS
08/16	SCR	08/16	SCR	08/16	KJS



SECTION THRU STRIP SEAL BRIDGE EXPANSION DEVICE

Section taken perpendicular to ϕ exp'n device

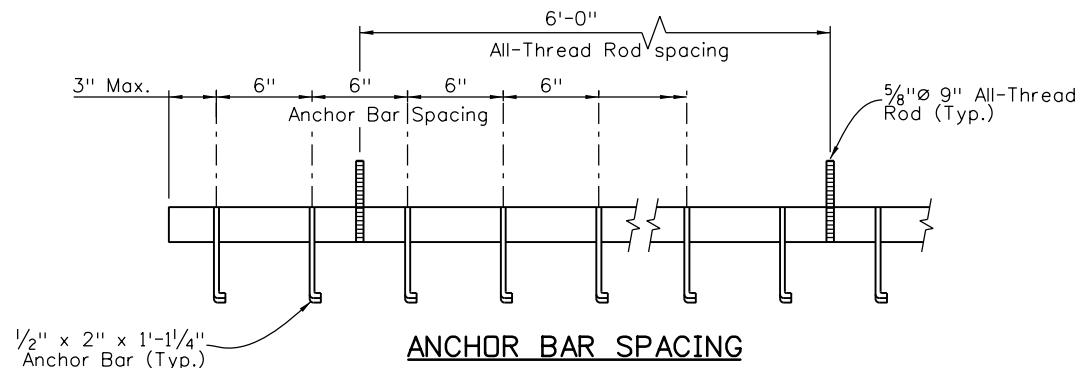


GRADE PROJECTION SCHEME

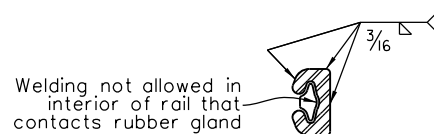
(Numbers in parenthesis refer to first, second and third concrete pours)

AIR TEMP	"A"	"W"*
-30° F	1 3/4"	4 1/4"
0° F	2"	4 1/2"
30° F	2 1/4"	4 3/4"
60° F	2 1/2"	5"
90° F	2 3/4"	5 1/4"
120° F	3"	5 1/2"

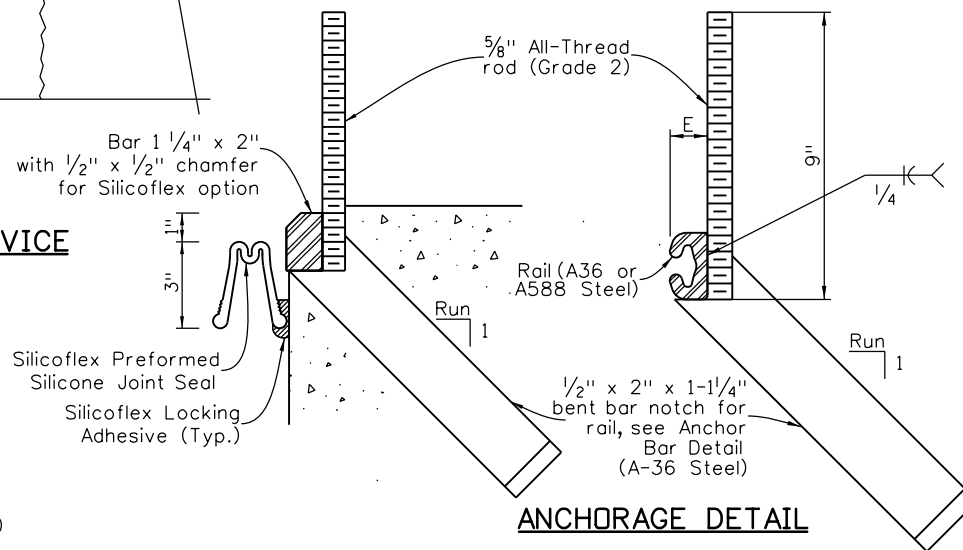
*For E = 1 1/4" (Min.)



ANCHOR BAR SPACING



RAIL FIELD SPLICE DETAIL



ANCHORAGE DETAIL

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 its 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.

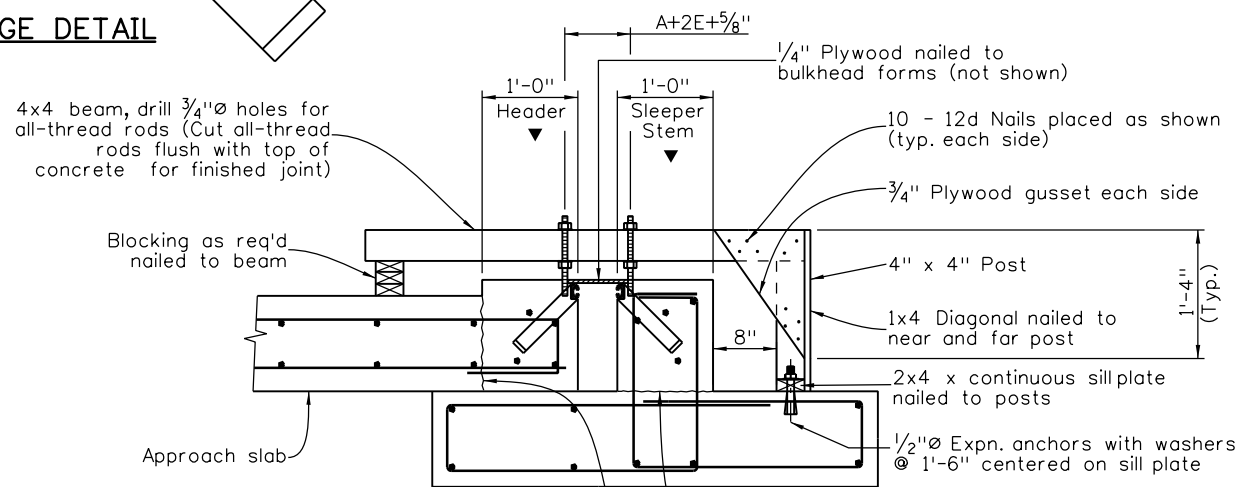
Set elevations at top of header and sleeper stem with the grade projection scheme.

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 accommodate 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



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.

MINIMUM SUPPORT BRACKET REQUIREMENTS

Print Date: 1/19/2017	
File Name: 20344BRDG_ExpDevice01.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

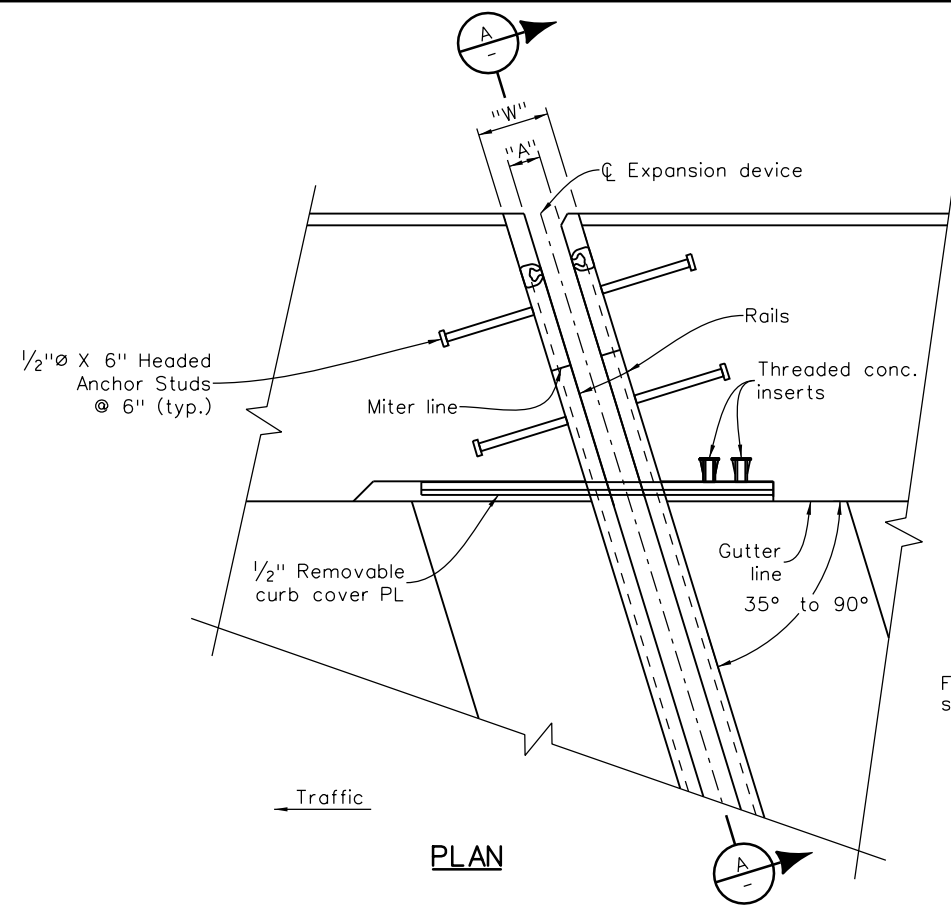
As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK EXPANSION DEVICE (0-4 INCH)			
Designer:	S. Redd	Structure Numbers	K-18-DA
Detailer:	K. Soellner	Subset Sheets:	B25 of 31
Sheet Subset:	Bridge		

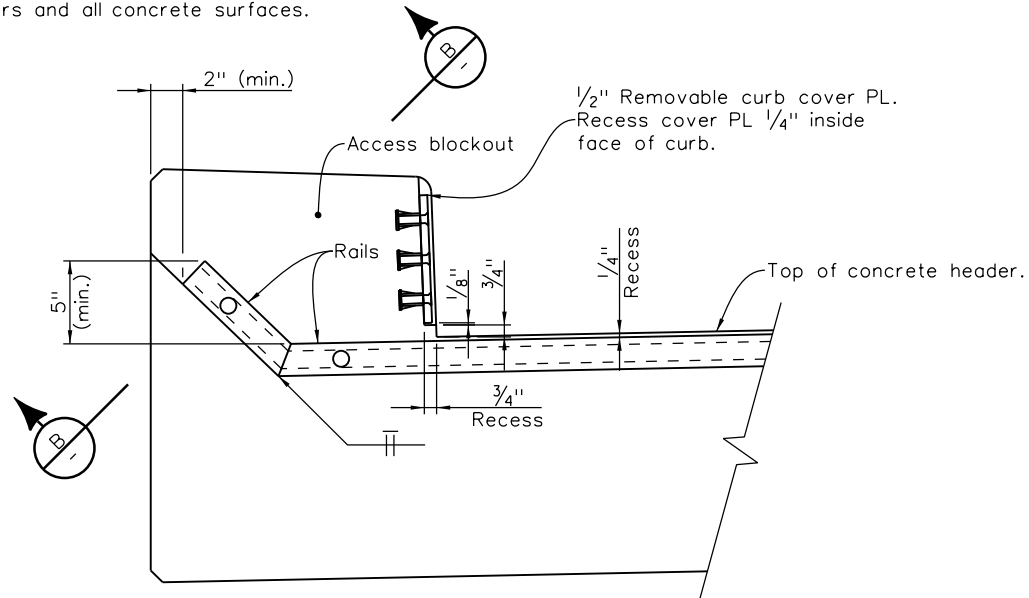
Project No./Code	STA 0503-085
	20344
Sheet Number	128

ken.soellner 11:09:03 AM J:\112407-01\00 - 20344\Bridges\Drawings\Plot_Set\20344BRDG_ExpDevice02.dgn

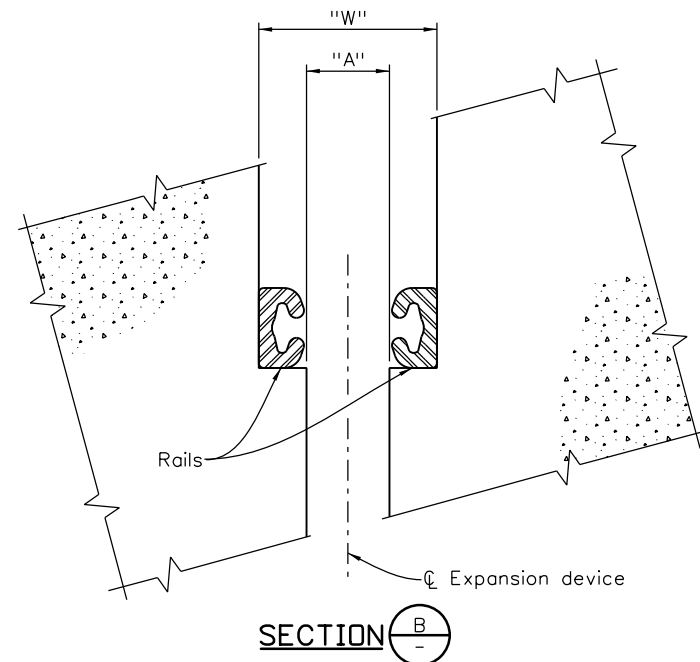
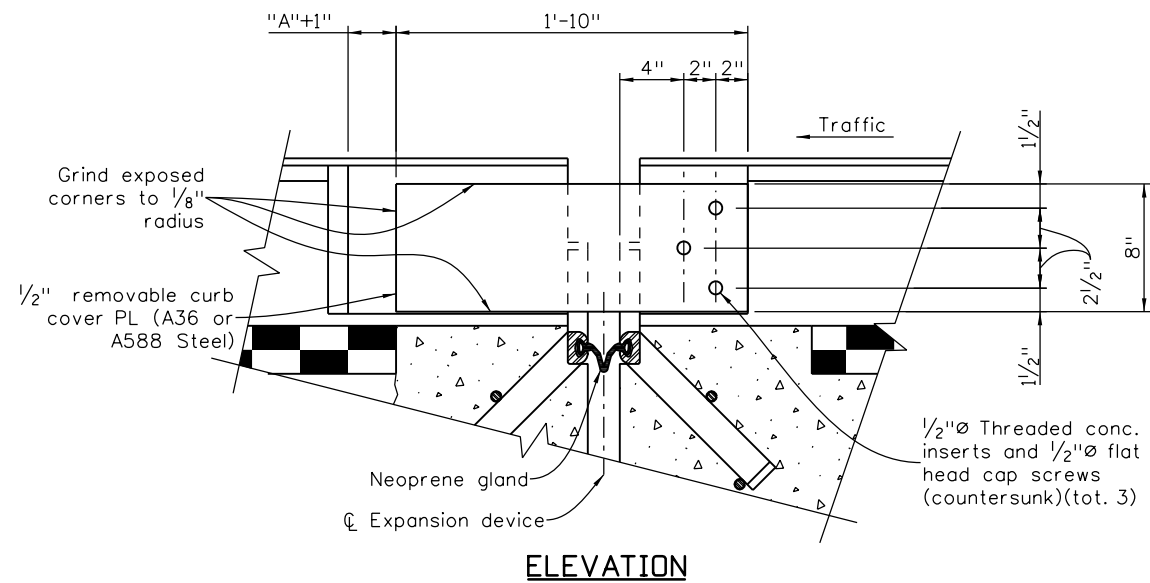
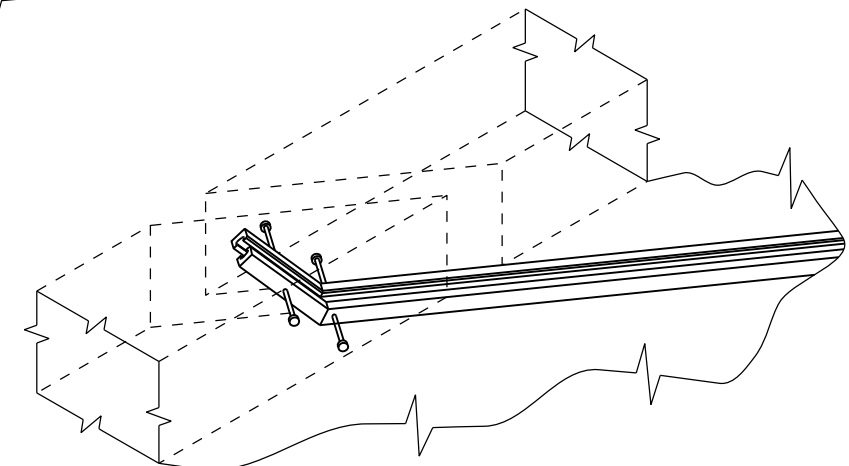
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DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
06/16	SCR	06/16	CDM	06/16	SCR
07/16	CAD	07/16	SCR	07/16	KJS
Checked By		Checked By		Checked By	



Provide 2" minimum cover between anchors and all concrete surfaces.



For actual skew direction, see bridge plans.



Print Date: 1/19/2017	0000
File Name: 20344BRDG_ExpDevice02.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

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Region 2 DTD

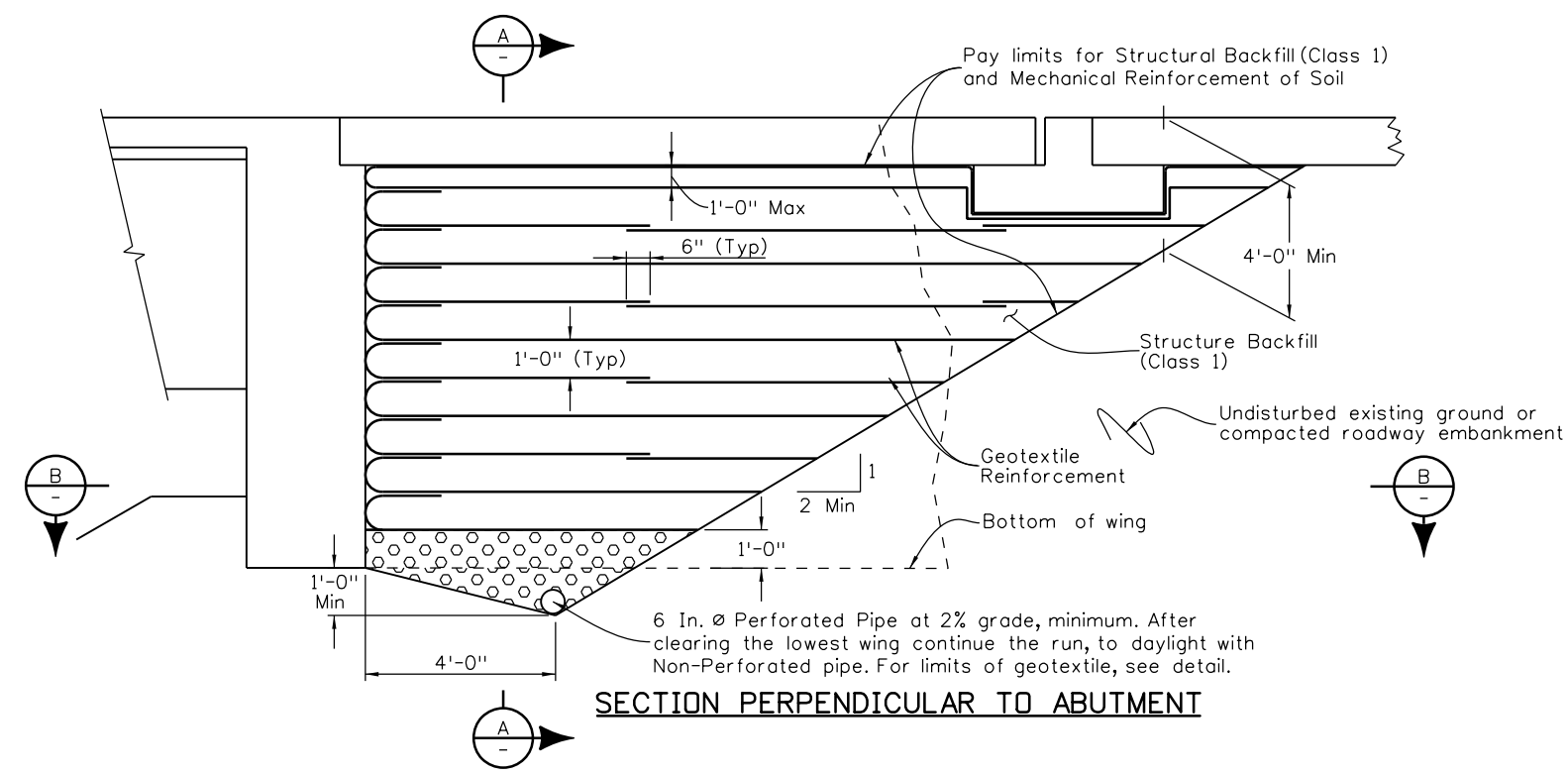
As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK EXPANSION DEVICE DETAILS			
Designer:	S. Redd	Structure Numbers	K-18-DA
Detailer:	K. Soellner	Subset Sheets:	B26 of 31
Sheet Subset:	Bridge		

Project No./Code	STA 0503-085
	20344
Sheet Number	129

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 ken.soellner 11:09:04 AM

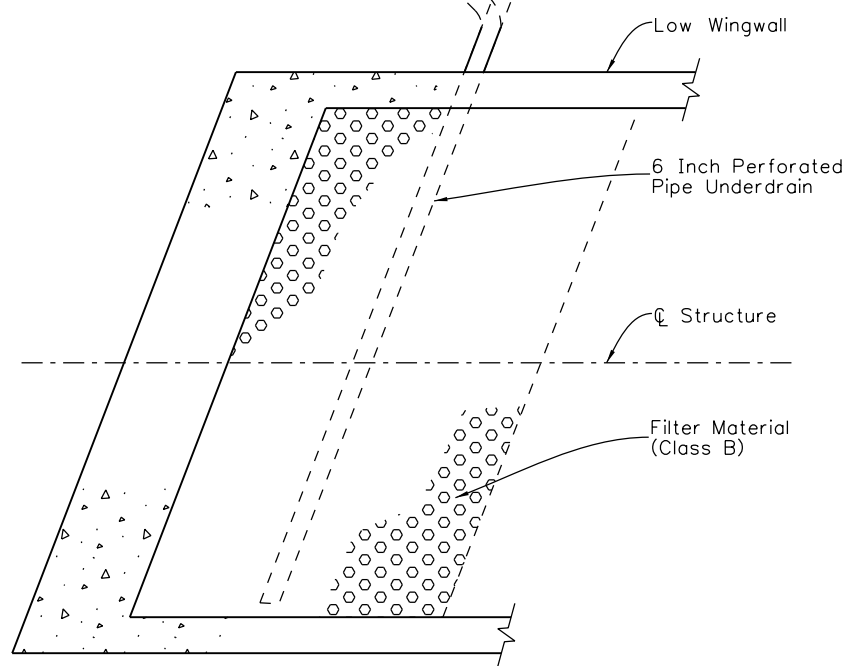
Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
06/16	SCR	06/16	CDM	07/16	SCR
07/16	CAO	07/16	SCR	07/16	KJS
07/16	Checked By	07/16	Checked By	07/16	Checked By



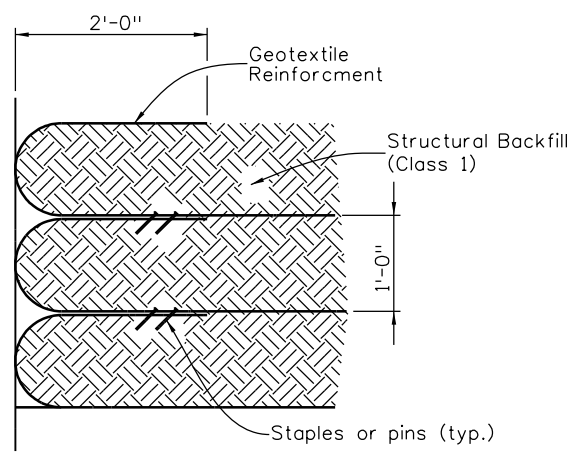
SECTION PERPENDICULAR TO ABUTMENT

Daylight 6"Ø Non-perforated pipe (Subsurface drain outlet).
 Max. bend in pipe = 45°

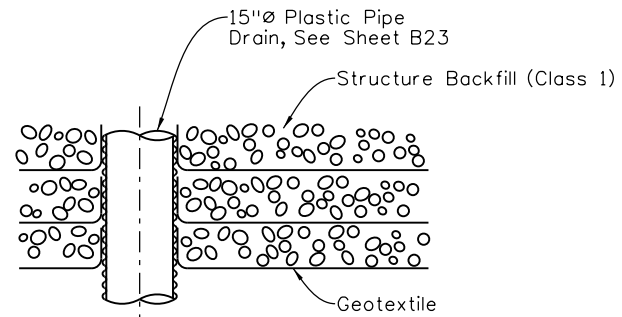
See M-605-1 for end treatment details



SECTION B

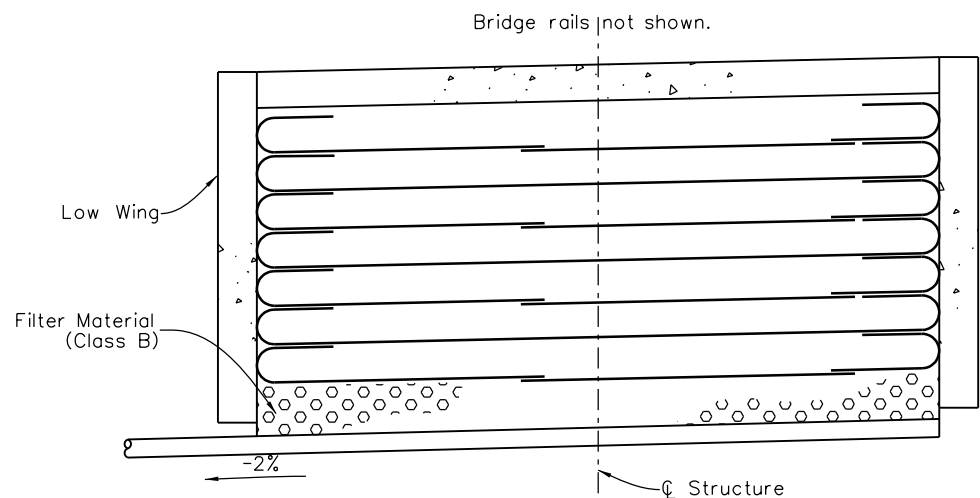


WRAP DETAIL

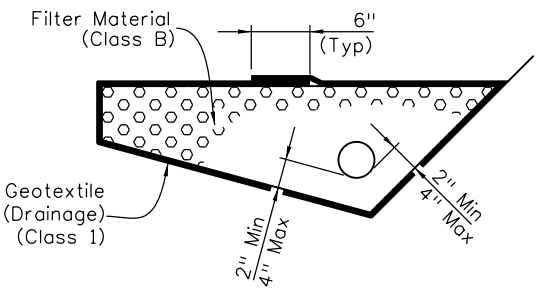


VERTICAL APPROACH SLAB INLET PIPE PENETRATION

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.



SECTION A



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).

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.

Print Date: 1/19/2017	0000
File Name: 20344BRDG_Mech-backfill.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
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 Phone: 719-562-5509 FAX: 719-546-5702

Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND OVER WILD HORSE DRY CREEK MECH. STAB. EARTH BACKFILL			
Designer:	S. Redd	Structure Numbers:	K-18-DA
Detailer:	K. Soellner	Sheet Subset:	Bridge
Subset Sheets:		B27 of 31	

Project No./Code
STA 0503-085
20344
Sheet Number 130

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Design		Detail		Quantities	
Checked By	DATE	Checked By	DATE	Checked By	DATE
SCR	06/16	SCR	06/16	SCR	07/16
Checked By	DATE	Checked By	DATE	Checked By	DATE
CAO	07/16	SCR	07/16	KJS	08/16

STRUCTURE ID: K-18-DA BRIDGE GEOMETRY (WIN2.1.0e) 16/11/10 07:04

DESCRIPTION
 Units: feet;
 Project: STA 0503-085; Subaccount: 20344;
 Designer: K. Soellner; Detailer: K. Soellner;
 Location: US50 West WB over Wild Horse Dry Creek;
 Three Span (55'-0" / 73'-6" / 55'-0") Bridge
 Composite Concrete Slab and Precast/Prestressed Concrete BT42 Girders
 63'-0" Width out to out
 60'-0" Width curb to curb
 Bridge Rail Type 10

HORIZONTAL ALIGNMENT DATA

HORIZONTAL TANGENT

VERTICAL ALIGNMENT DATA

ELEVATION AT PI	ELEVATION AT GRADE	STATION	ELEVATION AT GRADE	ELEVATION AT PI	PERCENT GRADE
					-1.540000
4792.9400	4794.2105 PC 4793.1545 PI 4792.5276 PT	575+82.9300 576+65.4300 577+47.9300			
					-0.499932
4789.6200	4790.0324 PC 4789.8262 PI 4790.0325 PT	582+47.0200 583+29.5200 584+12.0200			
					0.500000

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

STATION	SLOPE LEFT	SLOPE RIGHT	VC LENGTH

OFFSET PROFILE CONTROL TO PIVOT POINT = 0.0000 FEET

LIMITS OF VALID ELEVATION AND CROSS-SLOPE DATA
 BEGIN * UNLIMITED * END * UNLIMITED *

LAYOUT LINE DATA

LAYOUT LINE DEFINED TO BE COINCIDENT WITH HORIZONTAL CONTROL

LAYOUT LINE INTERSECTS REF LINE AT	HCL STA	OFFSET	X	Y
	577+83.5914	0.00000000	0.0000	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 0.0964 0.1822 0.2495 0.2923 0.3071 0.2928 0.2504 0.1832 0.0971 0.0000 INCH A4= 0.00000
 FOOT 0.0000 0.0080 0.0152 0.0208 0.0244 0.0256 0.0244 0.0209 0.0153 0.0081 0.0000 FOOT A3= 0.00000
 A2= 0.960345
 A1= -0.970878
 SLOPE 0.081931 -0.082808 SLOPE A0= -0.983168

FOR BENT LINE: P2 BRG AHD 07 CARD(S): 1 GIRDER LINES REFERENCED BY: A
 INCH 0.0000 0.2694 0.5170 0.7142 0.8408 0.8843 0.8408 0.7142 0.5170 0.2694 0.0000 INCH A4= 0.00000
 FOOT 0.0000 0.0224 0.0431 0.0595 0.0701 0.0737 0.0701 0.0595 0.0431 0.0224 0.0000 FOOT A3= 0.00000
 A2= 3.39972
 A1= -3.39972
 SLOPE 0.223933 -0.223933 SLOPE A0= -2.68720

FOR BENT LINE: CL BRG A1 AND OTHERS 07 CARD(S): 1 GIRDER LINES REFERENCED BY: B
 INCH 0.0000 0.1090 0.2042 0.2796 0.3283 0.3450 0.3280 0.2793 0.2040 0.1090 0.0000 INCH A4= -1.47735
 FOOT 0.0000 0.0091 0.0170 0.0233 0.0274 0.0287 0.0273 0.0233 0.0170 0.0091 0.0000 FOOT A3= 2.91566
 A2= -0.865053
 A1= -0.577219
 SLOPE 0.095600 -0.095930 SLOPE A0= -1.14719

FOR BENT LINE: P2 BRG AHD 07 CARD(S): 1 GIRDER LINES REFERENCED BY: B
 INCH 0.0000 0.3021 0.5787 0.7985 0.9393 0.9877 0.9393 0.7985 0.5787 0.3021 0.0000 INCH A4= 0.00000
 FOOT 0.0000 0.0252 0.0482 0.0665 0.0783 0.0823 0.0783 0.0665 0.0482 0.0252 0.0000 FOOT A3= 0.00000
 A2= 3.71078
 A1= -3.71078
 SLOPE 0.251929 -0.251929 SLOPE A0= -3.02315

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

* HORIZONTAL CONTROL LINE *	AT FINISHED GRADE												
END APPR	577+61.8593	0.0000	4792.4579	1	0.0000	-21.7321	600956.2817	243919.0956	0.0000	-30 00 00.00	-21.7321	+/- .020000	
BF ABUT 1	577+81.8593	0.0000	4792.3579	1	0.0000	-1.7321	600952.7754	243938.7858	0.0000	-30 00 00.00	-1.7321	+/- .020000	
CL BRG A1	577+83.5914	0.0000	4792.3493	10	0.0000	0.0000	600952.4717	243940.4911	0.0000	-30 00 00.00	0.0000	+/- .020000	
P2 BRG BK	578+37.4367	0.0000	4792.0801	1	0.0000	53.8453	600943.0318	243993.5025	0.0000	-30 00 00.00	53.8453	+/- .020000	
CL PIER 2	578+38.5914	0.0000	4792.0743	1	0.0000	55.0000	600942.8294	243994.6393	0.0000	-30 00 00.00	55.0000	+/- .020000	
P2 BRG AHD	578+39.7461	0.0000	4792.0685	10	0.0000	56.1547	600942.6269	243995.7761	0.0000	-30 00 00.00	56.1547	+/- .020000	
P3 BRG BK	579+10.9369	0.0000	4791.7126	1	0.0000	127.3455	600930.1461	244065.8643	0.0000	-30 00 00.00	127.3455	+/- .020000	
CL PIER 3	579+12.0914	0.0000	4791.7069	1	0.0000	128.5000	600929.9437	244067.0009	0.0000	-30 00 00.00	128.5000	+/- .020000	
P3 BRG AHD	579+13.2463	0.0000	4791.7011	10	0.0000	129.6549	600929.7412	244068.1380	0.0000	-30 00 00.00	129.6549	+/- .020000	
CL BRG A4	579+67.0914	0.0000	4791.4319	1	0.0000	183.5000	600920.3014	244121.1491	0.0000	-30 00 00.00	183.5000	+/- .020000	
BF ABUT 4	579+68.8236	0.0000	4791.4232	1	0.0000	185.2322	600919.9977	244122.8545	0.0000	-30 00 00.00	185.2322	+/- .020000	
END APPR	579+88.8236	0.0000	4791.3233	0.0	0.0000	205.2322	600916.4914	244142.5447	0.0000	-30 00 00.00	205.2322	+/- .020000	

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

Print Date: 1/19/2017	Sheet Revisions			 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 WESTBOUND OVER WILD HORSE DRY CREEK BRIDGE DECK ELEVATIONS (1 OF 4)			Project No./Code STA 0503-085 20344 Sheet Number 131
File Name: 20344BRDG_DeckElevs.dgn	Date:	Comments	Init.			Designer: S. Redd Detailer: K. Soellner Sheet Subset: Bridge	Structure Numbers K-18-DA Subset Sheets: B28 of 31		
Horiz. Scale: 1:1 Staff Bridge Branch - Unit 0226 	Vert. Scale: As Noted Unit Leader: DDG								

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Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	06/16	Checked By	06/16	Quantities By	07/16
Checked By	CAD	Checked By	SCR	Checked By	KJS

LEFT EDGE OF DECK			PARALLEL TO HORIZONTAL CONTROL							0.250000 FEET BELOW FINISHED GRADE						
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP				
END APPR	577+33.2805	-49.5000	4791.3676	-49.5000	-50.3109	601010.0253	243899.6375	-57.1577	-30.00.00.00	-21.7321	-0.020000					
BF ABUT 1	577+53.2805	-49.5000	4791.2608	-49.5000	-30.3109	601006.5190	243919.3277	-57.1577	-30.00.00.00	-1.7321	-0.020000					
CL BRG A1	577+55.0126	-49.5000	4791.2521	791.2521	-49.5000	-28.5788	601006.2154	243921.0330	-57.1577	-30.00.00.00	0.0000	-0.020000				
F-1	577+60.3971	-49.5000	4791.2252	791.2333	-49.5000	-23.1943	601005.2714	243926.3341			5.3845	-0.020000				
F-2	577+65.7816	-49.5000	4791.1983	791.2135	-49.5000	-17.8098	601004.3274	243931.6352			10.7691	-0.020000				
F-3	577+71.1662	-49.5000	4791.1714	791.1922	-49.5000	-12.4252	601003.3834	243936.9364			16.1536	-0.020000				
F-4	577+76.5507	-49.5000	4791.1445	791.1688	-49.5000	-7.0407	601002.4394	243942.2375			21.5381	-0.020000				
F-5	577+81.9352	-49.5000	4791.1176	791.1431	-49.5000	-1.6562	601001.4954	243947.5387			26.9227	-0.020000				
F-6	577+87.3197	-49.5000	4791.0906	791.1150	-49.5000	3.7283	601000.5514	243952.8398			32.3072	-0.020000				
F-7	577+92.7043	-49.5000	4791.0637	791.0846	-49.5000	9.1129	600999.6074	243958.1410			37.6917	-0.020000				
F-8	577+98.0888	-49.5000	4791.0368	791.0521	-49.5000	14.4974	600998.6634	243963.4421			43.0762	-0.020000				
F-9	578+03.4733	-49.5000	4791.0099	791.0180	-49.5000	19.8819	600997.7195	243968.7432			48.4608	-0.020000				
P2 BRG BK	578+08.8579	-49.5000	4790.9830	790.9830	-49.5000	25.2665	600996.7755	243974.0444	-57.1577	-30.00.00.00	53.8453	-0.020000				
CL PIER 2	578+10.0126	-49.5000	4790.9772		-49.5000	26.4212	600996.5730	243975.1812	-57.1577	-30.00.00.00	55.0000	-0.020000				
P2 BRG AHD	578+11.1673	-49.5000	4790.9714	790.9714	-49.5000	27.5759	600996.3706	243976.3180	-57.1577	-30.00.00.00	56.1547	-0.020000				
F-1	578+18.2863	-49.5000	4790.9358	790.9583	-49.5000	34.6949	600995.1225	243983.3268			63.2738	-0.020000				
F-2	578+25.4054	-49.5000	4790.9002	790.9433	-49.5000	41.8140	600993.8744	243990.3356			70.3929	-0.020000				
F-3	578+32.5245	-49.5000	4790.8646	790.9242	-49.5000	48.9331	600992.6263	243997.3444			77.5119	-0.020000				
F-4	578+39.6436	-49.5000	4790.8291	790.8991	-49.5000	56.0522	600991.3783	244004.3533			84.6310	-0.020000				
F-5	578+46.7627	-49.5000	4790.7935	790.8671	-49.5000	63.1713	600990.1302	244011.3621			91.7501	-0.020000				
F-6	578+53.8817	-49.5000	4790.7579	790.8279	-49.5000	70.2903	600988.8821	244018.3709			98.8692	-0.020000				
F-7	578+61.0008	-49.5000	4790.7223	790.7818	-49.5000	77.4094	600987.6340	244025.3797			105.9883	-0.020000				
F-8	578+68.1199	-49.5000	4790.6867	790.7298	-49.5000	84.5285	600986.3859	244032.3886			113.1073	-0.020000				
F-9	578+75.2390	-49.5000	4790.6511	790.6735	-49.5000	91.6476	600985.1378	244039.3974			120.2264	-0.020000				
P3 BRG BK	578+82.3581	-49.5000	4790.6155	790.6155	-49.5000	98.7667	600983.8898	244046.4062	-57.1577	-30.00.00.00	127.3453	-0.020000				
CL PIER 3	578+83.5126	-49.5000	4790.6097		-49.5000	99.9212	600983.6874	244047.5429	-57.1577	-30.00.00.00	128.5000	-0.020000				
P3 BRG AHD	578+84.6675	-49.5000	4790.6040	790.6040	-49.5000	101.0761	600983.4849	244048.6799	-57.1577	-30.00.00.00	129.6549	-0.020000				
F-1	578+90.0520	-49.5000	4790.5770	790.5851	-49.5000	106.4606	600982.2409	244053.9810			135.0394	-0.020000				
F-2	578+95.4365	-49.5000	4790.5501	790.5653	-49.5000	111.8451	600981.5969	244059.2821			140.4239	-0.020000				
F-3	579+00.8210	-49.5000	4790.5232	790.5440	-49.5000	117.2296	600980.6529	244064.5832			145.8084	-0.020000				
F-4	579+06.2055	-49.5000	4790.4963	790.5206	-49.5000	122.6141	600979.7089	244069.8843			151.1929	-0.020000				
F-5	579+11.5900	-49.5000	4790.4694	790.4950	-49.5000	127.9986	600978.7650	244075.1854			156.5774	-0.020000				
F-6	579+16.9745	-49.5000	4790.4424	790.4668	-49.5000	133.3831	600977.8210	244080.4865			161.9620	-0.020000				
F-7	579+22.3590	-49.5000	4790.4155	790.4364	-49.5000	138.7676	600976.8770	244085.7876			167.3465	-0.020000				
F-8	579+27.7435	-49.5000	4790.3886	790.4039	-49.5000	144.1521	600975.9330	244091.0887			172.7310	-0.020000				
F-9	579+33.1281	-49.5000	4790.3617	790.3698	-49.5000	149.5367	600974.9890	244096.3899			178.1155	-0.020000				
CL BRG A4	579+38.5126	-49.5000	4790.3348	790.3348	-49.5000	154.9212	600974.0450	244101.6910	-57.1577	-30.00.00.00	183.5000	-0.020000				
BF ABUT 4	579+40.2448	-49.5000	4790.3261		-49.5000	156.6534	600973.7413	244103.3964	-57.1577	-30.00.00.00	185.2322	-0.020000				
END APPR	579+60.2448	-49.5000	4790.2261		-49.5000	176.6534	600970.2350	244123.0867	-57.1577	-30.00.00.00	205.2322	-0.020000				

LEFT GUTTER LINE			PARALLEL TO HORIZONTAL CONTROL							0.250000 FEET BELOW FINISHED GRADE						
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP				
END APPR	577+34.1465	-48.0000	4791.3925	-48.0000	-49.4449	601008.3967	243900.2271	-55.4256	-30.00.00.00	-21.7321	-0.020000					
BF ABUT 1	577+54.1465	-48.0000	4791.2865	-48.0000	-29.4449	601004.8904	243919.9174	-55.4256	-30.00.00.00	-1.7321	-0.020000					
CL BRG A1	577+55.8786	-48.0000	4791.2778	791.2778	-48.0000	-27.7128	601004.5868	243921.6226	-55.4256	-30.00.00.00	0.0000	-0.020000				
F-1	577+61.2631	-48.0000	4791.2509	791.2589	-48.0000	-22.3283	601003.6428	243926.9237			5.3845	-0.020000				
F-2	577+66.6476	-48.0000	4791.2240	791.2392	-48.0000	-16.9438	601002.6988	243932.2249			10.7691	-0.020000				
F-3	577+72.0322	-48.0000	4791.1971	791.2179	-48.0000	-11.5592	601001.7548	243937.5261			16.1536	-0.020000				
F-4	577+77.4167	-48.0000	4791.1701	791.1945	-48.0000	-6.1747	601000.8108	243942.8272			21.5381	-0.020000				
F-5	577+82.8012	-48.0000	4791.1432	791.1688	-48.0000	-0.7902	600999.8668	243948.1283			26.9227	-0.020000				
F-6	577+88.1858	-48.0000	4791.1163	791.1407	-48.0000	4.5944	600998.9228	243953.4295			32.3072	-0.020000				
F-7	577+93.5703	-48.0000	4791.0894	791.1102	-48.0000	9.9789	600997.9788	243958.7306			37.6917	-0.020000				
F-8	577+98.9548	-48.0000	4791.0625	791.0777	-48.0000	15.3634	600997.0349	243964.0317			43.0762	-0.020000				
F-9	578+04.3394	-48.0000	4791.0355	791.0436	-48.0000	20.7480	600996.0909	243969.3329			48.4608	-0.020000				
P2 BRG BK	578+09.7239	-48.0000	4791.0086	791.0086	-48.0000	26.1325	600995.1469	243974.6340	-55.4256	-30.00.00.00	53.8453	-0.020000				
CL PIER 2	578+10.8786	-48.0000	4791.0029		-48.0000	27.2872	600994.9444	243975.7708	-55.4256	-30.00.00.00	55.0000	-0.020000				
P2 BRG AHD	578+12.0333	-48.0000	4790.9971	790.9971	-48.0000	28.4419	600994.7420	243976.9076	-55.4256	-30.00.00.00	56.1547	-0.020000				
F-1	578+19.1524	-48.0000	4790.9615	790.9839	-48.0000	35.5610	600993.4939	243983.9165			63.2738	-0.020000				
F-2	578+26.2714	-48.0000	4790.9259	790.9690	-48.0000	42.6800	600992.2458	243990.9252			70.3929	-0.020000				
F-3	578+33.3905	-48.0000	4790.8903	790.9498	-48.0000	49.7991	600990.9978	243997.9341			77.5119	-0.020000				
F-4	578+40.5096	-48.0000	4790.8547	790.9248	-48.0000	56.9182	600989.7497	244004.9429			84.6310	-0.020000				
F-5	578+47.6287	-48.0000	4790.8191	790.8928	-48.0000	64.0373	600988.5016	244011.9517			91.7501	-0.020000				
F-6	578+54.7478	-48.0000	4790.7835	790.8536	-48.0000	71.1564	600987.2535	244018.9606			98.8692	-0.020000				
F-7	578+61.8668	-48.0000	4790.7479	790.8075	-48.0000	78.2754	600986.0054	244025.9693			105.9883	-0.020000				
F-8	578+68.9859	-48.0000	4790.7124	790.7554	-48.0000	85.3945	600984.7573	244032.9782			113.1073	-0.020000				
F-9	578+76.1050	-48.0000	4790.6768	790.6992	-48.0000	92.5136	600983.5093	244039.9870			120.2264	-0.020000				
P3 BRG BK	578+83.2241	-48.0000	4790.6412	790.6412	-48.0000	99.6327	600982.2612	244046.9959	-55.4256	-30.00.00.00	127.3453	-0.020000				
CL PIER 3	578+84.3786	-48.0000	4790.6354		-48.0000	100.7872	600982.0588	244048.1325	-55.4256	-30.00.00.00	128.5000	-0.020000				
P3 BRG AHD	578+85.5335	-48.0000	4790.6296	790.6296	-48.0000	101.9421	600981.8563	244049.2695	-55.4256	-30.00.00.00	129.6549	-0.020000				
F-1	578+90.9180	-48.0000	4790.6027	790.6107	-48.0000	107.3266	600980.9123	244054.5706			135.0394	-0.020000				
F-2	578+96.3025	-48.0000	4790.5758	790.5910	-48.0000	112.7111	600979.9683	244059.8717			140.4239	-0.020000				
F-3	579+01.6870	-48.0000	4790.5489	790.5697	-48.0000	118.0956	600979.0243	244065.1728			145.8084	-0.020000				
F-4	579+07.0715	-48.0000	4790.5220	790.5463	-48.0000	123.4801	600978.0804	244070.4739			151.1929	-0.020000				
F-5	579+12.4560	-48.0000	4790.4950	790.5206	-48.0000	128.8646	600977.1364	244075.7750			156.5774	-0.020000				
F-6	579+17.8405	-48.0000	4790.4681	790.4925	-48.0000	134.2491	600976.1924									

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Design Detail Quantities table with columns: Design, Detail, Quantities, Date, Initial, Date, Initial, Date, Initial, Date, Initial, Date, Initial.

Table with columns: CL GIRDERLINE G3, PARALLEL TO HORIZONTAL CONTROL, 0.250000 FEET BELOW FINISHED GRADE. Includes columns for BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, NORTHING, EASTING, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP.

Table with columns: CL GIRDERLINE G5, PARALLEL TO HORIZONTAL CONTROL, 0.250000 FEET BELOW FINISHED GRADE. Includes columns for BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, NORTHING, EASTING, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP.

Table with columns: CL GIRDERLINE G4, PARALLEL TO HORIZONTAL CONTROL, 0.250000 FEET BELOW FINISHED GRADE. Includes columns for BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, NORTHING, EASTING, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP.

Table with columns: HORIZONTAL CONTROL L, PARALLEL TO HORIZONTAL CONTROL, 0.250000 FEET BELOW FINISHED GRADE. Includes columns for BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, NORTHING, EASTING, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP.

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: 1/19/2017
File Name: 20344BRDG_DeckElevs.dgn
Horiz. Scale: 1:1
Staff Bridge Branch - Unit 0226
Unit Leader: DDG

Sheet Revisions table with columns: Date, Comments, Init.

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

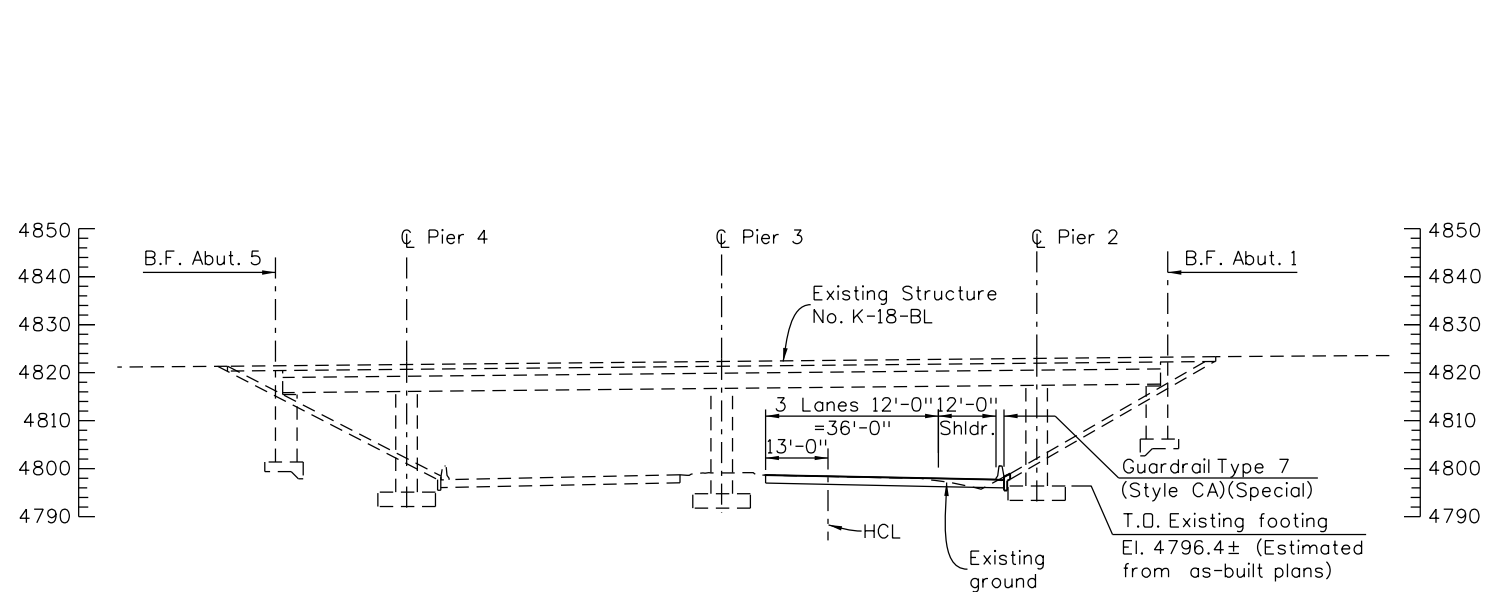
US 50 WEST WESTBOUND
OVER WILD HORSE DRY CREEK
BRIDGE DECK ELEVATIONS (3 OF 4)
As Constructed
No Revisions:
Revised:
Void:

Project No./Code
STA 0503-085
20344
Sheet Number 133

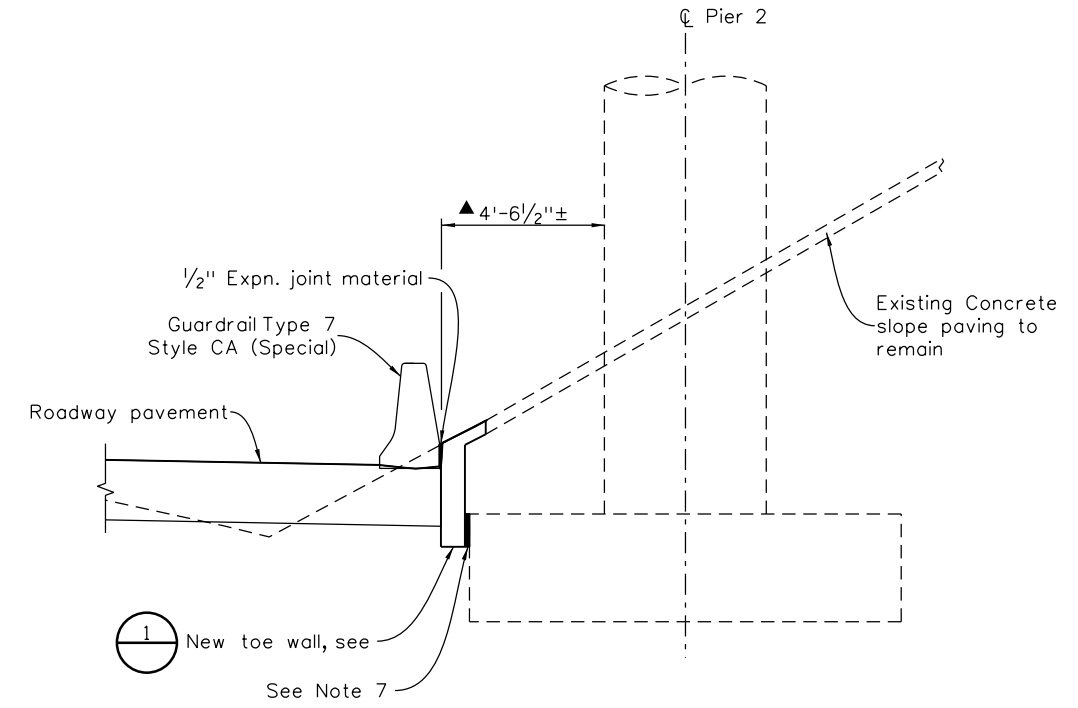


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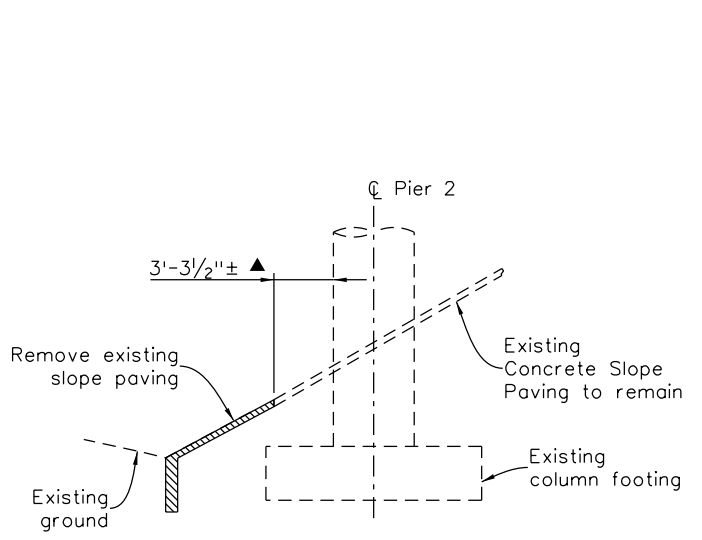
CL GIRDERLINE G6											PARALLEL TO HORIZONTAL CONTROL				0.250000 FEET BELOW FINISHED GRADE				RIGHT GUTTER LINE				PARALLEL TO HORIZONTAL CONTROL				0.250000 FEET BELOW FINISHED GRADE			
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP	BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP					
END APPR	577+62.4367	1.0000	4792.2250		1.0000	-21.1547	600955.1959	243919.4887	1.1547	-30	00	00.00	END APPR	577+68.7875	12.0000	4792.4133		12.0000	-14.8039	600943.2529	243923.8127	13.8564	-30	00	00.00	-21.7321	+0.020000			
BF ABUT 1	577+82.4367	1.0000	4792.1250		1.0000	-1.1547	600951.6896	243939.1790	1.1547	-30	00	00.00	BF ABUT 1	577+88.7875	12.0000	4792.3133		12.0000	5.1961	600939.7466	243943.5029	13.8564	-30	00	00.00	-1.7321	+0.020000			
CL BRG A1	577+84.1688	1.0000	4792.1164	792.1164	1.0000	0.5774	600951.3860	243940.8842	1.1547	-30	00	00.00	CL BRG A1	577+90.5196	12.0000	4792.3046	792.3046	12.0000	6.9282	600939.4429	243945.2082	13.8564	-30	00	00.00	0.0000	+0.020000			
F-1	577+89.5533	1.0000	4792.0895	792.0895	1.0000	5.9619	600950.4420	243946.1853					F-1	577+95.9041	12.0000	4792.2777	792.2857	12.0000	12.3127	600938.4989	243950.5093					5.3845	+0.020000			
F-2	577+94.9378	1.0000	4792.0625	792.0796	1.0000	11.3464	600949.4980	243951.4865					F-2	578+01.2887	12.0000	4792.3046	792.2660	12.0000	17.6973	600937.5549	243955.8105					10.7691	+0.020000			
F-3	578+00.3223	1.0000	4792.0356	792.0589	1.0000	16.7309	600948.5540	243956.7876					F-3	578+06.6732	12.0000	4792.2239	792.2447	12.0000	23.0818	600936.6110	243961.1116					16.1536	+0.020000			
F-4	578+05.7069	1.0000	4792.0087	792.0361	1.0000	22.1155	600947.6100	243962.0888					F-4	578+12.0577	12.0000	4792.1970	792.2213	12.0000	28.4663	600935.6670	243966.4127					21.5381	+0.020000			
F-5	578+11.0914	1.0000	4791.9818	792.0105	1.0000	27.5000	600946.6660	243967.3899					F-5	578+17.4423	12.0000	4792.1700	792.1956	12.0000	33.8509	600934.7230	243971.7139					26.9226	+0.020000			
F-6	578+16.4759	1.0000	4791.9549	791.9822	1.0000	32.8845	600945.7220	243972.6910					F-6	578+22.8268	12.0000	4792.1431	792.1675	12.0000	39.2354	600933.7790	243977.0151					32.3072	+0.020000			
F-7	578+21.8605	1.0000	4791.9280	791.9512	1.0000	38.2691	600944.7780	243977.9922					F-7	578+28.2113	12.0000	4792.1162	792.1371	12.0000	44.6199	600932.8350	243982.3162					37.6917	+0.020000			
F-8	578+27.2450	1.0000	4791.9010	791.9180	1.0000	43.6536	600943.8340	243983.2933					F-8	578+33.5958	12.0000	4792.0893	792.1046	12.0000	50.0044	600931.8910	243987.6173					43.0762	+0.020000			
F-9	578+32.6295	1.0000	4791.8741	791.8832	1.0000	49.0381	600942.8901	243988.5944					F-9	578+38.9804	12.0000	4792.0624	792.0705	12.0000	55.3890	600930.9470	243992.9185					48.4608	+0.020000			
P2 BRG BK	578+38.0141	1.0000	4791.8472	791.8472	1.0000	54.4227	600941.9461	243993.8956	1.1547	-30	00	00.00	P2 BRG BK	578+44.3649	12.0000	4792.0354	792.0354	12.0000	60.7735	600930.0030	243998.2196	13.8564	-30	00	00.00	53.8453	+0.020000			
CL PIER 2	578+39.1688	1.0000	4791.8414		1.0000	55.5774	600941.7436	243995.0324	1.1547	-30	00	00.00	CL PIER 2	578+45.5196	12.0000	4792.0297		12.0000	61.9282	600929.8006	243999.3564	13.8564	-30	00	00.00	55.0000	+0.020000			
P2 BRG AHD	578+40.3235	1.0000	4791.8357	791.8357	1.0000	56.7321	600941.5412	243996.1692	1.1547	-30	00	00.00	P2 BRG AHD	578+46.6743	12.0000	4792.0239	792.0239	12.0000	63.0829	600929.5982	244000.4932	13.8564	-30	00	00.00	56.1547	+0.020000			
F-1	578+47.4425	1.0000	4791.8001	791.8252	1.0000	63.8511	600940.2931	244003.1780					F-1	578+53.7934	12.0000	4791.9883	792.0108	12.0000	70.2020	600928.3501	244007.5021					63.2738	+0.020000			
F-2	578+54.5616	1.0000	4791.7645	791.8127	1.0000	70.9702	600939.0450	244010.1868					F-2	578+60.9125	12.0000	4791.9527	791.9958	12.0000	77.3211	600927.1020	244014.5109					70.2929	+0.020000			
F-3	578+61.6807	1.0000	4791.7289	791.7954	1.0000	78.0893	600937.7969	244017.1957					F-3	578+68.0315	12.0000	4791.9171	791.9766	12.0000	84.4401	600925.8539	244021.5196					77.5119	+0.020000			
F-4	578+68.7998	1.0000	4791.6933	791.7716	1.0000	85.2084	600936.5489	244024.2045					F-4	578+75.1506	12.0000	4791.8815	791.9516	12.0000	91.5592	600924.6058	244028.5285					84.6310	+0.020000			
F-5	578+75.9189	1.0000	4791.6577	791.7400	1.0000	92.3275	600935.3008	244031.2133					F-5	578+82.2697	12.0000	4791.8459	791.9196	12.0000	98.6783	600923.3577	244035.5373					91.7501	+0.020000			
F-6	578+83.0379	1.0000	4791.6221	791.7004	1.0000	99.4465	600934.0527	244038.2221					F-6	578+89.3888	12.0000	4791.8104	791.8804	12.0000	105.7974	600922.1097	244042.5462					98.8692	+0.020000			
F-7	578+90.1570	1.0000	4791.5865	791.6531	1.0000	106.5656	600932.8046	244045.2309					F-7	578+96.5079	12.0000	4791.7748	791.8343	12.0000	112.9165	600920.8616	244049.5550					105.9883	+0.020000			
F-8	578+97.2761	1.0000	4791.5509	791.5992	1.0000	113.6847	600931.5565	244052.2398					F-8	578+103.6269	12.0000	4791.7392	791.7823	12.0000	120.0355	600919.6135	244056.5637					113.1073	+0.020000			
F-9	579+04.3952	1.0000	4791.5153	791.5405	1.0000	120.8038	600930.3084	244059.2486					F-9	579+10.7460	12.0000	4791.7036	791.7260	12.0000	127.1546	600918.3654	244063.5726					120.2264	+0.020000			
P3 BRG BK	579+11.5143	1.0000	4791.4797	791.4797	1.0000	127.9229	600929.0604	244066.2575	1.1547	-30	00	00.00	P3 BRG BK	579+17.8651	12.0000	4791.6680	791.6680	12.0000	134.2737	600917.1173	244070.5814	13.8564	-30	00	00.00	127.3455	+0.020000			
CL PIER 3	579+12.6688	1.0000	4791.4740		1.0000	129.0774	600928.8580	244067.3941	1.1547	-30	00	00.00	CL PIER 3	579+19.0196	12.0000	4791.6622		12.0000	135.4282	600916.9149	244071.7181	13.8564	-30	00	00.00	128.5000	+0.020000			
P3 BRG AHD	579+13.8237	1.0000	4791.4682	791.4682	1.0000	130.2323	600928.6555	244068.5311	1.1547	-30	00	00.00	P3 BRG AHD	579+20.1745	12.0000	4791.6565	791.6565	12.0000	136.5831	600916.7125	244072.8551	13.8564	-30	00	00.00	129.6549	+0.020000			
F-1	579+19.2082	1.0000	4791.4413	791.4504	1.0000	135.6168	600927.7115	244073.8322					F-1	579+25.5590	12.0000	4791.6295	791.6376	12.0000	141.9676	600915.7685	244078.1562					135.0394	+0.020000			
F-2	579+24.5927	1.0000	4791.4144	791.4314	1.0000	141.0013	600926.7675	244079.1333					F-2	579+30.9435	12.0000	4791.6026	791.6178	12.0000	147.3211	600914.8245	244083.4573					140.4239	+0.020000			
F-3	579+29.9772	1.0000	4791.3874	791.4107	1.0000	146.3858	600925.8235	244084.4344					F-3	579+36.3280	12.0000	4791.5757	791.5965	12.0000	152.7366	600913.8805	244088.7584					145.8084	+0.020000			
F-4	579+35.3617	1.0000	4791.3605	791.3879	1.0000	151.7703	600924.8795	244089.7355					F-4	579+41.7125	12.0000	4791.5488	791.5731	12.0000	158.1211	600912.9365	244094.0595					151.1929	+0.020000			
F-5	579+40.7462	1.0000	4791.3336	791.3624	1.0000	157.1548	600923.9356	244095.0366					F-5	579+47.0971	12.0000	4791.5219	791.5474	12.0000	163.5057	600911.9925	244099.3607					156.5775	+0.020000			
F-6	579+46.1307	1.0000	4791.3067	791.3340	1.0000	162.5393	600922.9916	244100.3377					F-6	579+52.4816	12.0000	4791.4949	791.5193	12.0000	168.8902	600910.0485	244104.6618					161.9620	+0.020000			
F-7	579+51.5152	1.0000	4791.2798	791.3030	1.0000	167.9238	600922.0476	244105.6388					F-7	579+57.8661	12.0000	4791.4680	791.4889	12.0000	174.2747	600909.1045	244109.2629					167.3465	+0.020000			
F-8	579+56.8997	1.0000	4791.2528	791.2698	1.0000	173.3083	600921.1036	244110.9399					F-8	579+63.2506	12.															



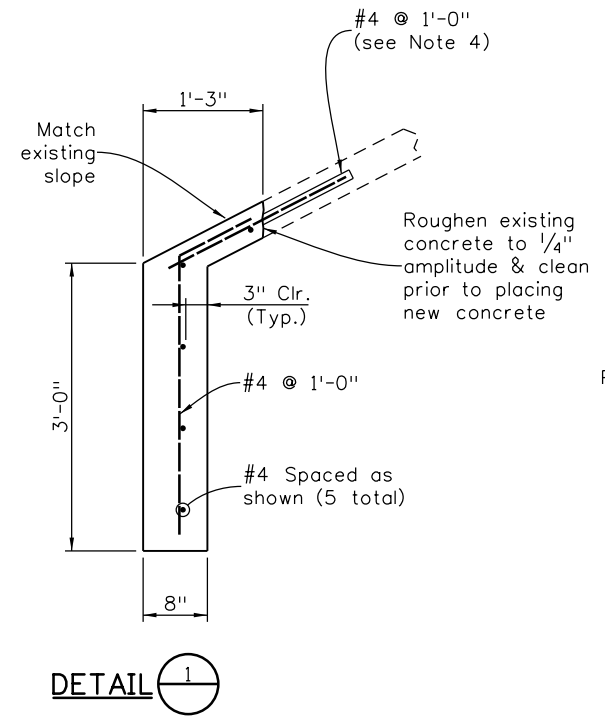
ELEVATION
 (Shown at $\text{\textcircled{C}}$ of existing bridge, looking West,
 see Roadway Plans for layout, roadway section and pavement)



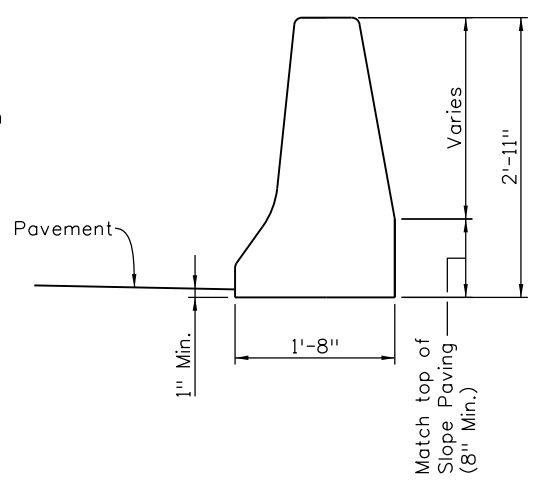
NEW SECTION



REMOVAL SECTION



DETAIL 1



**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 epoxy 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.
 7. Field verify gap between existing footing and toe wall. If 2" or less, place expansion joint material.
- ▲ Measured along centerline of bridge. Field verify from Horizontal Control Line prior to slope paving cut and removal. Varies along length of slope paving.

Print Date: 1/19/2017
File Name: 20344BRDG_BNSF_SlopePavingMod.dgn
Horiz. Scale: 1:40 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

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

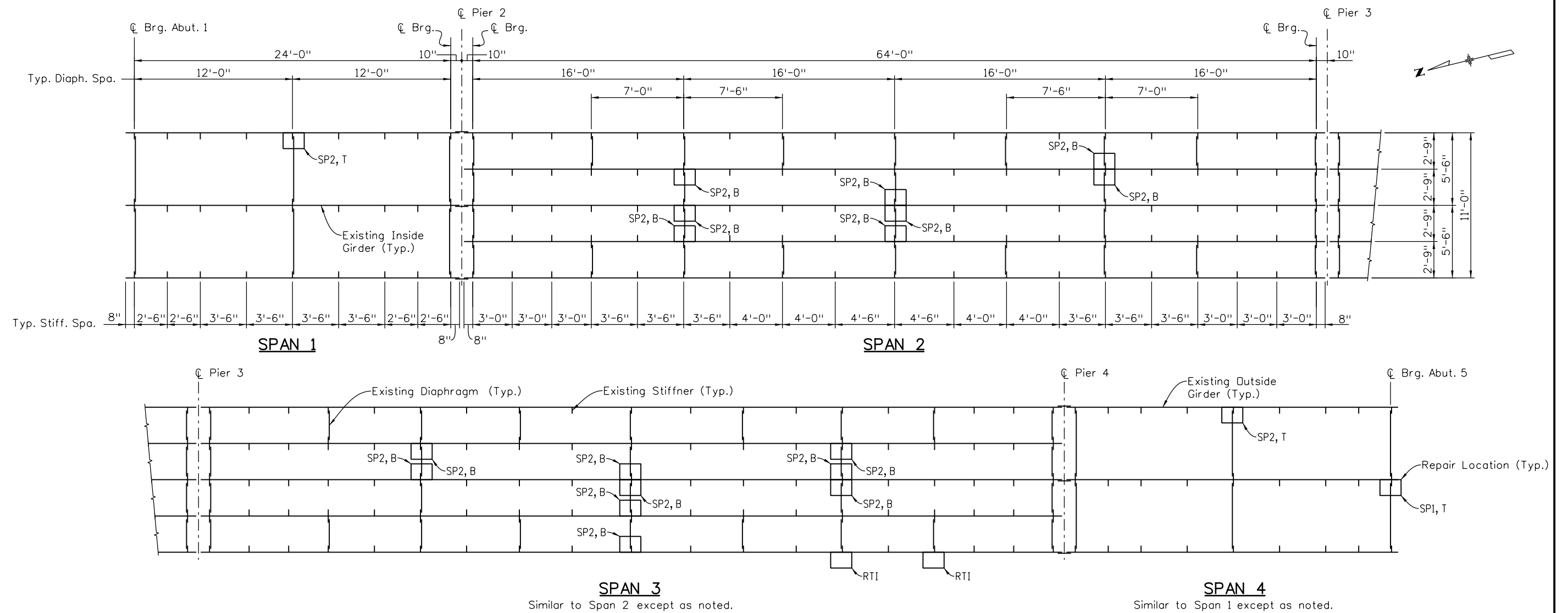
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND			
ROADWAY DETAIL AT BNSF BRIDGE			
Designer:	C. Otegui	Structure Numbers	K-18-BL
Detailer:	R. Dillon	Sheet Subset:	BNSF
Sheet Subset: BNSF		Subset Sheets: BAI of 1	

Project No./Code
STA 0503-085
20344
Sheet Number 135

ken.soellner 11:09:10 AM



FRAMING PLAN

LEGEND:

- SP1: Shear Plate 1 Detail
- SP2: Shear Plate 2 Detail
- T: Crack at top of diaphragm
- B: Crack at bottom of diaphragm
- RTI: Repair Type I only, located in web

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
509-08201	RETROFIT/REPAIR TYPE I	EA	22
509-08201	RETROFIT/REPAIR TYPE II	EA	20

NOTES:

1. Reference Sta. 594+00=M.P. 312.796 on US 50. See Structure Location Map.
2. Estimated repair locations are shown on this sheet. The Contractor shall be responsible for field verifying all locations and dimensions prior to starting work and before ordering or fabricating any materials.
3. Install Repair Type I and II at all locations noted SP1 or SP2. Repair Type I shall be complete before Repair Type II. See "Diaphragm Repairs" sheet.
4. One diaphragm is permitted to be repaired at a time. The intent is that no more than one diaphragm shall be detached at a time.
5. Traffic shall not be allowed below the repair location. Coordination with CDDT is required for lane closures.
6. The Contractor shall be responsible for the stability of the structure, during repair work.
7. See Project Special Provision Revision of Section 509-Structural Steel Repair.
8. The anticipated weight of structural steel is estimated to be 1550 lbs and includes 10% over-run. This is provided for information only. The Contractor shall determine actual structural steel weight based on field measurements, conditions and number of locations.

ken.soellner 11:09:10 AM J:\112407-01\00 - 20344\Bridges\Drawings\Plot_Set\20344BRDG_K-18-BL_Repairs01.dgn
 Design: Initial Date 06/16 07/16
 Detail: Initial Date 06/16 07/16
 Quantities: Initial Date 07/16 08/16
 Designed By: SCR
 Checked By: CAD
 Detailed By: SCR
 Checked By: KJS

Print Date: 1/19/2017
 File Name: 20344BRDG_K-18-BL_Repairs01.dgn
 Horiz. Scale: 1:1 Vert. Scale:
 Staff Bridge Branch - Unit 0226 Unit Leader: DDG

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
 902 Erie Avenue
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 Region 2 DTD

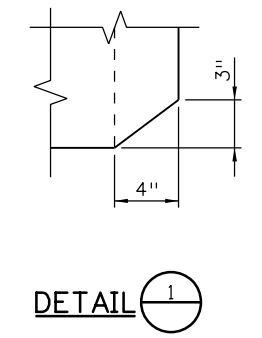
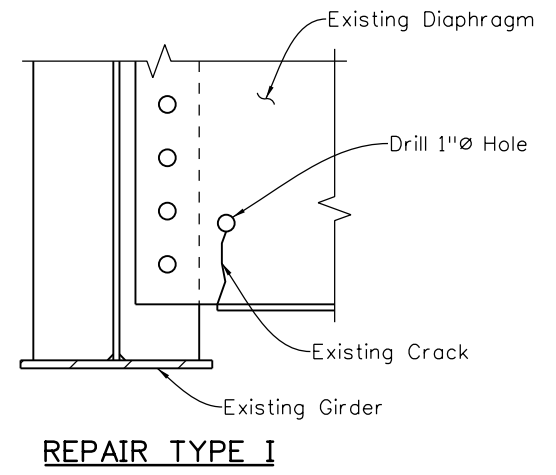
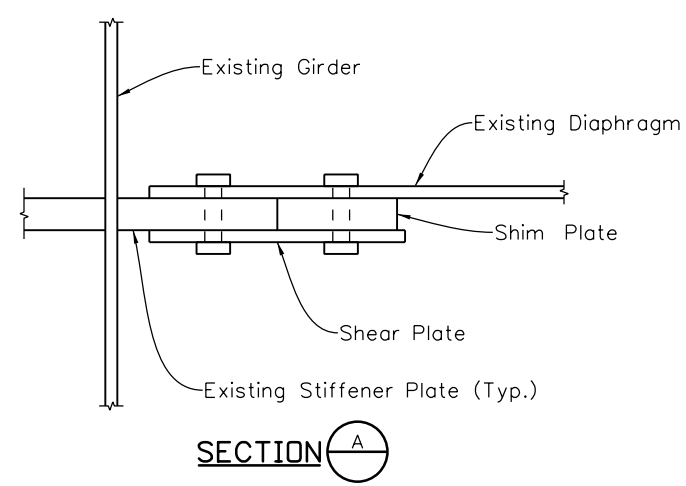
As Constructed
No Revisions:
Revised:
Void:

**US 50 WEST WESTBOUND
 BNSF RR BRIDGE REPAIRS
 FRAMING PLAN**

Designer: S. Redd
 Detailer: C. Miyamoto
 Sheet Subset: Bridge

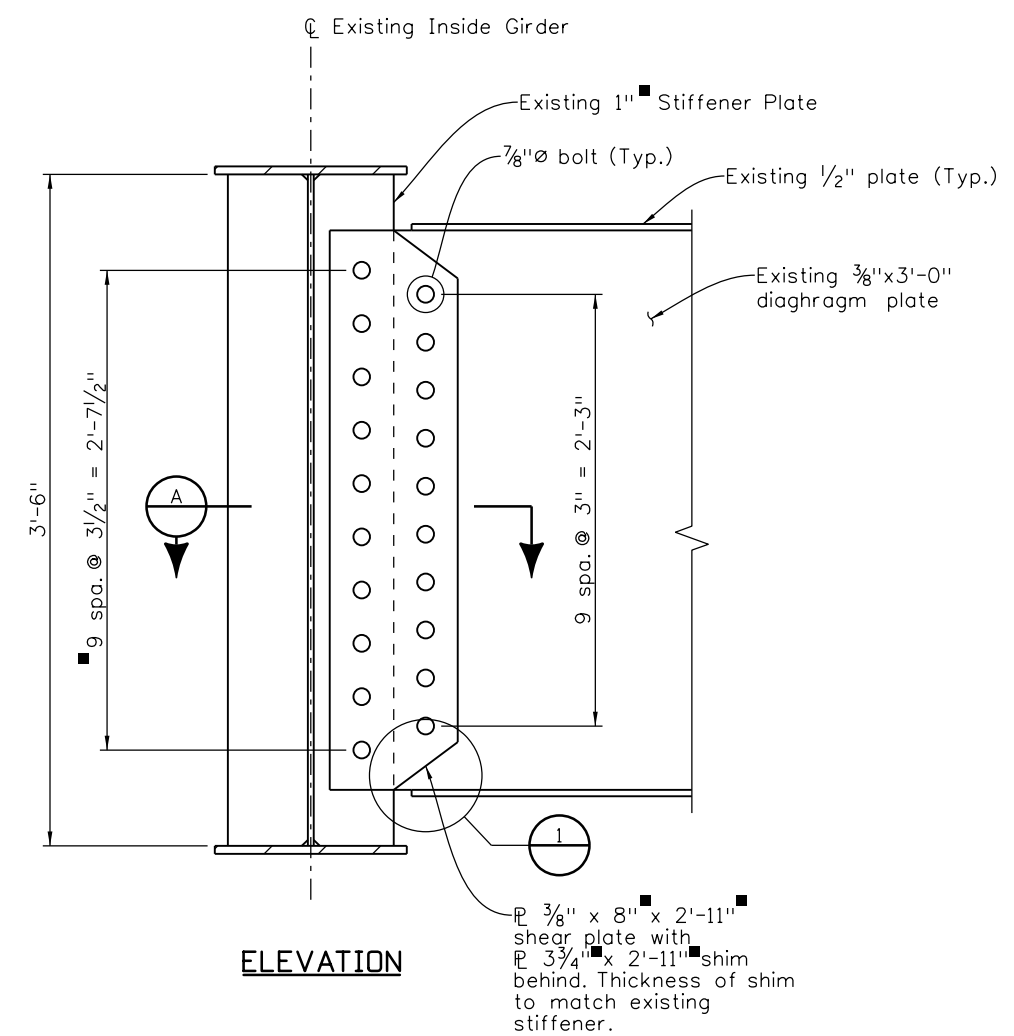
Structure Numbers: K-18-BL
 Subset Sheets: BBI of 2

Project No./Code	STA 0503-085
	20344
Sheet Number	136

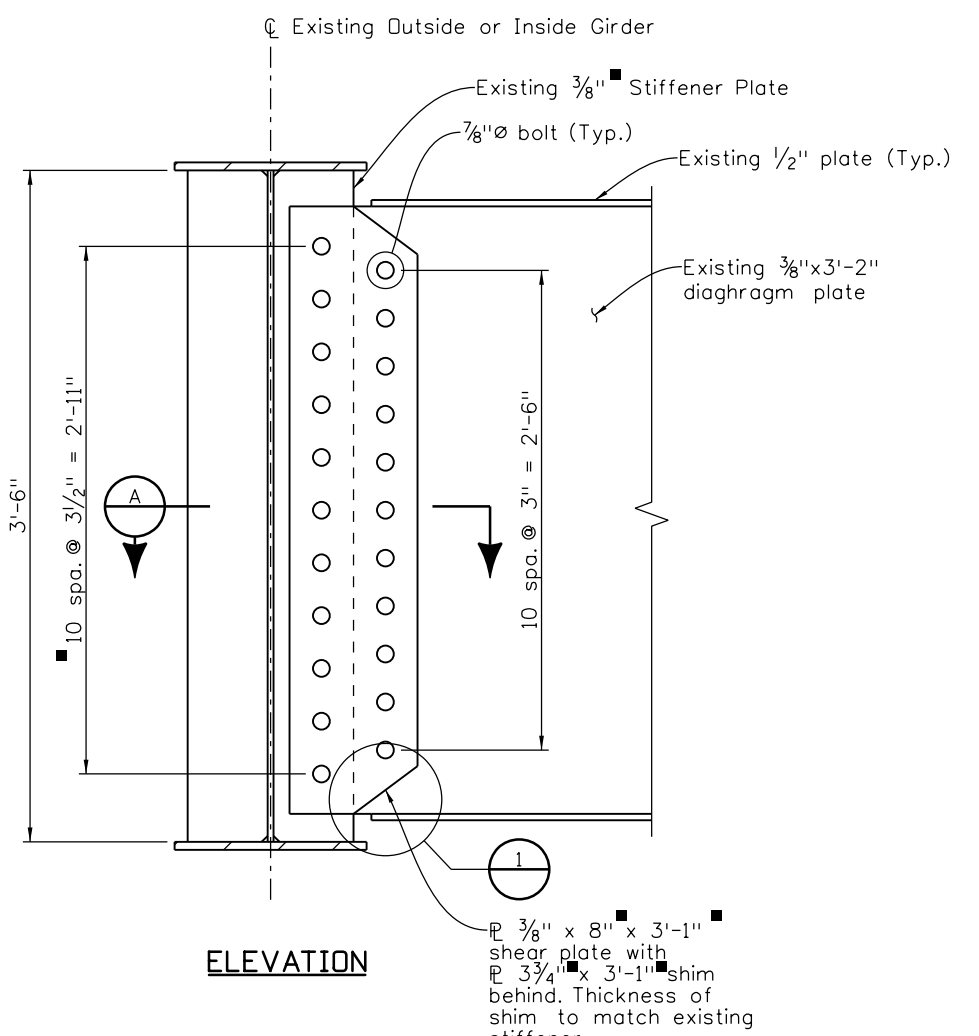


WORK DESCRIPTION - REPAIR TYPE I

1. Identify fracture tips and determine limits of fracture/defects using magnetic particle testing (MPT) or dye penetrant testing per CDOT Section 509.18 of the Standard Specifications.
2. Clean surface of paint and debris to bright metal.
3. Drill 1" hole such that the trailing edge of the bit removes the crack tip.
4. Remove burrs and grind the hole smooth to ANSI roughness standard of 500 or less.
5. Prime and paint any bare surfaces. See Note 4.



SHEAR PLATE 1 (SP1) DETAIL
(opposite diaphragm not shown for clarity)



SHEAR PLATE 2 (SP2) DETAIL
(opposite diaphragm not shown for clarity)

WORK DESCRIPTION - REPAIR TYPE II

1. Measure and verify bolt locations on girder stiffener. As-built plans do not specify. Verify dimensions for shear and shim plates.
2. Bolt holes in shear plate for shear plate/stiffener connection shall match existing bolt hole locations on stiffener.
3. Loosen and remove bolts on girder stiffener as needed for templating and plate installation. Diaphragm shall be supported.
4. Holes shall be cut, without torn or ragged edges. All burrs shall be removed, as well as oil and other debris.
5. Holes for plate installation shall not intersect existing crack in diaphragm.
6. Install new 7/8" bolts, washers and nuts at all locations.

NOTES:

1. Design, fabrication and erection per the AREMA Manual for Railway Engineering, Chapter 15, Steel Structures, current edition.
2. Steel plates shall be AASHTO M270, Grade 50 (ASTM A709).
3. Hole to shear and shim plate edge distance is 1 1/2" minimum.
4. All bolts shall be high strength in accordance with Section 509 of CDOT Standard Specifications.
5. All structural steel shall be painted in accordance with Section 509 of CDOT Standard Specifications.

Verify dimensions in field prior to ordering or fabricating materials.

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Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
06/16	SCR	06/16	CDM	06/16	SCR
07/16	CAD	07/16	SCR	07/16	KJS
Designed By	Checked By	Detailed By	Checked By	Quantities By	Checked By

Print Date: 1/19/2017	Sheet Revisions			Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2	As Constructed		US 50 WEST WESTBOUND BNSF RR BRIDGE REPAIRS DIAPHRAGM REPAIRS		Project No./Code	
File Name: 20344BRDG_K-18-BL_Repairs02.dgn	Date:	Comments:	Init.		No Revisions:	Designer: S. Redd Structure: K-18-BL		STA 0503-085		
Horiz. Scale: 1:1 Vert. Scale:				CDOT 300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440	Revised:	Detailer: C. Miyamoto Numbers:		20344		
Staff Bridge Branch - Unit 0226 Unit Leader: DDG					Void:	Sheet Subset: Bridge Subset Sheets: BB2 of 2		Sheet Number 137		

GENERAL NOTES

Except as shown in the plans, Structure Excavation and Backfill shall be in accordance with M-206-1 for Concrete Box Culvert and Wingwalls.

Expansion joint material shall meet AASHTO Specification M213.

All concrete shall be Class D (Box Culvert).

All concrete exposed to soil shall conform to cementitious materials requirements Class 2, corresponding to sulfate exposure Class 2. All structural concrete not exposed to soil shall conform to cementitious materials requirements Class 0, corresponding to sulfate exposure Class 0.

All construction joints not shown on the plans shall be approved by the Engineer.

All construction joints shall be thoroughly cleaned and roughened to 1/4" amplitude minimum before fresh concrete is placed.

All exposed concrete corners shall be chamfered 3/4", unless otherwise noted.

Grade 60 reinforcing steel is required.

All reinforcing steel shall be black (non-epoxy coated) reinforcing bars unless otherwise noted.

ⓔ denotes epoxy coated reinforcing steel.

The following table gives the minimum lap splice length for epoxy coated reinforcing bars placed in accordance with subsection 602.06. These splice lengths shall be increased by 25% for bars spaced at less than 6" on center or less than 2" lateral cover.

Bar Size	#4	#5	#6	#7	#8	#9	#10	#11
Splice length for Class D concrete	1'-10"	2'-3"	3'-4"	3'-11"	4'-5"	5'-6"	6'-10"	8'-2"

When the Contractor elects to substitute epoxy coated reinforcement for black reinforcing bars, the minimum lap splice shall be as described above.

The following table gives the minimum lap splice length for black reinforcing bars placed in accordance with subsection 602.06. These splice lengths shall be increased by 25% for bars spaced at less than 6" on center or less than 2" lateral cover.

Bar Size	#4	#5	#6	#7	#8	#9	#10	#11
Splice length for Class D concrete	1'-6"	1'-11"	2'-3"	2'-7"	3'-0"	3'-8"	4'-7"	5'-5"

The Contractor shall be responsible for the stability of the structure during construction.

Backfill shall not begin until top slab has reached concrete strength, f'c.

Wingwall footings and the bottom slab of the cast-in-place box culvert shall be placed monolithically.

All dimensions are perpendicular to the centerline of the box.

All transverse reinforcing shall be normal to the centerline of the box.

For structure number installation, see Standard S-614-12.

Stations, elevations, and dimensions contained in these plans are calculated from a recent field survey and the "as constructed plans". The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.

The information shown on these plans concerning the type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determination as to the type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall contact the Utility Notification Center of Colorado at 1-800-922-1987 at least 3 business days (not including the day of notification) prior to any excavation or other earthwork.

El. = Elevation Typ. = Typical SPA. = Spacing
 Cont. = Continuous HCL = Horizontal Control Line
 Constr. = Construction CBC = Concrete Box Culvert

DESIGN DATA

AASHTO LRFD Bridge Design Specifications, Seventh Edition with current interims.

Design Method: Load and Resistance Factor Design

Design Loading (Box Culvert):
 HL-93 (Design truck or tandem)
 Live Load Surcharge on exterior wall = 2 ft. of earth
 Unit Soil Weight = 130 pcf
 Maximum Design Fill Height: 16'-0" (9 ft. span); 8'-0" (15 ft. span)
 Active Lateral Earth Pressure: max = 60 pcf; min = 30 pcf

Design Loading (Wingwalls):
 Live Load Surcharge = 1 ft. of earth
 Allowable Bearing Capacity: 2,500 psf (H < 16 ft.); 3,000 psf (H > 16 ft.)
 Unit Soil Weight = 130 pcf
 Equivalent Fluid Pressure = 36 pcf
 Coefficient of Sliding Friction = 0.42

Reinforced Concrete:

Class D Concrete: f'c = 4,500 psi
 Reinforcing Steel: fy = 60,000 psi

INDEX OF DRAWINGS

- C1 GENERAL INFORMATION
- C2 GENERAL LAYOUT
- C3 ENGINEERING GEOLOGY
- C4 HYDRAULIC INFORMATION
- C5 TYPICAL SECTIONS
- C6 CULVERT EXTENSION DETAILS (1 OF 2)
- C7 CULVERT EXTENSION DETAILS (2 OF 2)
- C8 WINGWALL DETAILS

STRUCTURE DESCRIPTION

Existing double cell 9'-0" w x 10'-0" h x ± long cast-in-place box culvert with cast-in-place wingwalls under US 50 West (Eastbound & Westbound)

SCOPE OF WORK

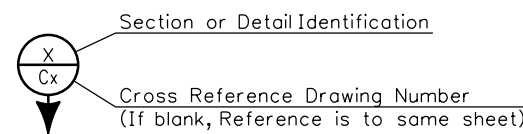
Remove existing Special Inlet and wingwalls on the north end. Extend culvert 134' north and replace Special Inlet and wingwalls.

SUMMARY OF QUANTITIES

STRUCTURE NO. K-18-CZ

ITEM NO.	DESCRIPTION	UNIT	CONCRETE BOX CULVERT	WINGWALLS	TOTAL
202-00495	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	LS			1
① 203-00400	ROCK EXCAVATION	CY	654	94	748
① 206-00000	STRUCTURE EXCAVATION	CY	654	255	909
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY	653	673	1,326
208-00400	WATER CONTROL	LS			0.5
211-03005	DEWATERING	LS			0.5
601-03030	CONCRETE CLASS D (BOX CULVERT)	CY	503	105	608
602-00000	REINFORCING STEEL	LB	81,610	13,735	95,345

① Excavation quantities include over excavation below CBC and wingwalls. Rock Excavation is assumed to be half of total excavation.



Know what's below. Call before you dig.

ken.soellner 11:09:12 AM J:\112407-01\00 - 20344\Bridges\Drawings\Plot_Set\20344\CULV_GenNotes.dgn

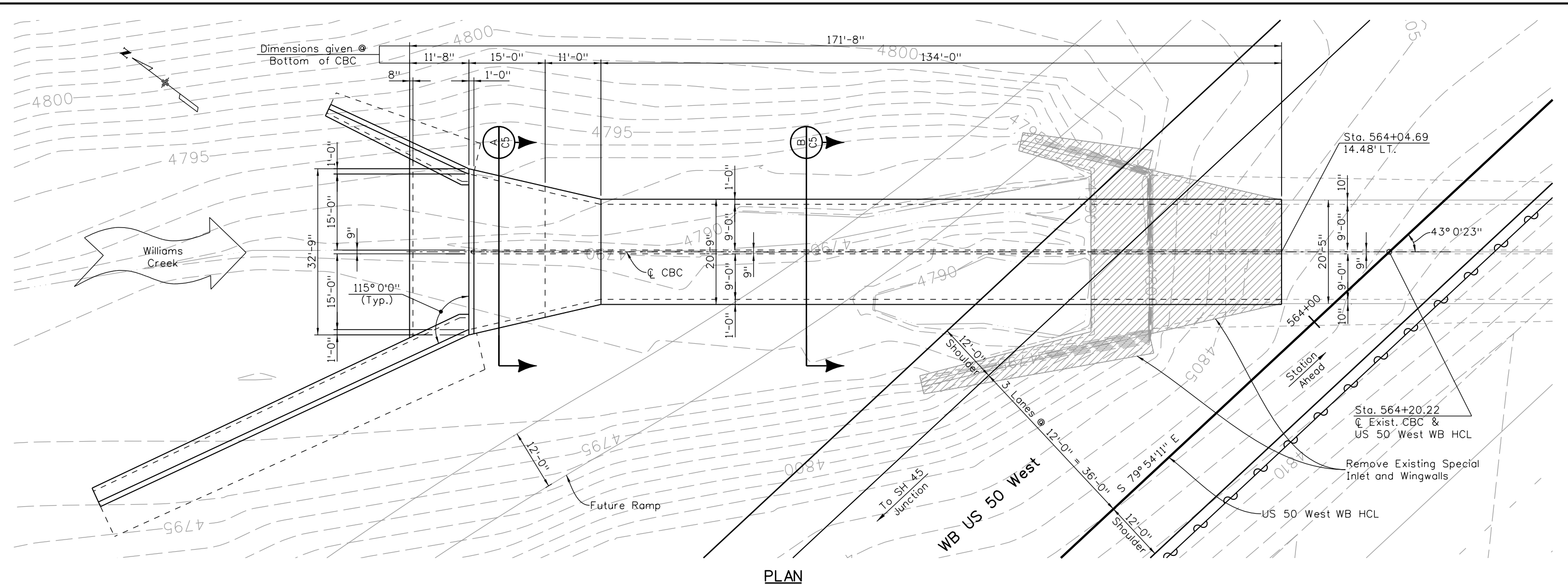
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SCR	06/16	KJS	06/16	KJS	07/16
Checked By	Checked By	Checked By	Checked By	Checked By	Checked By
CAO	07/16	CAO	07/16	SCR	08/16

Print Date: 1/19/2017			As Constructed No Revisions: Revised: Void:	US 50 WEST WESTBOUND WILLIAMS CREEK - CBC EXTENSION GENERAL INFORMATION		Project No./Code STA 0503-085 20344 Sheet Number 138		
File Name: 20344CULV_GenNotes.dgn							Designer: S. Redd Detailer: C. Miyamoto Sheet Subset: Bridge	Structure Numbers: K-18-CZ Subset Sheets: C1 of 8
Horiz. Scale: 1:1 Vert. Scale: As Noted Staff Bridge Branch - Unit 0226 Unit Leader: DDG							902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD	

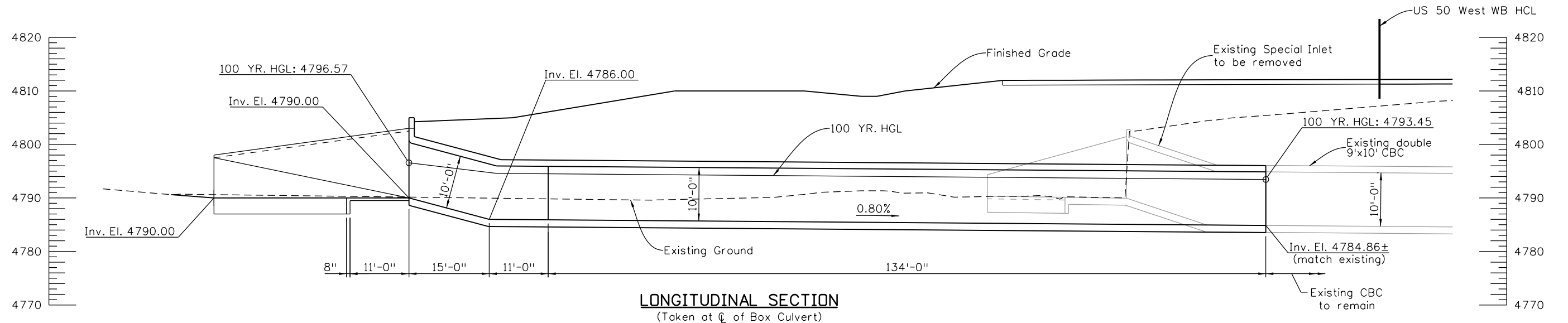
FELSBURG HOLT & ULLEVIG
 6300 South Syracuse Way
 Suite 600
 Centennial, CO 80111
 (303) 721-1440

ken.soellner 11:09:14 AM J:\112407-01\00 - 20344\Bridges\Drawings\Plot_Set\20344CULV_GenLayout.dgn

Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
06/16	KJS	06/16	KJS	06/16	KJS
Checked By	SCR	Checked By	CAD	Checked By	SCR



PLAN



LONGITUDINAL SECTION
(Taken at C of Box Culvert)

Print Date: 1/19/2017
File Name: 20344CULV_GenLayout.dgn
Horiz. Scale: 1:20 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

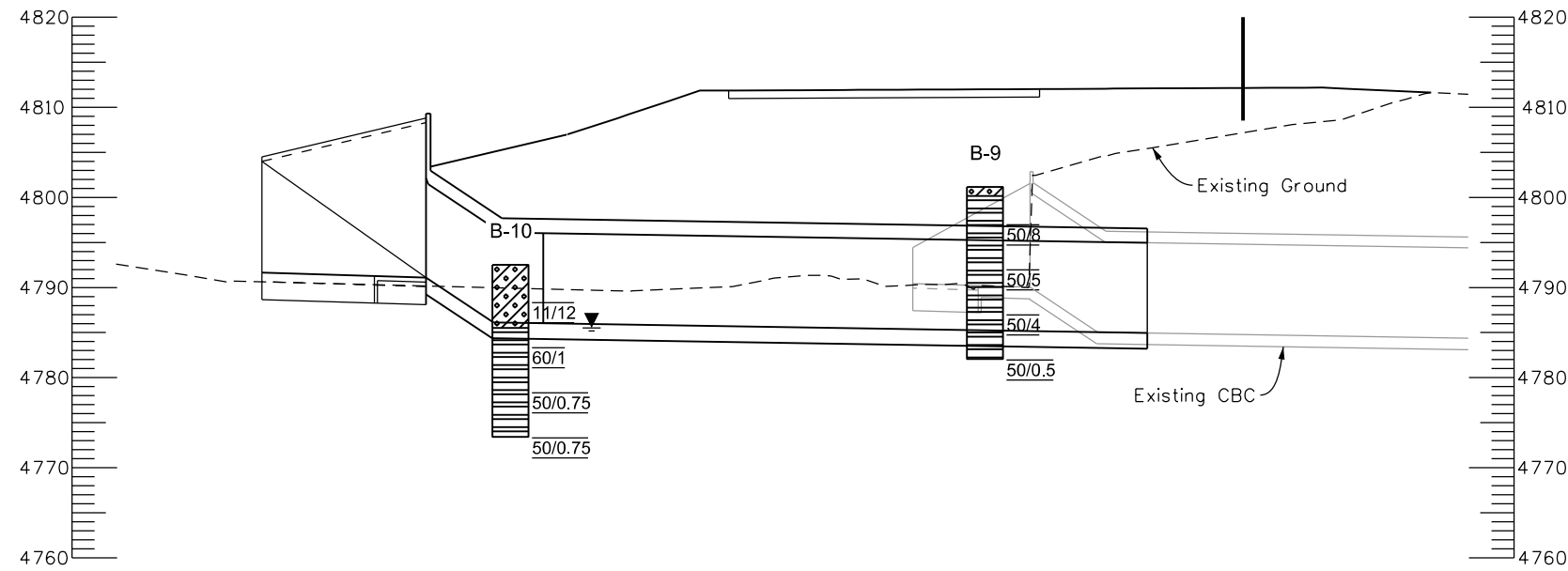
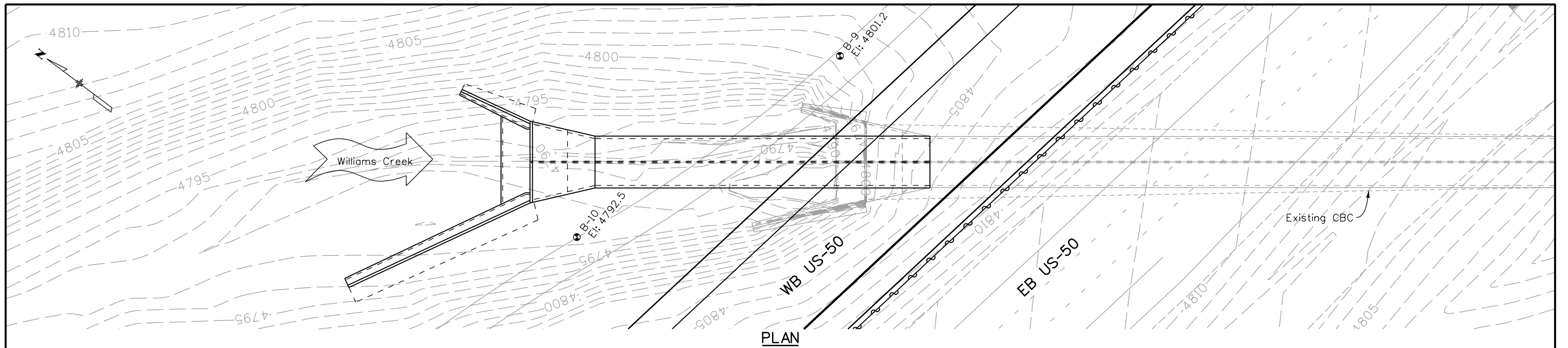
902 Erie Avenue
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Region 2 **DTD**

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND WILLIAMS CREEK - CBC EXTENSION GENERAL LAYOUT			
Designer:	S. Redd	Structure Numbers:	K-18-CZ
Detailer:	C. Miyamoto	Subset Sheets:	C2 of 8
Sheet Subset:	Bridge		

Project No./Code
STA 0503-085
20344
Sheet Number 139



ELEVATION

SUMMARY OF TEST RESULTS

Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification		Water Content (%)	Dry Density (%)	Sulfate (%)	Sample ID	Depth (ft)	Liquid Limit	Plasticity Index	% < #200 Sieve	Classification		Water Content (%)	Dry Density (%)	Sulfate (%)		
					USCS	AASHTO									USCS	AASHTO					
B-9	4	25	9	37	SC	A-4 (0)	8.0		0.92												
B-9	9						8.3														
B-9	14						7.9														
B-9	19						4.3														
B-10	0-4	29	15	46	SC	A-6 (3)			0.40												
B-10	4	26	11	58	CL	A-6 (3)	20.3	113.3													

TYPE OF MATERIAL

- Asphalt Pavement
- Fill - CLAY
- Fill - SAND
- TOPSOIL
- Native - SAND, gravelly
- Native - CLAY
- Native - GRAVEL, silty
- Bedrock - SANDSTONE
- Bedrock - SHALE
- Fill - Aggregate Base Course
- Fill - SAND
- Fill - CLAY
- Native - SAND, silty
- Native - SAND, clayey
- Native - CLAY, gravelly
- Native - CLAY, sandy
- Bedrock - CLAYSTONE

LEGEND

TEST BORING

B Bridge Borehole
 ▼ Ground Water Level At Time of Drilling
 9/12 9 Blows for 12 Inches
 50/3 50 Blows for 3 Inches
 8/6/7 SS Split Spoon Sampler Required 8 Blows for 6 Inches Required 6 Blows for 6 Inches Required 7 Blows for 6 Inches

BORING ID NOTED AT THE TOP OF LOG
 BLOW COUNTS OBTAINED WITH SPLIT SPOON SAMPLERS ARE NOTED WITH "SS". ALL OTHER BLOW COUNTS OBTAINED WITH A MODIFIED CALIFORNIA BARREL SAMPLER
 SEE INDIVIDUAL LOG SHEETS FOR MORE DETAIL

Print Date: 1/19/2017
 File Name: 20344GED_EngGeo-WC CBC.dgn
 Horiz. Scale: 1:40 Vert. Scale: 1:20

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
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 Region 2 DTD

As Constructed

No Revisions:
 Revised:
 Void:

US 50 WEST WESTBOUND
 WILLIAMS CREEK CBC
 ENGINEERING GEOLOGY

Designer: R. Lepro
 Detailer: D. Knight
 Subset: Structure Numbers
 Subset Sheets: C3 of 8

Project No./Code
 STA 0503-088
 20344
 Sheet Number 140

ken.soelner 11:09:15 AM J:\112407-01\00 - 20344\Drawings\Plot_Set\20344GED_EngGeo-WC CBC.dgn

100-YEAR RECURRENCE INTERVAL

FLOW UPSTREAM OF CULVERT =2233 cfs
 DRAINAGE AREA = 37 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 0.079 OVERBANK 0.04
 DEBRIS: BRUSH TREES ICE OTHER _____

COMPARISON HYDRAULICS (100 YEAR EVENT)

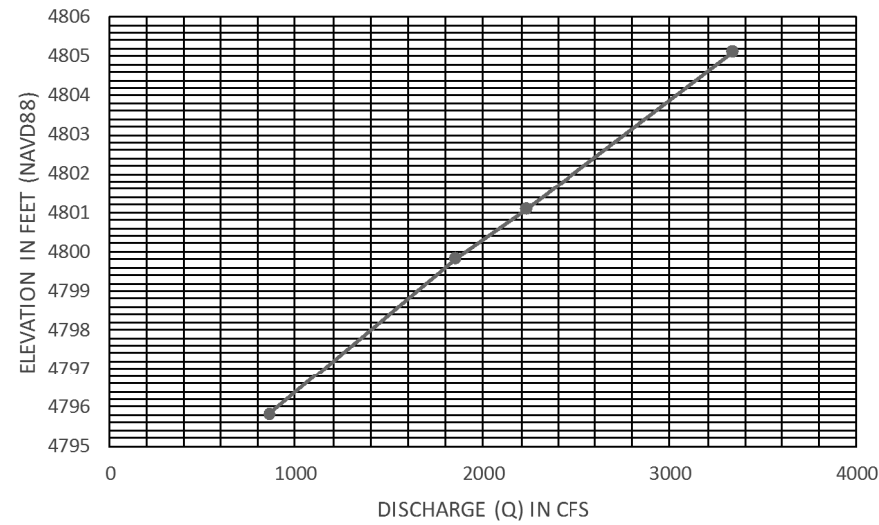
AT SECTION 1739.690 LOCATED 56 FT UPSTREAM OF PROPOSED WILLIAMS CREEK RCBC

	VELOCITY (fps)		WS EL. (ft.)	MAX BACKWATER (ft.)	FROUDE NO.
	AVERAGE	CHANNEL			
EXISTING CONDITIONS	3.72	3.72	4800.50		0.28
PROPOSED CONDITIONS	3.23	3.23	4801.12	0.62	0.23

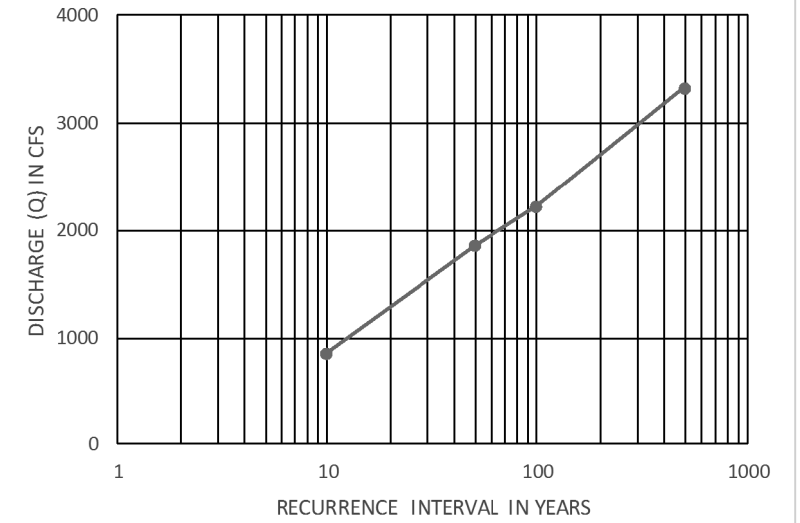
HYDRAULIC DATA

LOCATION	INVERT ELEVATION	SOFFIT ELEVATION OF BOX CULVERT	100-YEAR WATER SURFACE ELEVATION
WILLIAMS CREEK BOX CULVERT (UPSTREAM)	4790.29	4800.29	4796.57
WILLIAMS CREEK BOX CULVERT (DOWNSTREAM TIE-IN TO EXISTING BOX)	4784.13	4794.13	4793.45

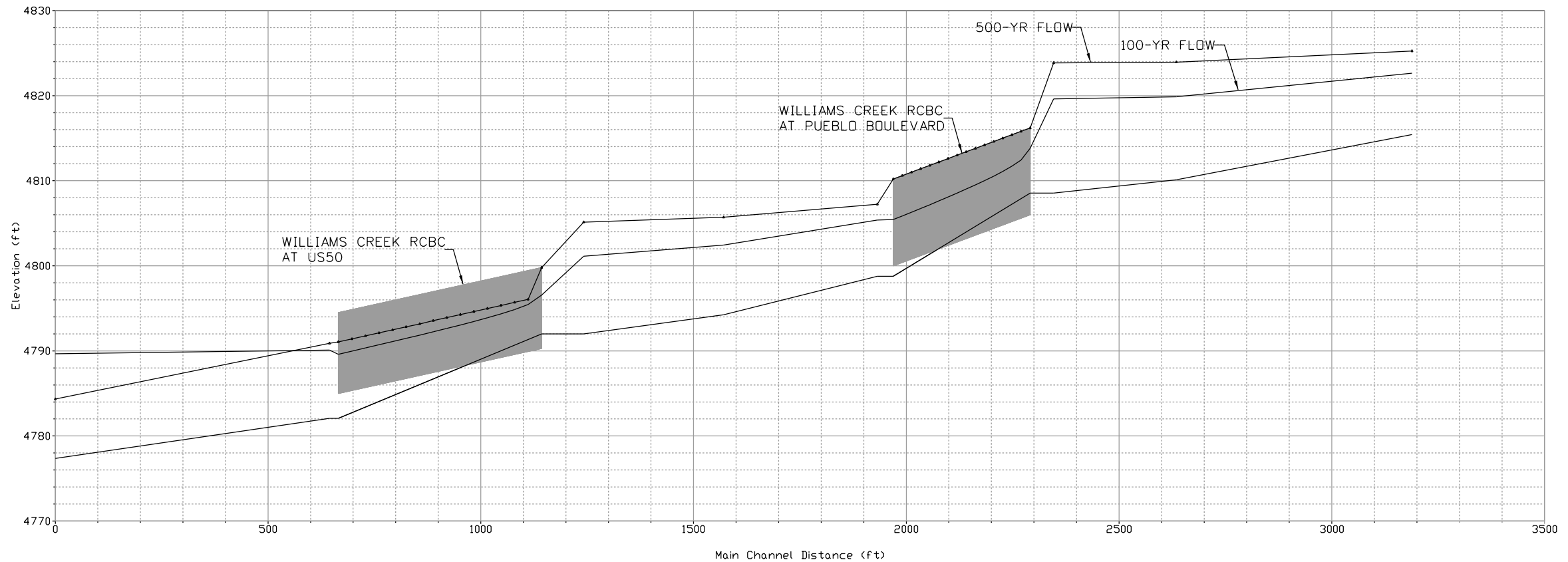
STAGE-DISCHARGE UPSTREAM OF WB US 50 AT WILLIAMS CREEK



DISCHARGE-FREQUENCY FOR WILLIAMS CREEK NEAR US 50



WILLIAMS CREEK MAIN CHANNEL PROFILE



Design: Initial: DATE: 06/16/16, Checked By: CAD, Detailed By: SCR, Checked By: KJS
 Quantities: Initial: DATE: 07/16/16, Checked By: KJS, Quantities By: SCR, Checked By: KJS

Print Date: 1/19/2017
 File Name: 20344CULV_Hydraulics02.dgn
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 Staff Bridge Branch - Unit 0226 Unit Leader: DDG

Sheet Revisions		
Date:	Comments	Init.

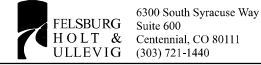
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 Phone: 719-562-5509 FAX: 719-546-5702
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 No Revisions:
 Revised:
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US 50 OVER WILLIAMS CREEK BOX CULVERT HYDRAULIC INFORMATION

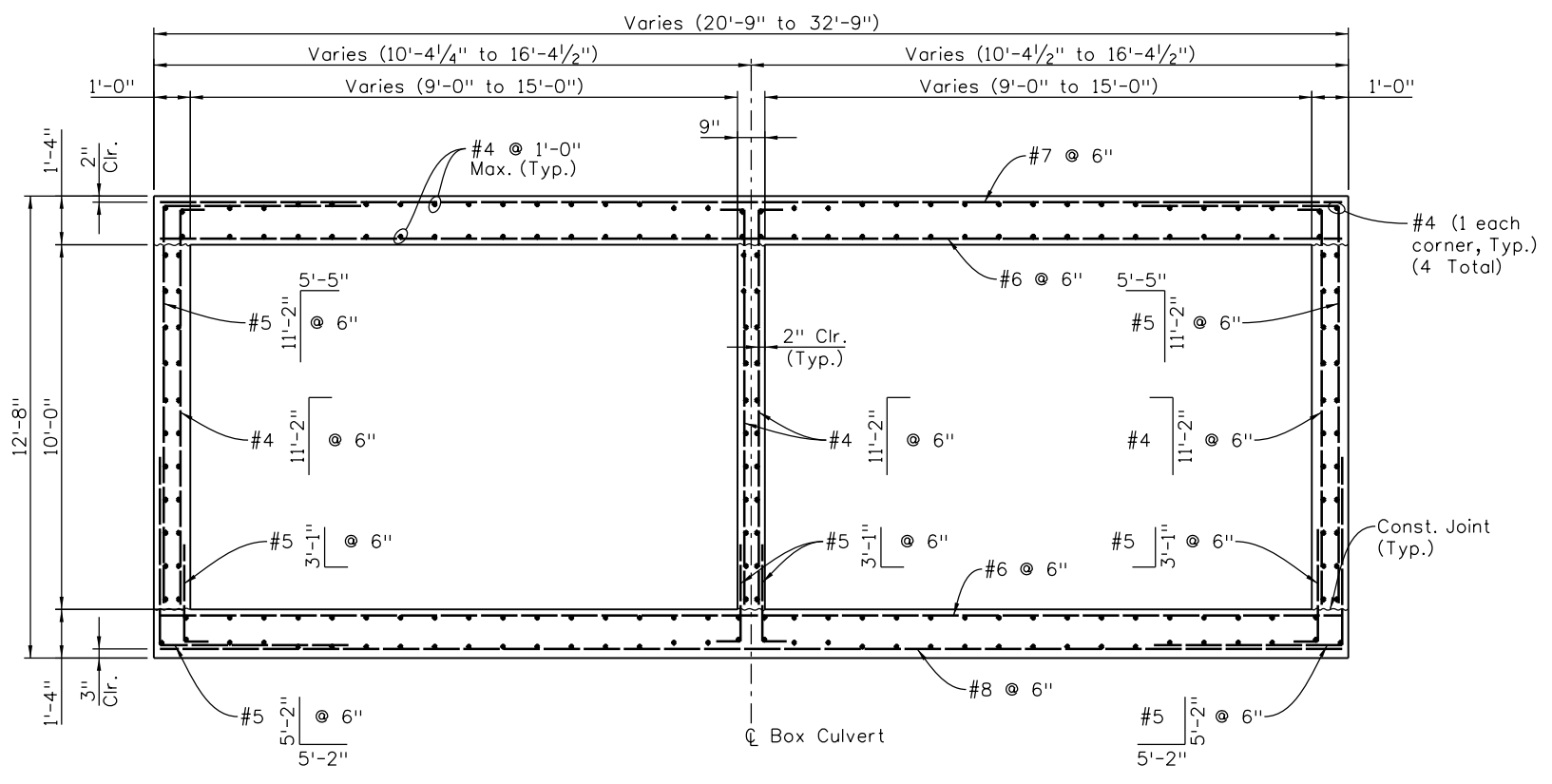
Designer:	M. Love	Structure Numbers:	K-18-DA
Detailer:	C. Miyamoto	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets: C4 of 8	

Project No./Code
 STA 0503-085
 20344
 Sheet Number **141**



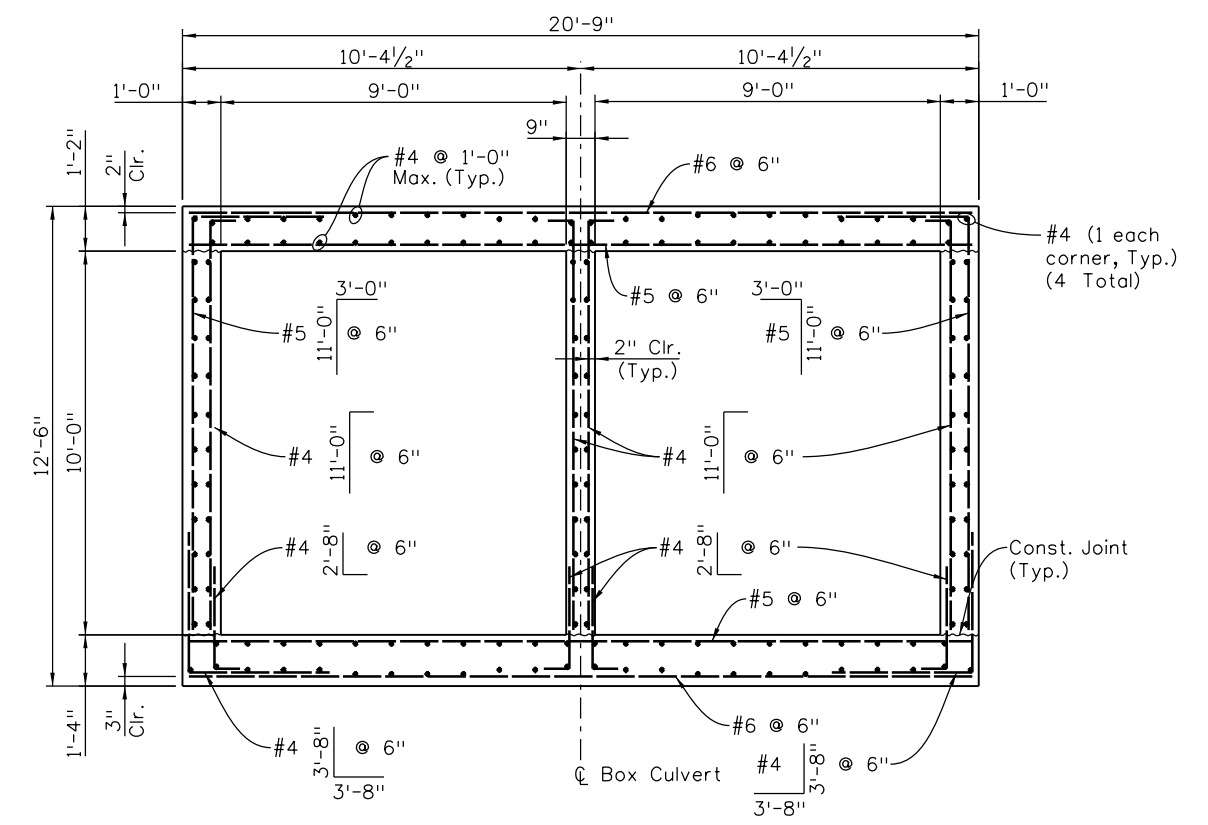
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Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
06/16	KJS	06/16	KJS	07/16	KJS
07/16	SCR	07/16	SCR	08/16	SCR
Designed By	Checked By	Detailed By	Checked By	Quantities By	Checked By



BOX CULVERT AT WEST END (SPECIAL INLET)

SECTION A-C2



BOX CULVERT TYPICAL SECTION

SECTION B-C2

Print Date: 1/19/2017
File Name: 20344CULV_ExtDetails03.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted
Staff Bridge Branch - Unit 0226 Unit Leader: DDG
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Date:	Comments	Init.

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Region 2 DTD

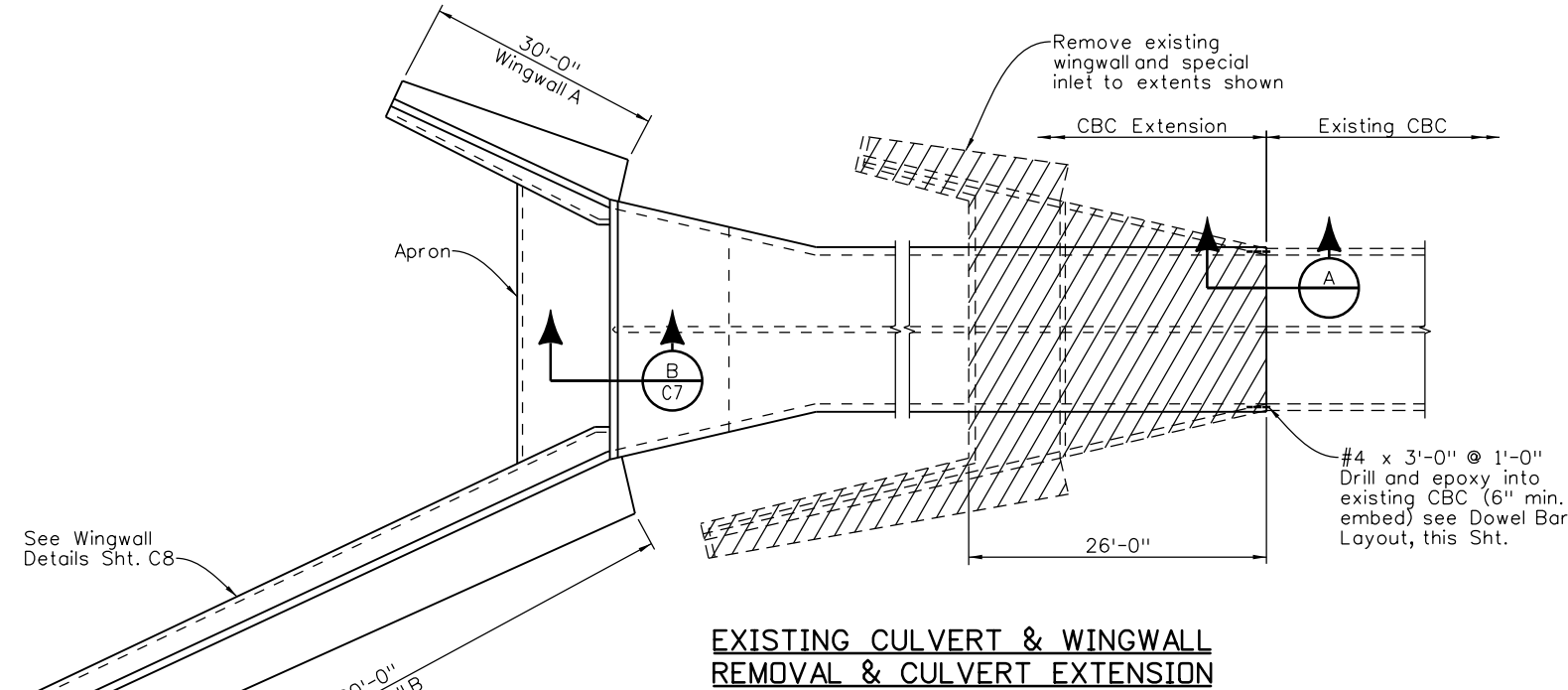
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Revised:
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US 50 WEST WESTBOUND WILLIAMS CREEK - CBC EXTENSION TYPICAL SECTIONS			
Designer:	S. Redd	Structure Numbers	K-18-CZ
Detailer:	C. Miyamoto	Subset Sheets:	C5 of 8
Sheet Subset:	Bridge		

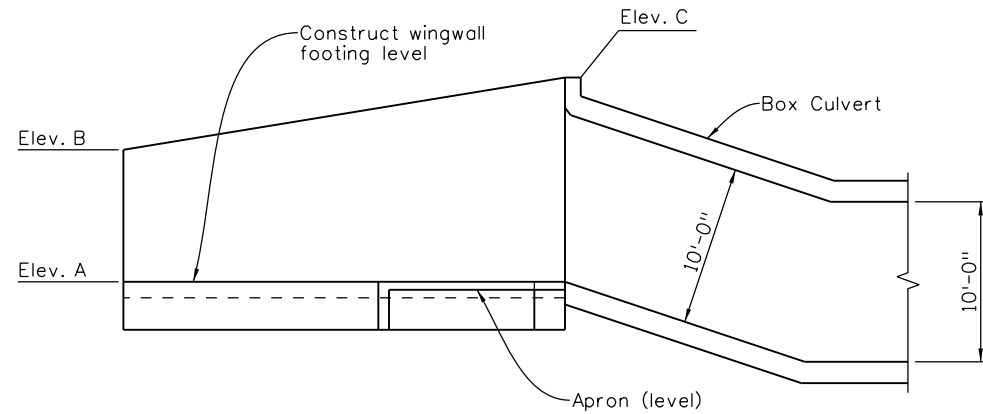
Project No./Code	STA 0503-085
	20344
Sheet Number	142

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Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	06/16	KJS	06/16	Quantities By	KJS
Checked By	07/16	SCR	07/16	Checked By	SCR

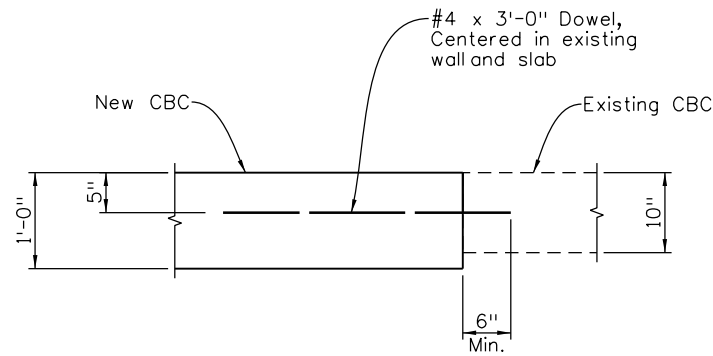


**EXISTING CULVERT & WINGWALL
REMOVAL & CULVERT EXTENSION**

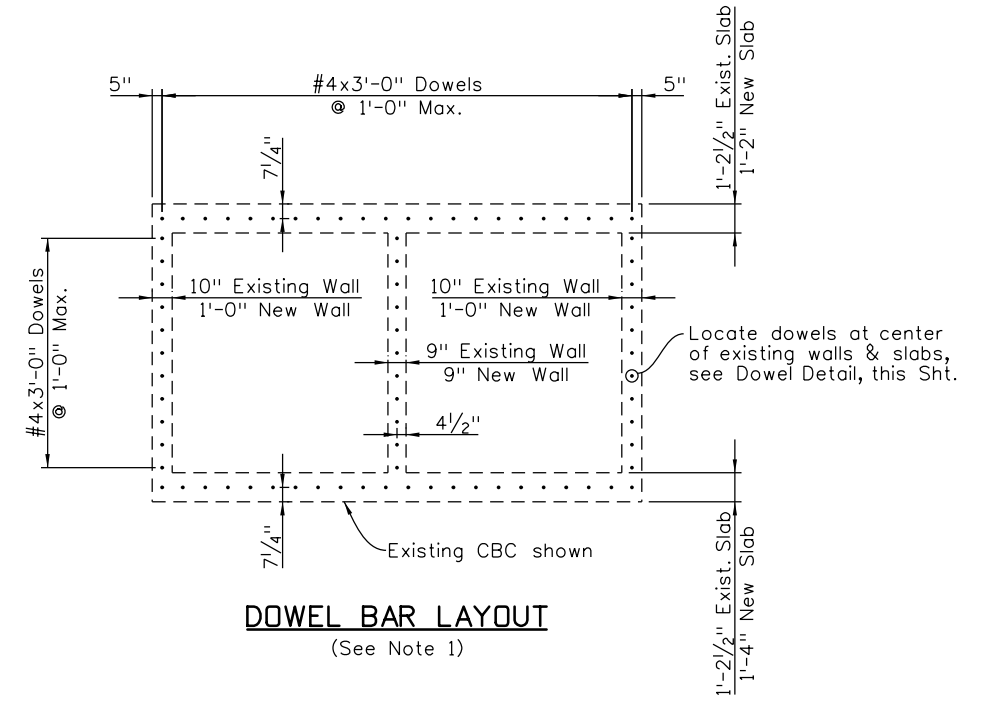


TYPICAL WINGWALL ELEVATION
(Looking North near Wingwall A)(Wingwall B similar)

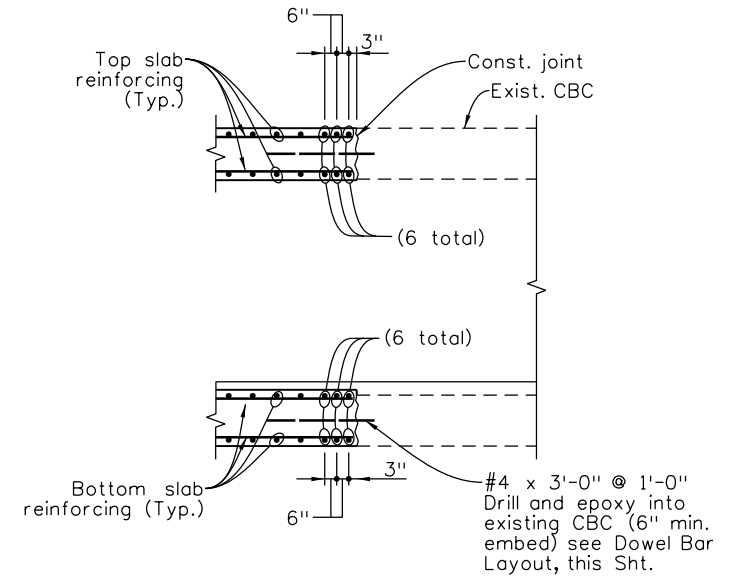
Wingwall	Elev. A	Elev. B	Elev. C
A	4790.0	4798.0	4803.0
B	4790.0	4803.5	4807.0



DOWEL DETAIL



DOWEL BAR LAYOUT
(See Note 1)



SECTION A

NOTES:

- Dowels shall be anchored using an approved epoxy adhesive. The cost of dowels, drilling and epoxy will not be paid for separately, but shall be included in the work.
- Existing wall and slab thicknesses to be field verified. Proposed dowel locations may be field adjusted to avoid existing reinforcement.

Print Date: 1/19/2017
 File Name: 20344CULV_ExtDetails01.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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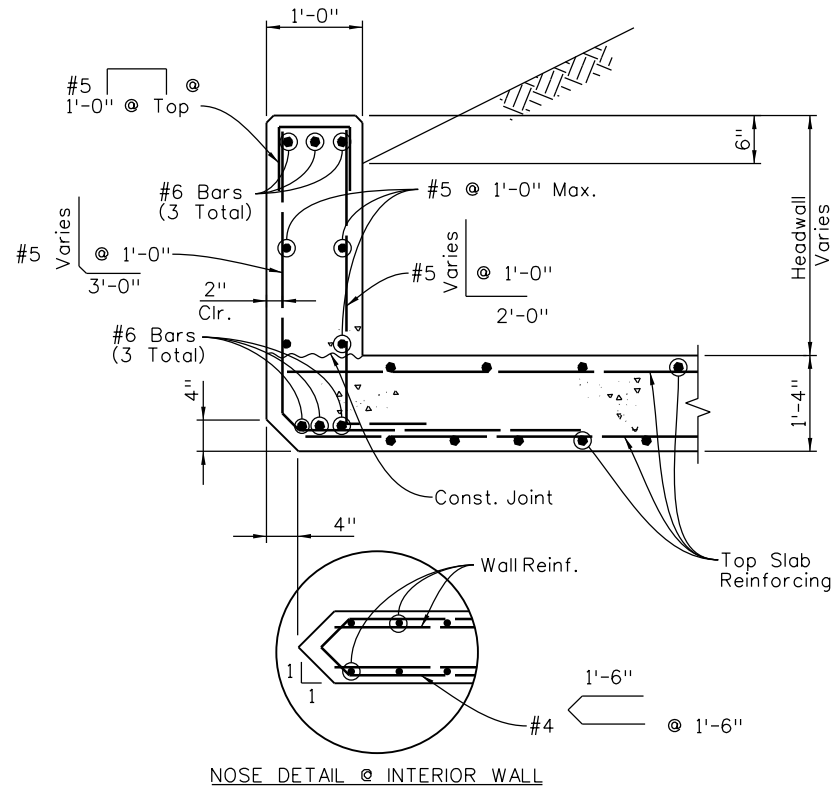
As Constructed
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Revised:
Void:

**US 50 WEST WESTBOUND
WILLIAMS CREEK - CBC EXTENSION
CULVERT EXTENSION DETAILS (1 OF 2)**

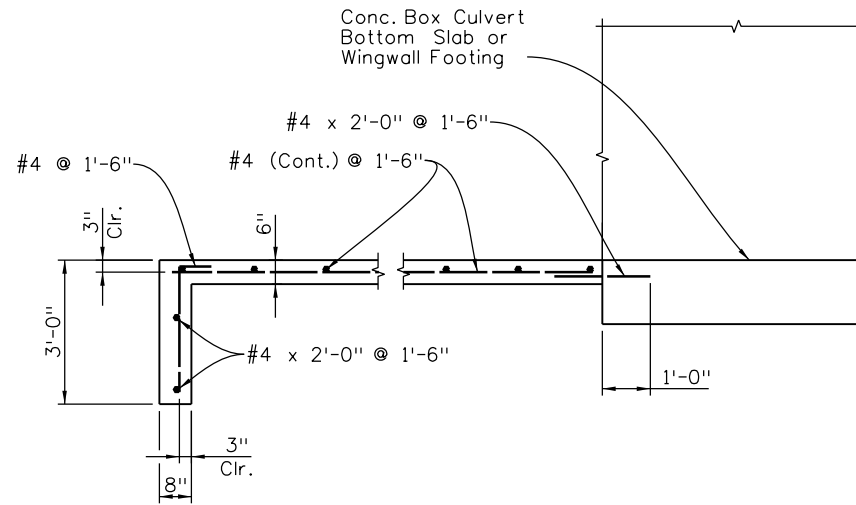
Designer: S. Redd Structure Numbers: K-18-CZ
 Detailer: C. Miyamoto
 Sheet Subset: Bridge Subset Sheets: C6 of 8

Project No./Code
 STA 0503-085
 20344
 Sheet Number **143**

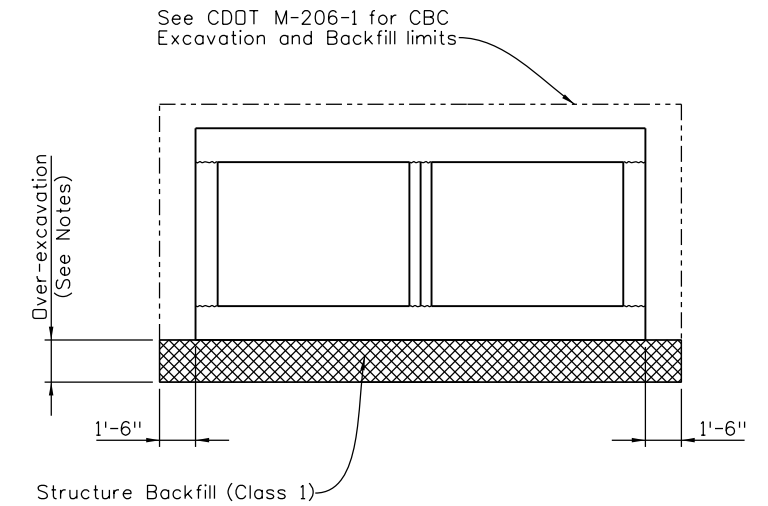




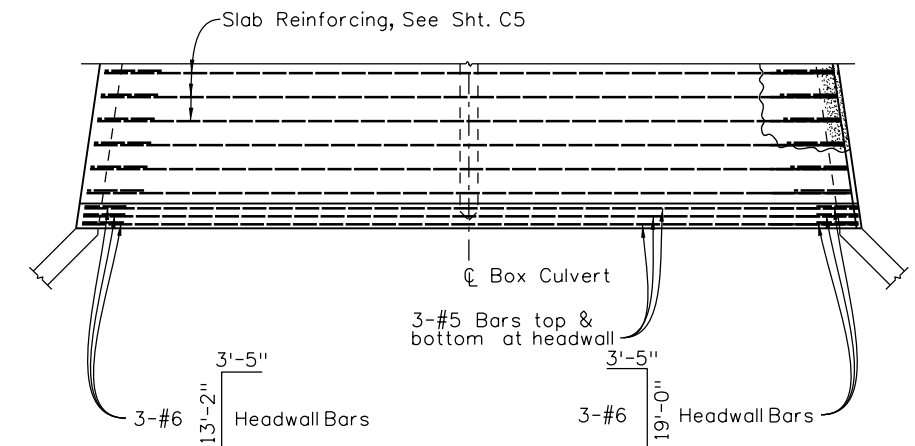
PARTIAL SECTION NEAR HEADWALL (B/C6)



CONCRETE APRON DETAIL



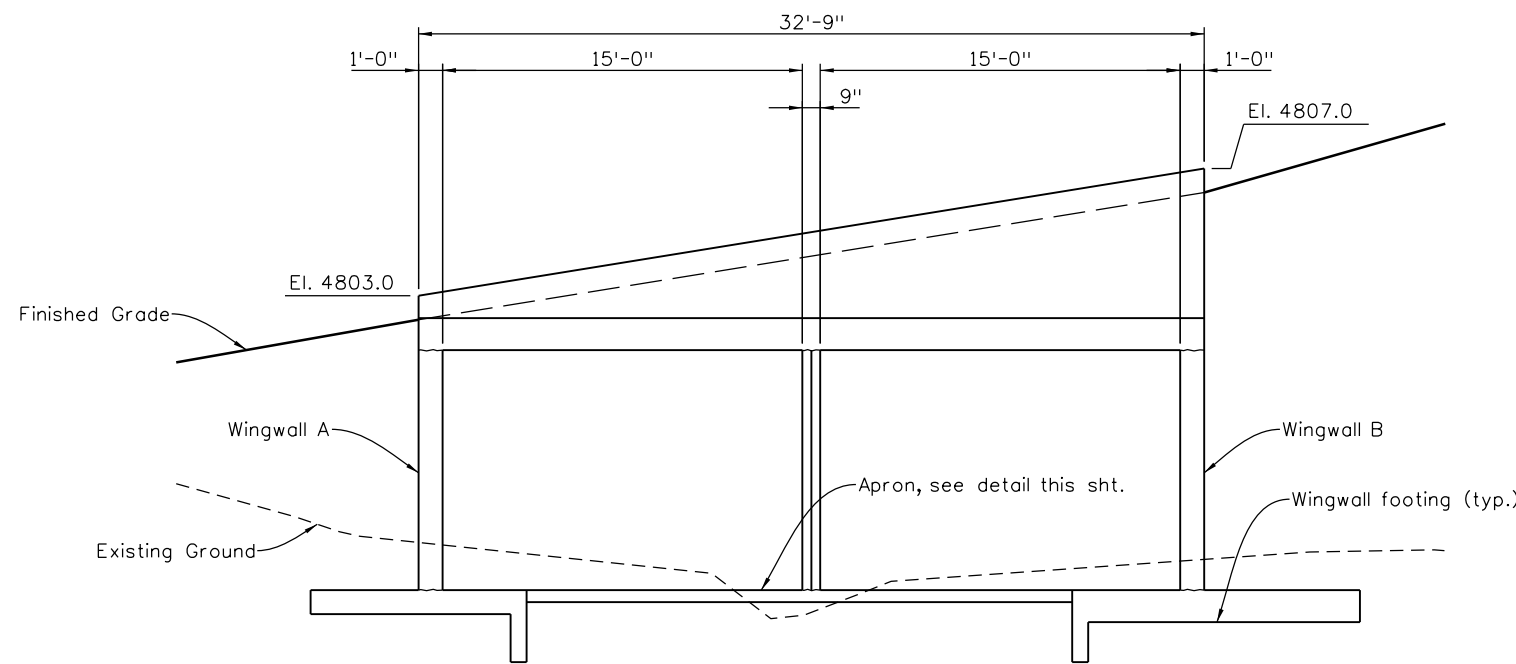
OVER-EXCAVATION LIMITS
(See Sht. C8 for Over-excavation at Wingwalls)



REINFORCING PLAN

NOTES:

- Subgrade soils beneath structures shall be overexcavated a minimum of 2 feet below the bottom of the CBC or wingwall footing, or to competent bedrock, and replaced with Structure Backfill (Class 1) compacted in accordance with Section 206.
- Alternative subgrade preparation may include removal of existing soils to 1 foot below the bottom of the CBC, or to competent bedrock, installing a geotextile stabilization material and backfilling with Structure Backfill (Class 1). Geotextile material will be included in the cost of the backfill.
- Alternative methods of stabilization may be considered based on the conditions encountered. The Contractor shall submit alternative methods to CDOT for approval by the Geotechnical Engineer.



ELEVATION AT WEST END

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 Design: KUS 06/16 07/16 07/16 08/16
 Detail: KUS 06/16 07/16 07/16 08/16
 Quantities: KUS 06/16 07/16 07/16 08/16
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 Detail: CAD 07/16 07/16 07/16 08/16
 Quantities: CAD 07/16 07/16 07/16 08/16

Print Date: 1/19/2017	
File Name: 20344CULV_ExtDetails02.dgn	
Horiz. Scale: 1:1 Vert. Scale: As Noted	
Staff Bridge Branch - Unit 0226 Unit Leader: DDG	

Sheet Revisions		
Date:	Comments	Init.

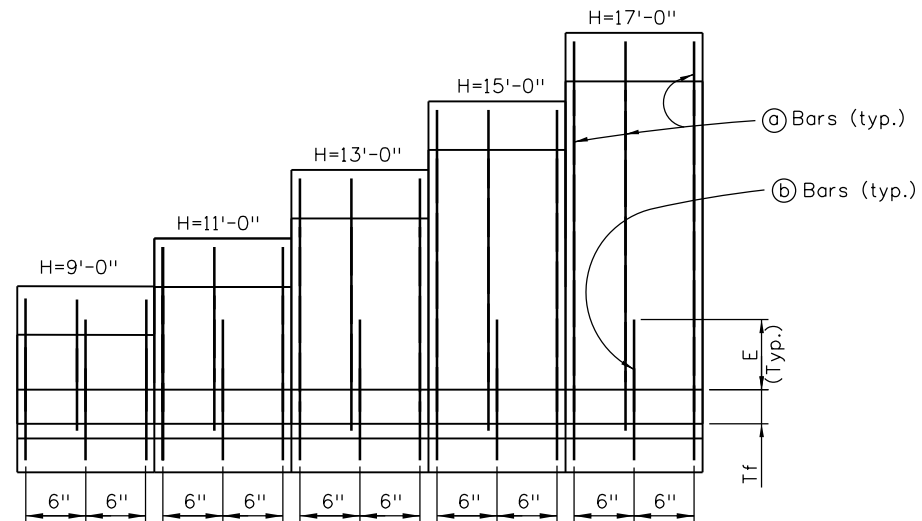
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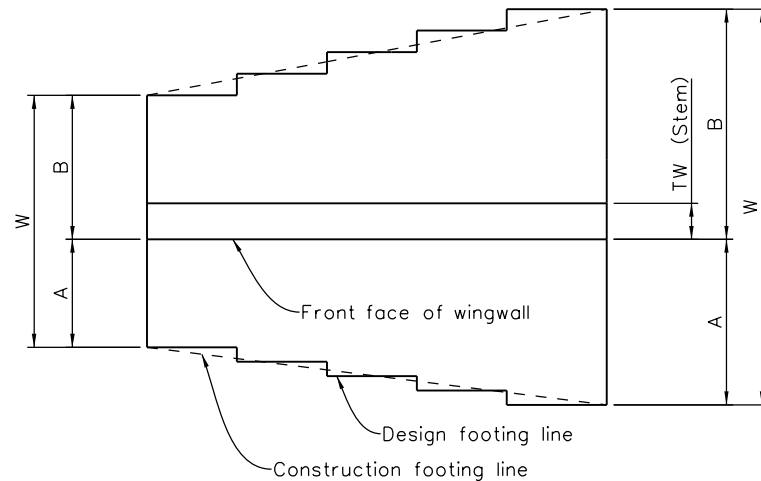
US 50 WEST WESTBOUND WILLIAMS CREEK - CBC EXTENSION CULVERT EXTENSION DETAILS (2 OF 2)			
Designer:	S. Redd	Structure Numbers:	K-18-CZ
Detailer:	C. Miyamoto	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets:	C7 of 8

Project No./Code
STA 0503-085
20344
Sheet Number 144

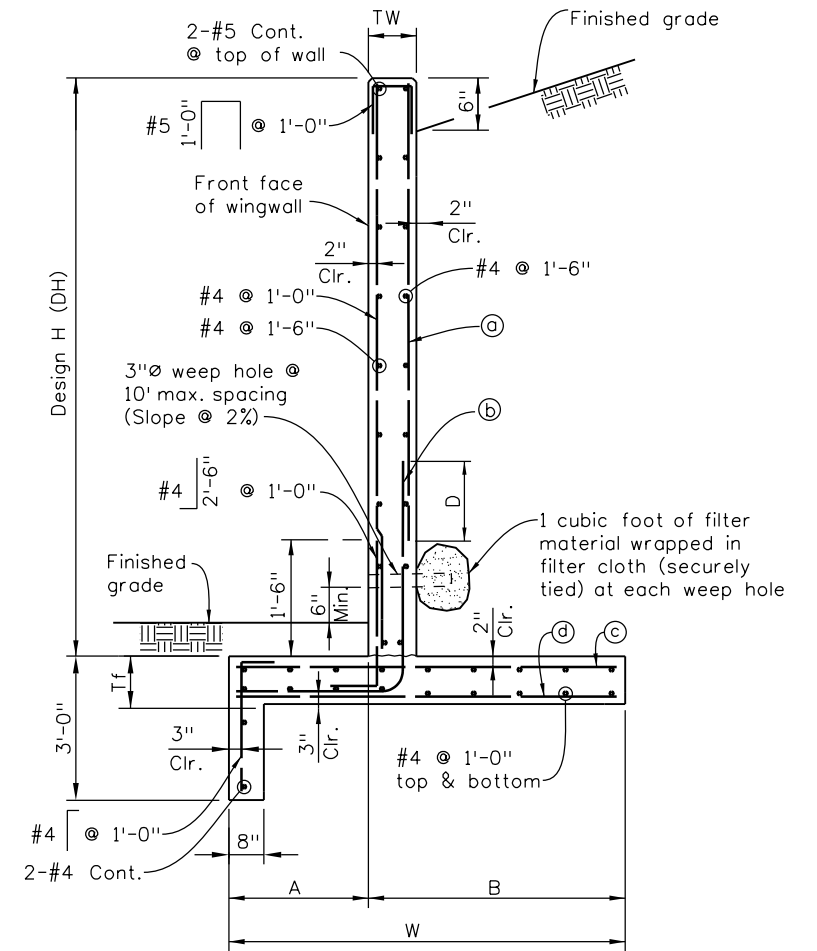


REINFORCING ELEVATION

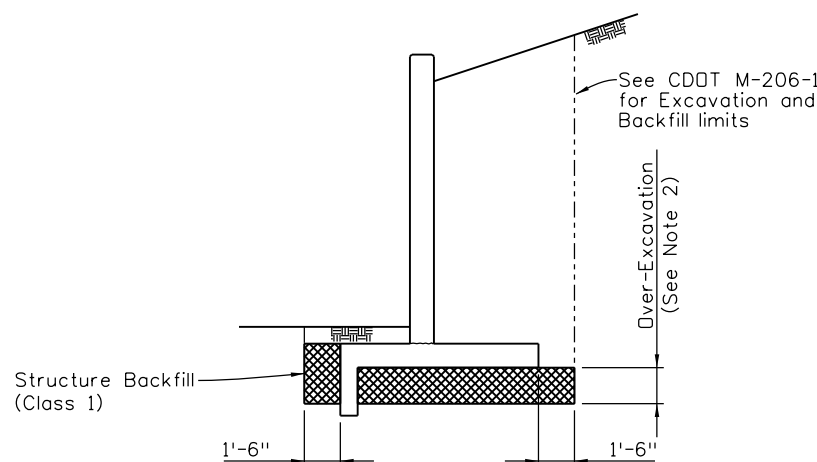
DESIGN DATA - REINFORCING STEEL & DIMENSIONS					
Design H (DH)	9'-0"	11'-0"	13'-0"	15'-0"	17'-0"
W (min.)	5'-0"	7'-0"	9'-0"	10'-6"	12'-0"
A (min.)	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"
B (min.)	3'-6"	5'-0"	6'-6"	7'-6"	8'-6"
Tw	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
Tf	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
a bars	#4 @ 12"	#5 @ 12"	#5 @ 12"	#6 @ 12"	#8 @ 12"
b bars	#5 @ 12"	#5 @ 6"	#5 @ 6"	#6 @ 6"	#8 @ 6"
c bars	#5 @ 12"	#4 @ 6"	#5 @ 6"	#5 @ 6"	#6 @ 6"
d bars	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 6"	#4 @ 6"
D	1'-6"	1'-11"	1'-11"	2'-3"	3'-0"
E	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"
Conc. CY/LF	0.62	0.77	0.91	1.04	1.17
Reinf. Lb/LF	55.0	81.0	102.0	139.0	211.0



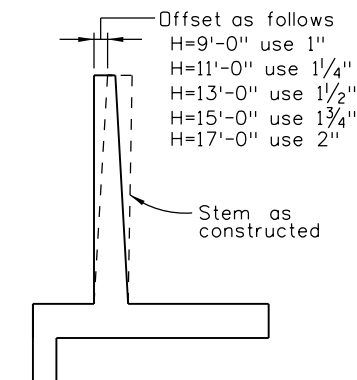
FOOTING PLAN DESIGN EXAMPLE



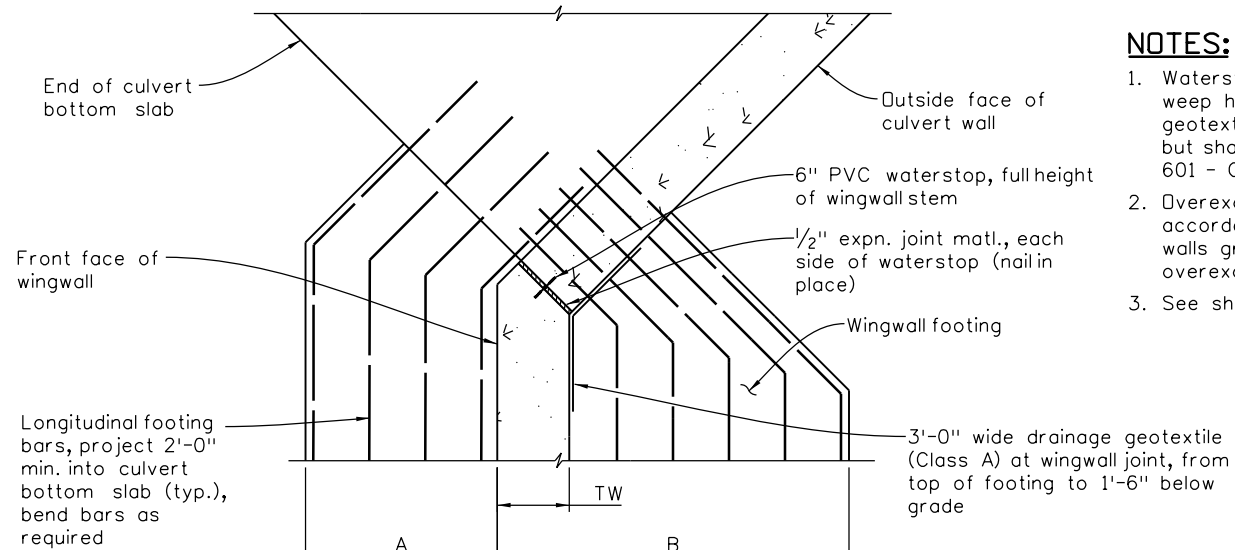
TYPICAL WINGWALL SECTION



OVER-EXCAVATION LIMITS



APPROXIMATE WALL OFFSETS



BOX CULVERT BOTTOM SLAB/WINGWALL INTERSECTION DETAIL

- NOTES:**
- Waterstop, 1/2" expansion joint material, weep hole drainage system & drainage geotextile will not be paid for separately, but shall be included in the cost of item 601 - Concrete Class D (Box Culvert).
 - Overexcavate soil below wingwall footing in accordance with notes on sheet C7. Except walls greater than DH = 15'-0" shall be overexcavated a minimum of 3 feet.
 - See sheet C7 for concrete apron detail.

Design: Initial Date: 06/16/16, Checked By: KJS, CAD: 07/16/16, Quantities: Initial Date: 07/16/16, Checked By: KJS, SCR: 08/7/16
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Print Date: 1/19/2017
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 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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 Revised:
 Void:

US 50 WEST WESTBOUND
 WILLIAMS CREEK - CBC EXTENSION
 WINGWALL DETAILS
 Designer: S. Redd
 Detailer: C. Miyamoto
 Sheet Subset: Bridge

Project No./Code
 STA 0503-085
 20344
 Sheet Number 145



ENVIRONMENTAL GENERAL NOTES:

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

IF MIGRATORY BIRDS ARE IDENTIFIED, CDDT REGION 2 ENVIRONMENTAL PERSONNEL SHALL COORDINATE WITH THE DESIGN PROJECT MANAGER TO SHOW BIRD NESTS AND POTENTIAL NESTING HABITAT IN THE PLAN. THE CDDT BIOLOGIST SHALL RECORD THE LOCATION OF EACH PROTECTED NEST, BIRD SPECIES, PROTECTION METHODS USED, AND DATE INSTALLED. A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER. THESE PROTECTION METHODS SHALL REMAIN IN PLACE DURING THE NESTING SEASON (BETWEEN APRIL 1 AND AUGUST 31).

2. RIPARIAN/ STREAM BANK (SENATE BILL 40) RESOURCES ALONG WILD HORSE DRY CREEK AND WILLIAMS CREEK WILL BE RESTORED, AS NOTED IN THE EROSION CONTROL PLANS. PLANTING OF TREES AND SHRUBS WILL FOLLOW CDDT'S STANDARD SPECIFICATION 214 - PLANTING AND PROJECT SPECIAL PROVISION 217 HERBICIDE TREATMENT.

3. 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 CDDT 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 CDDT STAFF BIOLOGIST WILL BE CONSULTED PRIOR TO CONSTRUCTION TO DETERMINE ACTIONS NECESSARY TO AVOID AND MINIMIZE IMPACTS.

4. THE CONTRACTOR SHALL OBTAIN 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.

5. 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.

6. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A DUST CONTROL PLAN 30 DAYS PRIOR TO WORK COMMENCEMENT THAT DETAILS METHODS FOR MITIGATION OF FUGITIVE DUST RESULTING FROM THE WORK, INCLUDING DUST FROM THE BRIDGE REMOVAL. THE DUST CONTROL PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO WORK COMMENCEMENT. PREPARATION OF THIS PLAN WILL BE INCLUDED IN ITEM 250 HEALTH AND SAFETY MANAGEMENT.

WATER SHALL BE USED AS A DUST PALLIATIVE AS DETAILED IN CDDT 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 INCIDENTAL TO ITEM 250 HEALTH AND SAFETY MANAGEMENT. CONTAMINATED GROUNDWATER SHALL NOT BE USED AS A DUST PALLIATIVE.

7. THE CONTRACTOR IS ADVISED THAT KNOWN SOIL AND CONTAMINATED GROUNDWATER 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 DURING CONSTRUCTION, THEY SHALL BE REMOVED, STOCKPILES SAMPLED, AND DISPOSED OF IN ACCORDANCE WITH SUBSECTION 250.03(D) OF STANDARD SPECIFICATIONS AND CONTRACTOR'S HEALTH AND SAFETY PLAN. PAYMENT WILL BE IN ACCORDANCE WITH APPLICABLE 250 PAY ITEMS. CONTAMINATED WATER HANDLING WILL BE PAID FOR UNDER FA ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT.

8. THIS PROJECT REQUIRES A COLORADO DISCHARGE PERMIT SYSTEM CONSTRUCTION DEWATERING PERMIT. THE CONTRACTOR SHALL OBTAIN THE DEWATERING PERMIT PRIOR TO CONSTRUCTION. OBTAINING THE PERMIT WILL BE INCLUDED IN ITEM 250- ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT.

9. THIS PROJECT REQUIRES A COLORADO DISCHARGE PERMIT SYSTEM STORMWATER CONSTRUCTION PERMIT (CDPS-SCP). ALL PERMIT REQUIREMENTS SHALL BE ADHERED TO BY THE CONTRACTOR. CDDT WILL OBTAIN THE CDPS-SCP PRIOR TO ADVERTISEMENT AND TRANSFER TO THE CONTRACTOR. OBTAINING THE PERMIT WILL BE INCLUDED IN ITEM 250- ENVIRONMENTAL HEALTH AND SAFETY.

10. WETLANDS EXIST WITHIN THE LIMITS OF THE PROJECT AS SHOWN ON SHEETS ENV-4 THROUGH ENV-6. TEN DAYS PRIOR TO MOBILIZATION, THE CDDT ENGINEER 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 SHALL INSTALL SAFETY BARRIER FENCING (ORANGE FENCING) TO PROTECT WETLANDS / RIPARIAN AREAS FROM CONSTRUCTION ACTIVITIES.

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

12. 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 OF THE FIND SHALL BE TEMPORARILY SUSPENDED. THE CDDT PROJECT ENGINEER WILL NOTIFY THE CDDT PALEONTOLOGIST TO ASSESS THE SIGNIFICANCE OF THE FIND AND MAKE FURTHER RECOMMENDATIONS. THE PROCESS IS OUTLINED IN SUBSECTION 107.23 OF CDDT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION FOR PROCEDURES REGARDING UNEXPECTED DISCOVERIES DURING CONSTRUCTION.

13. THE CONTRACTOR SHALL FOLLOW CDDT'S PROJECT SPECIAL PROVISION 240 BLACK-TAILED PRAIRIE DOG MANAGEMENT (WESTERN BURROWING OWL) FOR ALL ACTIVITIES THAT AFFECT BLACK TAILED PRAIRIE DOGS WITHIN THE PROJECT FOOTPRINT. CDDT'S BTPD POLICY IS AVAILABLE TO THE CONTRACTOR UPON REQUEST.



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

15. THE CONTRACTOR SHALL CONSIDER THE SCHEDULE FOR NIGHT WORK TO MINIMIZE WORK WITHIN 500 FEET OF RESIDENCES THAT MAY BE IMPACTED BY TEMPORARY LIGHTING OR CONSTRUCTION NOISE.

16. 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. 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 SHALL BE KEPT TO THE MINIMUM NECESSARY.
- IMPORTED TOPSOIL SHALL BE WEED FREE.
- AREAS WITH DENSE NOXIOUS WEED POPULATIONS SHALL NOT BE USED FOR TOPSOIL SALVAGE.
- ALL AREAS PLANNED FOR TOP SOIL SALVAGE SHALL BE TREATED FOR NOXIOUS WEEDS PRIOR TO SALVAGE.
- ONLY HERBICIDES APPROVED FOR USE IN WATER SHALL 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 SHALL BE NOTIFIED 24 HOURS PRIOR TO HERBICIDE APPLICATION.

17. CDDT PROPERTY MANAGEMENT HAS PREVIOUSLY TESTED STRUCTURES FOR LEAD BASED PAINT. DUE TO THE PRESENCE OF LEAD CONTAINING PAINT IN THE BNSF BRIDGE ON THE EAST SIDE OF THE PROJECT AND THE BRIDGE OVER WILDHORSE DRY CREEK THE REGULATED MATERIALS SHALL BE MANAGED IN ACCORDANCE WITH CDDT STANDARD SPECIFICATION 250.04 HEAVY METAL BASED PAINT MANAGEMENT.

Print Date: 3/7/2017		Sheet Revisions			Colorado Department of Transportation		As Constructed		US 50 WEST WESTBOUND ENVIRONMENTAL PLANS GENERAL NOTES			Project No./Code	
File Name: 20344-LAND_ENVI_Notes01.dgn		Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		Designer: KO Structure Detailer: KO Numbers Sheet Subset: E NOTES Subset Sheets: 1 of 3			FSA 0503-085	
Horiz. Scale: 1:1 Vert. Scale: As Noted							Revised:					20344	
 6300 South Syracuse Way, Suite 600 Centennial, CO 80111 Phone: 303.721.1440 Fax: 303.721.0832							Void:					Sheet Number 146	
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NOXIOUS WEEDS TREATMENT INFORMATION

NOXIOUS WEED	TREATMENT NAME	AREA (S.Y.)
HOARY CRESS (HC)	METSULFURON	85
LEAFY SPURGE (LS)	AMINOPYRALID	25
PERENNIAL PEPPERWEED (PP)	GLYPHOSATE	35
TAMARISK (T)	TRICLOPYR	1085

APPROXIMATE SUMMARY OF ENVIRONMENTAL QUANTITIES

ITEM NO	NAME	AMOUNT	PAY UNIT
214-01015	WILLOW CUTTING	1100	EA
214-00145	PLANT PROTECTION FENCE	1000	LF
217-00015	NOXIOUS WEED MANAGEMENT	1230	SY
240-00010	REMOVAL OF NESTS	10	HR
240-00020	NETTING	50	SY
250-00010	ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT	1	LS
250-00050	MONITORING TECHNICIAN	40	HR
250-00110	HEALTH AND SAFETY OFFICER	40	HR
250-00120	MATERIALS SAMPLING + DELIVERY	5	EA
250-00200	MATERIAL HANDLING (STOCKPILE)	50	CY
250-00210	SOLID WASTE DISPOSAL	50	CY
250-00220	HAZARDOUS WASTE DISPOSAL	50	CY
F/A 700-70035	PRAIRIE DOG MANAGEMENT	1	F.A.
F/A 700-70589	ENVIRONMENTAL HEALTH AND SAFETY	1	F.A.

Print Date: 2/8/2017
 File Name: 20344-LAND_ENVI_Notes02.dgn
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 Fax: 303.721.0832



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Revised:

Void:

US 50 WEST WESTBOUND
 ENVIRONMENTAL PLANS
 GENERAL NOTES

Designer: KO
 Detailer: KO

Structure Numbers
 Sheet Subset: E NOTES Subset Sheets: 2 of 3

Project No./Code

FSA 0503-085

20344

Sheet Number 147

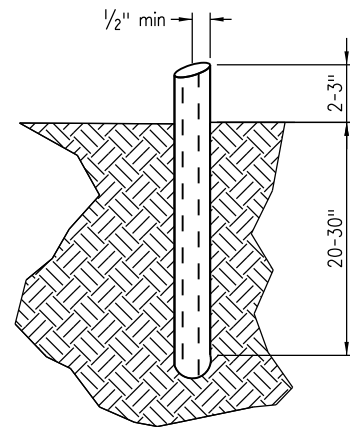
SHRUB AND SEED MIX (WILLIAMS CREEK ONLY)

COMMON NAME	SCIENTIFIC/BOTANICAL NAME	PLS/ACRE
MARSH MILKWEED	ASCLEPIAS INCARNATA	1.5
FOURWING SALTBUCH	ATRIPLEX CANESCENS	1.5
SALTGRASS	DISTICHLIS SPICATA	0.5
GOLDEN CURRANT	RIBES AUREUM	0.75
WOOD'S ROSE	ROSA WOODSII	1.5
THREE-SQUARE BULRUSH	SCHOENOPLECTUS PUNGENS	0.5
ALKALI SACATON	SPOROBOLUS AIROIDES	0.25
OATS (COVER CROP)* -OR-	AVENA SATIVA (SPRING)	3
REGREEN (COVER CROP)*	TRITICUM AESTIVUM	3
TOTAL		29

WILLOW CUTTINGS AND WETLAND SEEDING
WILD HORSE DRY CREEK ONLY

COMMON NAME	SCIENTIFIC/BOTANICAL NAME	PLS/ACRE
MARSH MILKWEED	ASCLEPIAS INCARNATA	1
SALTGRASS	DISTICHLIS SPICATA	0.5
THREE-SQUARE BULRUSH	SCHOENOPLECTUS PUNGENS	0.5
ALKALI SACATON	SPOROBOLUS AIROIDES	0.25
SANDBAR WILLOW	SALIX INTERIOR	1,100 (CUTTINGS)
OATS (COVER CROP)* -OR-	AVENA SATIVA (SPRING)	1.5
REGREEN (COVER CROP)*	TRITICUM AESTIVUM	1.5
TOTAL		3.75

WILLOW CUTTINGS
(NOT TO SCALE)

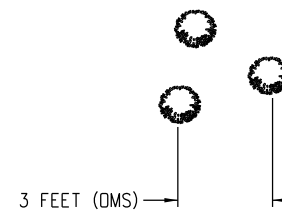


CUTTING MIN. OF 1/2 INCH DIAMETER
CUT OFF EXPOSED LENGTH 2" TO
3" ABOVE GROUND

PLACE CUTTING A MINIMUM OF 20"-30"
INTO THE SOIL. CUTTING SHALL BE
PLACED AS DIRECTED IN MOIST
AREAS.

WILLOW CUTTINGS SHALL BE PLACED 3' O.C. IN THE SPRING
WHILE DORMANT. CUTTINGS SHALL BE PLANTED TO A
MINIMUM DEPTH OF 20" TO PREVENT WILLOW CUTTINGS
FROM WASHING DOWNSTREAM IN STORM EVENTS. HOLES
SHALL BE BACKFILLED WITH NATIVE MATERIAL AND WATERED
TO ENSURE NO AIR POCKETS REMAIN.

RANDOM PLANT SPACING - PLAN VIEW
(NOT TO SCALE)



1. PLANTS ARE ARRANGED IN RANDOM CLUSTERS CONSISTING OF MULTIPLE SPECIES IN A NON-CHECKER BOARD PATTERN.
2. SPACING BETWEEN EACH CLUSTER IS DETERMINED BY THE OVERALL MINIMUM SPACE DISTANCE (DMS).
3. CLUSTERS, WHENEVER POSSIBLE, SHALL CONSIST OF ODD NUMBERS WITH NO LESS THAN 3 INDIVIDUALS OF ONE SPECIES.

APPROXIMATE SUMMARY OF LANDSCAPING QUANTITIES

ITEM NO	NAME	AMOUNT	PAY UNIT
212-00005	SEEDING (NATIVE)	1	AC
214-01015	WILLOW CUTTING	1100	EA
214-00145	PLANT PROTECTION FENCE	1000	LF

GRASSES (WILD HORSE DRY CREEK ONLY)

COMMON NAME	SCIENTIFIC/BOTANICAL NAME	PLS/ACRE
DESERT INDIGO BRUSH	AMORPHA FRUITCOSA	1.5
FOURWING SALTBUCH	ATRIPLEX CANESCENS	1.5
RUBBER RABBITBRUSH	CHRYSOTHAMNUS NAUSEOSUS	0.25
SKUNKBUSH SUMAC	RHUS TRILOBATA	1.5
GOLDEN CURRANT	RIBES AUREUM	0.25
WOOD'S ROSE	ROSA WOODSII	1.5
OATS (COVER CROP)* -OR-	AVENA SATIVA (SPRING)	4
REGREEN (COVER CROP)*	TRITICUM AESTIVUM	4
TOTAL		10.5

SEED MIX- GRASSES
WILD HORSE DRY CREEK ONLY

COMMON NAME	SCIENTIFIC/BOTANICAL NAME	PLS/ACRE
BUFFALO GRASS	BUCHLOE DACTYLOIDES	5
BLUE GRAMA	BOUTELOUA GRACILLIS	3
LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	5
SAND DROPSEED	SPOROBOLUS CRYPTANDRUS	1.5
GREEN NEEDLEGRASS	STIPA VIRIDULA	3
OATS (COVER CROP)* -OR-	AVENA SATIVA (SPRING)	8
REGREEN (COVER CROP)*	TRITICUM AESTIVUM	8
TOTALS		23.5

* CHOOSE ONE COVER CROP
REFER TO SWMP SHEETS FOR SEED MIX TO BE USED IN ALL UPLAND AREAS OF PROJECT

Print Date: 3/7/2017
File Name: 20344-LAND_ENVI_Notes03.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted

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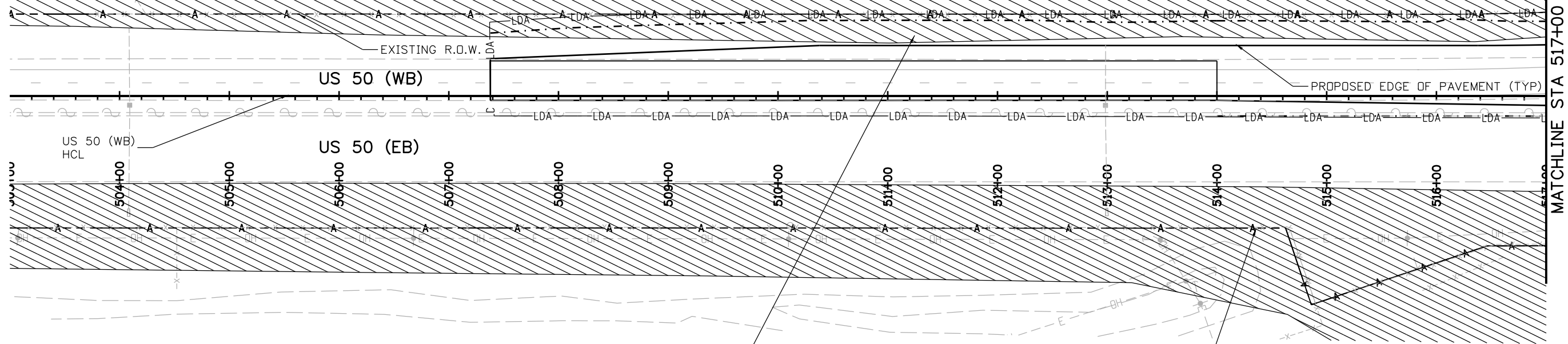
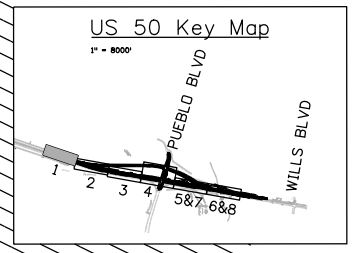
**US 50 WEST WESTBOUND
REVEGETATION PLANS
GENERAL NOTES**

Designer: **KD** Structure Numbers
Detailer: **KD**
Sheet Subset: **REVEG** Subset Sheets: 3 of 3

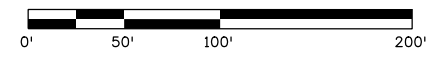
Project No./Code
FSA 0503-085
20344
Sheet Number **148**



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REFER TO CDDT'S BTPD POLICY AND SECTION 240 BLACK-TAILED PRAIRIE DOG (BTPD) MANAGEMENT FOR WORK WITHIN LIMITS OF DISTURBANCE AND (BTPD) HABITAT



LEGEND

- ★ TREES
- BIRD NESTS
- NOXIOUS WEED ABBREVIATIONS
- T TAMARISK
- HC HOARY CRESS
- LS LEAFY SPURGE
- PP PERENNIAL PEPPERWEED
- (SEE ENVIRONMENTAL NOTES FOR TREATMENT INFORMATION)
- WETLANDS
- NOXIOUS WEEDS
- PRAIRIE DOGS
- LDA LIMITS OF DISTURBANCE
- TOE OF FILL
- TOP OF CUT

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 File Name: 20344-LAND_ENVI_01.dgn
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US 50 WEST WESTBOUND ENVIRONMENTAL PLANS

Designer:	KD	Structure Numbers	
Detailer:	KD	Subset Sheets:	1 of 8
Sheet Subset:	ENV		

Project No./Code

FSA 0503-085

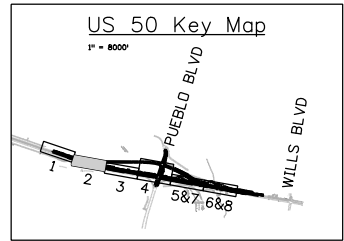
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Sheet Number **149**

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REFER TO CDOT'S BTPD POLICY AND SECTION 240 BLACK-TAILED PRAIRIE DOG (BTPD) MANAGEMENT FOR WORK WITHIN LIMITS OF DISTURBANCE AND BTPD HABITAT

EXISTING R.O.W.

ENTRANCE RAMP

PROPOSED EOP (TYP)

MATCHLINE STA 517+00

MATCHLINE STA 530+00

US 50 (WB)

US 50 (EB)

EXISTING R.O.W.

518+00

519+00

520+00

521+00

522+00

523+00

524+00

525+00

526+00

527+00

528+00

529+00

PC 520+31.98

PY 525+45.08



LEGEND

★ TREES

● BIRD NESTS

WETLANDS

NOXIOUS WEEDS

PRAIRIE DOGS

LDA LIMITS OF DISTURBANCE

TOE OF FILL

TOP OF CUT

NOXIOUS WEED ABBREVIATIONS

- T TAMARISK
- HC HOARY CRESS
- LS LEAFY SPURGE
- PP PERENNIAL PEPPERWEED

(SEE ENVIRONMENTAL NOTES FOR TREATMENT INFORMATION)

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US 50 WEST WESTBOUND ENVIRONMENTAL PLANS

Designer: KD
Detailer: KD
Sheet Subset: ENV

Structure Numbers
Subset Sheets: 2 of 8

Project No./Code

FSA 0503-085

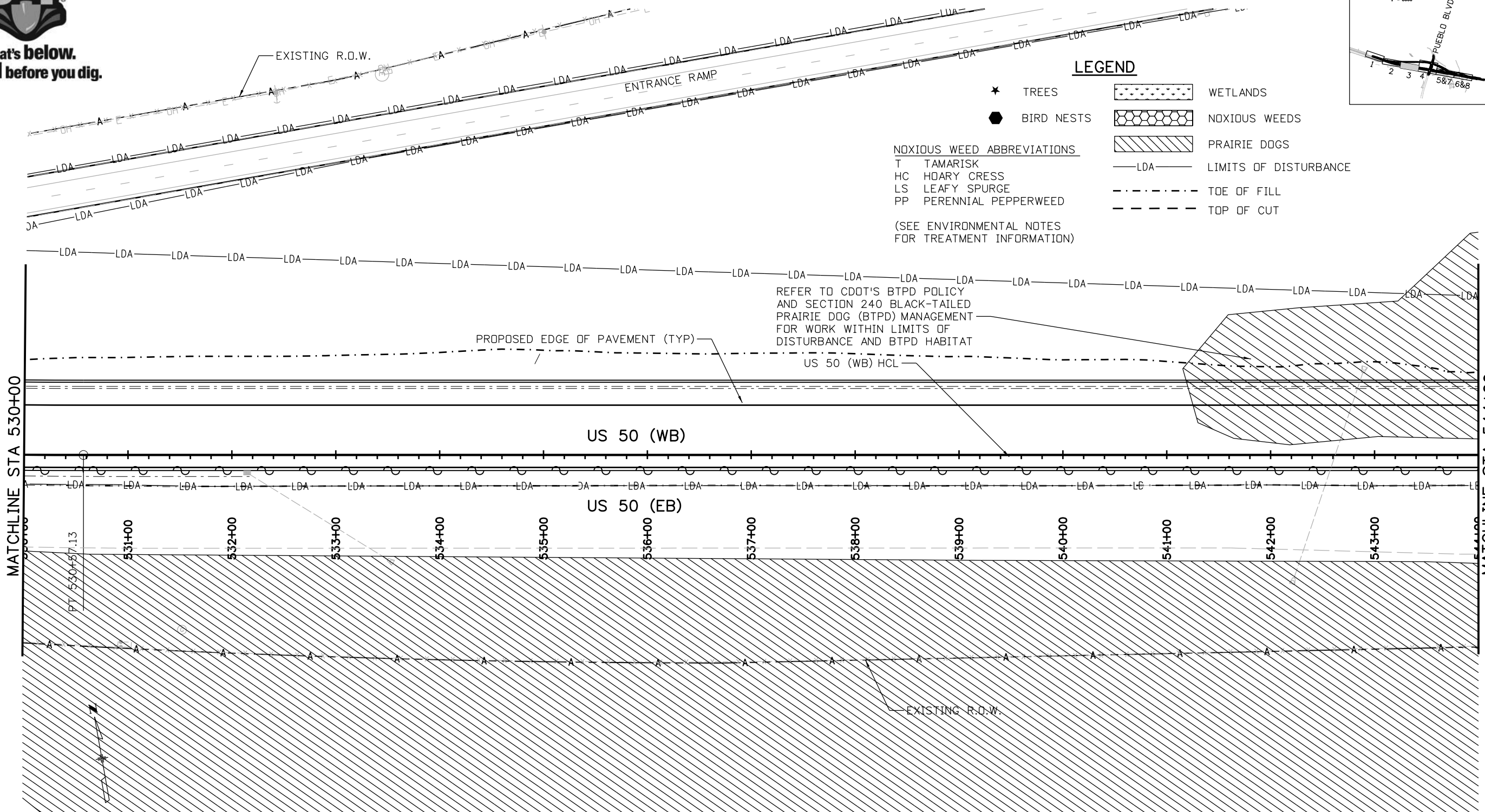
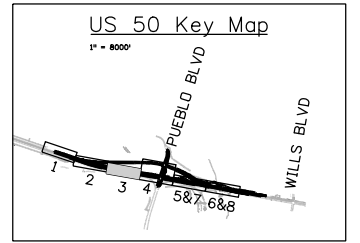
20344

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LEGEND

- ★ TREES
- BIRD NESTS
- WETLANDS
- NOXIOUS WEEDS
- PRAIRIE DOGS
- LDA LIMITS OF DISTURBANCE
- TOE OF FILL
- TOP OF CUT

NOXIOUS WEED ABBREVIATIONS

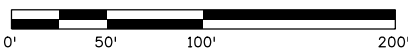
- T TAMARISK
- HC HOARY CRESS
- LS LEAFY SPURGE
- PP PERENNIAL PEPPERWEED

(SEE ENVIRONMENTAL NOTES FOR TREATMENT INFORMATION)

REFER TO CDOT'S BTPD POLICY AND SECTION 240 BLACK-TAILED PRAIRIE DOG (BTPD) MANAGEMENT FOR WORK WITHIN LIMITS OF DISTURBANCE AND BTPD HABITAT

MATCHLINE STA 530+00

MATCHLINE STA 544+00



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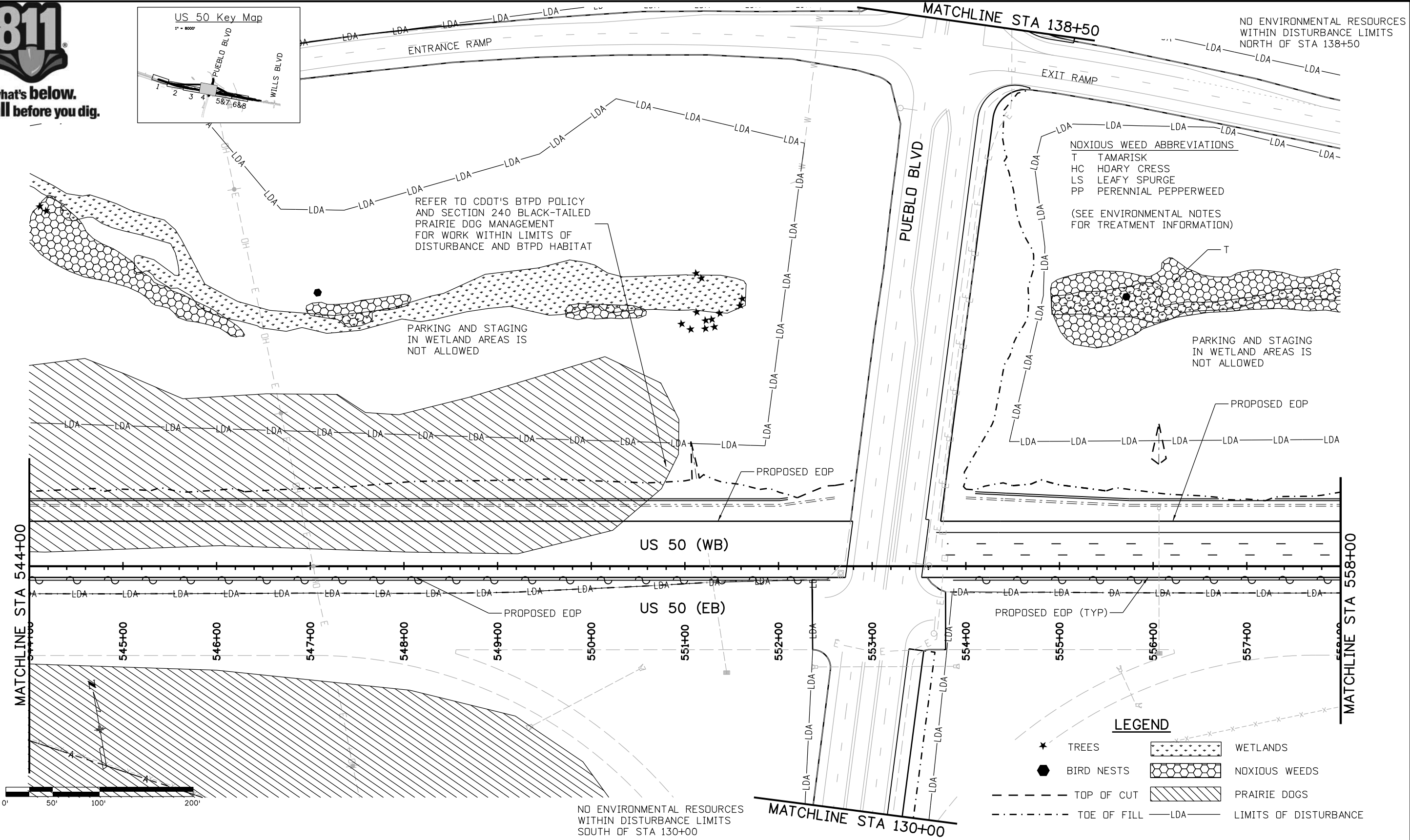
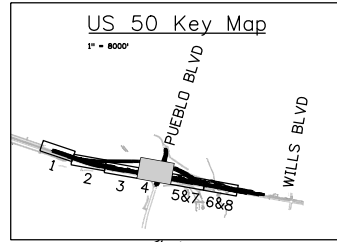
US 50 WEST WESTBOUND ENVIRONMENTAL PLANS			
Designer:	KD	Structure Numbers	
Detailer:	KD	Subset Sheets:	3 of 8
Sheet Subset:	ENV		

Project No./Code
FSA 0503-085
20344
Sheet Number 151

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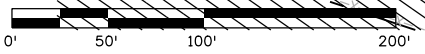


NOXIOUS WEED ABBREVIATIONS
T TAMARISK
HC HOARY CRESS
LS LEAFY SPURGE
PP PERENNIAL PEPPERWEED

(SEE ENVIRONMENTAL NOTES FOR TREATMENT INFORMATION)

LEGEND

- ★ TREES
- BIRD NESTS
- TOP OF CUT
- - - TOE OF FILL
- LDA --- LIMITS OF DISTURBANCE
- [Stippled Area] WETLANDS
- [Hexagonal Pattern] NOXIOUS WEEDS
- [Hatched Area] PRAIRIE DOGS



REFER TO CDOT'S BTPD POLICY AND SECTION 240 BLACK-TAILED PRAIRIE DOG MANAGEMENT FOR WORK WITHIN LIMITS OF DISTURBANCE AND BTPD HABITAT

PARKING AND STAGING IN WETLAND AREAS IS NOT ALLOWED

PARKING AND STAGING IN WETLAND AREAS IS NOT ALLOWED

NO ENVIRONMENTAL RESOURCES WITHIN DISTURBANCE LIMITS SOUTH OF STA 130+00

NO ENVIRONMENTAL RESOURCES WITHIN DISTURBANCE LIMITS NORTH OF STA 138+50

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File Name: 20344-LAND_ENVI_04.dgn	Date:	Comments	Init.			Designer: KO	Structure Numbers	
Horiz. Scale: 1:100.046 Vert. Scale: As Noted	0000			FELSBURG HOLT & ULLEVIG 6300 South Syracuse Way Suite 600 Centennial, CO 80111 (303) 721-1440	Revised: KO	Detailer: KO	Sheet Subset: ENV	Subset Sheets: 4 of 8

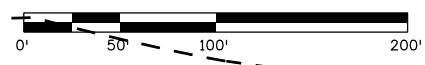
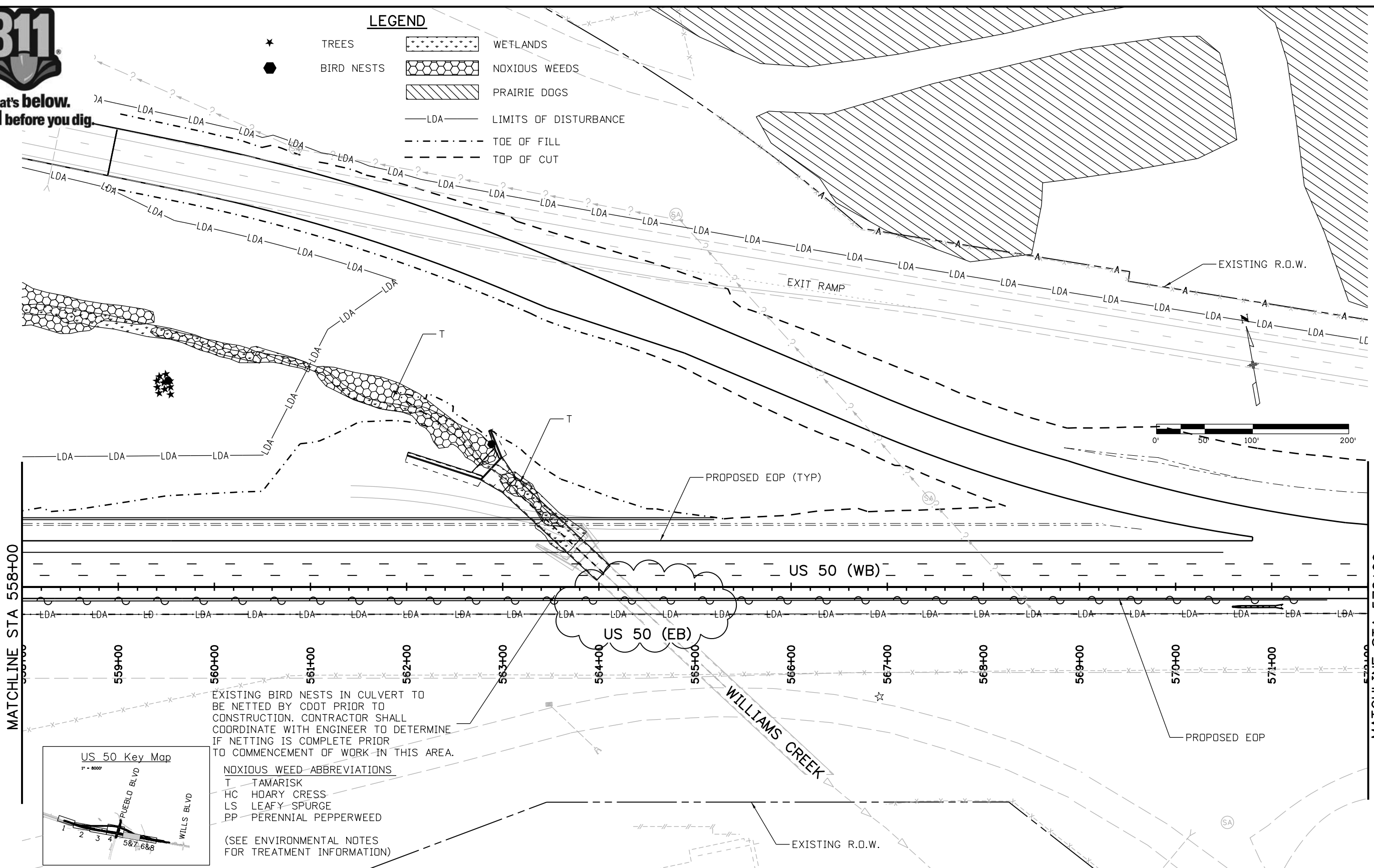
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LEGEND

- ★ TREES
- BIRD NESTS
- WETLANDS
- NOXIOUS WEEDS
- PRAIRIE DOGS
- LDA LIMITS OF DISTURBANCE
- TOE OF FILL
- TOP OF CUT

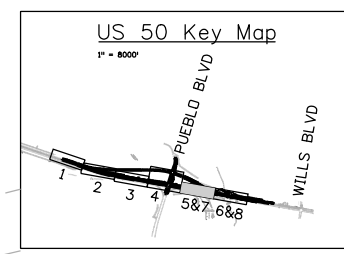


MATCHLINE STA 558+00

MATCHLINE STA 572+00

EXISTING BIRD NESTS IN CULVERT TO BE NETTED BY CDOT PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO DETERMINE IF NETTING IS COMPLETE PRIOR TO COMMENCEMENT OF WORK IN THIS AREA.

NOXIOUS WEED ABBREVIATIONS
 T TAMARISK
 HC HOARY CRESS
 LS LEAFY SPURGE
 PP PERENNIAL PEPPERWEED
 (SEE ENVIRONMENTAL NOTES FOR TREATMENT INFORMATION)



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 File Name: 20344-LAND_ENVI_05.dgn
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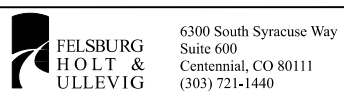
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US 50 WEST WESTBOUND ENVIRONMENTAL PLANS			
Designer:	KD	Structure Numbers	
Detailer:	KD		
Sheet Subset:	ENV	Subset Sheets:	5 of 8

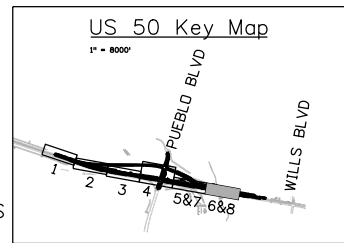
Project No./Code	FSA 0503-085
	20344
Sheet Number	153



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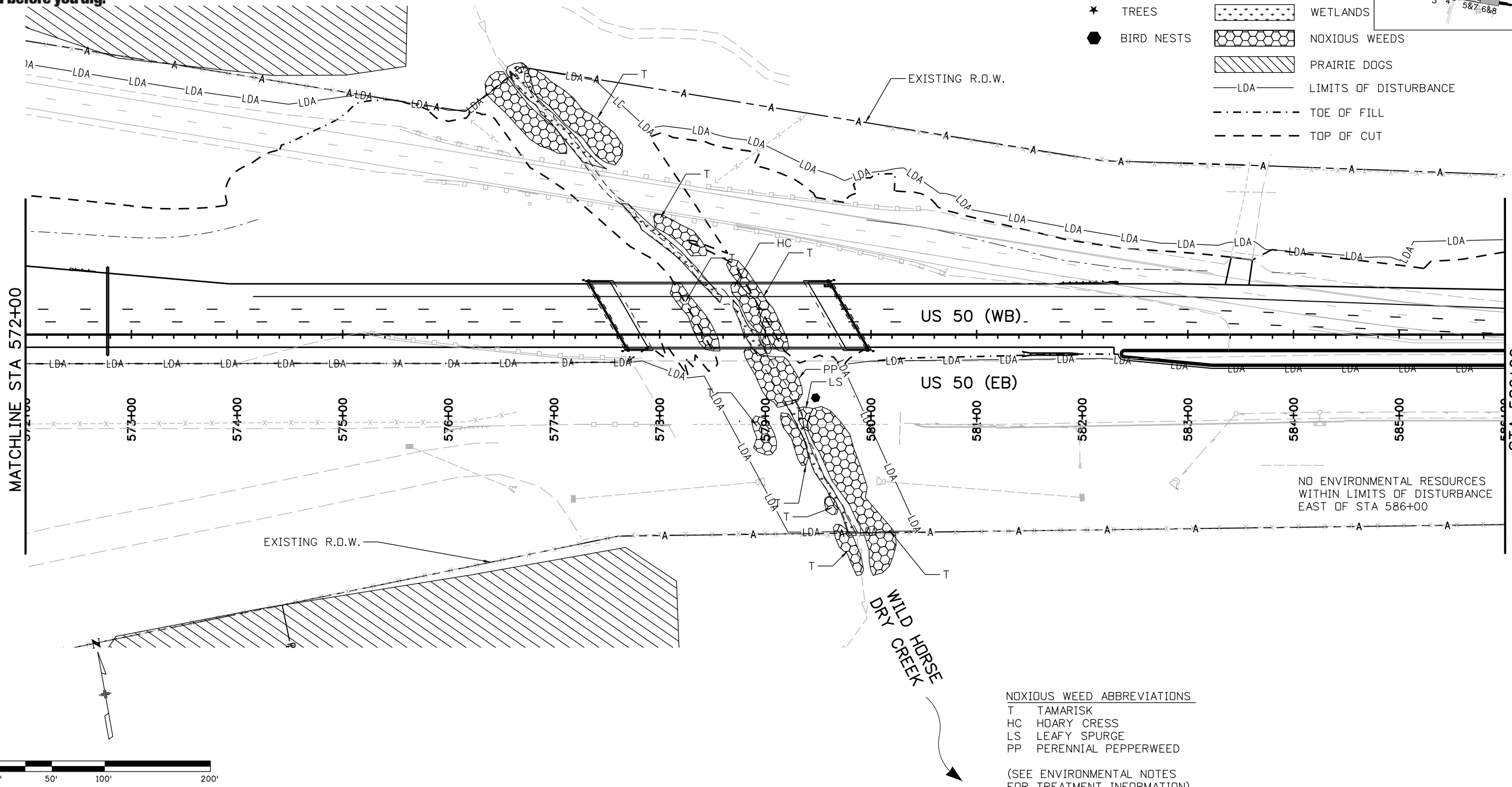


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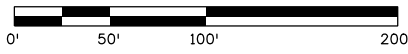
LEGEND

- ★ TREES
- BIRD NESTS
- ▨ WETLANDS
- ▩ NOXIOUS WEEDS
- ▨ PRAIRIE DOGS
- LDA — LIMITS OF DISTURBANCE
- - - - - TOE OF FILL
- - - - - TOP OF CUT



NO ENVIRONMENTAL RESOURCES
WITHIN LIMITS OF DISTURBANCE
EAST OF STA 586+00

NOXIOUS WEED ABBREVIATIONS
 T TAMARISK
 HC HOARY CRESS
 LS LEAFY SPURGE
 PP PERENNIAL PEPPERWEED
 (SEE ENVIRONMENTAL NOTES
 FOR TREATMENT INFORMATION)



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US 50 WEST WESTBOUND ENVIRONMENTAL PLANS

Designer:	KD	Structure Numbers	
Detailer:	KD	Subset Sheets:	6 of 8
Sheet Subset:	ENV		

Project No./Code
 FSA 0503-085
 20344
 Sheet Number **154**

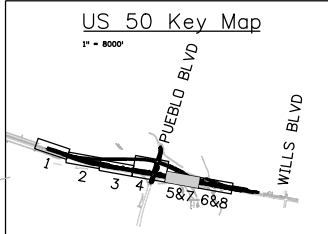
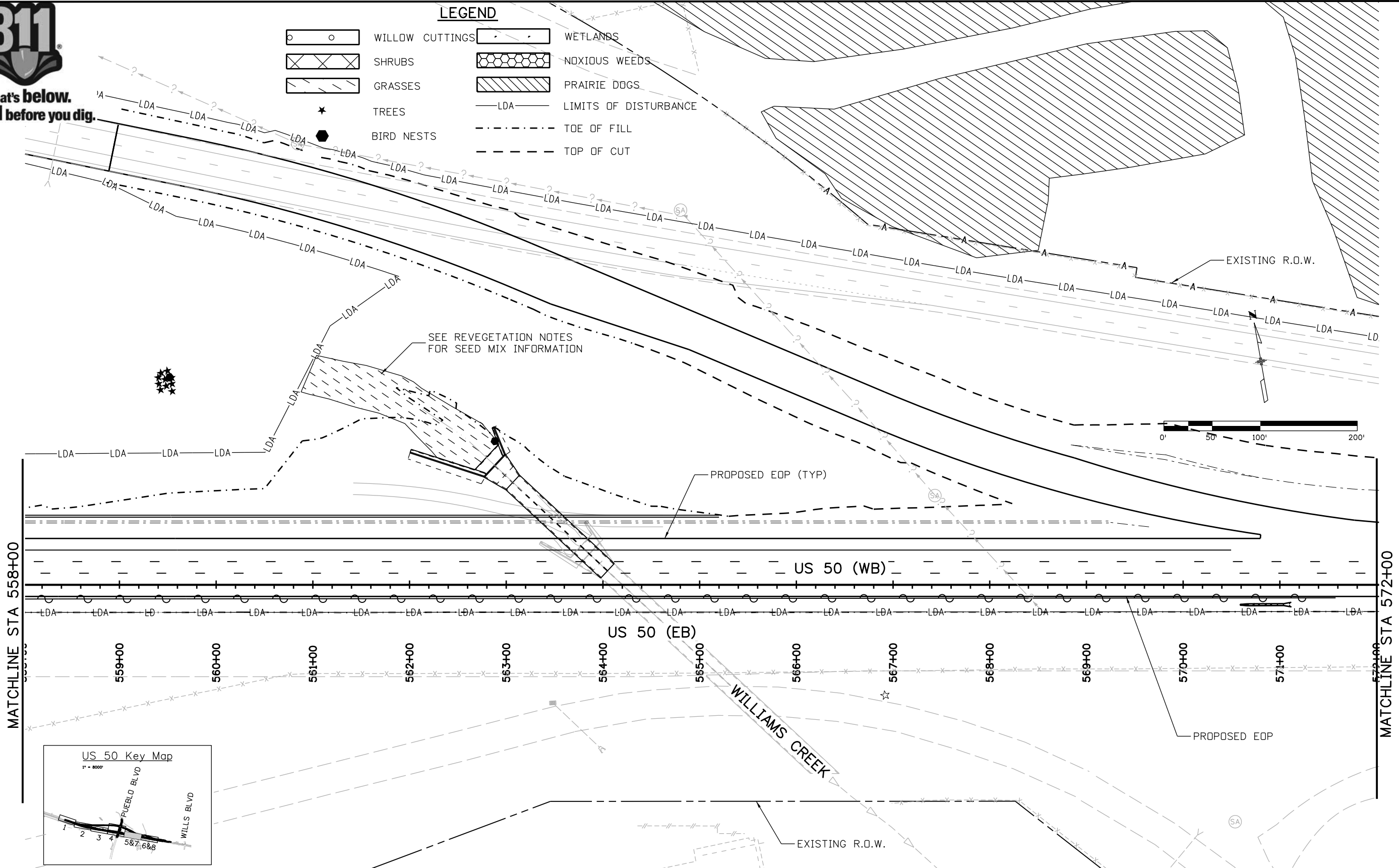
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Know what's below.
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LEGEND

- WILLOW CUTTINGS
- SHRUBS
- GRASSES
- TREES
- BIRD NESTS
- WETLANDS
- NOXIOUS WEEDS
- PRAIRIE DOGS
- LIMITS OF DISTURBANCE
- TOE OF FILL
- TOP OF CUT



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US 50 WEST WESTBOUND ENVIRONMENTAL PLANS REVEGETATION AREAS

Designer:	KD	Structure Numbers:	
Detailer:	KD	Subset Sheets:	7 of 8
Sheet Subset:	ENV		

Project No./Code

FSA 0503-085

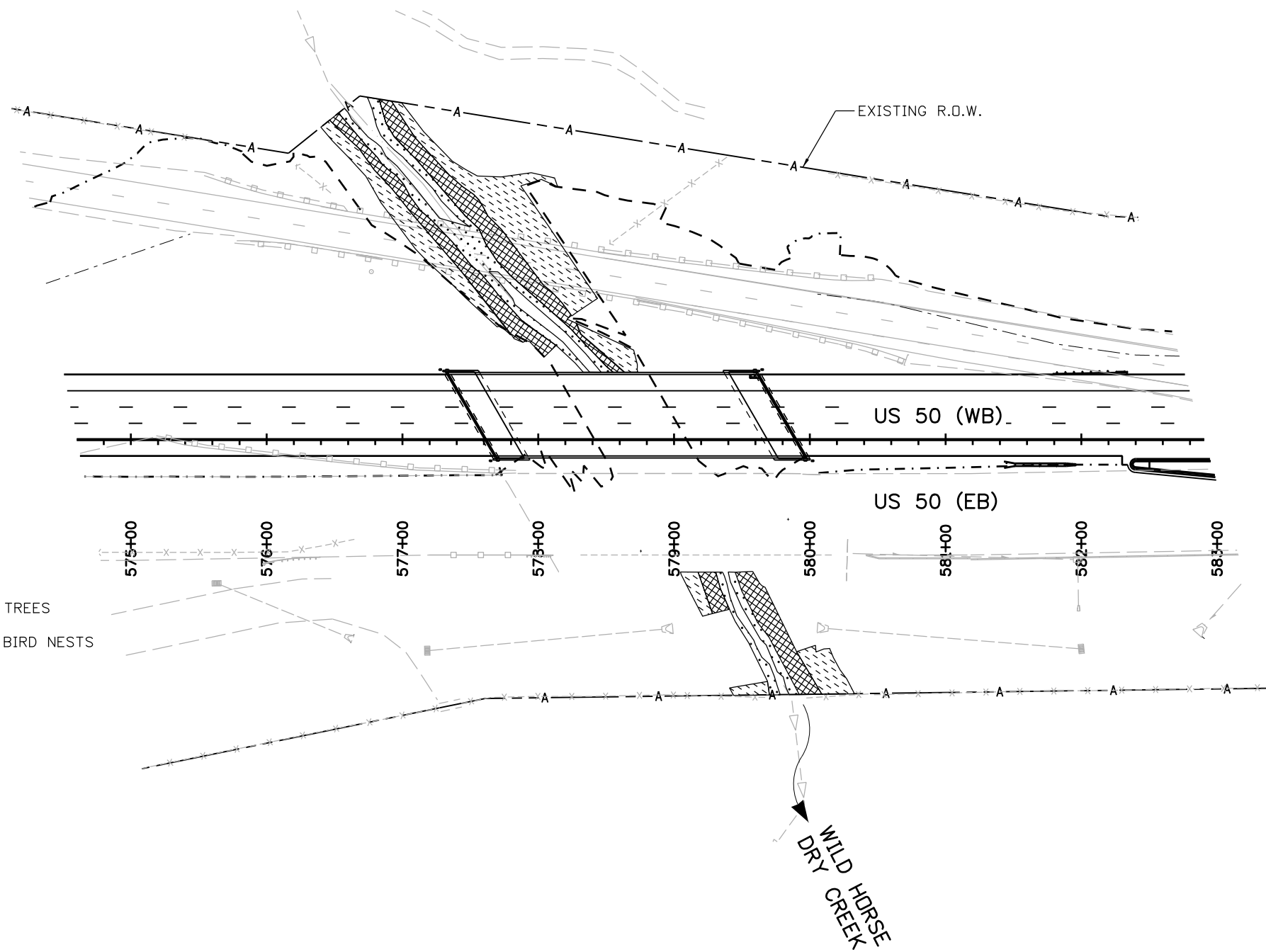
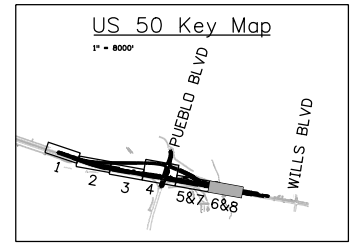
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Sheet Number **155**

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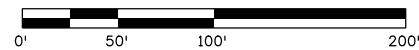


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LEGEND

- WILLOW CUTTINGS
- SHRUBS
- GRASSES
- LDA LIMITS OF DISTURBANCE
- TOE OF FILL
- TOP OF CUT
- TREES
- BIRD NESTS



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US 50 WEST WESTBOUND ENVIRONMENTAL PLANS REVEGETATION AREAS			
Designer:	KD	Structure Numbers	
Detailer:	KD		
Sheet Subset:	REVEG	Subset Sheets:	8 of 8

Project No./Code
FSA 0503-085
20344
Sheet Number 156

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SWMP NOTES

1. SITE DESCRIPTION

The Contractor shall comply with all CDOT contractual requirements and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator shall update to reflect current project site conditions.

A. **PROJECT SITE LOCATION:** Project site is located on westbound (WB) US 50 between milepost 311.0 and milepost 313.0 – from west of Pueblo Blvd to immediately east of the BNSF railroad (RR) crossing. The construction office is located at TBD.

B. **PROJECT SITE DESCRIPTION:** This US 50 WB improvement project provides for a new of US 50 WB alignment with safety and capacity improvements, as compared to the existing roadway alignment. The existing US 50 westbound bridge over Wild Horse Dry Creek (WHC) will be demolished and a new bridge will be built along the proposed alignment. The construction of this project will include full depth reconstruction of existing WB US 50 lanes for a short segment of US 50 between the WHC bridge and the BNSF RR bridge, converting the existing configuration to a jughandle configuration by using the existing WB lanes as an exit ramp, grading to construct a swale to convey runoff to the two water quality ponds, grading of the two water quality ponds, modification of the existing storm sewer system to accommodate the new design and widening of Pueblo Blvd between its two US 50 intersections. Once grading activities are completed soil retention blankets and seeding will be applied to the swale and embankment areas.

C. **PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES:** The US 50 WB improvement project will generally follow the following sequence for events that may impact water quality: Grading, excavating, cross pipe extensions, new cross pipes, new bridge, utility relocation, roadway paving, and demolition of existing bridge. These activities are slated to occur in four construction phases in order to maintain traffic flow by utilizing existing roadway while the proposed design is built.

D. **ACRES OF DISTURBANCE:**

1. Total area of construction site (LOC (PERMITTED AREA)): 49.7 acres
2. Total area of proposed disturbance (LDA): 49.7 acres
3. Total area of seeding: 14.4 acres
4. Total area of impervious surface: 13.1 acres
5. Total area of NEW impervious surface: 10.4 acres

E. **EXISTING SOIL DATA:**
Local soils are silt loams, silty clay loams and shale. The National Resource Conservation Service (NRCS) has mapped the area, and has identified the following soil types in the project area:

- CsE - Cascajo Shale outcrop, 5 to 30 percent slopes. This soil type has a hydraulic soils grouping of "A" that is indicative of soils that are well drained and have low runoff potential and a high infiltration rate.
- Ha - Haverson silt loam. This soil type has a hydraulic soils grouping of "B" that is indicative of soils that have a moderate infiltration rate due to the moderately fine to moderately coarse texture.
- He - Heldt silty clay loam, 2 to 6 percent slopes. This soil type has a hydraulic soils grouping of "C" that is indicative of soils that have a slow infiltration rate, due to a layer that impedes the downward movement of water due to moderately fine to fine texture.
- LnA - Limon silty clay loam, 0 to 2 percent slopes. This soil type has a hydraulic soils grouping of "C" that is indicative of soils that have a slow infiltration rate, due to a layer that impedes the downward movement of water due to moderately fine to fine texture.
- LvB - Limon silty clay, 0 to 5 percent slopes. This soil type has a hydraulic soils grouping of "C" that is indicative of soils that have a slow infiltration rate, due to a layer that impedes the downward movement of water due to moderately fine to fine texture.
- MaB - Manvel silt loam, 1 to 5 percent slopes. This soil type has a hydraulic soils grouping of "B" that is indicative of soils that have a moderate infiltration rate due to the moderately fine to moderately coarse texture.
- MpA - Manzanola silty clay loam, 0 to 2 percent slopes. This soil type has a hydraulic soils grouping of "C" that is indicative of soils that have a slow infiltration rate, due to a layer that impedes the downward movement of water due to moderately fine to fine texture.
- MsD - Midway Shale outcrop, 1 to 9 percent slopes. This soil type has a hydraulic soils grouping of "D" that is indicative of soils having a very slow infiltration rate and high runoff potential, due to a

- prevalence of clays or other impervious materials, such as shales.
- Mv - Minnequa Manvel loam. This soil type has a hydraulic soils grouping of "C" that is indicative of soils that have a slow infiltration rate, due to a layer that impedes the downward movement of water due to moderately fine to fine texture.
- PmE - Penrose-Minnequa, 1 to 15 percent slopes. This soil type has a hydraulic soils grouping of "D" that is indicative of soils having a very slow infiltration rate and high runoff potential, due to a prevalence of clays or other impervious materials, such as shales.
- PrF - Penrose Rock outcrop, 25 to 65 percent slopes. This soil type has a hydraulic soils grouping of "D" that is indicative of soils having a very slow infiltration rate and high runoff potential, due to a prevalence of clays or other impervious materials, such as shales.
- Ra - Razor clay loam. This soil type has a hydraulic soils grouping of "C" that is indicative of soils that have a slow infiltration rate, due to a layer that impedes the downward movement of water due to moderately fine to fine texture.
- SaE - Schamber gravelly sandy loam, 5 to 25 percent slopes. This soil type has a hydraulic soils grouping of "A" that is indicative of soils that are well drained and have a high infiltration rate.
- SqD - Shingle silty clay loam, 1 to 9 percent slopes. This soil type has a hydraulic soils grouping of "D" that is indicative of soils having a very slow infiltration rate and high runoff potential, due to a prevalence of clays or other impervious materials, such as shales.
- Sh - Stoneham loam. This soil type has a hydraulic soils grouping of "B" that is indicative of soils that have a moderate infiltration rate due to the moderately fine to moderately coarse texture.

F. EXISTING VEGETATION, INCLUDING PERCENT COVER:

The contractor will conduct the Vegetation Transects as outlined in Chapter 4.11.2 of the Erosion Control and Stormwater Quality Guide.

Pre-Construction Date of survey: _____ %Density: _____

Description of existing vegetation:

Map or table showing transect locations in SWMP notebook tab 17:

Post-Construction Date of survey: _____ %Density: _____

Description of existing vegetation:

Date of CDPS-SCP Closure: _____
Map or table showing transect locations in SWMP notebook tab 17:

G. **POTENTIAL POLLUTANTS SOURCES:** See First Construction Activities under Potential Pollutant Sources. The SWMP Administrator shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

H. RECEIVING WATER:

1. Outfall locations:
Table 1-1

Location	Size	Type	Receiving
US 50 (STA. 512+98.64)	24"	RCP	Outfall off project site, flows to Williams Creek
US 50 (STA. 526+98.39)	24"	CSP	Outfall off project site, flows to Williams Creek
US 50 (STA. 534+91.76)	24"	RCP	Outfall off project site, flows to Williams Creek
US 50 (STA. 542+92.51)	24"	RCP	Outfall off project site, flows to Williams Creek
US 50 (STA. 551+12.37)	23"X14"	RCP	Outfall off project site, flows to Williams Creek
US 50 (STA. 554+00)	24"	RCP	Conveys water quality ditch flow from west to east side of US 50. Eventual outfall in Wild Horse Dry Creek.

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Vert. Scale:



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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 WESTBOUND SWMP NOTES

Designer: ACE

Detailer: ACE

Subset: SWMP

Structure Numbers

Subset Sheets: 1 of 7

Project No./Code

STA 0503-085

20344

Sheet Number 157

SWMP NOTES

US 50 (STA. 556+06.20)	24"	RCP	Outfall off project ste, flows to Williams Creek
US 50 (STA. 569+80.78)	24"	RCP	Conveys water quality ditch flow from west to east side of US 50 off-ramp. Eventual outfall in Wild Horse Dry Creek.
US 50 (STA. 576+29.35)	24"	RCP	WQ Pond C outfall To Wild Horse Dry Creek
US 50 (STA. 579+11.55)	24"	RCP	WQ Pond D outfall To Wild Horse Dry Creek

- 2. Names of receiving water(s) on site: Williams Creek and Wild Horse Dry Creek.
- 3. Ultimate receiving water: Arkansas River
- 4. Horizontal distance nearest water of the state is from project: 2.8 miles

I. NON-STORMWATER DISCHARGES: No non-stormwater discharges are anticipated for this project.

ALLOWABLE:

- 1. Groundwater and stormwater dewatering: Discharges to the ground of water from construction dewatering activities may be authorized provided that:
 - a. the source is groundwater and/or groundwater combined with stormwater that does not contain pollutants
 - b. the source and BMPs/Control Measures are identified in the SWMP
 - c. discharges do not leave the site as surface runoff or to surface waters
 - d. The contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly dewatered and restored at no cost to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with subsection 107.25

CONTAMINATED:

- 2. If discharges do not meet the above criteria a separate CDPS permit shall be obtained by the Contractor from the CDPHE. See standard special provision 250 Hazardous Waste and Contaminated Water.

2. SITE MAP COMPONENTS:

Pre-construction

- A. **PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES:**
See Erosion Control Plan.
- A. **ALL AREAS OF GROUND SURFACE DISTURBANCE:**
Erosion Control Plan-Initial sheets 1 - 9
- B. **AREAS OF CUT AND FILL**
Erosion Control Plan-Final sheets 1 - 9
- D. **LOCATION OF ALL STRUCTURAL BMPs/CONTROL MEASURES IDENTIFIED IN THE SWMP**
Erosion Control Plan-Initial sheets 1 - 9
- E. **LOCATION OF NON-STRUCTURAL BMPs/CONTROL MEASURES AS APPLICABLE IN THE SWMP**
Erosion Control Plan-Final sheets 1 - 9
- F. **SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATER**
Erosion Control Plan-Final sheets 4 - 6
- G. **PROTECTION OF TREES, SHRUBS, CULTURAL RESOURCES AND MATURE VEGETATION:**
N/A
- H. **AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and BATCH PLANTS**

Erosion Control Plan-Initial sheets 4

3. SWMP ADMINISTRATOR:

A. SWMP ADMINISTRATOR FOR DESIGN:

Name/Title	Contact Information
Luke R. Myers, P.E./Hydraulics Engineer	(303)797-1200; LMyers@jfsato.com
Curtis Martin, Water Quality Specialist CDOT oversight	(719) 227-3260; curtis.martin@hdrinc.com

B. SWMP ADMINISTRATOR FOR CONSTRUCTION: (As defined in Subsection 208) The Contractor shall designate a SWMP Administrator for Construction upon ownership of the SWMP. The SWMP Administrator shall become the owner/operator and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03. The SWMP Administrator shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP administrator shall address all aspects of the projects SWMP. (Update the information below for each new SWMP Administrator) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date	Engineer Approval

C. EROSION CONTROL INSPECTOR: (As defined in Subsection 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date	Engineer Approval

4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

- A. **POTENTIAL POLLUTANT SOURCES**
Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25, CDPS-SCP and place in the SWMP notebook. All BMPs/Control Measures related to potential pollutants shall be shown on the SWMP site map by the Contractor's SWMP Administrator.
- B. **OFFSITE DRAINAGE (RUN ON WATER)**
1. Describe and record BMPs/Control Measures on the SWMP site map that have been implemented to address off site run-on water in accordance with subsection 208.03.
- C. **VEHICLE TRACKING PAD/VEHICLE TRACKING CONTROL**
1. BMPs/Control Measures shall be implemented in accordance with subsection 208.04.
- D. **PERIMETER CONTROL**

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File Name: 20344DES_SWMP_Note_2.dgn		Date: Comments Init.		No Revisions:	STA 0503-085		
Horiz. Scale: 1:1 Vert. Scale:				Revised:	Designer: ACE	Structure Numbers	20344
<p>J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120</p>		Void:	Detailer: ACE	Subset: SWMP	Subset Sheets: 2 of 7	Sheet Number 158	

SWMP NOTES

1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
2. Perimeter control may consist of vegetation buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs/Control Measures as approved.
3. Perimeter control shall be in accordance with subsection 208.04

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR DURING CONSTRUCTION

The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator in accordance with subsection 208. During construction, indicate how items that have not been addressed during design are being handled in construction. If items are covered in the template or other sections of the SWMP notebook indicate below what section the discussion takes place.

- A. **STOCKPILE MANAGEMENT:** Shall be done in accordance with subsection 107.25 and 208.07
- B. **CONCRETE WASHOUT:** Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- C. **SAW CUTTING:** Shall be done in accordance with subsection 107.25, 208.04, 208.05
- D. **STREET SWEEPING:** Shall be done in accordance with subsection 208.04

6. INSPECTIONS

- A. Inspections shall be in accordance with subsection 208.03 (c).

7. BMP/CONTROL MEASURE MAINTENANCE

- A. Maintenance shall be in accordance with subsection 208.04 (f).

8. RECORD KEEPING

- A. Records shall be kept in accordance with subsection 208.03 (d).

9. INTERIM AND PERMANENT STABILIZATION

- A. **SEEDING PLAN**

Soil preparation, soil conditioning or topsoil, seeding (native), mulching (weed free) and mulch tackifier will be required for an estimated 14.4 acres of disturbed area within the right-of-way limits which are not surfaced. The following types and rates shall be used:

1. **Revegetation Requirements:** Along Wild Horse Dry Creek (Senate Bill 40 Resources) will be completed following the removal of tamarisk per the revised project special specification 217 (Herbicide Treatment).
 - A. Willow Cutting Zone for Wild Horse Dry Creek will be revegetated with 1,100 Willow Brush Cuttings;
 - A. Shrub Planting Zone for Wild Horse Dry Creek will be revegetated with 9,950 square feet (0.22 acre) seeded as detailed in the revegetation notes and plans; and the Shrub Planting Zone for Williams Creek will be revegetated with 15,246 square feet seeded as detailed in the revegetation notes and plans.
2. **Revegetation Requirements:** All Other Areas of Disturbance (outside of revegetation areas) All other areas of disturbance will be revegetated with 23.3 acres of grass seed-mix, as follows:

Common Name	Botanical Name	Pounds of seed per Acre
Blue Grama	<i>Boutelous gracilis</i> v. <i>Hachita</i>	3.5
Buffalo Grass	<i>Boutelous dactyloides</i>	4.25
Blanketflower	<i>Gaillardia aristata</i>	3.5

Scarlet Gilia	<i>Ipomopsis aggregata</i>	1.25
Lewis' Flax (Blue Flax)	<i>Linum lewisii</i>	3.5
Western Wheatgrass	<i>Pascopyrum smithii</i>	4.25
Upright Prairie Coneflower	<i>Ratibida columnifera</i>	3.5
Sand Dropseed	<i>Sporobolus cryptandrus</i>	2.25
Green Needlegrass	<i>Stipa viridula</i>	3
Oats for spring planting or Regreen for spring or fall (Cover Crop @ 15 Lbs./Acre)	<i>Avena sativa</i> (oats) <i>Triticum aestivum</i> (Regreen)	0.5
Total		29.5

Planting of trees and shrubs will follow CDOT's Standard Specification 214 (Planting).

- B. **SEEDING APPLICATION:** Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast or hydroseed at double the rate and rake 0.25 inch to 0.5 inch into the soil per subsection 212.
- C. **MULCHING APPLICATION:** Apply a minimum of 2 tons of certified weed free hay or 2 1/2 tons of certified weed free straw per acre and in accordance with Section 213, and mechanically crimp it into the soil in combination with an organic mulch tackifier.
 1. Prior to winter shutdown or the summer seeding window closure: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier per subsections 208 and 213.
- D. **SPECIAL REQUIREMENTS:**
 1. Due to high failure rates, hydroseeding will not be allowed for permanent stabilization.

E. **SOIL CONDITIONING AND FERTILIZER REQUIREMENTS:** Minimum requirements for all disturbances to receive seeding (native).

Soil conditioner paid for as Item 212- Soil Conditioning (Acre)		
Biological nutrient organic based fertilizer (lbs/acre)*	Humate (lbs/acre)	Compost (cys/acre) 1/2 inch depth
300	200	65

*Biological nutrient shall not exceed 8-8-8 (N-P-K).

Humate based material shall be in accordance to Standard Special Provision 212 and compost shall be in accordance to Standard Special Provision 212.

F. **SOIL RETENTION COVERING:** On slopes and ditches requiring a blanket or turf reinforcement mat (trm), the blanket/trm shall be placed in lieu of mulch and mulch tackifier and placed after seeding (native). See SWMP site map for blanket/trm locations.

G. **RESEEDING OPERATIONS/CORRECTIVE STABILIZATION**
Prior to partial acceptance.

Print Date: 3/2/2017 File Name: 20344DES_SWMP_Note_3.dgn Horiz. Scale: 1:1 Vert. Scale:		Sheet Revisions <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	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 WESTBOUND SWMP NOTES Designer: ACE Detailer: ACE Subset: SWMP	Structure Numbers Subset Sheets: 3 of 7	Project No./Code STA 0503-085 20344 Sheet Number 159
Date:	Comments	Init.																				

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 5898 South Rapp Street
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SWMP NOTES

1. All seeded areas shall be reviewed during the 14 day inspections by the SWMP Administrator and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
2. The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas until Partial Acceptance of the stormwater construction work.

C. All storm drains shall be cleaned prior to the Final Acceptance of the project. Work shall be included in 202 Clean Culvert.

10. PRIOR TO PROJECT FINAL ACCEPTANCE

- A. Partial Acceptance shall be in accordance with subsection 107.25 (d), 208.10 and 214.04 at the Partial Acceptance of the project, it shall be determined by the SWMP Administrator and the Engineer which temporary BMPs/Control Measures shall remain until 70% revegetation is established or which shall be removed.
- B. At the end of the project, all ditch checks shall either consist of temporary erosion logs (or equivalent) or permanent rip-rap.

BMP Matrix:

1. M-Standards have been included along with standard BMP narratives. If a Non-Standard BMP will be used or the standard narrative does not apply, the SWMP Administrator shall write a Non-Standard BMP narrative, place an "X" in the column and complete a Non-Standard BMP Specification and Narrative for the SWMP notebook.
2. The SWMP Administrator shall place an "X" in the column In Use on Site when the BMP/Control Measure has been installed.
3. Place an "X" in the column BMP/Control Measure to be located by SWMP Administrator if the SWMP Administrator shall locate the BMP/Control Measure during construction. These BMP/Control Measures are not currently located on SWMP Plans but are anticipated to be used during construction (i.e. Vehicle Tracking Pad, Batch Plants, etc.). The SWMP Administrator shall locate these prior to or during construction and reflect on SWMP Map.
4. Place an "X" in the column Installation BMP/Control Measure Pre-Construction if the BMP/Control Measure is to be installed prior to construction activity.

11. NARRATIVES:

- A. **ADDITIONAL BMPS/CONTROL MEASURES AND NARRATIVES:**
BMP/Control Measure details and narratives not covered by the SWMP or Standard Plan M-208, M-216 shall be added to the SWMP notebook by the SWMP Administrator.

STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:


APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD/NON-STANDARD	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
						FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	PERMANENT STABILIZATION
PROTECTION OF EXISTING WETLANDS <i>Fence (plastic) and erosion logs</i>	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.					X	X	
PROTECTION OF EXISTING TREES/LANDSCAPING <i>Fence (plastic)</i>	Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of mature trees and/or existing landscaping prior to start of construction disturbances.					X	X	
CHECK DAM/DITCH CHECK <i>Erosion log, silt berm, silt dike, rock check dam</i>	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	M-208				X	X	X
TYPE R AND TYPE 16 INLET PROTECTION <i>Storm drain inlet protection (Type 1, 2 and 3)</i>	Placed prior to construction disturbances as detailed in M-208-1, to protect existing inlets or immediately upon completion of new inlets to prevent sediment from entering the inlet throughout construction.	M-208				X	X	X
CULVERT INLET/OUTLET PROTECTION <i>Erosion logs, aggregate bags</i>	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to start of construction disturbances.	M-208				X	X	X

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SWMP NOTES

TYPE C, TYPE D AND TYPE 13 PROTECTION Erosion logs, aggregate bags, erosion bales	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to start of construction disturbances.	M-208					X	X	X
STOCKPILE PROTECTION Temporary berm, erosion logs, aggregate bags*	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stock pile, increase control as stock pile increases size.	M-208						X	
TOE OF FILL PROTECTION Erosion logs, temporary berm, silt fence, topsoil windrow*	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	M-208					X	X	
PERIMETER CONTROL Erosion logs, silt fence, temporary berm, topsoil windrow*	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208					X	X	
SEDIMENT CONTROL/ SLOPE CONTROL Silt fence, erosion logs	Placed on the contour of a slope to contain and slow down construction runoff. Place prior to start of construction disturbances.	M-208					X	X	
TEMPORARY SEDIMENT TRAP (SWMP Administrator shall add locations to SWMP site maps)	Used to capture sediment laden runoff from disturbed areas < 5 acres during construction. Place prior to start of construction disturbances.	M-208					X	X	
PERMANENT SEDIMENT BASIN Extended detention basin or other Permanent Water Quality features	Constructed early in project, prior to storm sewer/ditches to capture storm flow as a temporary sediment trap. Outlet structure shall be modified for contaminants of construction runoff a non-standard detail is needed.						X	X	
EMBANKMENT PROTECTION OR TEMPORARY SLOPE DRAIN	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.	M-208						X	X
OUTLET PROTECTION Riprap, or approved other	Material placed as energy dissipater to prevent erosion at outlet structure.							X	X
CONCRETE WASHOUT In-ground or fabricated	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to start of concrete activities.	M-208					X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.	M-208					X	X	
SWEEPING	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.						X	X	
DEWATERING (Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)	Shall be done in such a manner to prevent potential pollutants from entering state waters.						X	X	
TEMPORARY STREAM CROSSING (SWMP Administrator shall add locations to SWMP site maps)	Constructed over stream or drainage to prevent discharge of pollutants from construction equipment into water.						X	X	
CLEAN WATER DIVERSION	Placed to divert clean surface or ground water around disturbance area to prevent it from mixing with construction runoff.						X	X	
OTHER									

NON-STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:
 Erosion control devices are used to limit the amount of soil loss on site
 Sediment control devices are designed to capture sediment on the project site.
 Construction controls are BMPs/Control Measures related to construction access and staging.
 BMP/Control Measure locations are indicated on the SWMP site map.

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US 50 WEST WESTBOUND SWMP NOTES

Designer: ACE	Structure Numbers
Detailer: ACE	
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SWMP NOTES

APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
						FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	PERMANENT STABILIZATION
VEGETATIVE BUFFER STRIP Fence (plastic)	Filter sediment laden runoff from disturbance area. Area to be identified on SWMP prior to construction starting.					X	X	X
LANDFORM (SWMP Administrator shall add locations to SWMP site maps)	Existing landforms may be used as a BMP/Control Measure if they prevent sediment from entering or leaving the disturbance area. If a landform directs flow of water to a concentrated outfall point, the outfall point shall be protected to prevent erosion. Area to be identified on SWMP prior to construction starting.					X	X	
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Windrow or stockpile	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slope work/final grading (less 4 inches), topsoil shall be evenly distributed over embankment to a depth of 4 inches.					X	X	
SURFACE ROUGHENING / GRADING TECHNIQUES Blading, Backhoe, Dozing, Combination Loader	Temporary stabilization of disturbance and to minimize wind and erosion.						X	
SEEDING (TEMPORARY)	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.						X	
BONDED FIBER MATRIX/HYDRAULIC MULCH	Not to be used in areas of concentrated flows, i.e. ditch lines. To be used in combination with surface roughening for temporary stabilization of disturbed soils, when work is temporarily halted and as approved by the Engineer. May be used as surface cover for temporary topsoil stockpiles						X	
MULCH/MULCH TACKIFIER	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer						X	X
SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e. ditch lines.)	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer						X	X
SEEDING PERMANENT (NATIVE)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.							X
SOIL RETENTION BLANKET (SRB)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. SRB to be used on all slopes 4:1 or steeper.	M-216					X	X
TURF REINFORCEMENT MAT (TRM)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Placed in channels or on slopes for erosion control, channel liner and seeding establishment.	M-216					X	X
OTHER								

12. TABULATION OF STORMWATER QUANTITIES

- A. BMP/Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other BMP/Control Measure maintenance shall be included in the cost of the BMP/Control Measure.
- B. It is estimated that 300 hours of blading, dozing, and backhoe may be required for miscellaneous erosion control work as directed by the Engineer. Work shall be paid for as: 203 Blading, 203 Dozing, and 203 Backhoe.
- C. Establishment of seeded areas shall be paid for as: FA Erosion Control, 212 Seeding (native). This shall include mowing, weed control, reseeding/mulch/tackifier.

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File Name: 20344DES_SWMP_Note_6.dgn		Date:	Comments	Init.		No Revisions:	Designer: ACE Detailer: ACE Subset: SWMP				STA 0503-085 20344	
Horiz. Scale: 1:1 Vert. Scale:						Revised:	Structure Numbers Subset Sheets: 6 of 7			Sheet Number 162		


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 5898 South Rapp Street
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SWMP NOTES

Spec.	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
SSP	203-01500	Blading	Hour	100	150	50	300
SSP	203-01510	Backhoe	Hour	100	150	50	300
SSP	203-01550	Dozing	Hour	100	150	50	300
PSP	207-00205	Topsoil	CY			6,762	6,762
SSP	208-00007	Erosion Log Type 2 (8 Inch)	LF	1,300			1,300
SSP	208-00020	Silt Fence	LF	6,900			6,900
SSP	208-00035	Aggregate Bag	LF	400			400
SSP	208-00045	Concrete Washout Structure	Each	4			4
SSP	208-00051	Storm Drain Inlet Protection (Type I)	Each	1			1
SSP	208-00053	Storm Drain Inlet Protection (Type I)	LF	20			20
SSP	208-00070	Vehicle Tracking Pad	Each	4			4
SSP	208-00103	Removal and Disposal of Sediment (Labor)	Hour				400

Spec.	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
SSP	208-00105	Removal and Disposal of Sediment (Equipment)	Hour	150	150	100	400
SSP	208-00106	Sweeping (Sediment Removal)	Hour	250	250	300	800
SSP	208-00107	Removal of Trash	Hour	100	100	100	300
SSP	208-00207	Erosion Control Management (ECM)	Day	75	150	75	300
SSP	212-00006	Seeding (Native)	Acre			14.40	14.40
SSP	212-00032	Soil Conditioning	Acre			14.40	14.40
SSP	213-00002	Mulching (Weed Free Hay)	Acre			7.52	7.52
SSP	213-00061	Mulch Tackifier	LB			1,504	1,504
SSP	216-00201	Soil Retention Blanket (Straw/Coconut) (Biodegradable Class 1)	SY			33,300	33,300
PSP	700-70380	Erosion Control	FA				1

*It is anticipated that additional BMPs/Control Measures and BMP/Control Measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsection 208.03 and 208.04. **Quantities for all BMPs/Control Measures shown above are estimated, and have been increased for unforeseen conditions and normal BMP/Control Measure life expectancy.** Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.

13. BIOLOGIC IMPACTS

A. ENVIRONMENTAL IMPACTS:

1. Wetland Impacts: YES NO
2. Stream Impacts: YES NO
3. Threatened and Endangered Species:

Black-tailed prairie dog (*Cynomys ludovicianus*) – State Threatened Species
 Black Footed ferret (*Mustela nigripes*) – Federally Endangered and State Endangered Species
 Wester Burrowing Owl (*Athene cunicularia hypugaea*) (State Species of Concern)
 Massasuga (*Sistrurus catenatus*) State Species of Concern
 Triploid Colorado checkered whiptail (*Aspidoscelis neotesselata*) State Species of Concern
 Plains leopard frog (*Rana blairi*) State Species of Concern

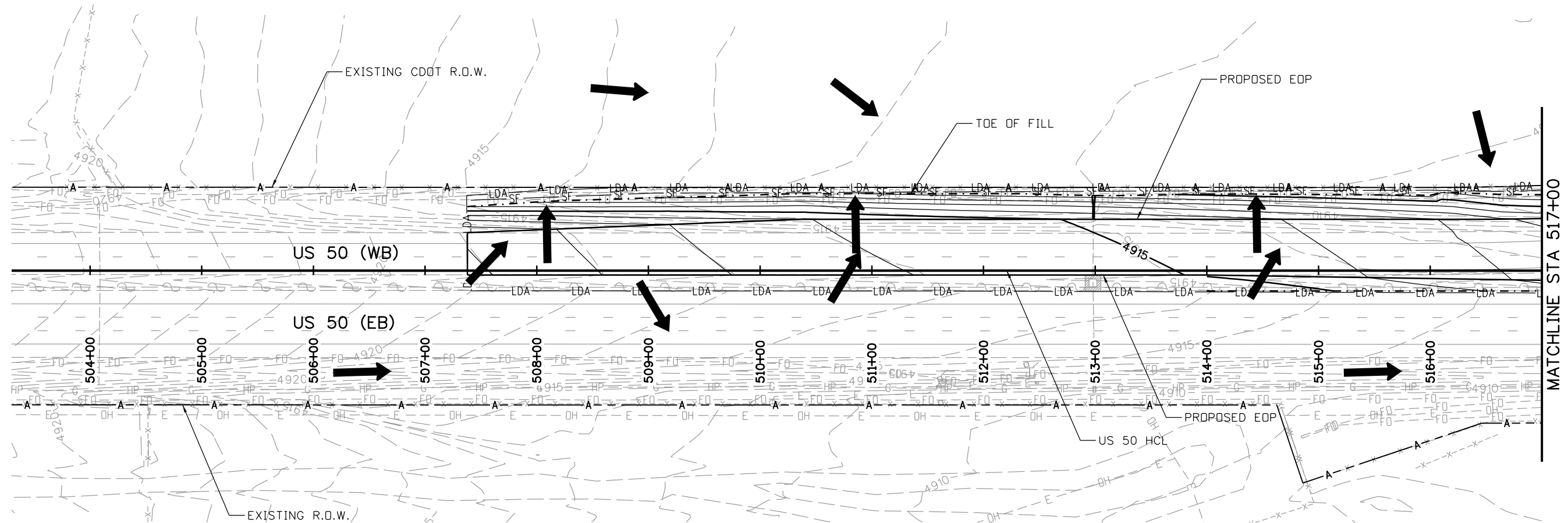
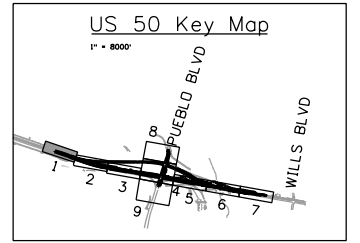
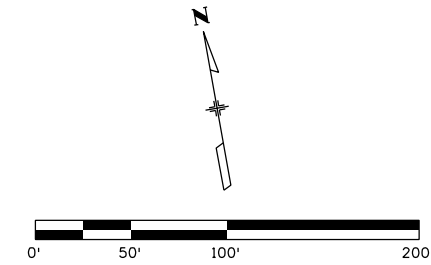
4. If YES to any of the above items, are any permits required or additional actions needed (404, etc.)
 Permits
 Air Pollution Emission Notice - CDPHE
 Dewatering Permit - CDPHE
 Floodplain Development Permit – City of Pueblo and Pueblo County
 MS4 Compliance – CDPHE
 404 Nationwide permit – USACE
 Senate Bill 40 Certification – CPW
 Stormwater Permit - CDPHE

14. NOTES

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Horiz. Scale: 1:1 Vert. Scale:						Revised:	Designer: ACE	Structure Numbers			20344
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LEGEND

- | | | | |
|--|----------------------------|--|-------------------------|
| | EROSION LOG DITCH CHECK | | STABILIZED STAGING AREA |
| | VEHICLE TRACKING PADS | | DROP INLET PROTECTION |
| | CONCRETE WASHOUT STRUCTURE | | PIPE EROSION LOG |
| | SILT FENCE | | PIPE EROSION LOG-INLET |
| | LIMITS OF DISTURBANCE | | WETLAND |
| | DIRECTION OF SURFACE FLOW | | |

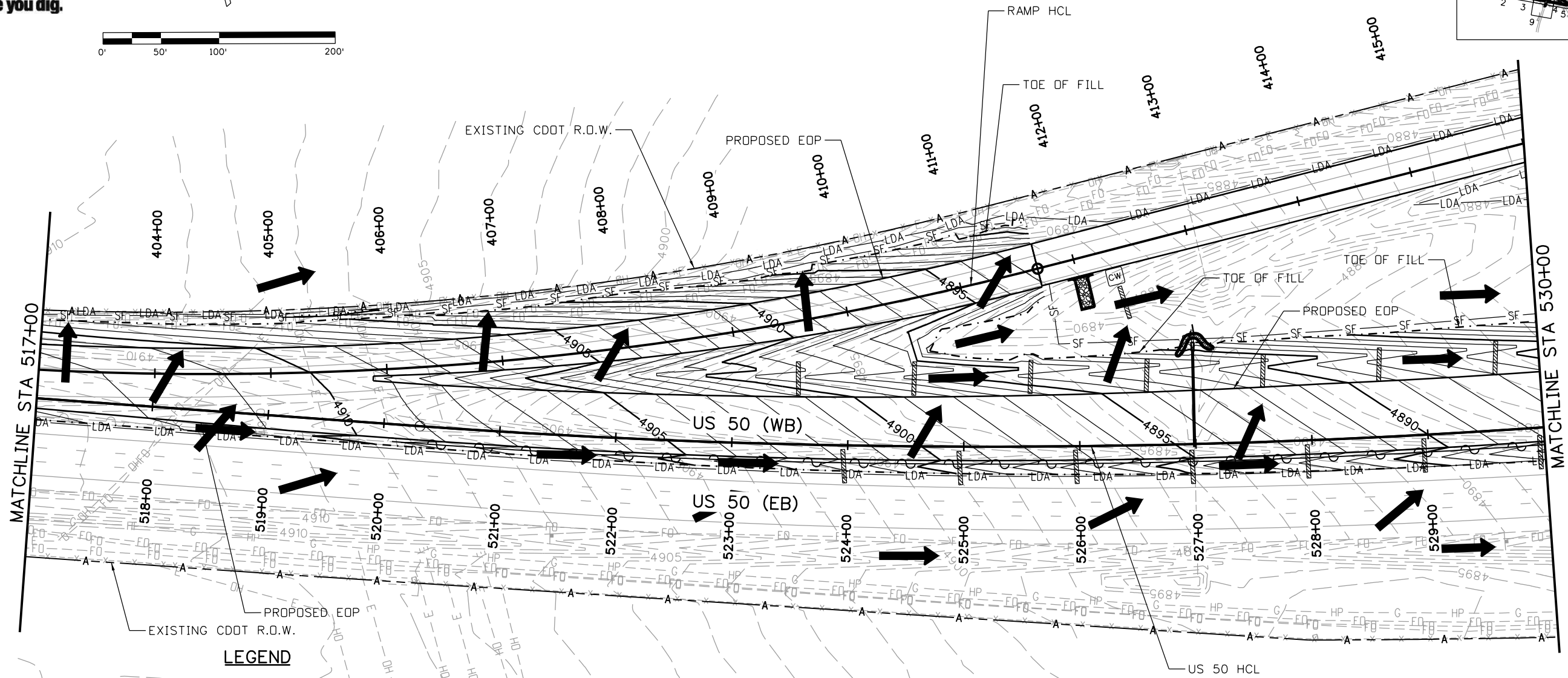
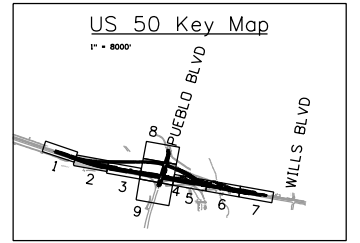
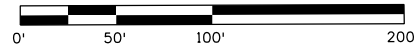
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 - INSTALL SILT FENCE APPROXIMATELY 10' FROM TOE OF FILL.

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					Void:	Detailer: AB		Sheet Number 164		
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- EROSION LOG DITCH CHECK
- VEHICLE TRACKING PADS
- CONCRETE WASHOUT STRUCTURE
- SILT FENCE
- LIMITS OF DISTURBANCE
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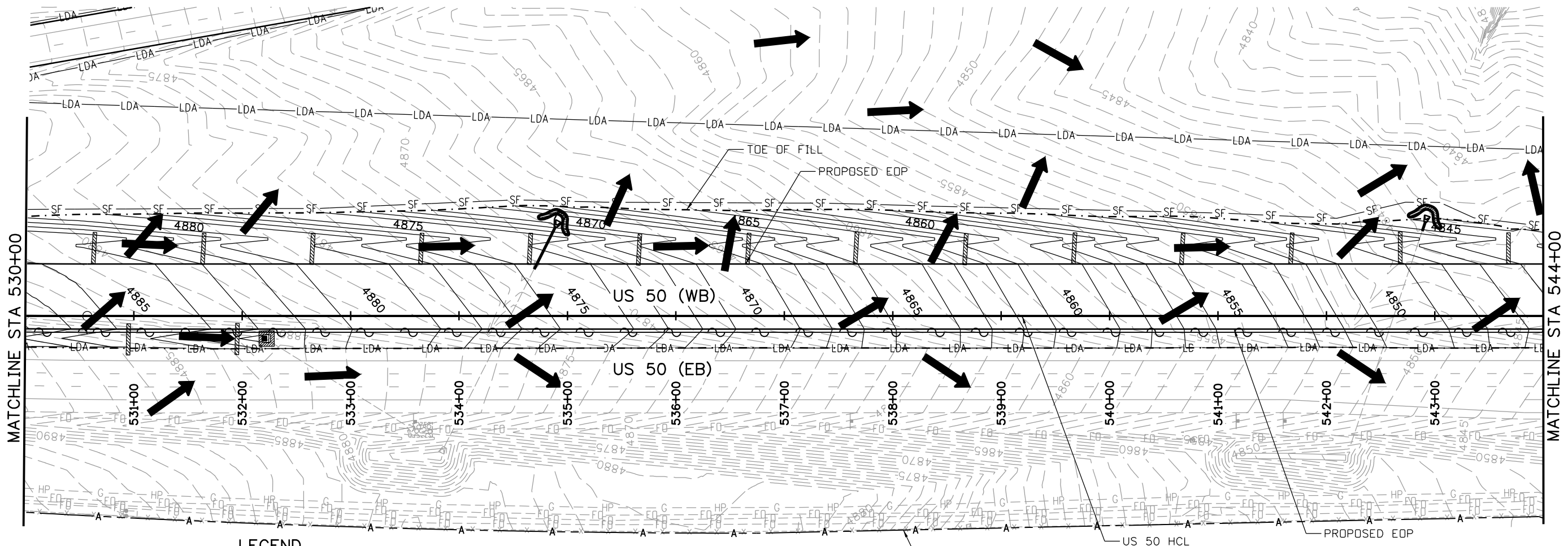
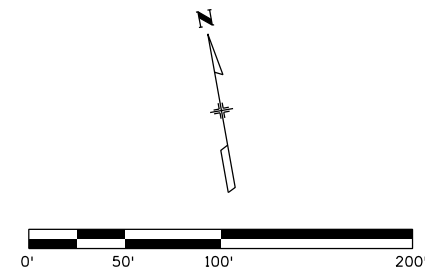
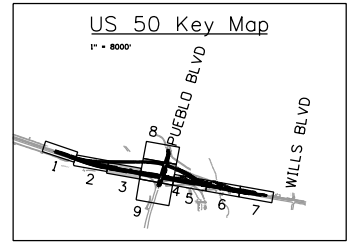
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**US 50 WEST WESTBOUND
 EROSION CONTROL PLAN-INITIAL
 US 50**

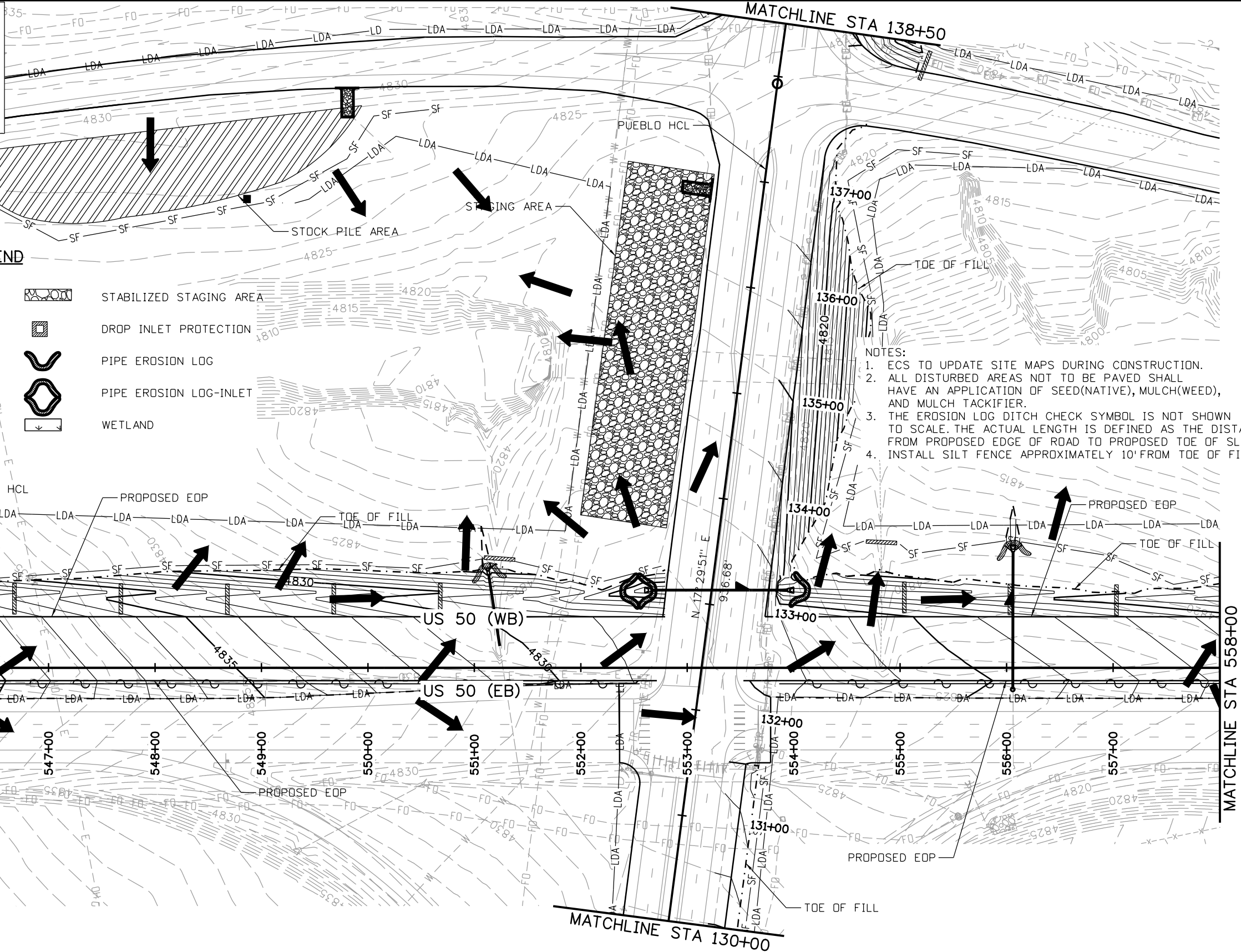
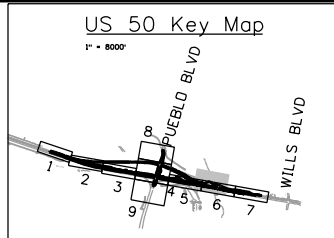
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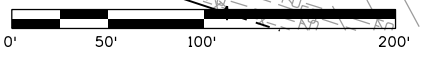
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 US 50
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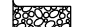




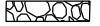




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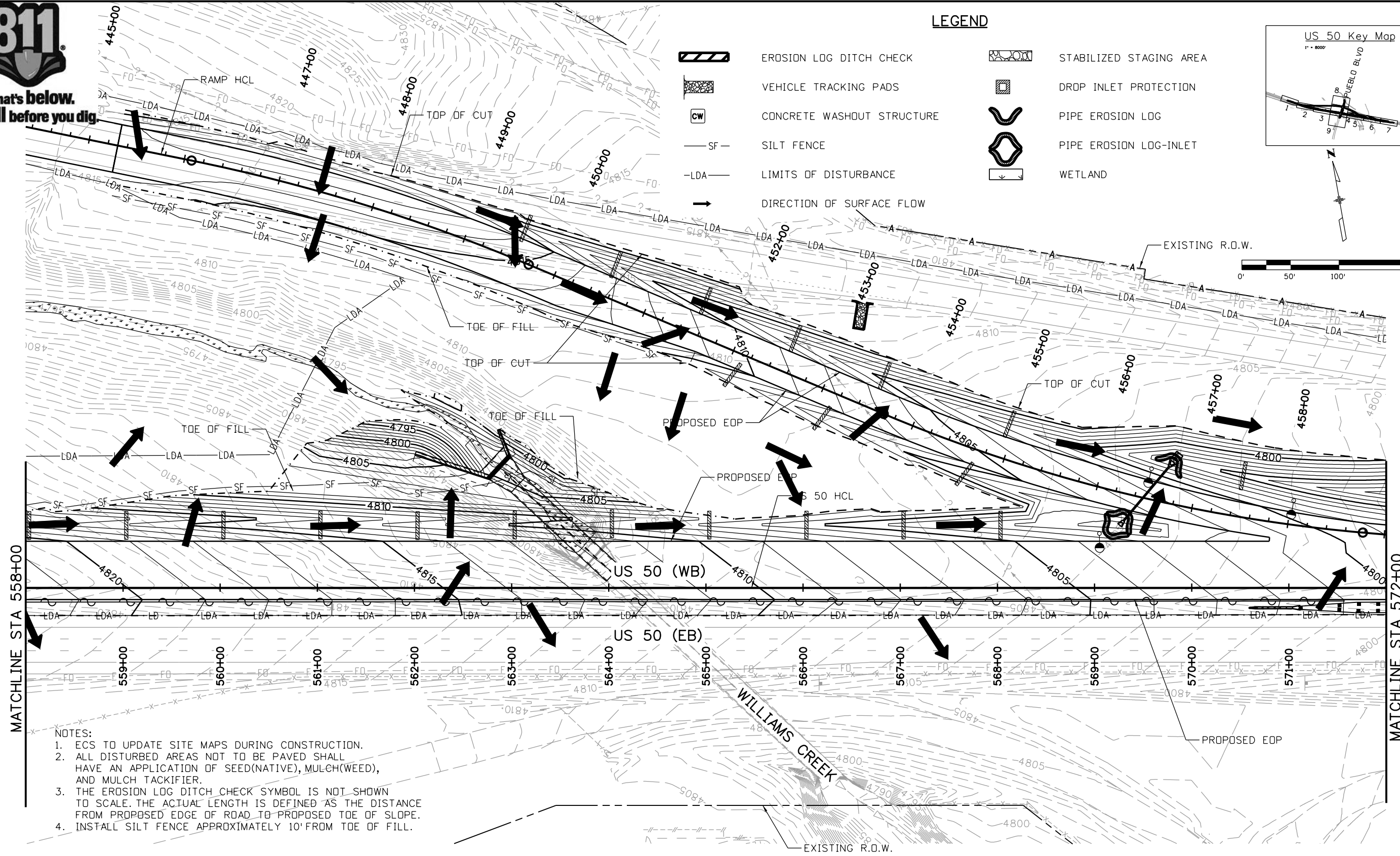
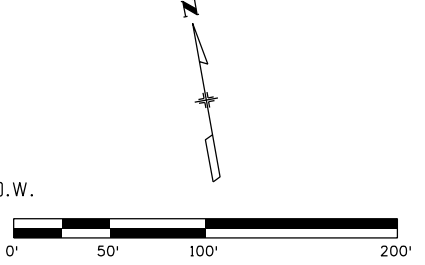
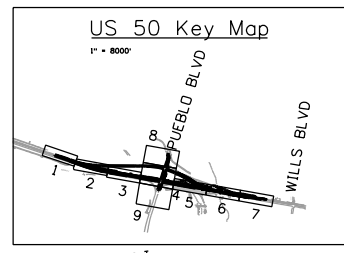
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-  SILT FENCE
-  LIMITS OF DISTURBANCE
-  DIRECTION OF SURFACE FLOW
-  STABILIZED STAGING AREA
-  DROP INLET PROTECTION
-  PIPE EROSION LOG
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-  WETLAND



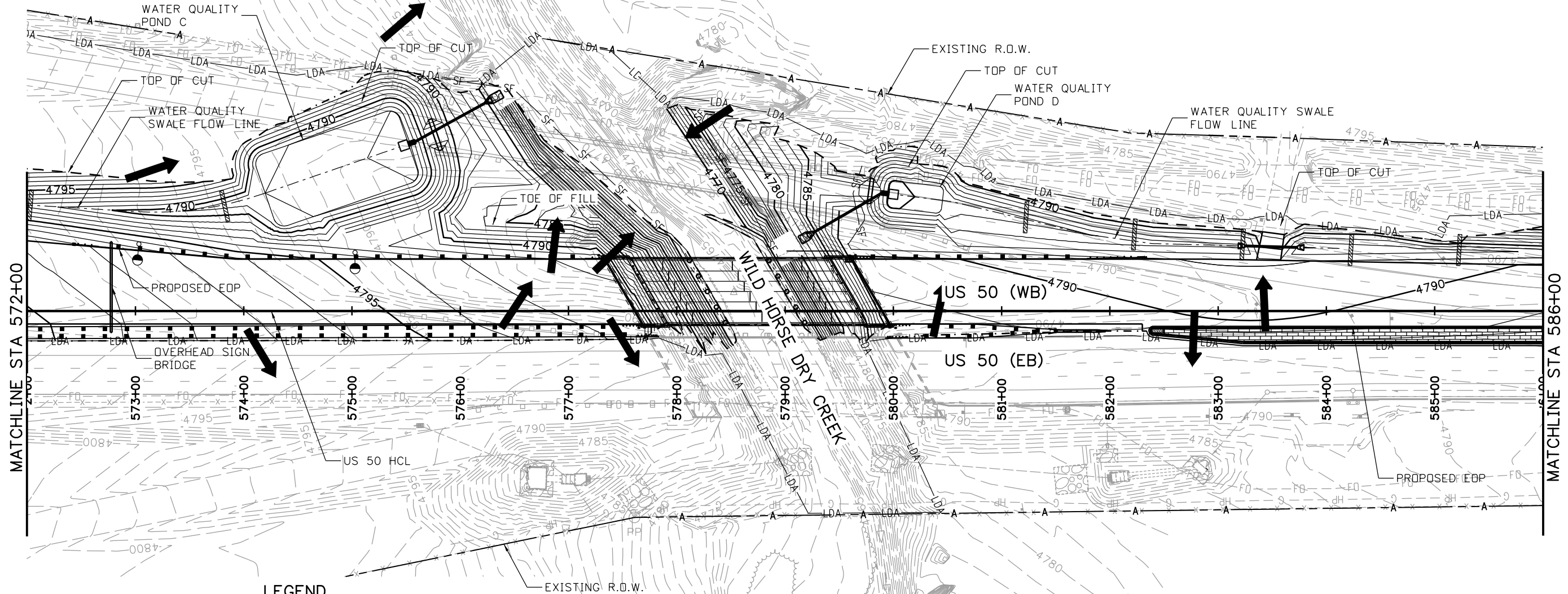
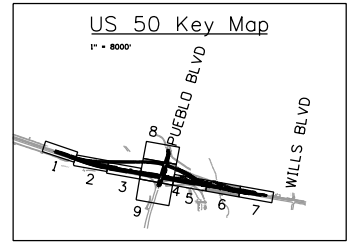
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EROSION CONTROL PLAN-INITIAL
US 50**

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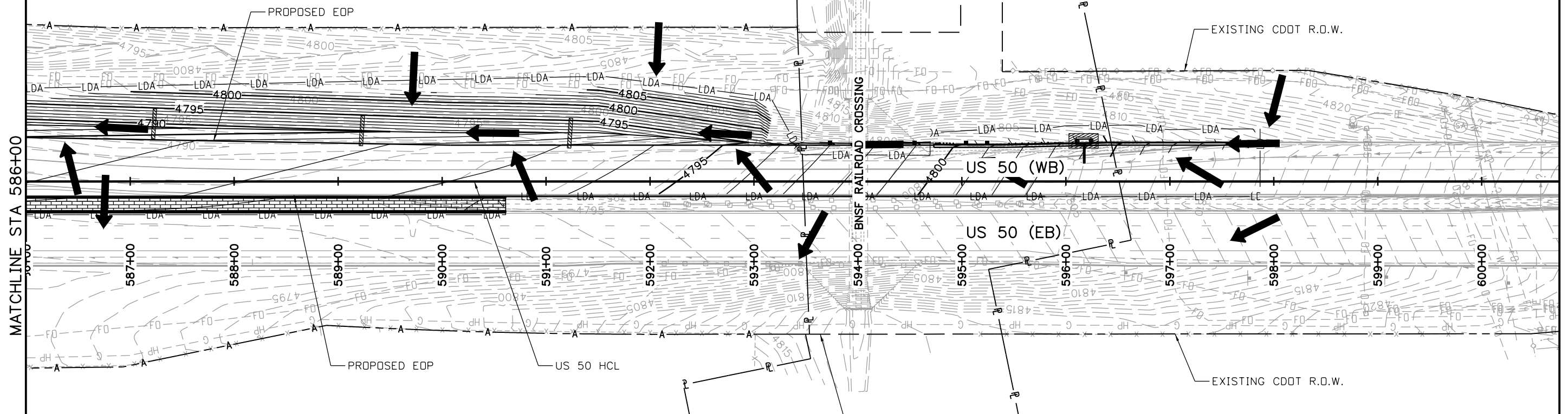
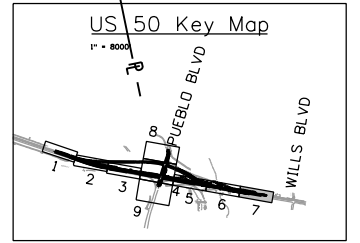
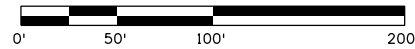
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US 50**

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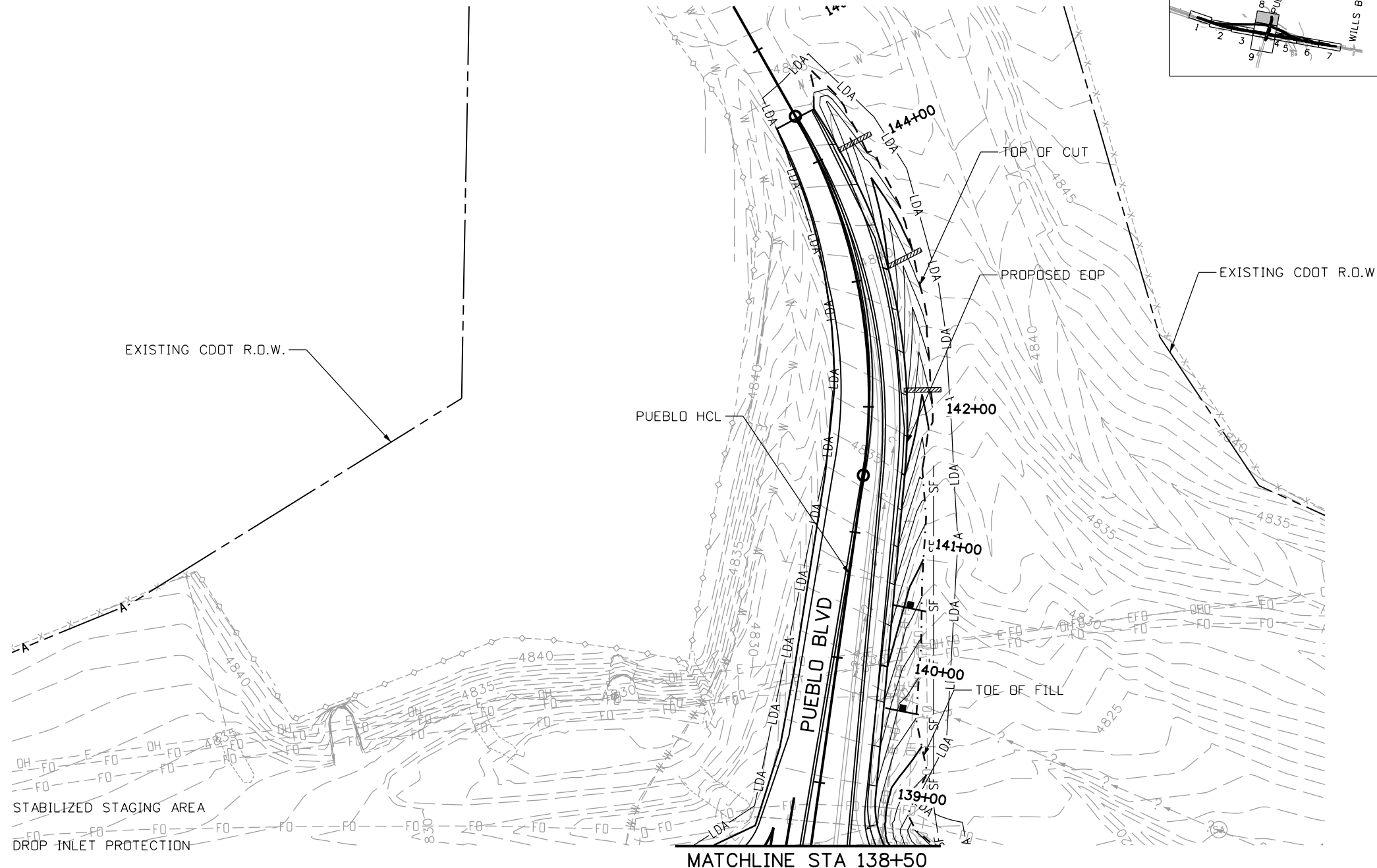
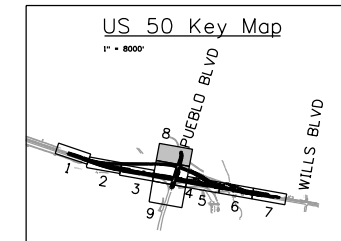
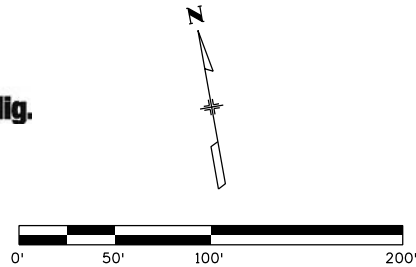
Sheet Number **170**



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Know what's below.
Call before you dig.



LEGEND

- EROSION LOG DITCH CHECK
- VEHICLE TRACKING PADS
- CONCRETE WASHOUT STRUCTURE
- SILT FENCE
- LIMITS OF DISTURBANCE
- DIRECTION OF SURFACE FLOW
- STABILIZED STAGING AREA
- DROP INLET PROTECTION
- PIPE EROSION LOG
- PIPE EROSION LOG-INLET
- WETLAND

NOTES:

1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
2. ALL DISTURBED AREAS NOT TO BE PAVED SHALL HAVE AN APPLICATION OF SEED(NATIVE), MULCH(WEED), AND MULCH TACKIFIER.
3. THE EROSION LOG DITCH CHECK SYMBOL IS NOT SHOWN TO SCALE. THE ACTUAL LENGTH IS DEFINED AS THE DISTANCE FROM PROPOSED EDGE OF ROAD TO PROPOSED TOE OF SLOPE.
4. INSTALL SILT FENCE APPROXIMATELY 10' FROM TOE OF FILL.

Print Date: 3/2/2017

File Name: 20344-SWMP_08.dgn

Horiz. Scale: 1:100

Vert. Scale:

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Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation



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Region 2

DTD

As Constructed

No Revisions:

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Void:

**US 50 WEST WESTBOUND
EROSION CONTROL PLAN-INITIAL
US 50**

Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	EC	Subset Sheets:	08 of 09

Project No./Code

STA 0503-085

20344

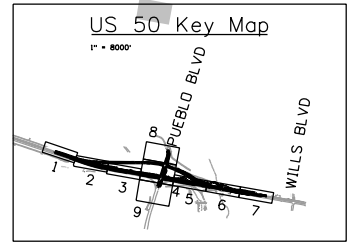
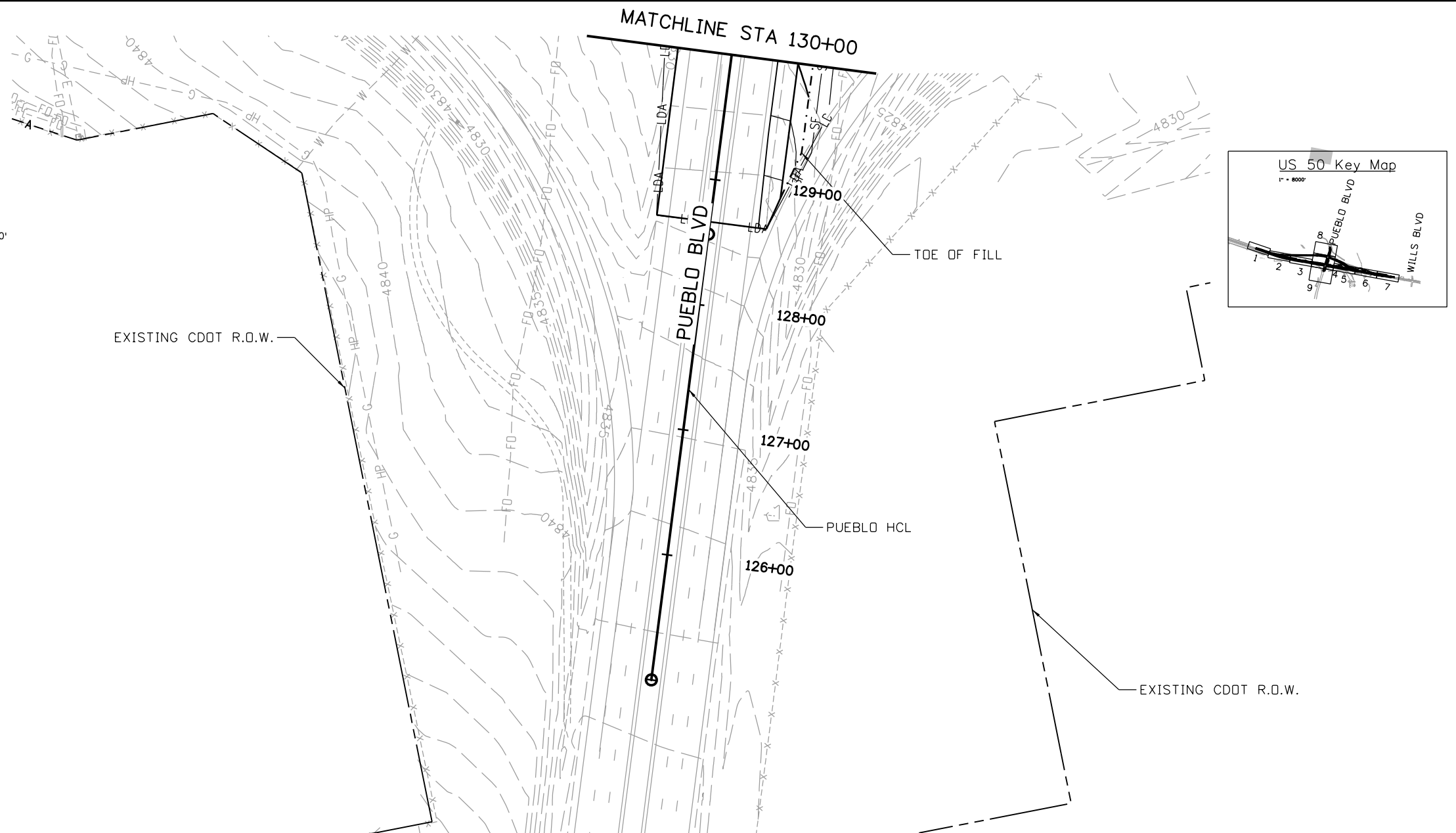
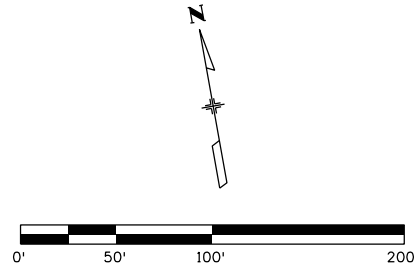
Sheet Number 171



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Know what's below.
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LEGEND

- EROSION LOG DITCH CHECK
- VEHICLE TRACKING PADS
- CONCRETE WASHOUT STRUCTURE
- SILT FENCE
- LIMITS OF DISTURBANCE
- DIRECTION OF SURFACE FLOW
- STABILIZED STAGING AREA
- DROP INLET PROTECTION
- PIPE EROSION LOG
- PIPE EROSION LOG-INLET
- WETLAND

- NOTES:**
1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
 2. ALL DISTURBED AREAS NOT TO BE PAVED SHALL HAVE AN APPLICATION OF SEED(NATIVE), MULCH(WEED), AND MULCH TACKIFIER.
 3. THE EROSION LOG DITCH CHECK SYMBOL IS NOT SHOWN TO SCALE. THE ACTUAL LENGTH IS DEFINED AS THE DISTANCE FROM PROPOSED EDGE OF ROAD TO PROPOSED TOE OF SLOPE.
 4. INSTALL SILT FENCE APPROXIMATELY 10' FROM TOE OF FILL.

Print Date: 3/2/2017
 File Name: 20344-SWMP_09.dgn
 Horiz. Scale: 1:100 Vert. Scale:
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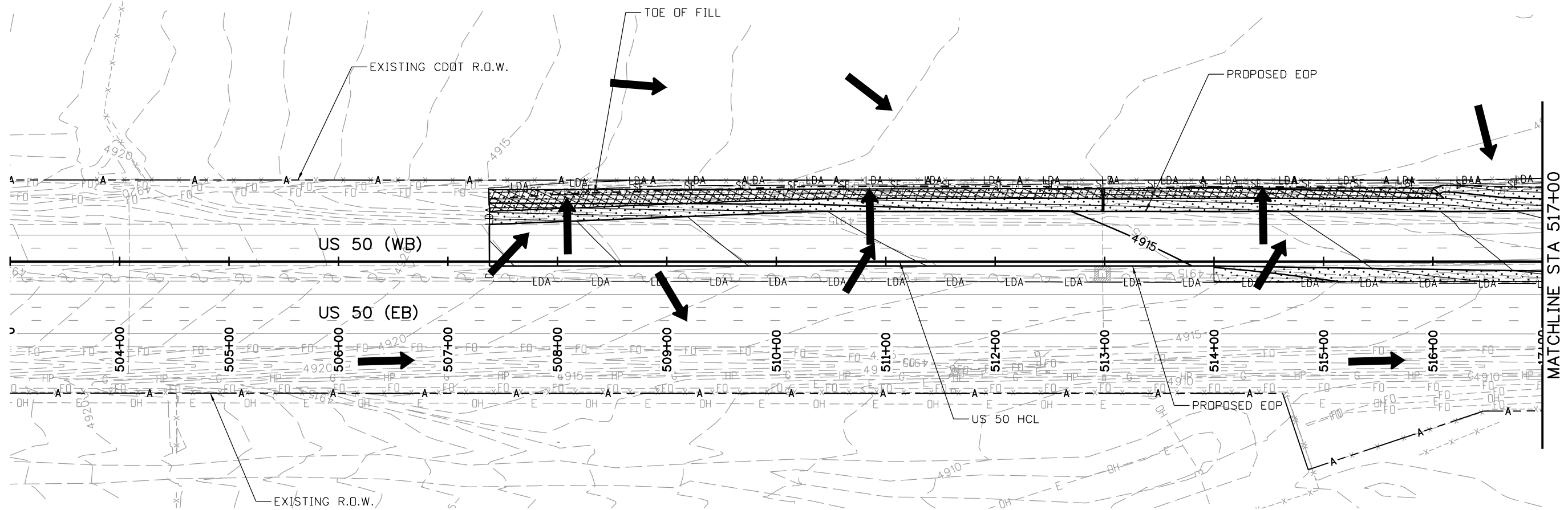
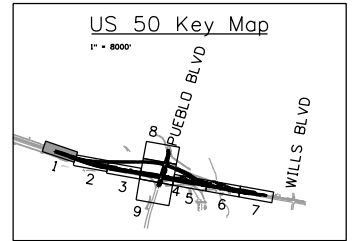
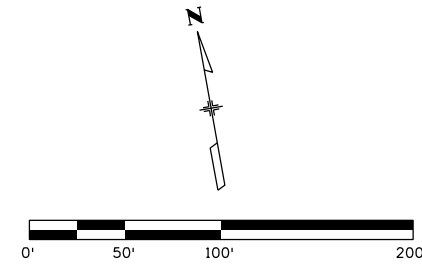
US 50 WEST WESTBOUND EROSION CONTROL PLAN-INITIAL US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	EC	Subset Sheets:	09 of 09

Project No./Code	STA 0503-085
	20344
Sheet Number	172

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Know what's below.
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LEGEND

- LDA- LIMITS OF DISTURBANCE
- DIRECTION OF SURFACE FLOW
- [Hatched Box] SOIL RETENTION BLANKETS
- [Dotted Box] SEEDING
- [Wavy Box] EXISTING WETLAND
- [Square with X] DROP INLET PROTECTION
- [Wavy Line] PIPE EROSION LOG
- [Wavy Line with Inlet] PIPE EROSION LOG-INLET

NOTES:
 1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
 2. INTERMEDIATE BMP'S TO BE REMOVED ARE SHOWN AS SCREENED ON "FINAL EROSION CONTROL PLANS"

Print Date: 3/2/2017
 File Name: 20344-SWMP_01.dgn
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Region 2 DTD

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Void:

**US 50 WEST WESTBOUND
 EROSION CONTROL PLAN-FINAL
 US 50**

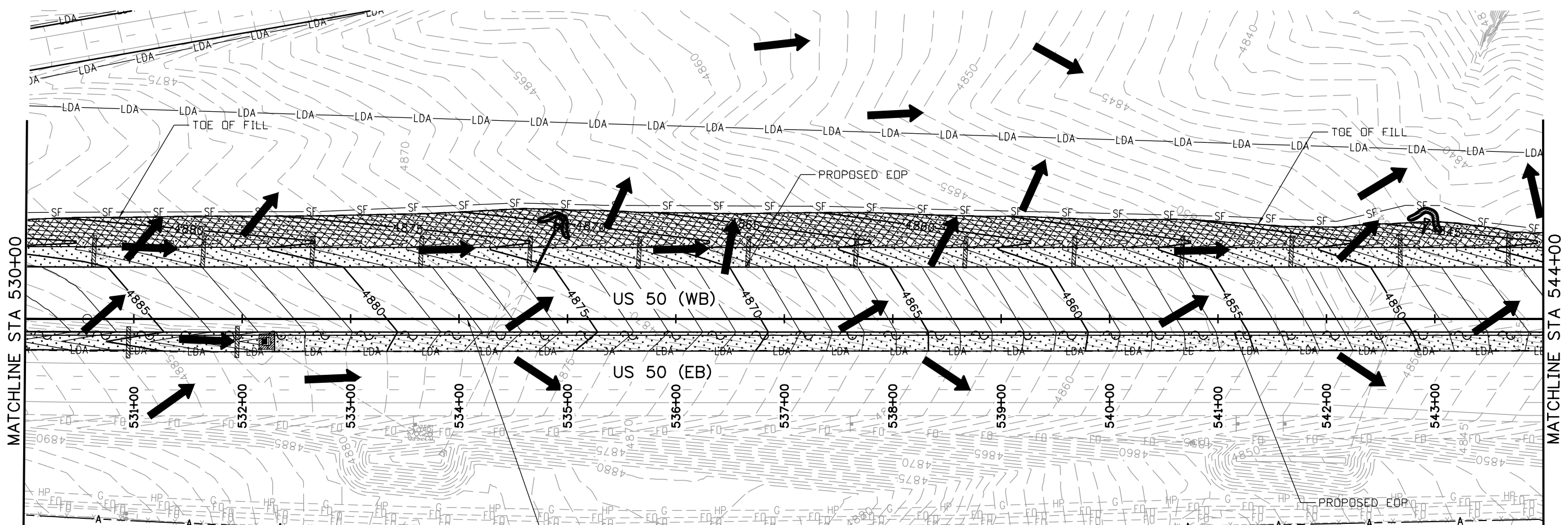
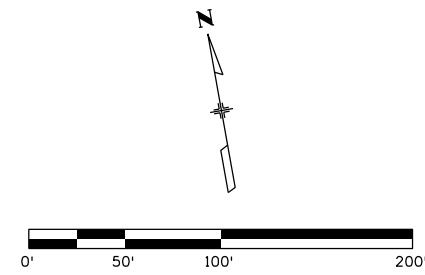
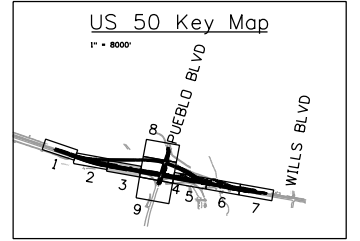
Designer: AB Structure Numbers
 Detailer: AB
 Subset: EC Subset Sheets: 01 of 09

Project No./Code
STA 0503-085
Sheet Number 173

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Know what's below.
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LEGEND

- LDA- LIMITS OF DISTURBANCE
- DIRECTION OF SURFACE FLOW
- ▨ SOIL RETENTION BLANKETS
- ▤ SEEDING
- ◡ EXISTING WETLAND
- ◻ DROP INLET PROTECTION
- ~ PIPE EROSION LOG
- ◡ PIPE EROSION LOG-INLET

NOTES:
1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
2. INTERMEDIATE BMP'S TO BE REMOVED ARE SHOWN AS SCREENED ON "FINAL EROSION CONTROL PLANS"

Print Date: 3/2/2017
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US 50 WEST WESTBOUND EROSION CONTROL PLAN-FINAL US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	EC	Subset Sheets:	03 of 09

Project No./Code	
	STA 0503-085
Sheet Number	175

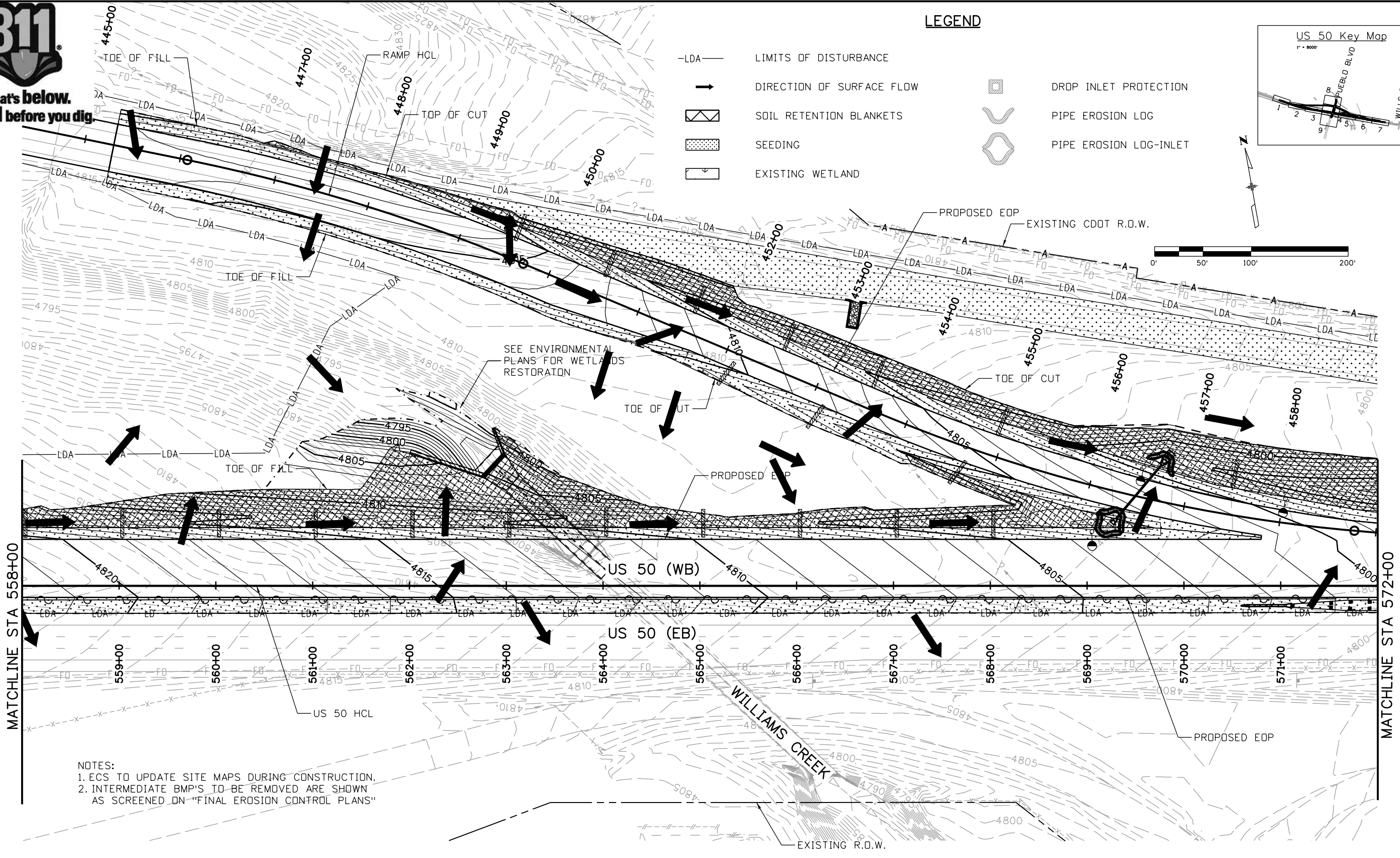
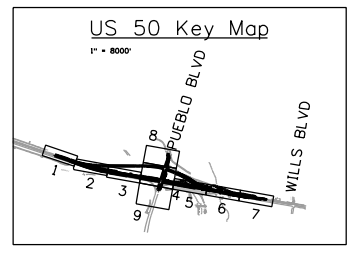
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Know what's below.
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LEGEND

- LDA- LIMITS OF DISTURBANCE
- DIRECTION OF SURFACE FLOW
- [Hatched Box] SOIL RETENTION BLANKETS
- [Dotted Box] SEEDING
- [Empty Box] EXISTING WETLAND
- [Square with X] DROP INLET PROTECTION
- [U-shape] PIPE EROSION LOG
- [U-shape with Inlet] PIPE EROSION LOG-INLET

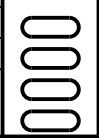


NOTES:
 1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
 2. INTERMEDIATE BMP'S TO BE REMOVED ARE SHOWN AS SCREENED ON "FINAL EROSION CONTROL PLANS"

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File Name: 20344-SWMP_05.dgn

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**US 50 WEST WESTBOUND
 EROSION CONTROL PLAN-FINAL
 US 50**

Designer:	AB	Structure Numbers	
Detailer:	AB	Subset Sheets:	05 of 09
Subset:	EC		

Project No./Code

STA 0503-085
 Sheet Number **177**

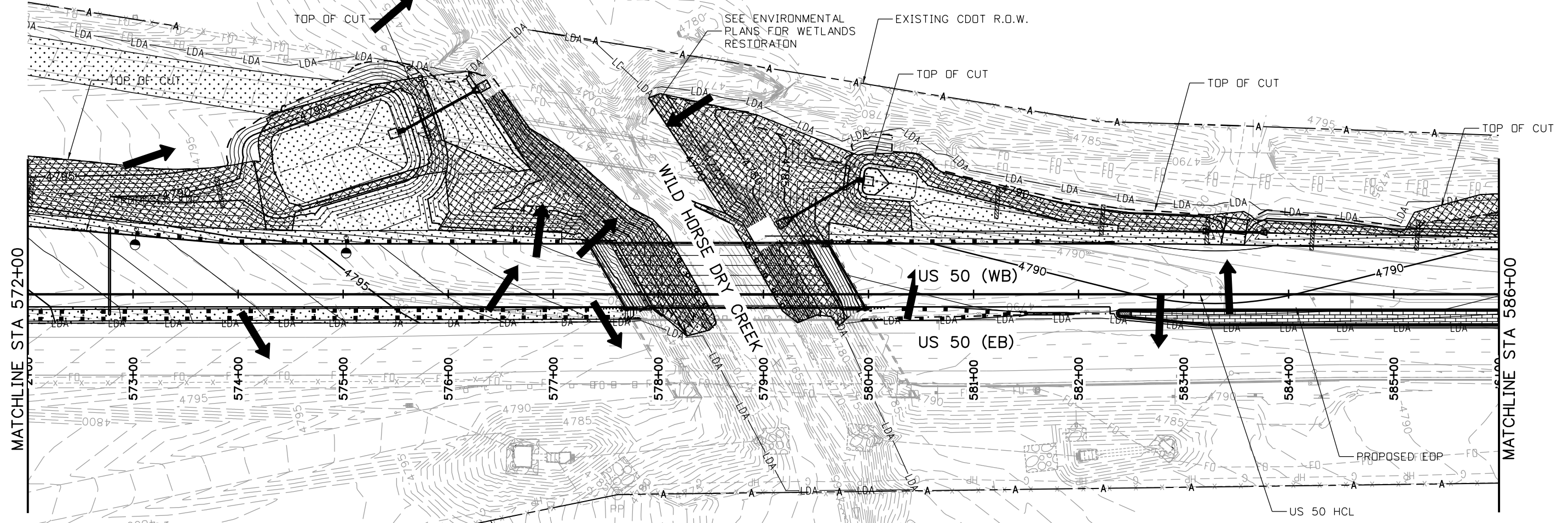
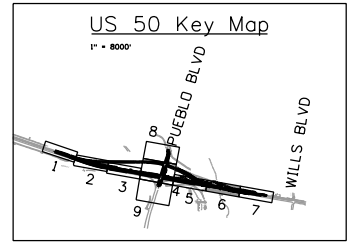


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- LEGEND**
- LDA- LIMITS OF DISTURBANCE
 - DIRECTION OF SURFACE FLOW
 - ▨ SOIL RETENTION BLANKETS
 - ▤ SEEDING
 - ◻ EXISTING WETLAND
 - ▣ DROP INLET PROTECTION
 - ~ PIPE EROSION LOG
 - ◊ PIPE EROSION LOG-INLET

NOTES:
 1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
 2. INTERMEDIATE BMP'S TO BE REMOVED ARE SHOWN AS SCREENED ON "FINAL EROSION CONTROL PLANS"

Print Date: 3/2/2017
 File Name: 20344-SWMP_06.dgn
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Void:

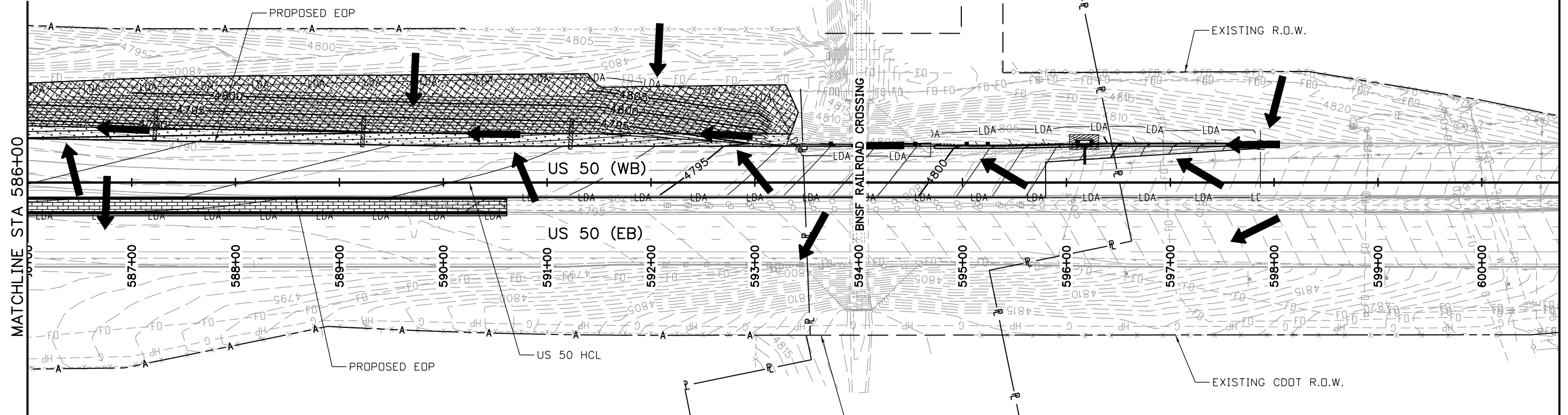
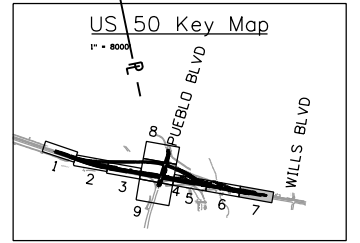
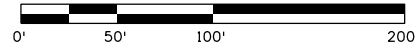
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Detailer:	AB	Numbers	
Subset:	EC	Subset Sheets:	06 of 09

Project No./Code
STA 0503-085
Sheet Number
178

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LEGEND

- LDA- LIMITS OF DISTURBANCE
- DIRECTION OF SURFACE FLOW
- [Cross-hatched box] SOIL RETENTION BLANKETS
- [Dotted box] SEEDING
- [Box with arrow] EXISTING WETLAND
- [Square with X] DROP INLET PROTECTION
- [Wavy line] PIPE EROSION LOG
- [Wavy line with arrow] PIPE EROSION LOG-INLET

NOTES:
1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
2. INTERMEDIATE BMP'S TO BE REMOVED ARE SHOWN AS SCREENED ON "FINAL EROSION CONTROL PLANS"

Print Date: 3/2/2017
File Name: 20344-SWMP_07.dgn
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**US 50 WEST WESTBOUND
EROSION CONTROL PLAN-FINAL
US 50**

Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	EC	Subset Sheets:	07 of 09

Project No./Code

STA 0503-085

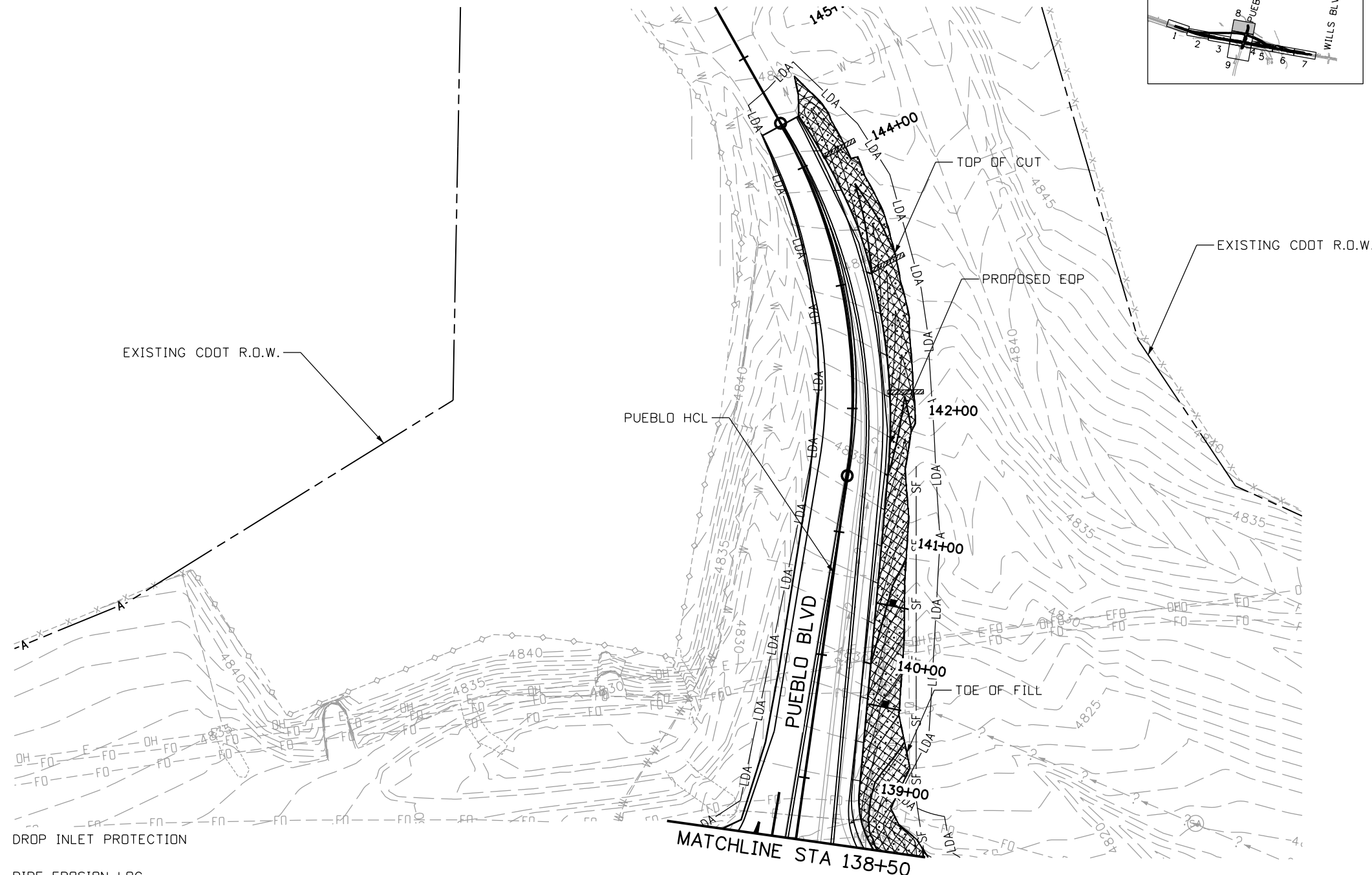
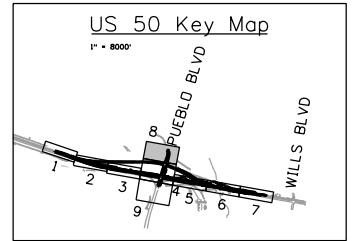
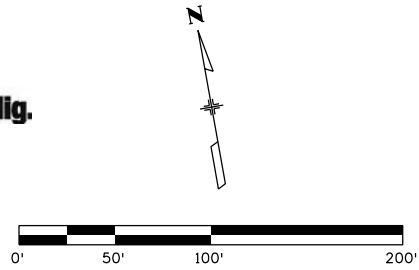
Sheet Number **179**



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5898 South Rapp Street
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Know what's below.
Call before you dig.



LEGEND

- LDA- LIMITS OF DISTURBANCE
- DIRECTION OF SURFACE FLOW
- [Hatched Box] SOIL RETENTION BLANKETS
- [Dotted Box] SEEDING
- [Wavy Line] EXISTING WETLAND
- [Square with X] DROP INLET PROTECTION
- [Wavy Line with Arrow] PIPE EROSION LOG
- [Wavy Line with Arrow and Circle] PIPE EROSION LOG-INLET

NOTES:
 1. ECS TO UPDATE SITE MAPS DURING CONSTRUCTION.
 2. INTERMEDIATE BMP'S TO BE REMOVED ARE SHOWN AS SCREENED ON "FINAL EROSION CONTROL PLANS"

Print Date: 3/2/2017
 File Name: 20344-SWMP_08.dgn
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**US 50 WEST WESTBOUND
 EROSION CONTROL PLAN-FINAL
 US 50**

Designer:	AB	Structure Numbers	
Detailer:	AB		
Subset:	EC	Subset Sheets: 08 of 09	

Project No./Code

STA 0503-085

Sheet Number **180**

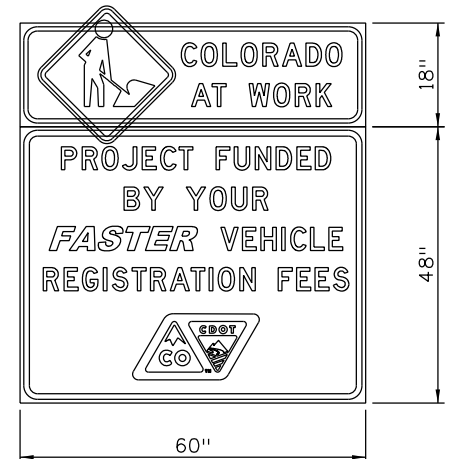
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TABULATION OF TRAFFIC ENGINEERING ITEMS			
ITEM NUMBER	ITEM DESCRIPTION	UNIT	PROJECT TOTALS
202-00250	Removal of Pavement Marking	SF	2,500
202-00810	Removal of Ground Sign	EA	13
202-00821	Removal of Sign Panel	EA	10
202-00827	Removal of Pull Box	EA	7
202-00831	Removal of Traffic Signal Head	EA	1
202-00840	Removal of Traffic Signal Pole	EA	2
202-00848	Removal of Traffic Signal Controller and Cabinet	EA	1
202-00858	Removal of Pedestal Pole	EA	1
210-00476	Reset Microwave Vehicle Radar Detector (MVRD)	EA	2
210-00815	Reset Sign Panel	EA	2
210-00825	Reset Flashing Beacon	EA	3
210-00831	Reset Traffic Signal Head	EA	4
210-00848	Reset Traffic Signal Controller And Cabinet	EA	1
210-00865	Reset Pedestrian Signal Head	EA	2
210-00890	Reset Intersection Detection System (Camera)	EA	5
503-00036	Drilled Caisson (36 Inch)	LF	45
503-00054	Drilled Caisson (54 Inch)	LF	51
613-00200	2 Inch Electrical Conduit	LF	1,406
613-00206	2 Inch Electrical Conduit (Bored)	LF	290
613-00306	3 Inch Electrical Conduit (Bored)	LF	580
613-07023	Pull Box (24"X36"X24")	EA	2
613-07039	Pull Box (30"X48"X18")	EA	4
613-10000	Wiring	LS	1
613-13006	Luminare (Led) (8500 Lumens)	EA	3
614-00011	Sign Panel (Class I)	SF	100
614-00012	Sign Panel (Class II)	SF	495
614-00013	Sign Panel (Class III)	SF	661
614-00615	Steel Sign Post (W 6x15)	LF	29
614-01502	Steel Sign Support (2-Inch Round)(Post & Socket)	LF	8
614-01572	Steel Sign Support (2-1/2 In Rd Sch 40) (Post And Slip Base)	LF	424
614-03002	Concrete Footing (Type 2)	EA	2
614-42000	Monotube Overhead Sign Bridge (20 Inch Diameter)	EA	1
614-70150	Pedestrian Signal Face (16) (Countdown)	EA	2
614-70336	Traffic Signal Face (12-12-12)	EA	10
614-70448	Traffic Signal Face (12-12-12-12)	EA	4
614-72855	Traffic Signal Controller Cabinet	EA	1
614-72860	Pedestrian Push Button	EA	2
614-72886	Intersection Detection System (Camera)	EA	1
614-80000	Flashing Beacon	EA	2
614-81145	Traffic Signal-Light Pole Steel (1-45 Foot Mast Arm)	EA	1
614-81155	Traffic Signal-Light Pole Steel (1-55 Foot Mast Arm)	EA	2
614-87350	Test Fiber Optic Cable	LS	1
614-87424	Fiber Optic Cable (Single Mode) (24 Strands)	LF	690
614-87524	Splice Fiber Optic Cable (24 Strand)	EA	2
614-87624	Terminate Fiber Optic Cable (24 Strand)	EACH	2
621-00450	Detour Pavement	SY	275
627-00008	Modified Epoxy Pavement Marking	GAL	187
627-00011	Pavement Marking Paint (Waterborne)	GAL	400
627-30405	Preformed Thermoplastic Pavement Marking (Word-Symbol)	SF	504
627-30410	Preformed Thermoplastic Pavement Marking (Xwalk-Stopline)	SF	1,325

TABULATION OF TRAFFIC ENGINEERING ITEMS			
ITEM NUMBER	ITEM DESCRIPTION	UNIT	PROJECT TOTALS
630-00000	Flagging	HR	5,000
630-00007	Traffic Control Inspection	DAY	220
630-00012	Traffic Control Management	DAY	300
630-80001	Flashing Beacon (Portable)	EA	24
630-80335	Barricade (Type 3 M-A) (Temporary)	EA	6
630-80341	Construction Traffic Sign (Panel Size A)	EA	22
630-80342	Construction Traffic Sign (Panel Size B)	EA	98
630-80344	Construction Traffic Sign (Special)	SF	165
630-80355	Portable Message Sign	EA	4
630-80358	Advance Warning Flashing Or Sequencing Arrow Panel (C Type)	EA	4
630-80360	Drum Channelizing Device	EA	200
630-80363	Drum Channelizing Device (With Light) (Flashing)	EA	175
630-80370	Concrete Barrier (Temporary)	LF	3,200
630-80380	Traffic Cone	EA	500
630-85011	Impact Attenuator (Temporary)	DAY	400
630-85020	Mobile Attenuator	EA	2

SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES					
		630-80341	630-80342	630-80344	
CONSTRUCTION SIGNS					
SIGN CODE	LEGEND	DIMENSION	PANEL SIZE		
			A EA	B EA	Special SF
FASTER	COLORADO AT WORK SIGN (SPECIAL)	66"X60"			165
G20-5	WORK ZONE	36"X24"	16		
G20-10	XYZ/CONSTRUCTION/THANKS YOU/555-555-5555	48"X48"		8	
G20-11	ROAD WORK INFORMATION	48"X48"		8	
R2-1	SPEED LIMIT	36"X48"		16	
R2-6(ap)	FINES/DOUBLE	36"X24"	4		
R3-7	RIGHT (LEFT) LANE MUST TURN RIGHT (LEFT)	36"X36"	2		
R11-2	ROAD CLOSED	48"X36"		2	
R52-6a	BEGIN FINES DOUBLE IN WORK ZONE	36"X48"		8	
R52-6b	END FINES DOUBLE IN WORK ZONE	36"X48"		8	
W1-4B	REVERSE CURVE SYMBOL	48"X48"		4	
W1-6L	ARROW SYMBOL	48"X24"		2	
W4-2	LANE ENDS SYMBOL	48"X48"		4	
W8-1	BUMP	48"X48"		4	
W8-11	UNEVEN LANES	48"X48"		4	
W5-1	ROAD NARROWS *	48"X48"		2	
W20-1	ROAD WORK *	48"X48"		8	
W20-7A	FLAGGER	48"X48"		4	
W21-4	ROAD WORK AHEAD *	48"X48"		8	
W21-5	SHOULDER WORK	48"X48"		4	
W21-5A	RIGHT (LEFT) SHOULDER CLOSED *	48"X48"		4	
PROJECT TOTALS			22	98	165

* CONSTRUCTION SIGNS WITH BEACON
QUANTITIES SHOWN FOR INFORMATION ONLY AND ARE CARRIED FORWARD TO TABULATION OF TRAFFIC ENGINEERING ITEMS



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Print Date: 3/8/2017			As Constructed No Revisions: Revised: Void:	US 50 WEST WESTBOUND TABULATION TRAFFIC ENGINEERING ITEMS	Project No./Code
File Name: 20344TAB_Traff_Eng_Items.dgn					STA 0503-085
Horiz. Scale: 1:1 Vert. Scale:					20344
J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	Region 2 DTD	Designer: ACE Structure Numbers Detailer: ACE Subset: TRAFFIC Subset Sheets: 01 of 01	Sheet Number 182	

TRAFFIC SIGNAL GENERAL NOTES AND TABULATION OF SIGNAL QUANTITIES

1. Traffic Signal Materials and Installation shall comply with the "State of Colorado - Standard Specifications for Road and Bridge Construction", The "State of Colorado - Standard Plans, M and S Standards (Latest Edition), the "Manual of Uniform Traffic Control Devices", the "National Electric Code", and all local ordinances and regulations that apply, except as noted on the plans or special provisions.
2. The Contractor shall adhere to the following requirements regarding Traffic Signal construction and maintenance personnel. Current Certificates showing qualifications shall be submitted at the pre-construction meeting.
 - a. For any work inside the traffic signal cabinet, Signal and Signal Bench Technicians shall be minimum IMSA Level II certified. This includes the completion of training in construction, corrective maintenance and signal turn-on.
 - b. For all work external to the signal cabinet, a- minimum IMSA Level I Traffic Signal Field Technician/Electrician - or Traffic Signal Bench Technician/Signal Technician - is required. An IMSA Level II Traffic Signal Electrician - shall be on the job site at all times that signalization work is taking place to ensure proper construction. A maximum ratio of four IMSA Level-I to one IMSA Level-II will be allowed for work external to the signal cabinet.
 - c. The United States Department of Labor - Bureau of Apprenticeship and Training may be substituted for the IMSA Level I Traffic Signal Electrician requirement.
3. All vehicle and pedestrian indications shall be approved solid state LED type. Luminaires shall be LED (8500 Lumens) at 40-foot mounting height.
4. Traffic signals that are mounted on mast arms shall be furnished with mounting brackets and black louvered backing plates. All signal heads to be centered over outbound lanes as per plans. Signal backplates shall include yellow retroreflective border.
5. Installation shall include ADA pedestrian push buttons. Pedestrian push button signs shall conform to MUTCD or r103b.
6. The signal shall not be put in flash mode or made fully operational until CDOT has inspected and approved the installation, and all pavement markings are in place. The existing or temporary traffic signal shall remain operational until the new signal is tested and approved by the Engineer for operational service. Contact Tony Kerr, Region 2 (719) 251-4201
7. All used or excess signal equipment, to include signal pole but not signal heads or wiring, shall remain the property of CDOT and delivered to the Region 2 signal shop; contact Tony Kerr, Region 2 (719) 251-4201.
8. Measurement and payment of traffic signal construction items shall conform to the project specifications.
9. All items not shown in the traffic signal quantities shall be considered incidental to the construction of the traffic signals and will not be paid & measured separately. All quantities are approximate. The Contractor shall be responsible for all work necessary to complete the construction shown on the plans to build a complete and functioning system.
10. Pole finishes shall match existing poles.
11. The Contractor shall field verify mast arm length with Tony Kerr (719) 251-4201, prior to ordering the mast arms.
12. Should Contractor incur water in the caisson excavation, any de-watering methods & necessary permits shall be included in the cost of the caisson. Contractor shall provide method statement to accomplish de-watering.
13. All conduits shall have a pull rope left in them when construction is completed. All conduit under the roadway shall be directionally bored a minimum of 3' below existing pavement. Directionally bored conduit and fittings and tracer wire shall be HDPE 3408.
14. All signal cable shall be continuous from connections made in the hand-hole compartment of signal pole base to the terminal compartment in the controller cabinet. Splicing shall not be permitted.
15. Signal heads shall be bagged with a heavy black plastic until ready for operation.
16. All removed luminaires and poles shall remain property of CDOT.
17. All camera detector lead-in cables are continuous from the controller to the camera detectors. No splices will be permitted. Camera detectors shall be mounted in accordance with the manufacturer recommendations and approved by CDOT. All cameras shall be mounted on signal mast arms with a 5' extension arm (to be included in the cost).
18. Contractor shall complete all work necessary for the operation of the system, and shall contact CDOT traffic operations, Contact Tony Kerr, Region 2 (719) 251-4201, to schedule a compliance inspection prior to flash operation. Contractor shall add Cienna fiber switch/laterals in existing controller cabinet for re-splice. Upon completion of the inspection, the field operation testing shall begin. The complete traffic system shall be fully operational and fully tested at the completion of the project.
19. Contractor to ensure proper signal operation during removal and replacement, and reset of traffic signal controller.

20. Traffic signal will need to run for a minimum of 15 days without any issues, as identified by Region 2 Traffic Operations (Contact Jason Nelson, at 719-546-5734), before the project will be accepted.
21. Pull box locations are approximate. Actual locations shall be verified in the field by the Engineer. All pull boxes shall be flush with finished ground surface. Pull boxes shall not be spaced farther than 200' apart.
22. Prior to all milling or planing operation at signalized intersections, all video detection equipment called out in the plans and adaptive radar markings shall be in place and shall be operational. All video detection changes during milling or planing operations and striping reconfiguration will not be measured and paid for separately but shall be included in the work. Upon acceptance, all shall be operational as well.
23. No excavation shall be permitted until underground utilities have been located to the satisfaction of all parties. The Contractor shall be responsible for protecting all utilities above and below ground during construction. Contact the Utility Notification Center of Colorado (UNCC) to have locations of UNCC registered lines marked by member companies. Call 811 for all locations. For location of CDOT utilities, contact Tony Kerr, Region 2 (719) 251-4201. All other utilities shall be located by contacting the respective company.
24. Two or more weeks prior to the start of construction, the Contractor shall submit temporary phasing and timing signal plans to the Engineer for approval.
25. Contractor's signal electrician is required to be on site, at a minimum, during AM & PM peak hours following the next day a signal is turned on to observe operation and make adjustments as needed. Signal electrician's additional hours may be required by the Engineer. This applies to both permanent and temporary installations.
26. The Contractor shall provide CDOT with at least four (4) sets of equipment specifications/descriptions, COC's and obtain approvals prior to ordering the equipment.
27. The Contractor shall adjust the existing traffic signal interconnects in the project area, as necessary
28. All manuals, installation guides and associated equipment shall be provided to the Engineer at time of inspection.
29. Signal shall be re-spliced to US 50 fiber backbone via Cienna 3930 equipment and shall be tested from 29th Street node for operation.

TABULATION OF SIGNAL QUANTITIES (FOR INFO ONLY)					
ITEM NO.	DESCRIPTION	JNIT	PUEBLO BLVD		TOTAL
			US 50	WB RAMP	
202-00821	Removal of Sign Panel	EACH	2	1	3
202-00827	Removal of Pull Box	EACH	2	2	4
202-00831	Removal of Traffic Signal Head	EACH	1		1
202-00840	Removal of Traffic Signal Pole	EACH	1	1	2
202-00848	Removal of Traffic Signal Controller and Cabinet	EACH		1	1
202-00858	Removal of Pedestal Pole	EACH	1		1
210-00476	Reset Microwave Vehicle Radar Detector (MVRD)	EACH	1	1	2
210-00831	Reset Traffic Signal Head	EACH		4	4
210-00848	Reset Traffic Signal Controller and Cabinet	EACH	1		1
210-00865	Reset Pedestrian Signal Head	EACH	2		2
210-00890	Reset Intersection Detection System (Camera)	EACH	3	2	5
503-00036	Drilled Caisson (36 inch)	LF	30	15	45
613-00200	2 Inch Electrical Conduit*	LF	1,128	278	1,406
613-00206	2 Inch Electrical Conduit (Bored)	LF	265	25	290
613-00306	3 Inch Electrical Conduit (Bored)	LF	530	50	580
613-07023	Pull Box (24"X36"X24") *	EACH	2		2
613-07039	Pull Box (30"X48"X18")	EACH	2	2	4
613-10000	Wiring**	LS	0.5	0.5	1
613-13006	Luminare (Led) (8500 Lumens)	EACH	2	1	3
614-00011	Sign Panel (Class I)	SF	57	39	96
614-70150	Pedestrian Signal Face (16) (Countdown)	EACH	2		2
614-70336	Traffic Signal Face (12-12-12)	EACH	8	2	10
614-70448	Traffic Signal Face (12-12-12-12)	EACH	2	2	4
614-72855	Traffic Signal Controller Cabinet	EACH		1	1
614-72860	Pedestrian Push Button	EACH	2		2
614-72886	Intersection Detection System (Camera)	EACH	1		1
614-81145	Traffic Signal-Light Pole Steel (1-45 Foot Mast Arm)	EACH	1		1
614-81155	Traffic Signal-Light Pole Steel (1-55 Foot Mast Arm)	EACH	1	1	2
614-87350	Test Fiber Optic Cable	LS	0.5	0.5	1
614-87424	Fiber Optic Cable (Single Mode) (24 Strands)	LF	345	345	690
614-87524	Splice Fiber Optic Cable (24 Strand)	EACH	1	1	2
614-87624	Terminate Fiber Optic Cable (24 Strand)	EACH	1	1	2

* INCLUDES QTY FOR FLASHING BEACONS (SEE SIGNING AND STRIPING PLAN FOR LOCATION).

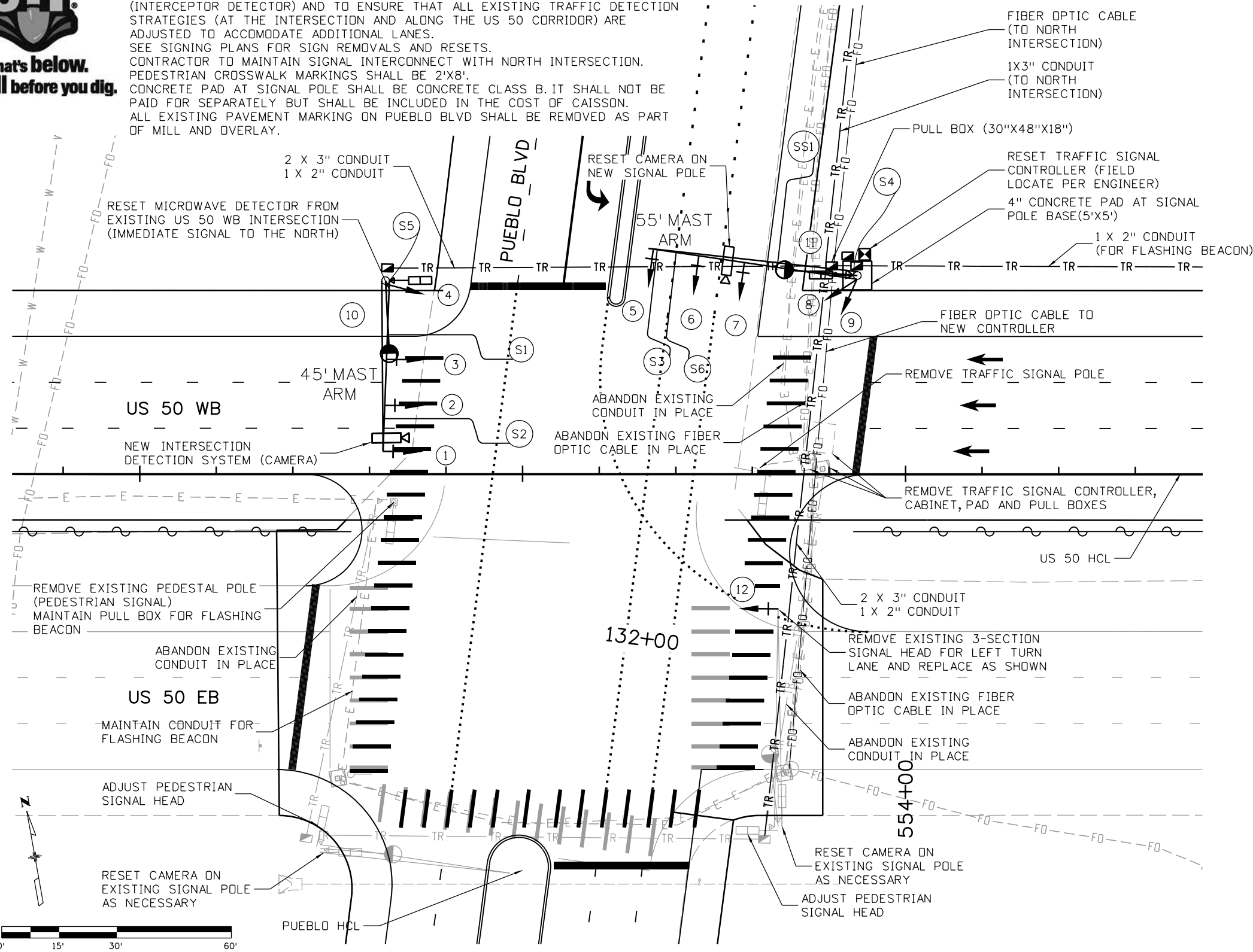
** QTY ALSO INCLUDES WIRING FOR ITEMS SUCH AS TRAFFIC SIGNAL, PUSH BUTTON POST ASSEMBLY, DETECTION SYS. (CAMERA) AND FLASHING BEACON

Print Date: 3/2/2017		 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 WESTBOUND TRAFFIC SIGNAL NOTES AND TABULATION		Project No./Code	
File Name: 20448_Signal_General_Notes_Qty.dgn						STA 0503-085	
Horiz. Scale: 1:30 Vert. Scale: As Noted						20344	
 J.F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120			Designer: GV Structure Detailer: GV Numbers Subset: SIG Subset Sheets: 01 of 03		Sheet Number 183		

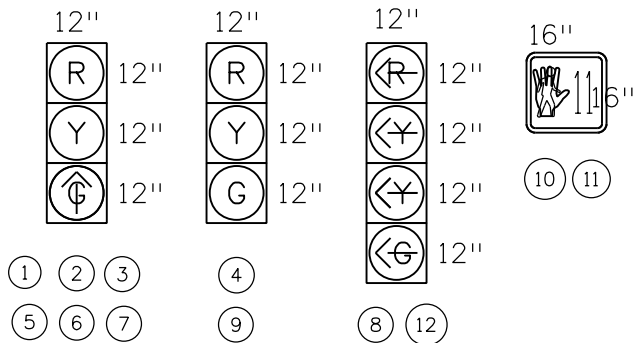


Know what's below.
Call before you dig.

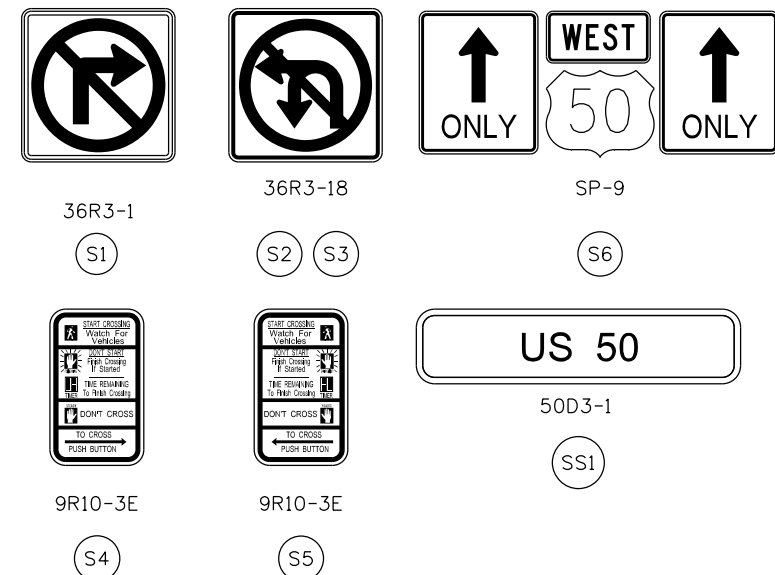
NOTE:
MAINTAIN EXISTING POWER SOURCE.
CONTRACTOR TO RESET CAMERA AND MICROWAVE VEHICLE RADAR DETECTORS (INTERCEPTOR DETECTOR) AND TO ENSURE THAT ALL EXISTING TRAFFIC DETECTION STRATEGIES (AT THE INTERSECTION AND ALONG THE US 50 CORRIDOR) ARE ADJUSTED TO ACCOMMODATE ADDITIONAL LANES.
SEE SIGNING PLANS FOR SIGN REMOVALS AND RESETS.
CONTRACTOR TO MAINTAIN SIGNAL INTERCONNECT WITH NORTH INTERSECTION.
PEDESTRIAN CROSSWALK MARKINGS SHALL BE 2'X8'.
CONCRETE PAD AT SIGNAL POLE SHALL BE CONCRETE CLASS B. IT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF CAISSON.
ALL EXISTING PAVEMENT MARKING ON PUEBLO BLVD SHALL BE REMOVED AS PART OF MILL AND OVERLAY.



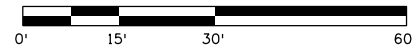
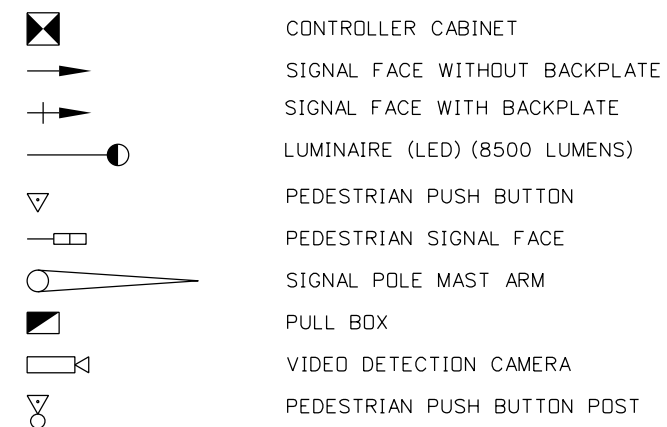
TRAFFIC SIGNAL HEADS



SIGNS



LEGEND



Print Date: 3/2/2017
File Name: 20344_Signal_01.dgn
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Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
902 Erie Avenue
Pueblo, CO 81001
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Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND
TRAFFIC SIGNAL PLAN
US 50 AND PUEBLO BLVD
Designer: GV Structure Numbers
Detailer: GV
Subset: SIG Subset Sheets: 02 of 03

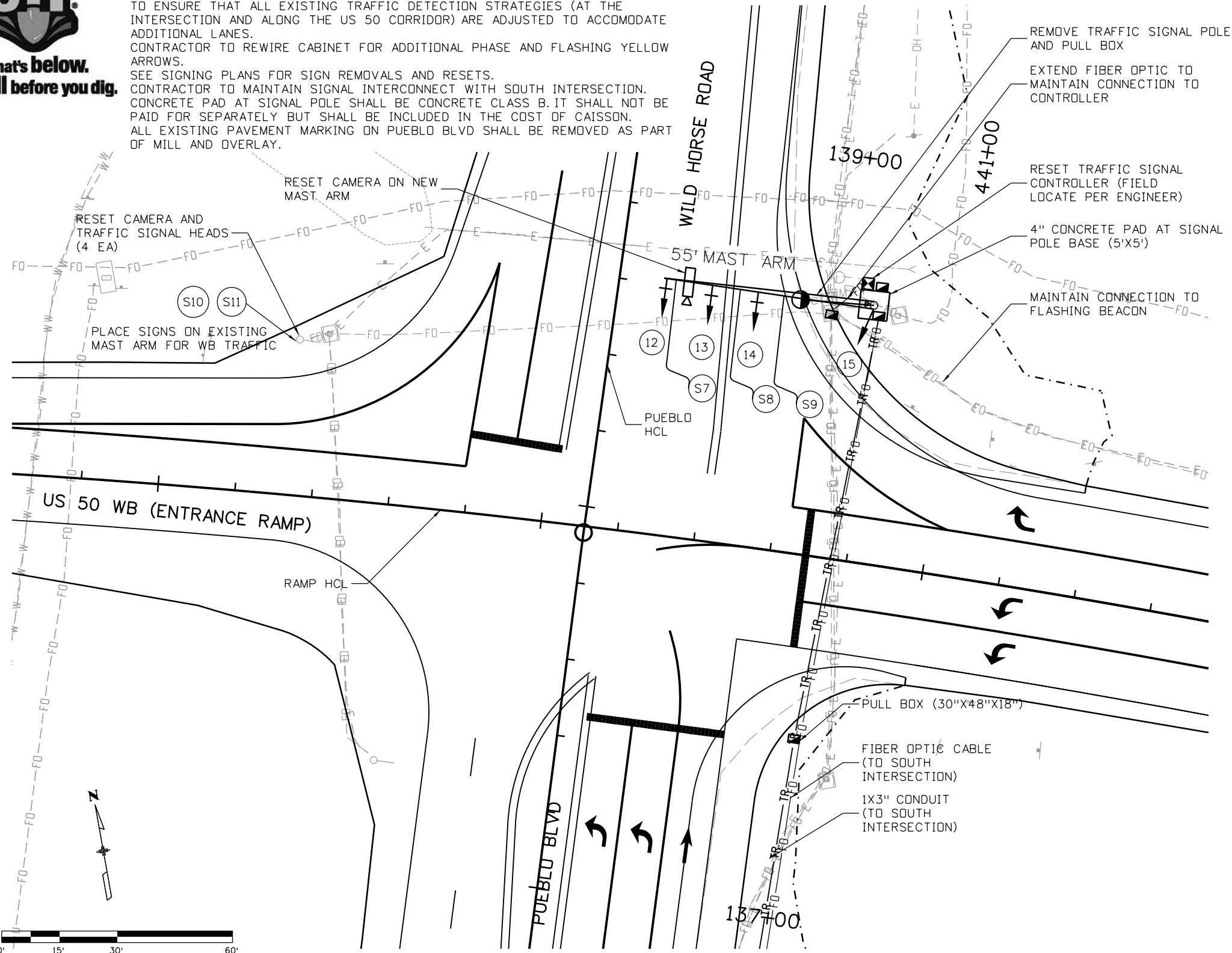
Project No./Code
STA 0503-085
20344
Sheet Number 184

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5898 South Rapp Street
Littleton, Colorado 80120

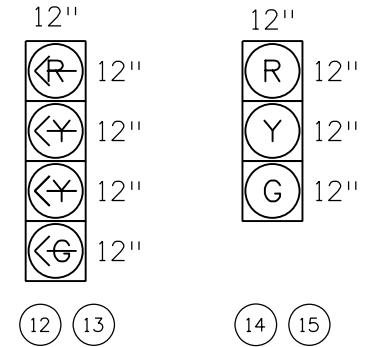


Know what's below.
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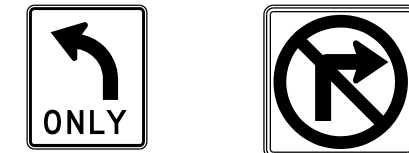
NOTE:
MAINTAIN EXISTING POWER SOURCE.
CONTRACTOR TO RESET CAMERA AND MICROWAVE VEHICLE RADAR DETECTORS AND TO ENSURE THAT ALL EXISTING TRAFFIC DETECTION STRATEGIES (AT THE INTERSECTION AND ALONG THE US 50 CORRIDOR) ARE ADJUSTED TO ACCOMMODATE ADDITIONAL LANES.
CONTRACTOR TO REWIRE CABINET FOR ADDITIONAL PHASE AND FLASHING YELLOW ARROWS.
SEE SIGNING PLANS FOR SIGN REMOVALS AND RESETS.
CONTRACTOR TO MAINTAIN SIGNAL INTERCONNECT WITH SOUTH INTERSECTION.
CONCRETE PAD AT SIGNAL POLE SHALL BE CONCRETE CLASS B. IT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF CAISSON.
ALL EXISTING PAVEMENT MARKING ON PUEBLO BLVD SHALL BE REMOVED AS PART OF MILL AND OVERLAY.



TRAFFIC SIGNAL HEADS



SIGNS



30R3-5

36R3-1

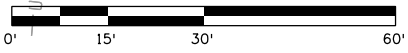
S7 S8

S9

S10 S11

LEGEND

- CONTROLLER CABINET
- SIGNAL FACE WITHOUT BACKPLATE
- SIGNAL FACE WITH BACKPLATE
- LUMINAIRE (LED) (8500 LUMENS)
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL FACE
- SIGNAL POLE MAST ARM
- PULL BOX
- VIDEO DETECTION CAMERA



Print Date: 3/2/2017
File Name: 20344_Signal_02.dgn
Horiz. Scale: 1:30 Vert. Scale: As Noted

Sheet Revisions		
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Region 2 DTD

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No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND
TRAFFIC SIGNAL PLAN
PUEBLO BLVD AND US 50 WB RAMP
Designer: GV Structure Numbers
Detailer: GV
Subset: SIG Subset Sheets: 03 of 03

Project No./Code
STA 0503-085
20344
Sheet Number 185

JFS J. F. SATO AND ASSOCIATES
5898 South Rapp Street
Littleton, Colorado 80120

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202-00810 202-00821 202-00827 210-00815 210-00825 503-00054 614-00011 614-00012 614-00013 614-00615 614-01502 614-01572 614-03002 614-42000 614-80000

TABULATION OF SIGNING

Sign No.	Location	Station	Direction		Side	Sign Code	Sign Panel Size			Removal of Ground Sign	Removal of Sign Panel	Removal of Pull Box	Reset Sign Panel	Reset Flashing Beacon	Drilled Caisson (54")	Sign Panel			Steel Post (W Shape)	Steel Sign Support (2-Inch Round)	Steel Sign Support (2-1/2 In Rd Sch 40)	Concrete Footing Type2	Monotube Overhead Sign Bridge (20 In Dia)	Flashing Beacon
			Bound	Facing			W"	x	H"							Class I	Class II	Class III						
			Each	Each			Each	Each	Each							LF	SF	SF						
1	WB ON RAMP	406+63.38	WB	E	LT.	W4-1R	48	x	48								16			11				
2	WB ON RAMP	419+43.07	WB	N-E	LT.	W4-2L	48	x	48								16			11				
3	US 50	540+10.96	WB	E	LT.	W4-2R	48	x	48								16			11				
4	US 50	540+10.96	WB	E	RT.	W4-2R	48	x	48								16			11				
5	US 50	541+16.68	WB	E	LT.	D10-3	12	x	48							4		8						
6	US 50	546+08.40	WB	E	LT.	R2-4a	36	x	72									18		13				
7	US 50	546+08.40	WB	E	RT.	R2-4a	36	x	72									18		13				
r1,r2	US 50 EB	546+36.20	EB	W	RT.						1	2	1											
8	US 50	548+00.00	WB	E	RT.	M3-4	36	x	36								9			13				
9	US 50	548+00.00	WB	E	RT.	M1-4	36	x	36								9							
10	PUEBLO BLVD	133+00.11	SB	N	LT.	R3-1	36	x	36								9			10				
11	US 50	553+89.53	WB	E	LT.	R3-1	36	x	36								9			10				
12	PUEBLO BLVD	135+25.08	NB	S	RT.	SP-7	48	x	30								10			10				
13	WB OFF RAMP	444+05.37	WB	E	LT.	SP-8	62	x	30								13			10				
14	WB OFF RAMP	444+05.37	WB	E	RT.	SP-8	62	x	30								13			10				
15	US 50	553+89.53	EB	S-W	LT.	R5-1	36	x	36								9			10				
16	US 50	553+89.53	WB	E	RT.	R3-1b	36	x	36								9			10				
17	US 50	552+44.32	WB	E	RT.	R4-7	36	x	48								12			11				
18	PUEBLO BLVD	132+39.69	SB	N-W	RT.	R5-1	36	x	36								9			10				
19	US 50	553+77.90	WB	W	RT.	R4-7	36	x	48								12			11				
20	US 50	557+24.01	EB	W	LT.	R5-1a	42	x	30								9			13				
21	US 50	557+24.01	EB	W	RT.	R5-1a	42	x	30								9			13				
22	US 50	557+24.01	WB	E	RT.	R3-1b	36	x	36								9							
23	US 50	557+24.01	WB	E	LT.	R3-1	36	x	36								9							
r3	WB ON RAMP	431+47.52	WB	W	LT.	R2-4a				1														
r4	WB ON RAMP	432+36.55	WB	W	RT.	R2-4a				1														
24	WB ON RAMP	435+00.00	WB	W	LT.	R2-1	36	x	48								12			11				
25	WB ON RAMP	435+00.00	WB	W	RT.	R2-1	36	x	48								12			11				
r5	WB ON RAMP	438+12.05	WB	W	LT.	M3-4				1														
r6	WB ON RAMP	439+11.79	WB	W	LT.	M1-4					1													
r7	WB ON RAMP	439+11.79	WB	W	LT.	D10-3				1														
r8	WB OFF RAMP	441+39.08	WB	W	RT.	R3-7				1														
r9	WB OFF RAMP	446+56.05	WB	E	RT.	W3-4					1													
r10	WB OFF RAMP	446+56.05	WB	E	RT.	W16-13P					1													
26	WB OFF RAMP	446+56.05	WB	E	RT.	W3-3	48	x	48			1					16							
r11	WB OFF RAMP	446+80.09	WB	E	LT.	W3-4					1													
r12	WB OFF RAMP	446+80.09	WB	E	LT.	W16-13P					1													
27	WB OFF RAMP	446+80.09	WB	E	LT.	W3-3	48	x	48				1				16							
r13	WB OFF RAMP	446+44.32	WB	E	RT.	SPECIAL				1														
r14	WB OFF RAMP	446+44.32	WB	E	RT.	SPECIAL					1													
28	WB OFF RAMP	449+45.09	WB	E	LT.	SP-1	84	x	48									28		24				
r15	WB OFF RAMP		WB	E	LT.	W3-3				1														
29	WB OFF RAMP		WB	S-E	RT.	M3-3	36	x	18								5							
30	WB OFF RAMP	451+60.40	WB	S-E	RT.	M1-5a	36	x	36								9			13				
31	WB OFF RAMP		WB	S-E	RT.	M5-1	21	x	15								2							
r16	WB OFF RAMP	451+82.77	WB	E	LT.	SPECIAL				1														
SHEET 1 SUBTOTAL										8	6	3	2	3	0	4	294	64	0	8	270	0	0	0

* SIGNS MOUNTED ON MONOTUBE OVERHEAD SIGN BRIDGE

Print Date: 3/8/2017	Sheet Revisions			Colorado Department of Transportation		As Constructed		US 50 WEST WESTBOUND TABULATION OF SIGNING			Project No./Code	
File Name: 20344TAB_Signing_1.dgn	Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		Designer: ACE			STA 0503-085	
Horiz. Scale: 1:1				Region 2		Revised:		Detailer: ACE			20344	
Vert. Scale:				DTD		Void:		Subset: TAB			Sheet Number 186	
	J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120					Structure Numbers		Subset Sheets: 01 of 02				

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202-00810 202-00821 202-00827 210-00815 210-00825 503-00054 614-00011 614-00012 614-00013 614-00615 614-01502 614-01572 614-03002 614-42000 614-80000

TABULATION OF SIGNING

Sign No.	Location	Station	Direction		Side	Sign Code	Sign Panel Size			Removal of Ground Sign	Removal of Sign Panel	Removal of Pull Box	Reset Sign Panel	Reset Flashing Beacon	Drilled Caisson (54")	Sign Panel			Steel Post (W Shape)	Steel Sign Support (2-Inch Round)	Steel Sign Support (2-1/2 In Rd Sch 40)	Concrete Footing Type2	Monotube Overhead Sign Bridge (20 In Dia)	Flashing Beacon			
			Bound	Facing			W"	x	H"							Class I	Class II	Class III							W6x15	Post & Socket	Post And Slip Base
32	US 50	559+79.03	WB	E	LT.	W3-4	48	x	48								16								1		
33						W16-13P	24	x	18												3						
34	US 50	559+79.03	WB	E	RT.	W3-4	48	x	48								16								1		
35						W16-13P	24	x	18												3						
36	US 50	566+49.43	WB	E	LT.	W3-3	48	x	48								16					11					
37	US 50	566+49.43	WB	E	RT.	W3-3	48	x	48								16					11					
38	US 50	570+61.07	WB	E	LT.	E5-1	72	x	60								30					24					
39	WB OFF RAMP	455+00.00	WB	S-E	RT.	R2-1	36	x	48								12					11					
40	WB OFF RAMP	455+00.00	WB	S-E	LT.	R2-1	36	x	48								12					11					
41*	US 50	572+77.54	WB	E	LT.	W13-3	36	x	48																		
42*	US 50	572+77.54	WB	E	LT.	SP-2	156	x	120					51													
43*	US 50	572+77.54	WB	E	LT.	SP-3	72	x	30																		
44*	US 50	572+77.54	WB	E	LT.	SP-4	336	x	120																		
45	US 50	581+46.13	EB	W	RT.	R5-11	30	x	24								5										
46	US 50	581+46.13	WB	E	RT.	R5-11	30	x	24								5										
47	US 50	582+53.82	WB	E	RT.	R4-7	36	x	48								12					11					
48	US 50	584+00.00	WB	E	LT.	SP-9	84	x	48													24					
r17	US 50	589+92.06	WB	E	RT.	R4-7				1																	
49	US 50	590+43.32	WB	E	LT.	R2-1	36	x	48								12	12				11					
r18	US 50	590+49.53	WB	E	LT.	SPECIAL				1																	
r19	US 50	594+79.07	WB	E	LT.	R2-1				1																	
50	US 50	597+50.00	WB	E	LT.	SP-5	156	x	108																		
51						SP-3	72	x	30													117				2	
r20	PUEBLO BLVD	139+50.95	NB	S	RT.	R2-1				1																	
52	PUEBLO BLVD	139+64.89	NB	S	RT.	R2-1	36	x	48								12					11					
53	PUEBLO BLVD	140+46.71	NB	S	RT.	W1-2I	30	x	30								6					10					
54	PUEBLO BLVD	140+47.71	NB	S	RT.	W13-1	18	x	18								2										
r21	PUEBLO BLVD	141+14.39	NB	S	RT.	W1-2L				1																	
r22						W13-1																					
55	PUEBLO BLVD	125+40.00	NB	S	RT.	SP-6	48	x	30								10					10					
SHEET 2 SUBTOTAL										5	1	0	0	0	51	0	201	597	29	0	154	2	1	2			
PROJECT TOTALS										13	7	3	2	3	51	4	495	661	29	8	424	2	1	2			

* SIGNS MOUNTED ON MONOTUBE OVERHEAD SIGN BRIDGE

NOTE:

1. THESE QUANTITIES ARE CARRIED FORWARD TO THE TABULATION TRAFFIC OF ENGINEERING ITEMS AND ARE SHOWN HERE FOR INFORMATION ONLY.
2. POST LENGTHS ARE APPROXIMATE ONLY AND EXACT LENGTHS ARE TO BE CONFIRMED BY THE CONTRACTOR.

Print Date: 3/8/2017

File Name: 20344TAB_Signing_2.dgn

Horiz. Scale: 1:1

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Colorado Department of Transportation



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Region 2

DTD

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Void:

US 50 WEST WESTBOUND
TABULATION OF
SIGNING

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TAB	Subset Sheets: 02 of 02	

Project No./Code

STA 0503-085

20344

Sheet Number 187

TABULATION OF PAVEMENT MARKINGS

Station Range	Location	Edge - Epoxy			Lane Line White	Channelizing				Stop Line	Cross Walk	Symbols		
		White Solid 4 Inch	Yellow Solid 4 Inch	Double Yellow Solid - 4 Inch		Lane Drop - 8 Inch White	Solid - 8 Inch White	Dotted line- 8 Inch White	Dotted line- 8 Inch Yellow	White Solid - 24 Inch	White Solid - 24 Inch	Thru Arrow	Merge Arrow	Left/Right
		Modified Epoxy Pavement Marking					Preformed Thermoplastic Pavement Marking							
		LF	LF	LF	LF	LF	LF	LF	LF	LF				
Sta. 507+37 to Sta. 552+79	US50	4,280	4,552		6,097	300	273			49	152		3	
Sta. 402+37.86 to Sta. 439+80	Entrance Ramp	3,753	3,419		2,823		626							
Sta. 553+53 to Sta. 614+47.93	US50	5,121	4,462		13,352	1,136	1,234			37	152	3		
Sta. 441+45 to Sta. 461+20	Exit Ramp	2,111	1,696		607		2,300			36			8	
Sta. 125+00 to Sta. 144+37	Pueblo Blvd	2,723		2,796	1,676	478	895	384	129	132	104	6	6	
Subtotal (LF)		17,988	14,129	2,796	24,555	1,914	5,328	384	129	254	408	9	3	14
Subtotal (SF)		5,996	4,710	1,864	2,046	319	3,552	85	29	508	816	113	174	217
Subtotal (Gal)		60	47	19	20	3	36	0.9	0.3					

627-00008

627-30405

627-30410

SUMMARY OF PAVEMENT MARKINGS

Color	Modified Epoxy Pavement Marking	Preformed Thermoplastic Pavement Marking Word-Symbol	Preformed Thermoplastic Pavement Marking Xwalk-Stopline
	Gal.	SF	SF
Yellow	66	0	0
White	120	504	1,324
Total	187	504	1,325

NOTE:

1. THESE QUANTITIES ARE CARRIED FORWARD TO THE TABULATION TRAFFIC OF ENGINEERING ITEMS AND ARE SHOWN HERE FOR INFORMATION ONLY.
2. IT IS ESTIMATED THAT 400 GAL OF PAVEMENT MARKING PAINT (WATERBORNE) WILL BE NEEDED FOR TEMPORARY PAVEMENT MARKINGS. THE QUANTITIES ARE SUFFICIENT FOR 3 APPLICATIONS DURING CONSTRUCTION.
3. THESE QUANTITIES INCLUDE STRIPING MODIFICATIONS TO WESTBOUND US 50 APPROACHING THE EAST END OF THE PROJECT (EAST OF WILLS BLVD).
4. IT IS ESTIMATED THAT 2,500 SF REMOVAL OF PAVEMENT MARKING WILL BE REQUIRED FOR REMOVAL OF EXISTING PAVEMENT MARKINGS. THIS INCLUDES MARKINGS SUCH AS EDGE LINES, LANE LINES, LANE DROP AND DOTTED LINES, CROSS WALKS AND STOP BARS.

Print Date: 3/8/2017

File Name: 20344TAB_Pvmt_Mkg.dgn

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**US 50 WEST WESTBOUND
TABULATION OF
PAVEMENT MARKINGS**

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	TAB	Subset Sheets: 01 of 01	

Project No./Code

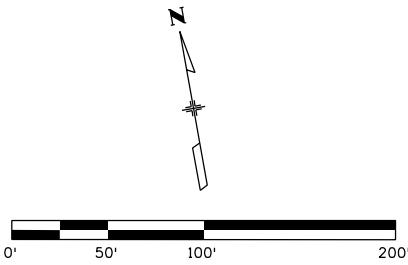
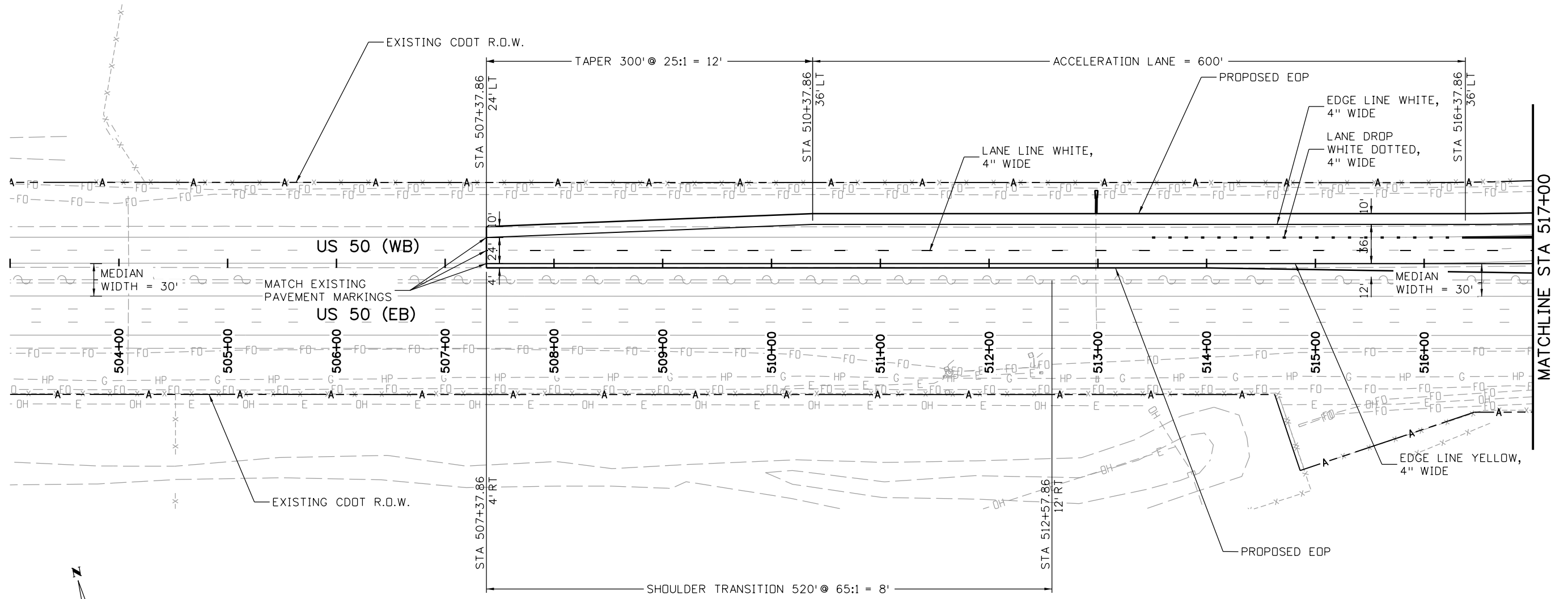
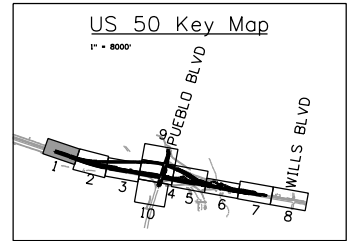
STA 0503-085

20344

Sheet Number **188**



Know what's below.
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Print Date: 3/7/2017
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**US 50 WEST WESTBOUND
SIGNING AND STRIPING PLAN
US 50**

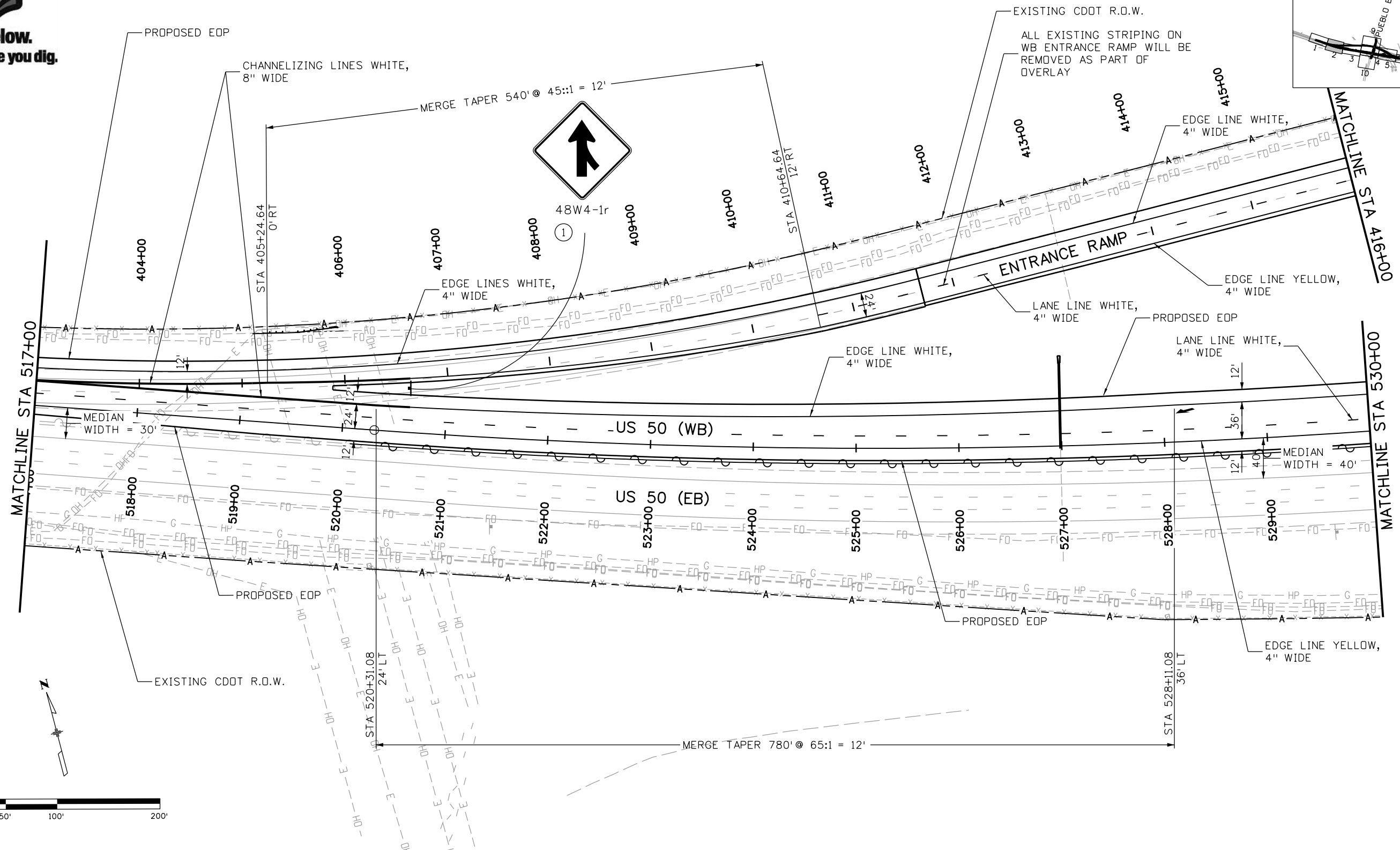
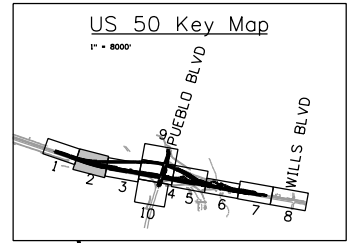
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Detailer:	AB		
Subset:	SS	Subset Sheets: 01 of 10	

Project No./Code
STA 0503-085
20344
Sheet Number 189

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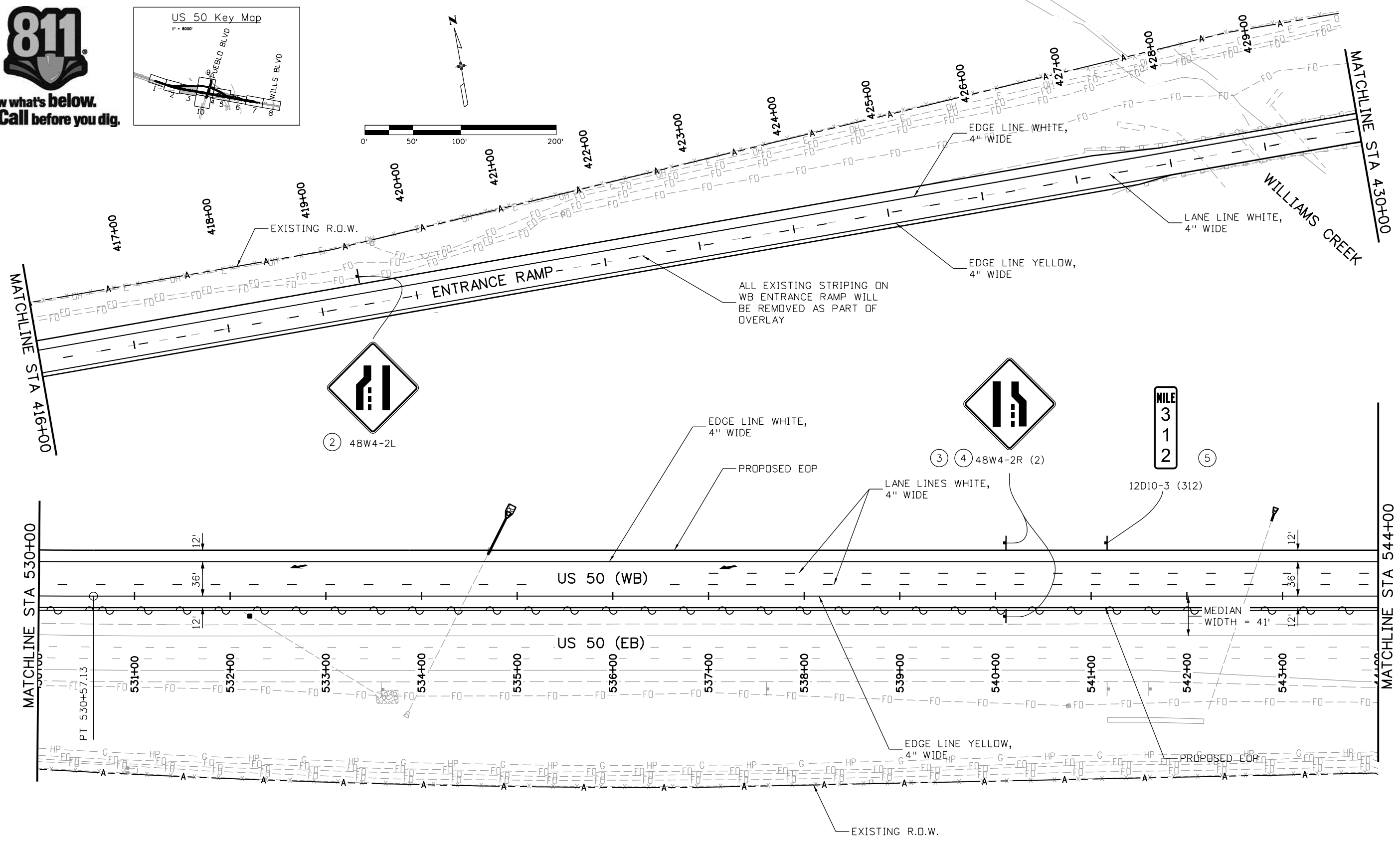
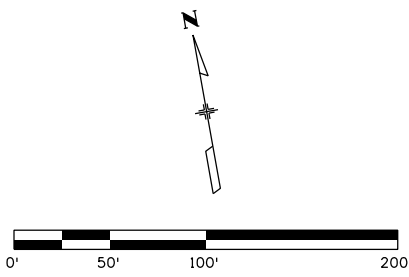
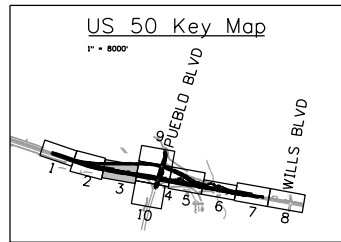
US 50 WEST WESTBOUND
 SIGNING AND STRIPING PLAN
 US 50
 Designer: AB Structure
 Detailer: AB Numbers
 Subset: SS Subset Sheets: 02 of 10

Project No./Code
 STA 0503-085
 20344
 Sheet Number 190

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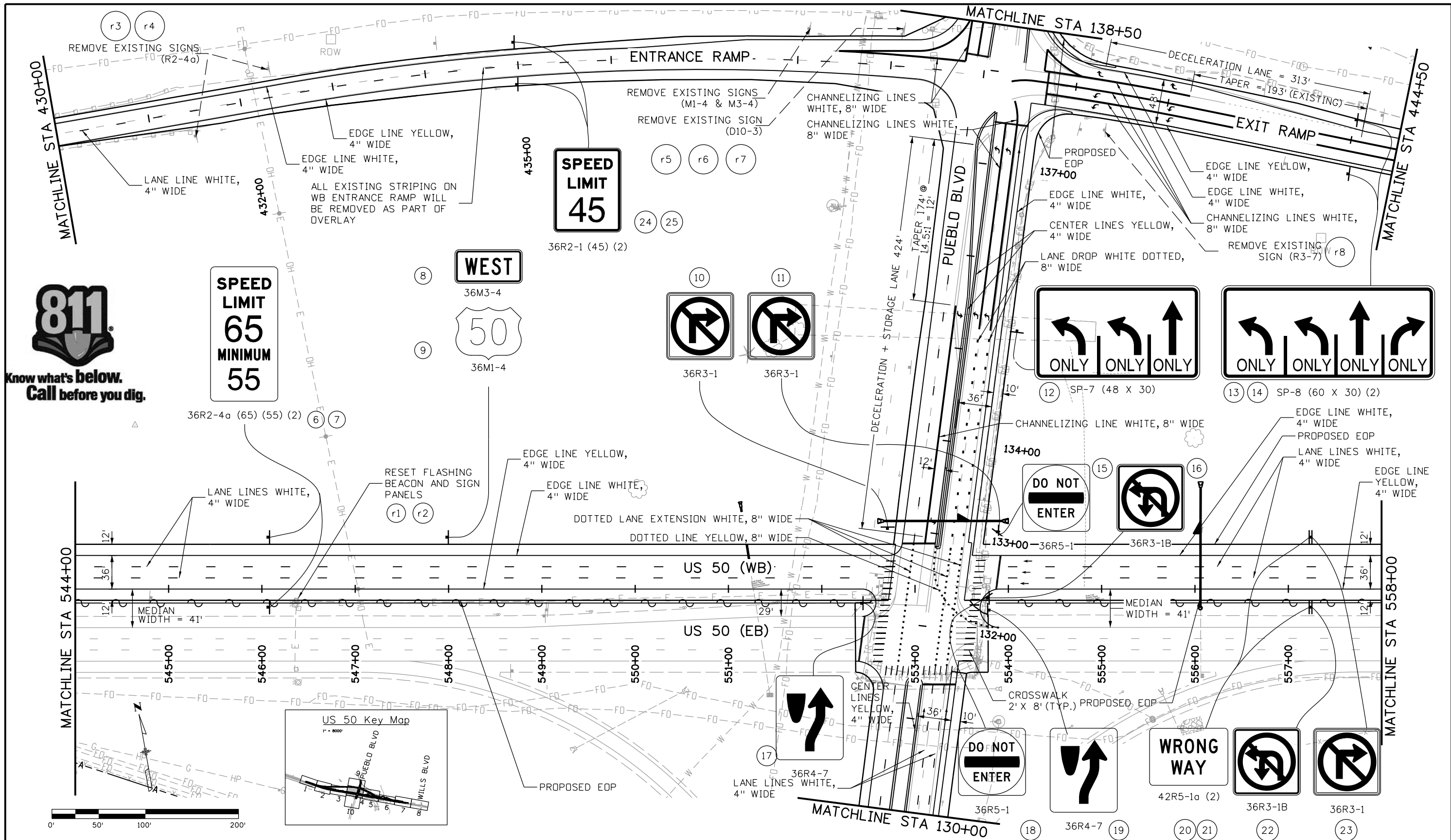
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	SS	Subset Sheets:	03 of 10

Project No./Code
STA 0503-085
20344
Sheet Number 191

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SPEED LIMIT 65
MINIMUM 55

WEST
36M3-4
50
36M1-4

SPEED LIMIT 45

ONLY ONLY ONLY

ONLY ONLY ONLY ONLY

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DO NOT ENTER

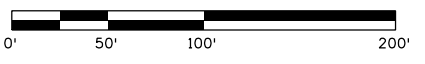
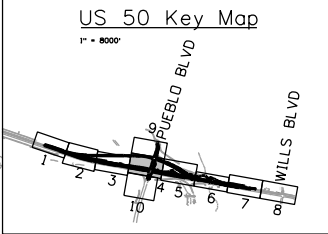
DO NOT ENTER

DO NOT ENTER

WRONG WAY

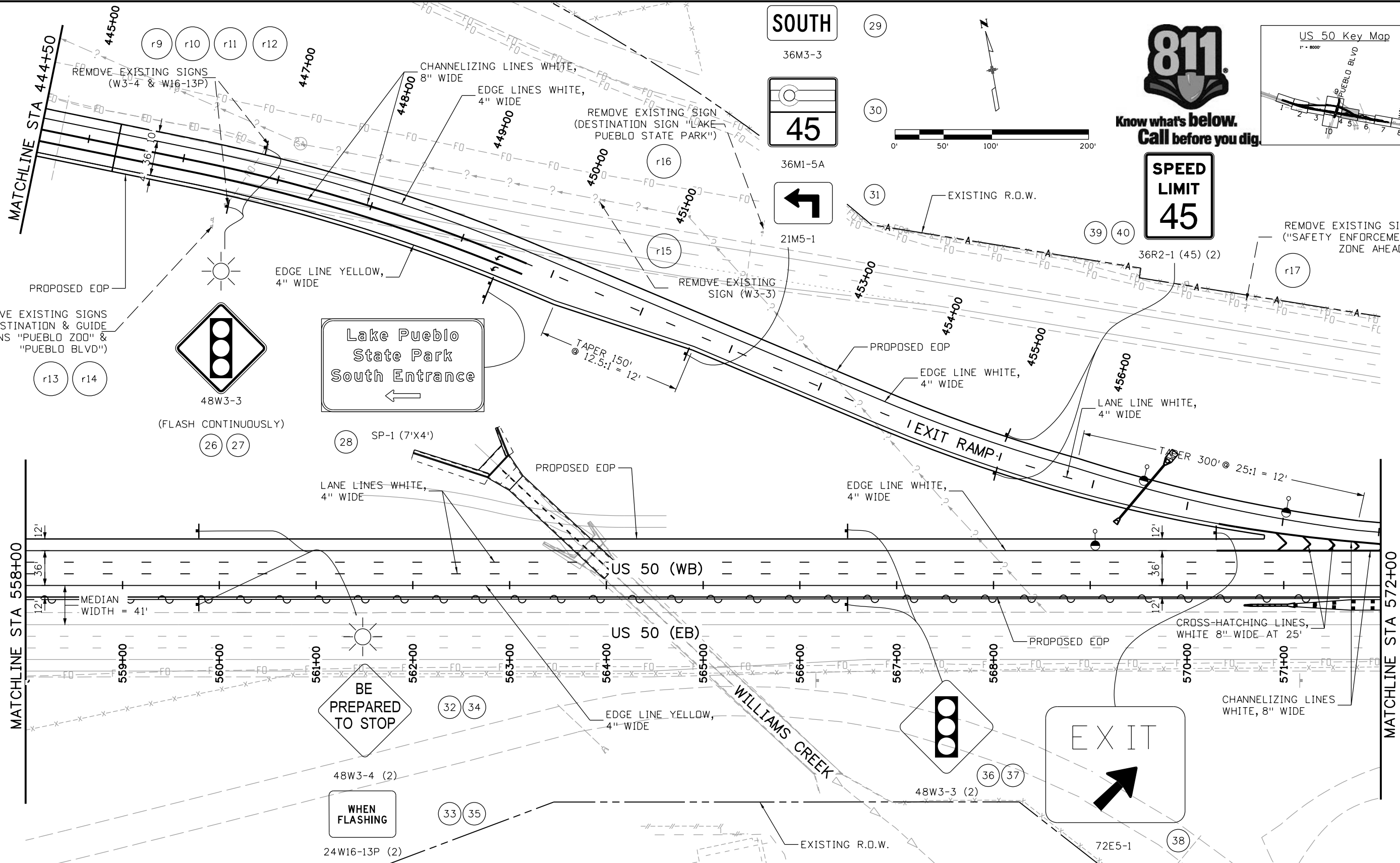
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WRONG WAY



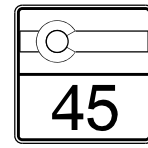
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Horiz. Scale: 1:100 Vert. Scale:								Detailer: AB	20344	
JFS J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120								Subset: SS	Subset Sheets: 04 of 10	Sheet Number 192

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SOUTH

36M3-3



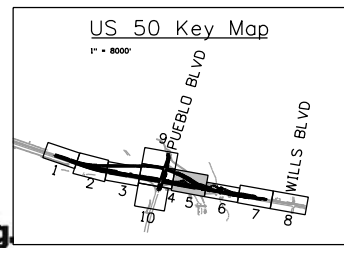
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21M5-1



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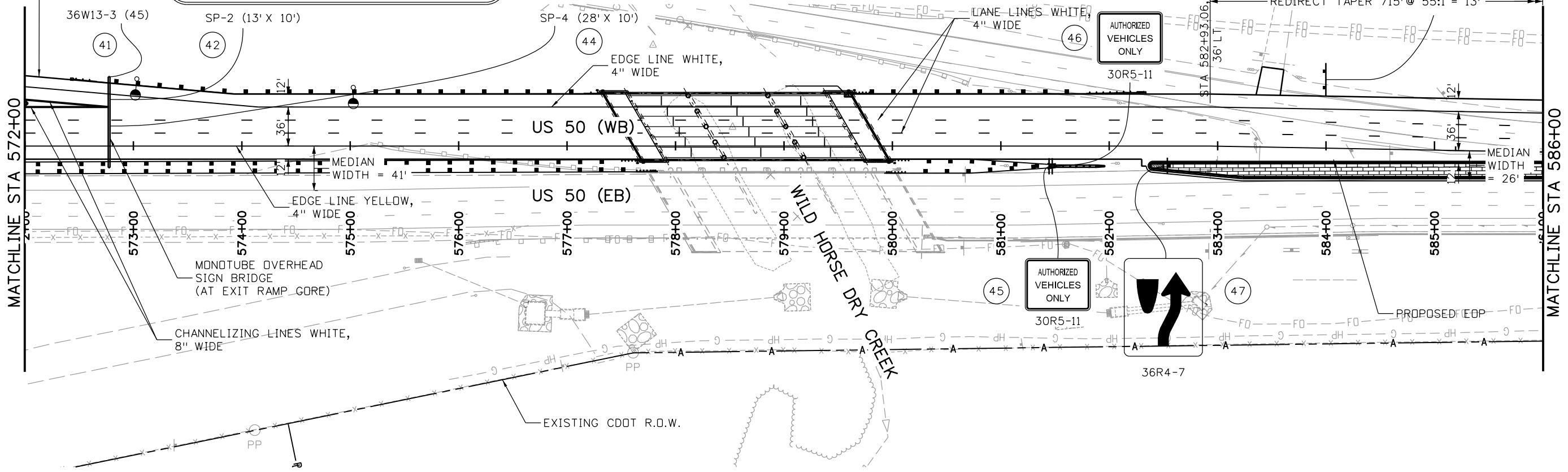
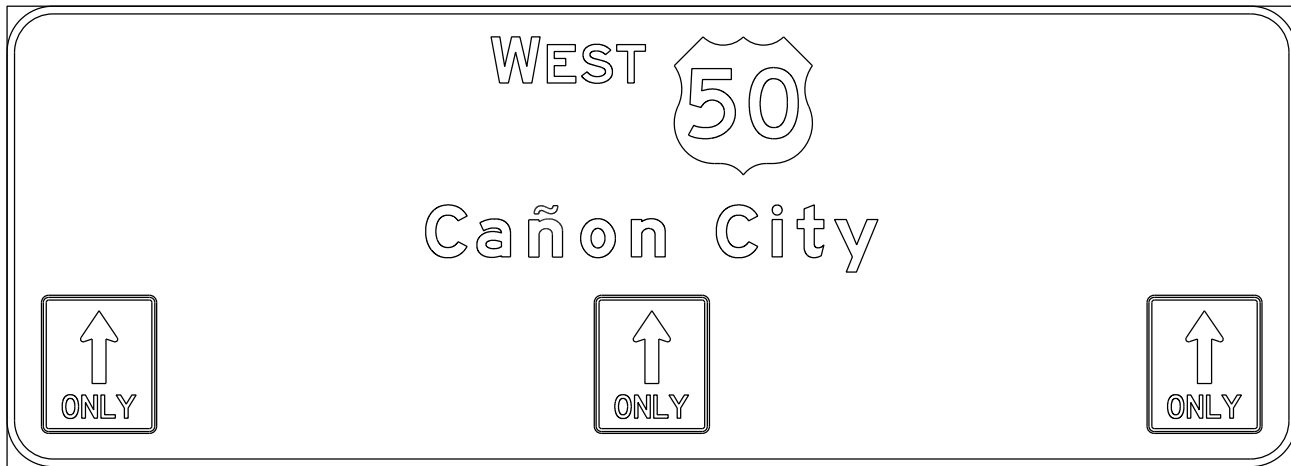
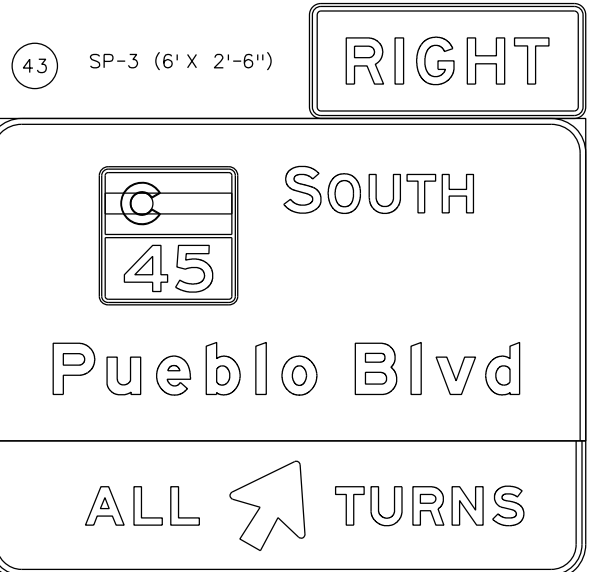
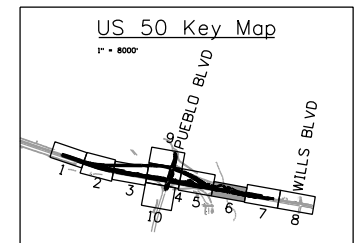
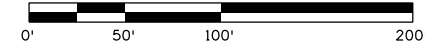
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 SIGNING AND STRIPING PLAN
 US 50**
 Designer: AB Structure
 Detailer: AB Numbers
 Subset: SS Subset Sheets: 05 of 10

Project No./Code
 STA 0503-085
 20344
Sheet Number 193

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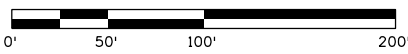
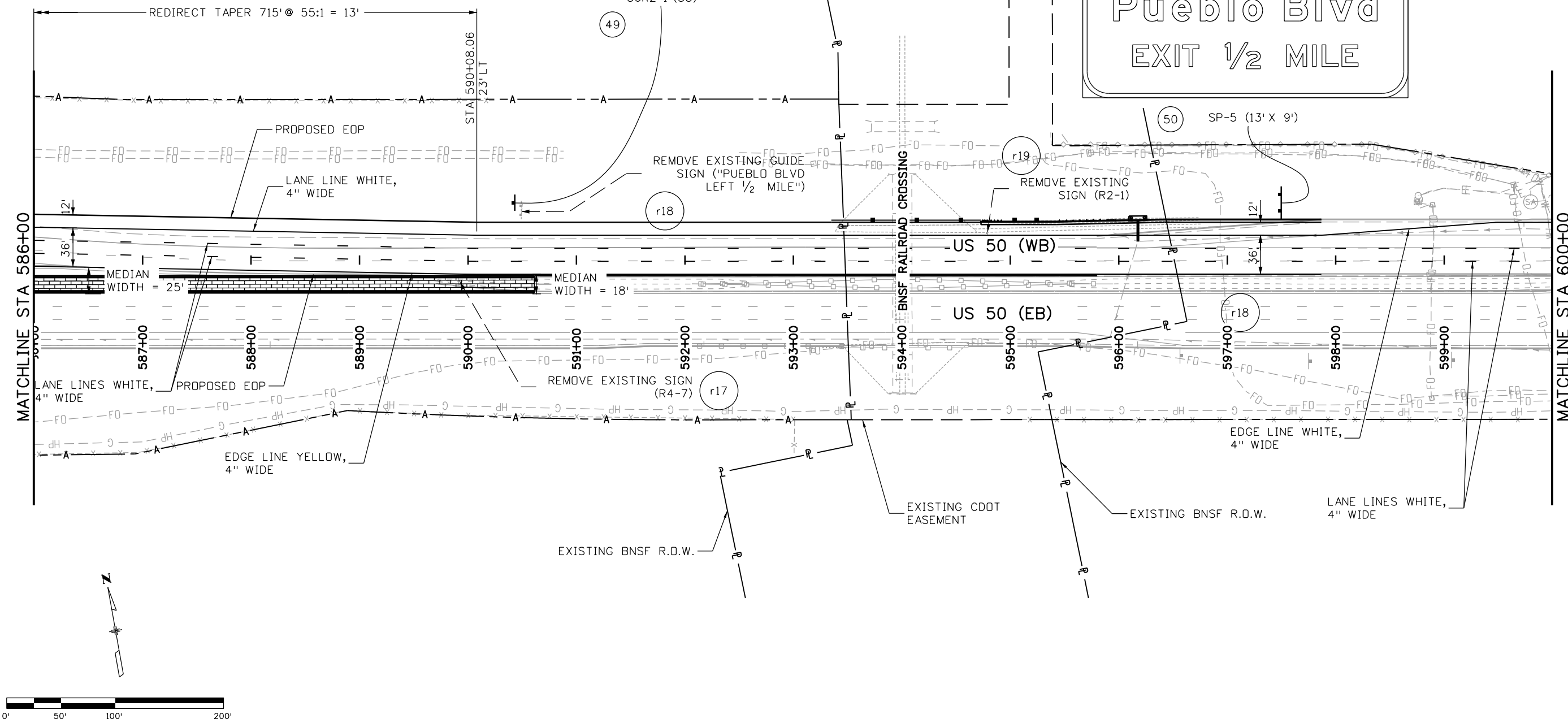
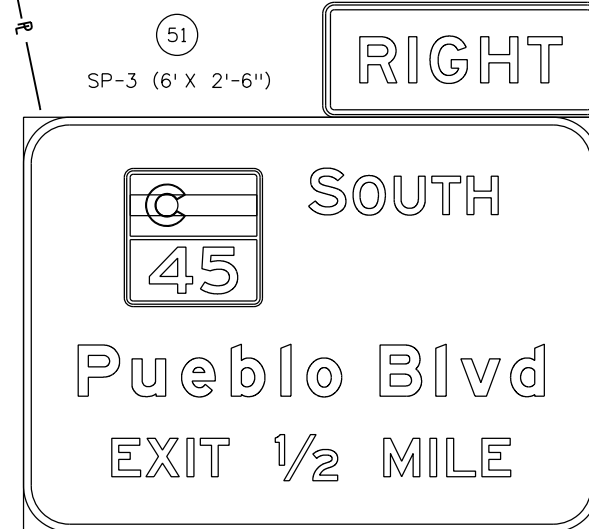
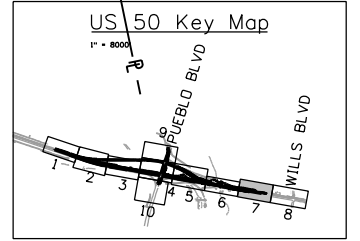
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Project No./Code
STA 0503-085
20344
Sheet Number 194

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Print Date: 3/7/2017
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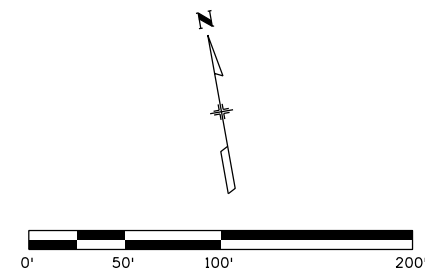
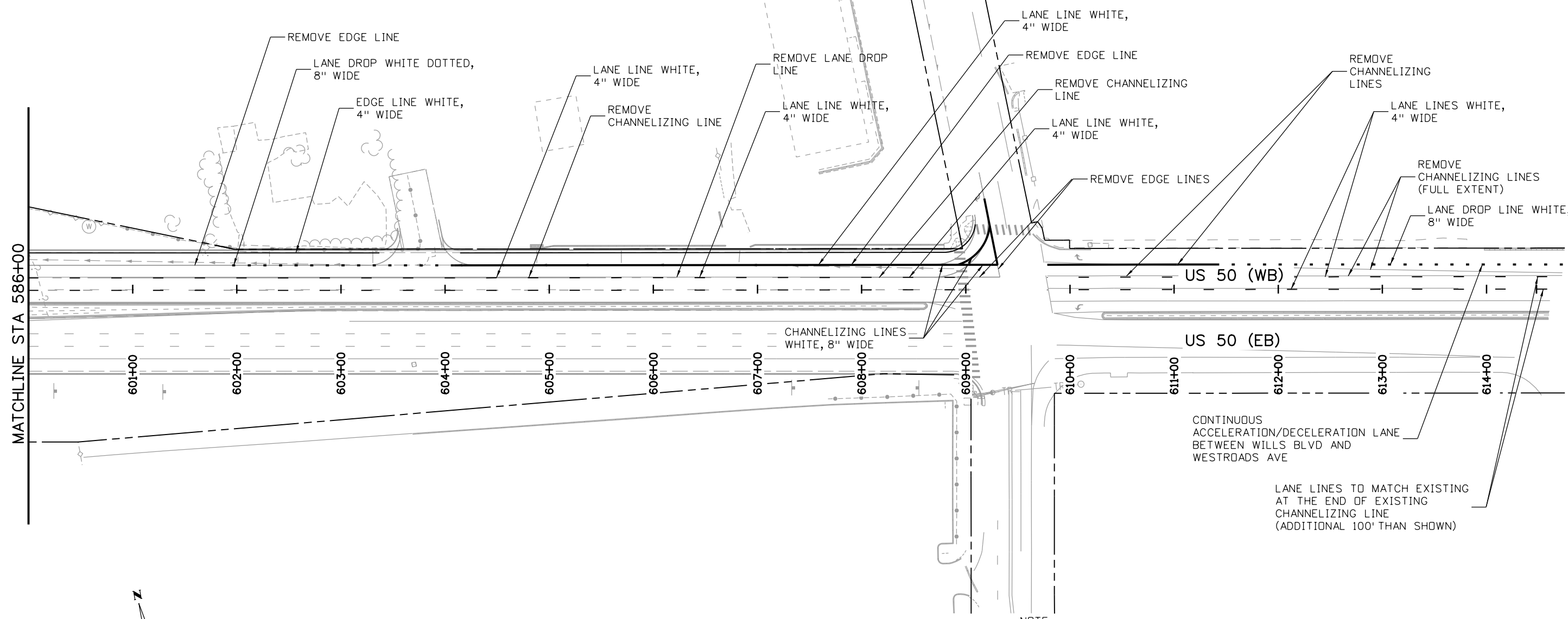
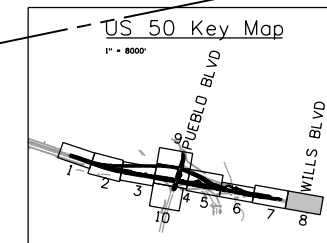
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 SIGNING AND STRIPING PLAN
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Project No./Code
 STA 0503-085
 20344
 Sheet Number 195

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NOTE:
US 50 TO BE RESTRIPED BETWEEN WILLS BLVD AND WESTROADS AVE. THE NEW STRIPING SHALL PROVIDE FOR THREE THROUGH LANES STARTING AT (APPROX.) 600' EAST OF WILLS BLVD AND SHALL CONTINUE THROUGH WILLS BLVD. THE NEW STRIPING WILL ALSO PROVIDE FOR A CONTINUOUS ACCELERATION/DECELERATION LANE BETWEEN WILLS BLVD AND WESTROADS AVE. STRIPING SHOWN HERE TILL THE END OF AVAILABLE TOPO. STRIPING PROPOSED AS PART OF WILLS BLVD TO BNSF RR PROJECT (PROJECT CODE 20345) SHOWN AS EXISTING STRIPING.

Print Date: 3/7/2017
 File Name: 20344-SigningandStriping08.dgn
 Horiz. Scale: 1:100 Vert. Scale:



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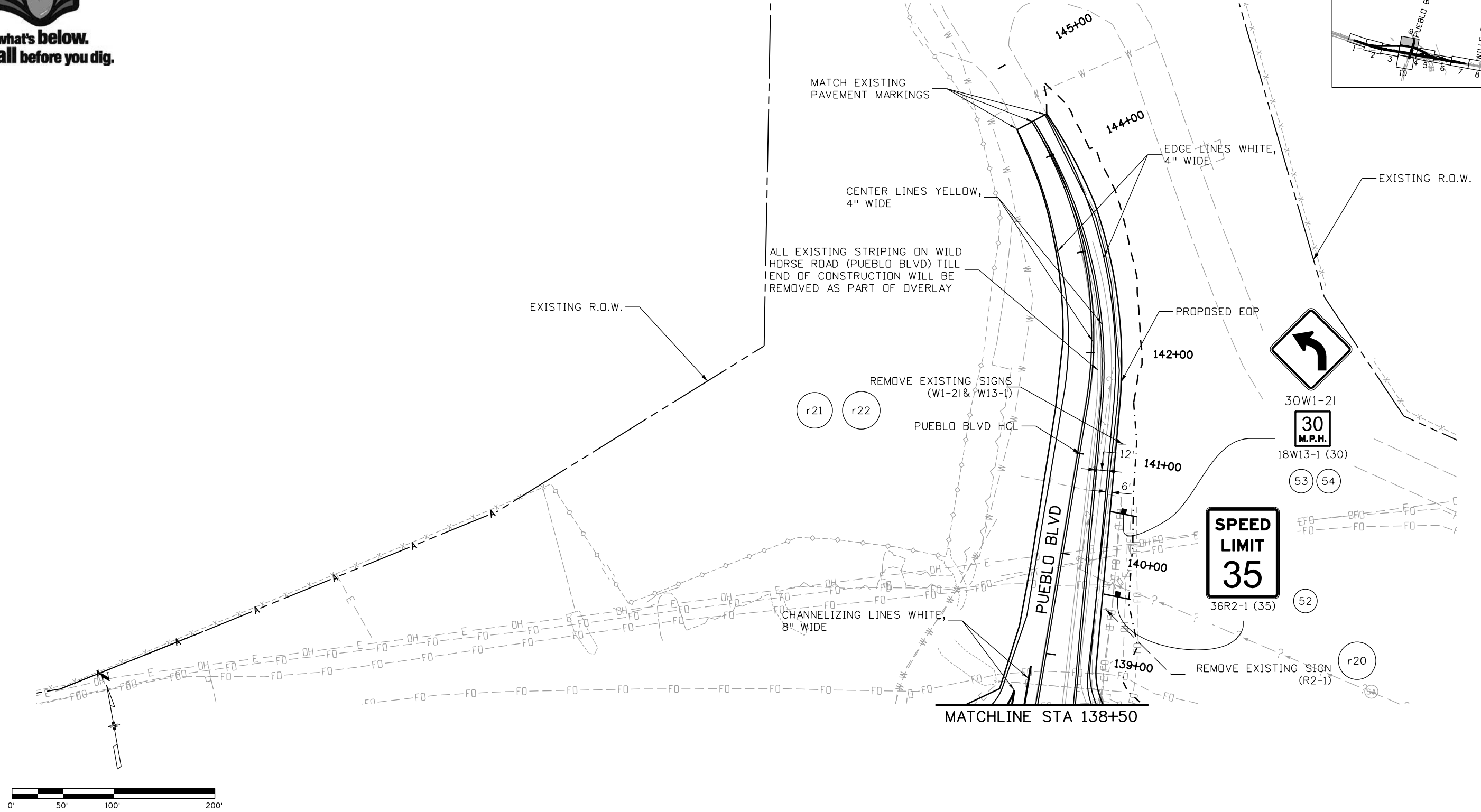
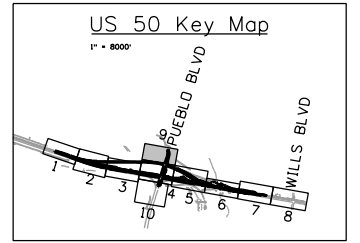
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	SS	Subset Sheets:	08 of 10

Project No./Code	STA 0503-085
	20344
Sheet Number	196

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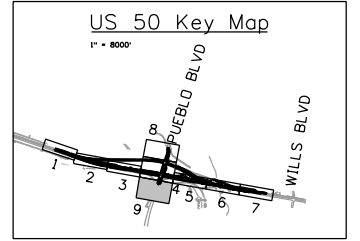
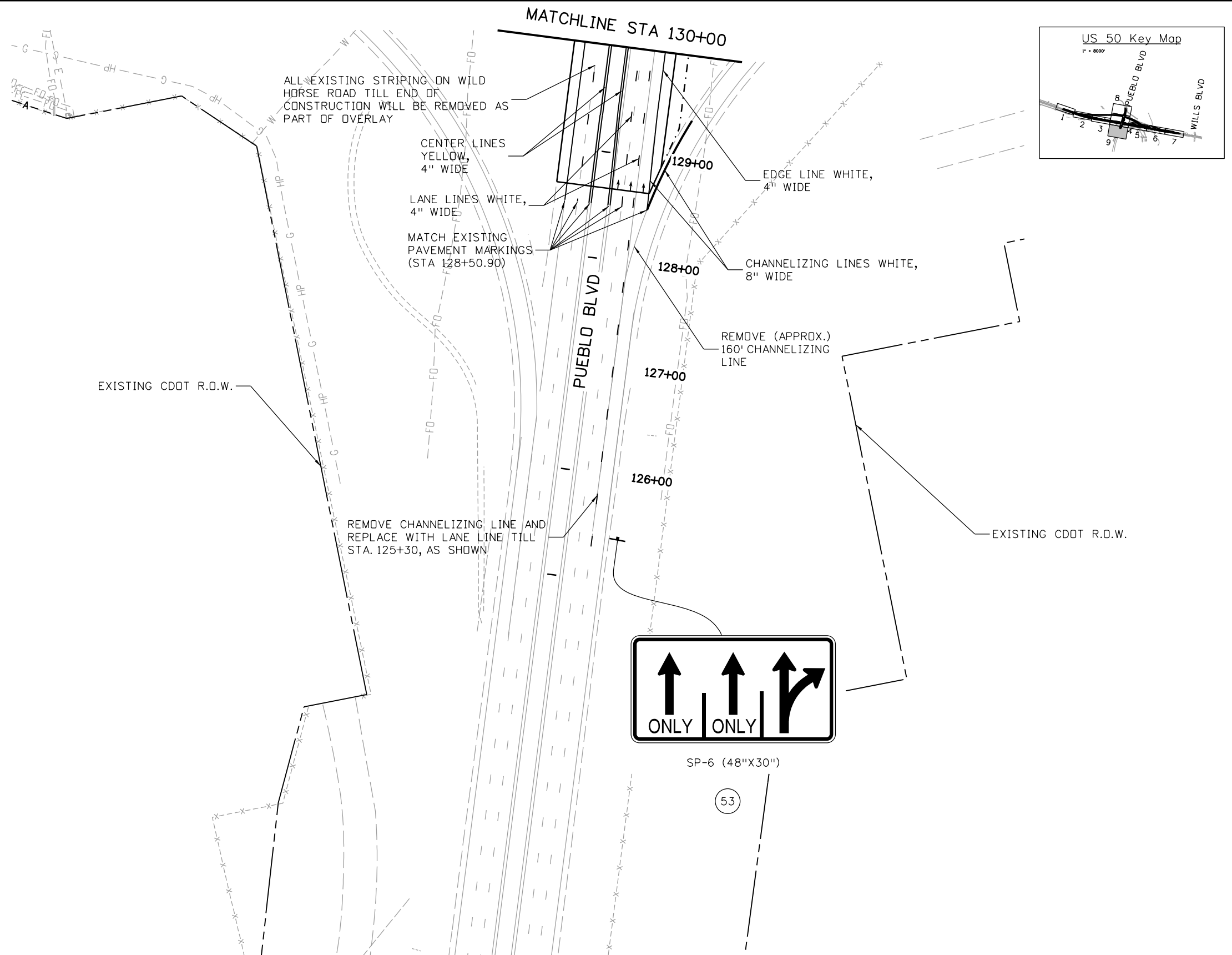
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	SS	Subset Sheets:	09 of 10

Project No./Code
STA 0503-085
Sheet Number
197



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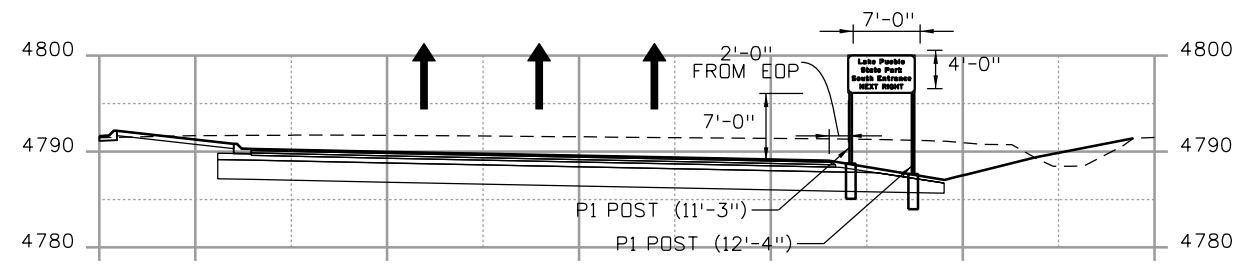
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 Pueblo, CO 81001
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Region 2 DTD

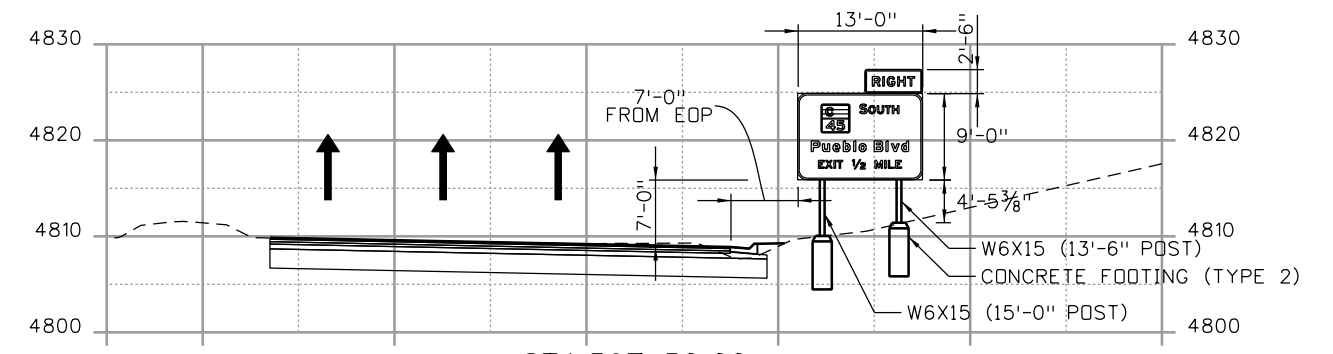
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	SS	Subset Sheets:	10 of 10

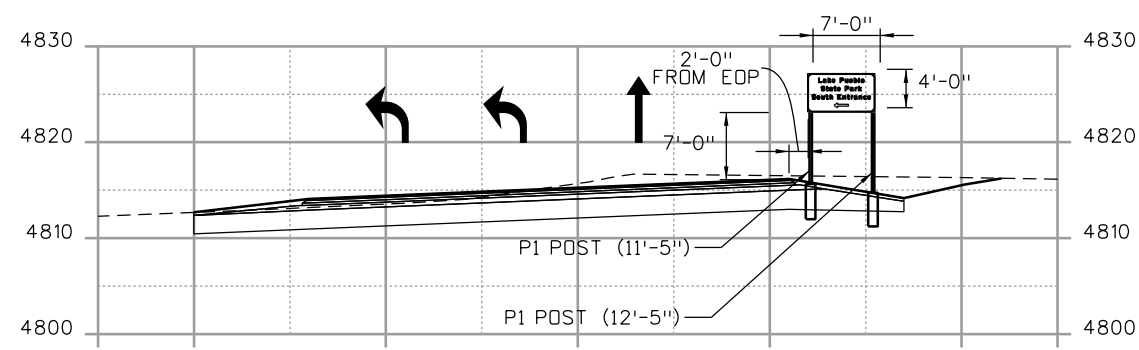
Project No./Code
STA 0503-085
Sheet Number 198



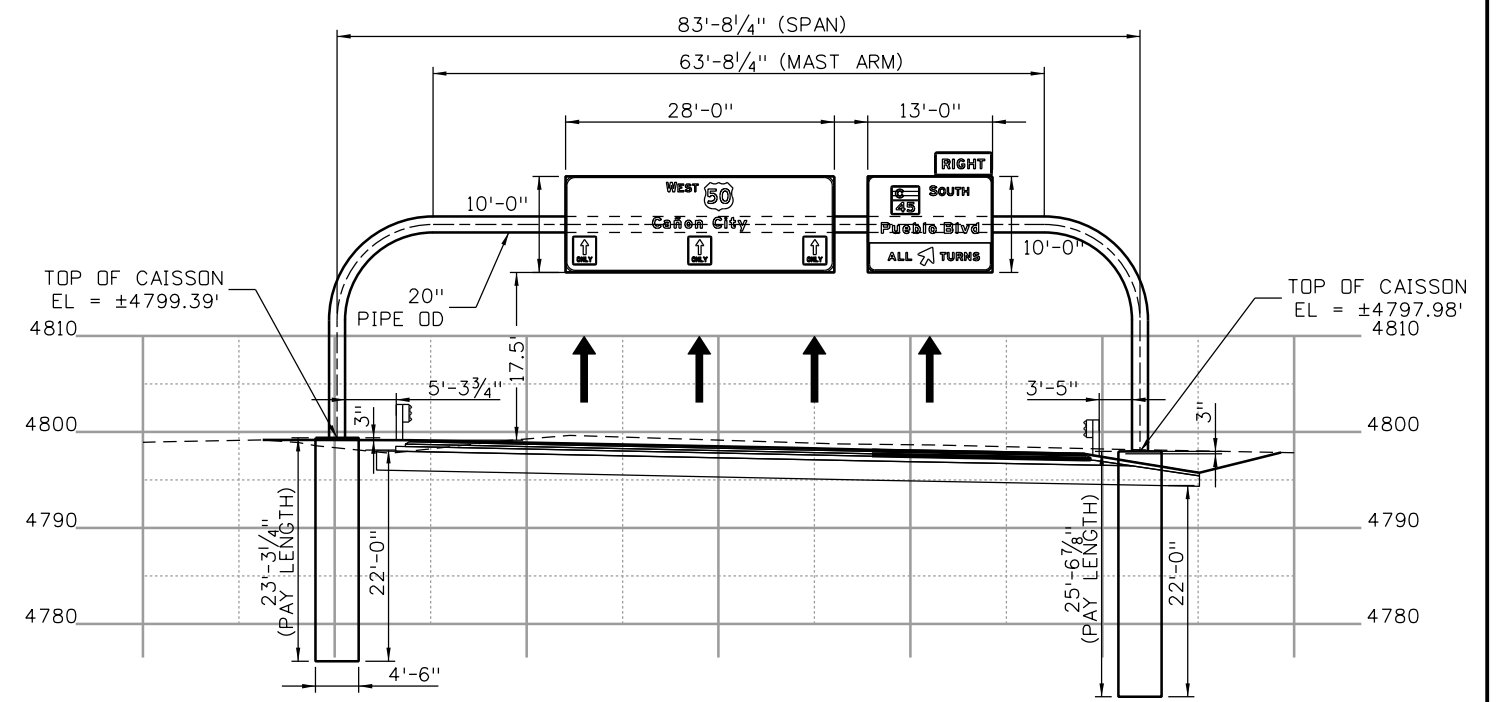
STA.584+00
SP 9 = 7'-0" X 4'-0"



STA.597+50.00
SP-3 = 6'-0" X 2'-6"
SP-5 = 13'-0" X 9'-0"



STA. STA.449+45.00
SP 1 = 7'-0" X 4'-0"



STA. 572+77.54
SP 2 = 13'-0" X 10'-0"
SP 3 = 6'-0" X 2'-6"
SP 4 = 28'-0" X 10'-0"

Print Date: 3/7/2017
File Name: 20344-ClassIII_01.dgn
Horiz. Scale: 1:20 Vert. Scale:

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US 50 WEST WESTBOUND
CLASS III CROSS SECTIONS
US 50
Designer: AB Structure Numbers
Detailer: AB
Subset: - Subset Sheets: 01 of 09

Project No./Code
STA 0503-085
Sheet Number 199

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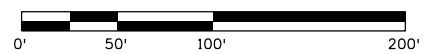
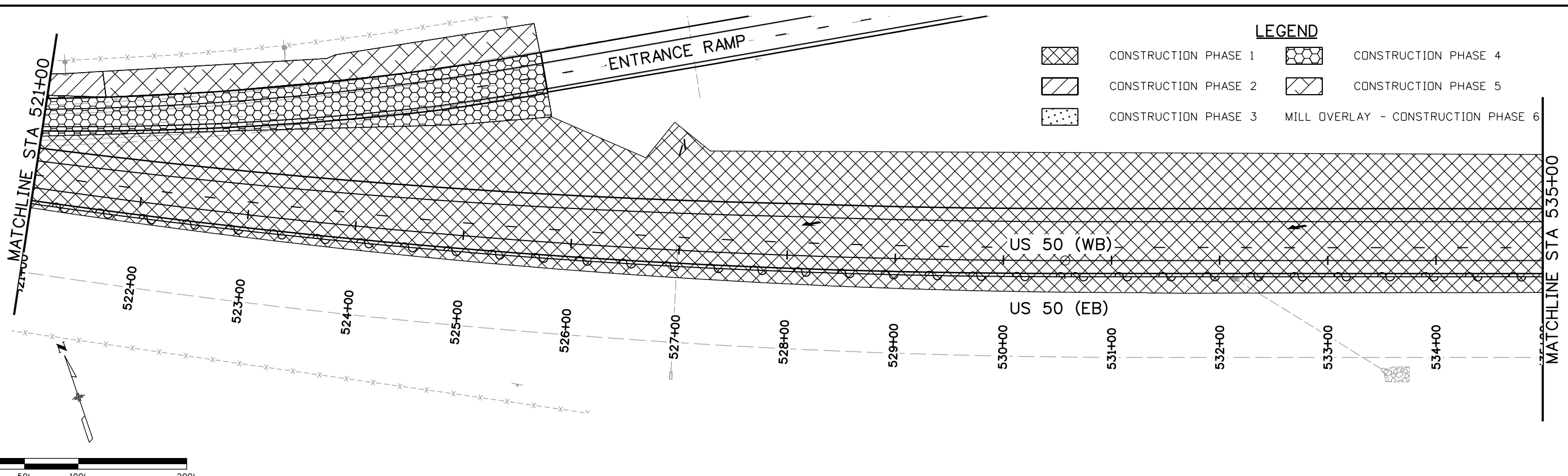
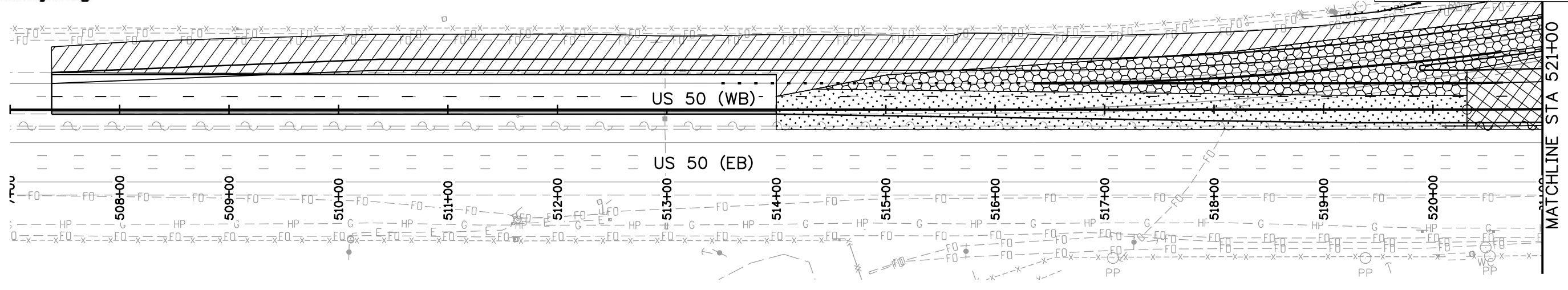
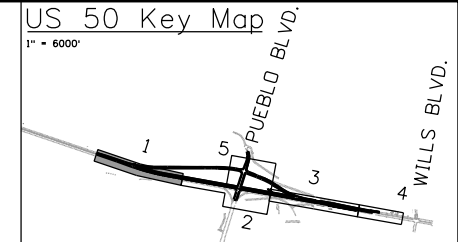


Know what's below.
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NOTE

MAINTAIN 2 LANES ON US 50 WB AT ALL TIMES.
 PHASE 1:
 CONSTRUCT FULL WIDTH NEW CONSTRUCTION FROM STA 520+20 TO STA 535+00.
 PHASE 2:
 CONSTRUCT NEW WB ACCELERATION LANE FROM 507+38 TO 520+00, INCLUDING ANY DETOUR PAVEMENT REQUIRED.

PHASE 3:
 CONSTRUCT INSIDE LANES ON US 50 WB FROM STA 514+00 TO STA 520+00.
 PHASE 4:
 SHIFT WB TRAFFIC TO NEW ALIGNMENT
 CONSTRUCT ENTRANCE RAMP FROM 514+00 TO 525+75.
 PHASE 5:
 MILL AND OVERLAY.



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Sheet Revisions		
Date:	Comments	Init.

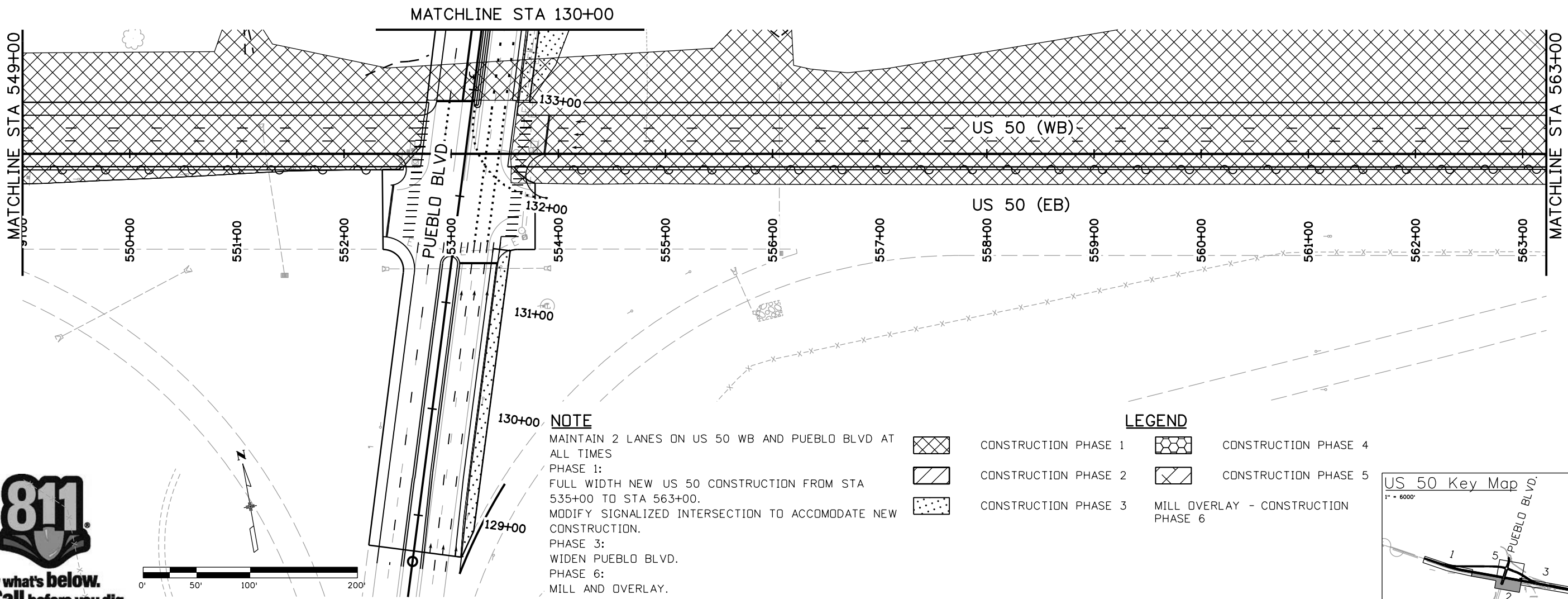
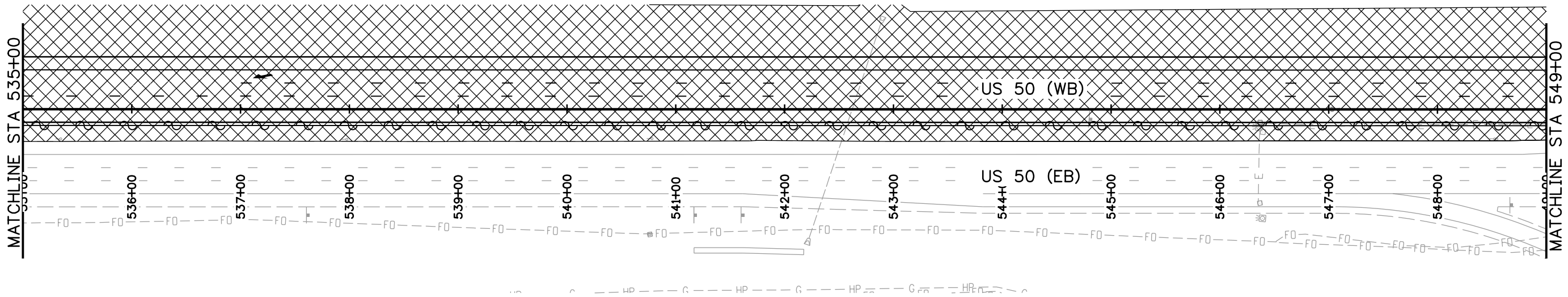
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As Constructed
 No Revisions:
 Revised:
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US 50 WEST WESTBOUND
 CONSTRUCTION PHASING
 US 50
 Designer: AB Structure Numbers
 Detailer: AB
 Subset: CTP Subset Sheets: 01 of 05

Project No./Code
 STA 0503-085
 20344
 Sheet Number 200

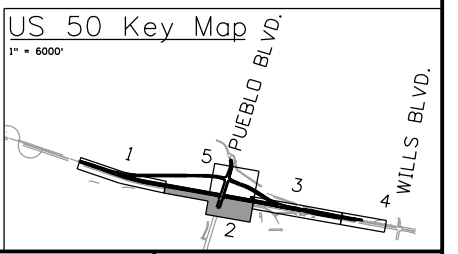
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NOTE
 MAINTAIN 2 LANES ON US 50 WB AND PUEBLO BLVD AT ALL TIMES
 PHASE 1:
 FULL WIDTH NEW US 50 CONSTRUCTION FROM STA 535+00 TO STA 563+00.
 MODIFY SIGNALIZED INTERSECTION TO ACCOMMODATE NEW CONSTRUCTION.
 PHASE 3:
 WIDEN PUEBLO BLVD.
 PHASE 6:
 MILL AND OVERLAY.

LEGEND

	CONSTRUCTION PHASE 1		CONSTRUCTION PHASE 4
	CONSTRUCTION PHASE 2		CONSTRUCTION PHASE 5
	CONSTRUCTION PHASE 3		MILL OVERLAY - CONSTRUCTION PHASE 6



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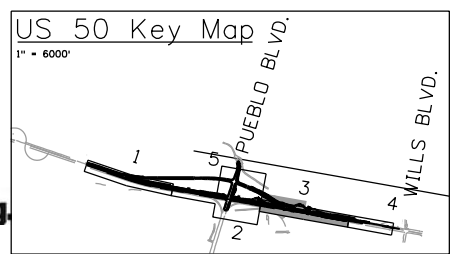
Region 2 DTD

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Detailer:	AB	Numbers	
Subset:	CTP	Subset Sheets:	02 of 05

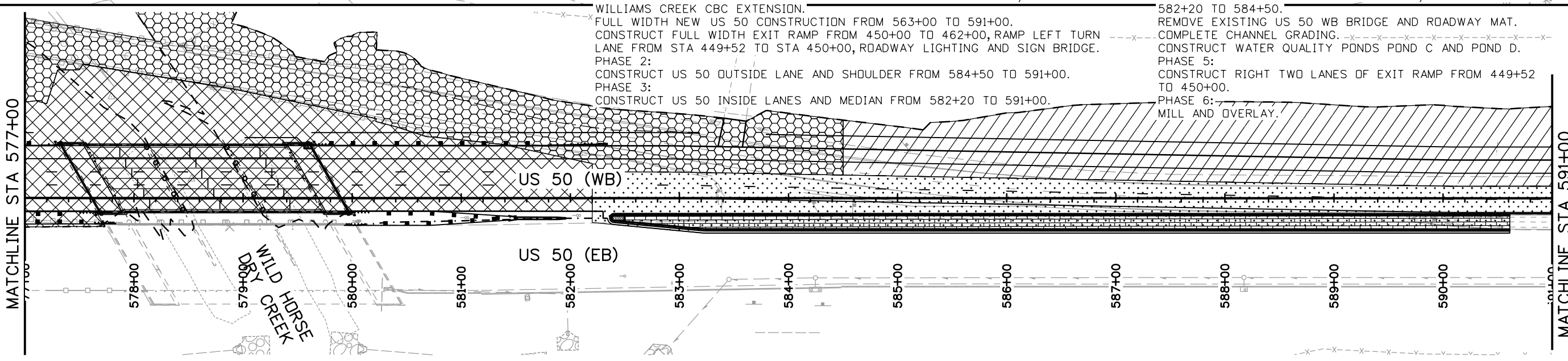
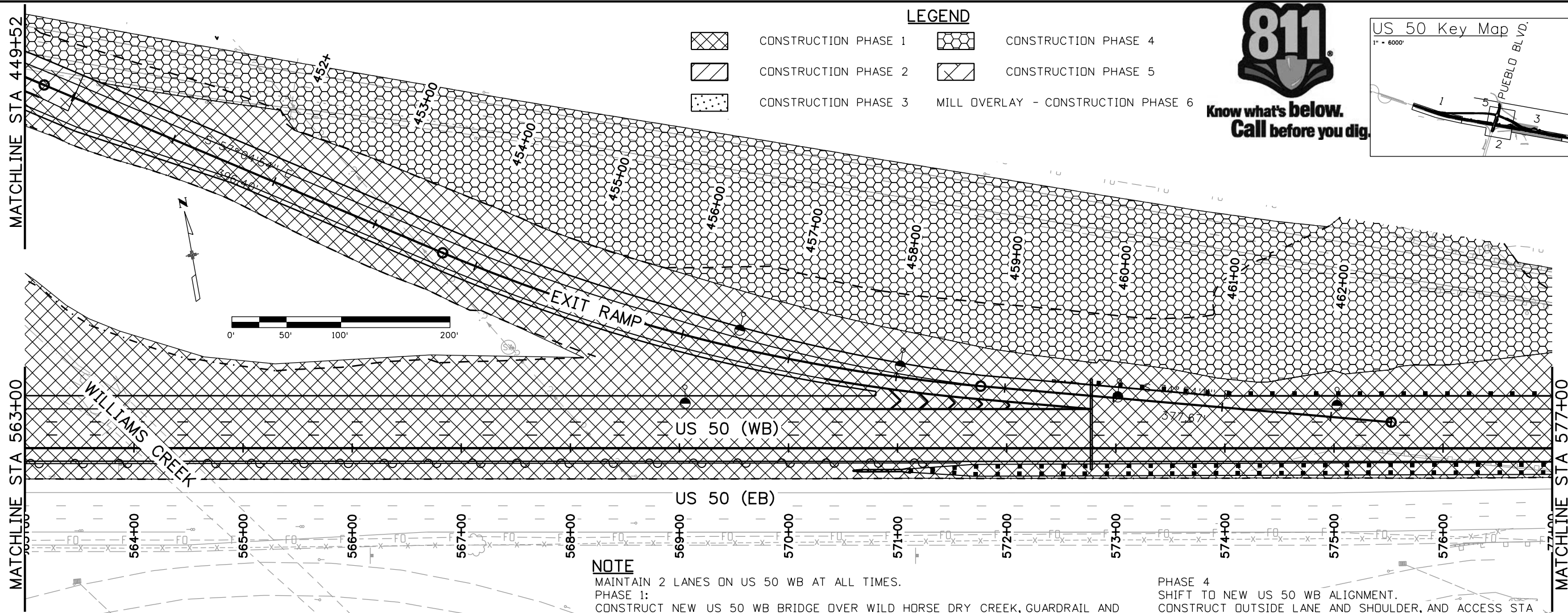
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STA 0503-085
20344
Sheet Number 201

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LEGEND

- CONSTRUCTION PHASE 1
- CONSTRUCTION PHASE 2
- CONSTRUCTION PHASE 3
- CONSTRUCTION PHASE 4
- CONSTRUCTION PHASE 5
- MILL OVERLAY - CONSTRUCTION PHASE 6



NOTE

MAINTAIN 2 LANES ON US 50 WB AT ALL TIMES.
 PHASE 1:
 CONSTRUCT NEW US 50 WB BRIDGE OVER WILD HORSE DRY CREEK, GUARDRAIL AND WILLIAMS CREEK CBC EXTENSION.
 CONSTRUCT FULL WIDTH EXIT RAMP FROM 450+00 TO 462+00, RAMP LEFT TURN LANE FROM STA 449+52 TO STA 450+00, ROADWAY LIGHTING AND SIGN BRIDGE.
 PHASE 2:
 CONSTRUCT US 50 OUTSIDE LANE AND SHOULDER FROM 584+50 TO 591+00.
 PHASE 3:
 CONSTRUCT US 50 INSIDE LANES AND MEDIAN FROM 582+20 TO 591+00.

PHASE 4
 SHIFT TO NEW US 50 WB ALIGNMENT.
 CONSTRUCT OUTSIDE LANE AND SHOULDER, AND ACCESS STA 582+20 TO 584+50.
 REMOVE EXISTING US 50 WB BRIDGE AND ROADWAY MAT.
 COMPLETE CHANNEL GRADING.
 CONSTRUCT WATER QUALITY PONDS POND C AND POND D.
 PHASE 5:
 CONSTRUCT RIGHT TWO LANES OF EXIT RAMP FROM 449+52 TO 450+00.
 PHASE 6:
 MILL AND OVERLAY.

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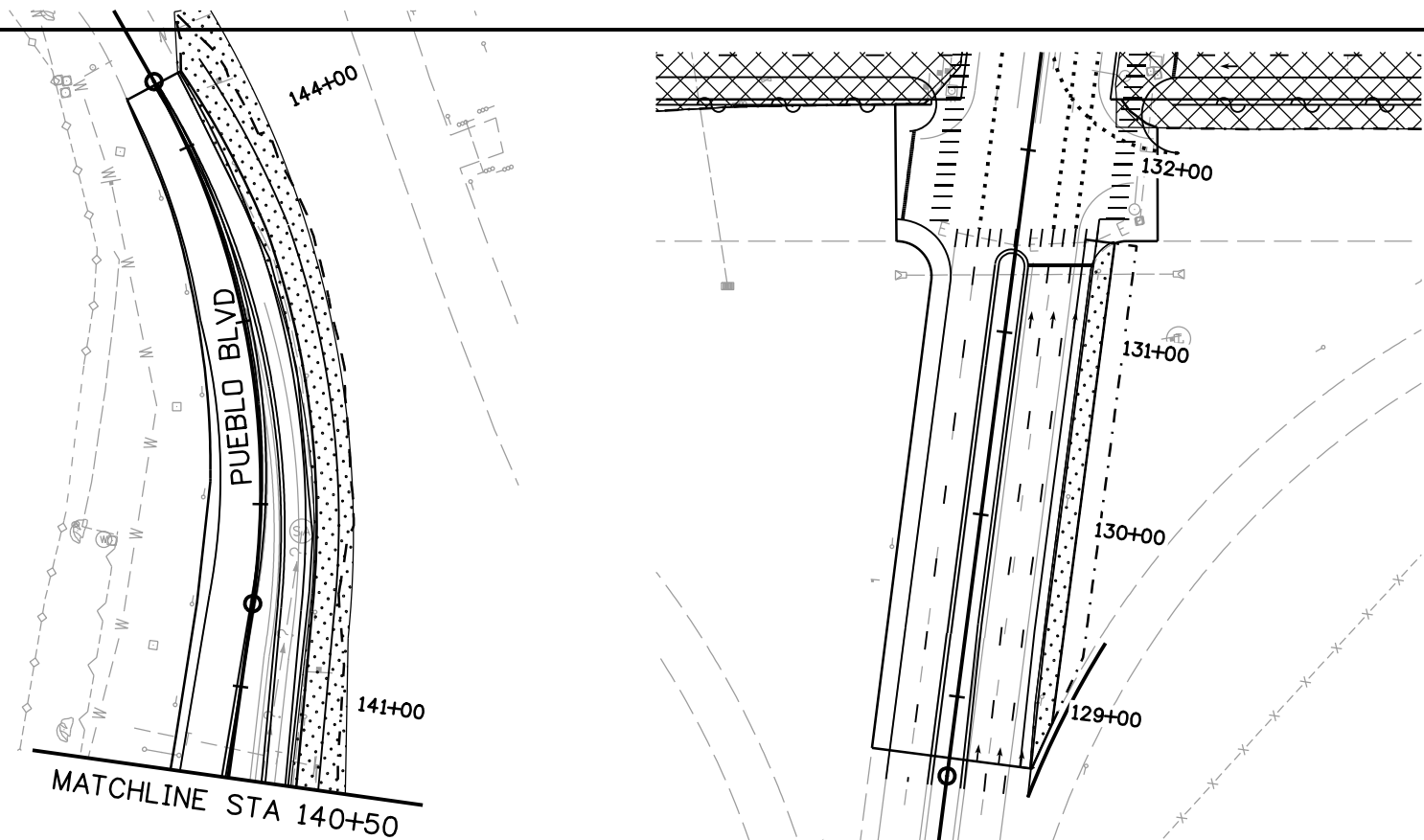
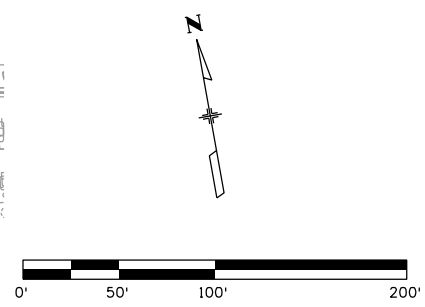
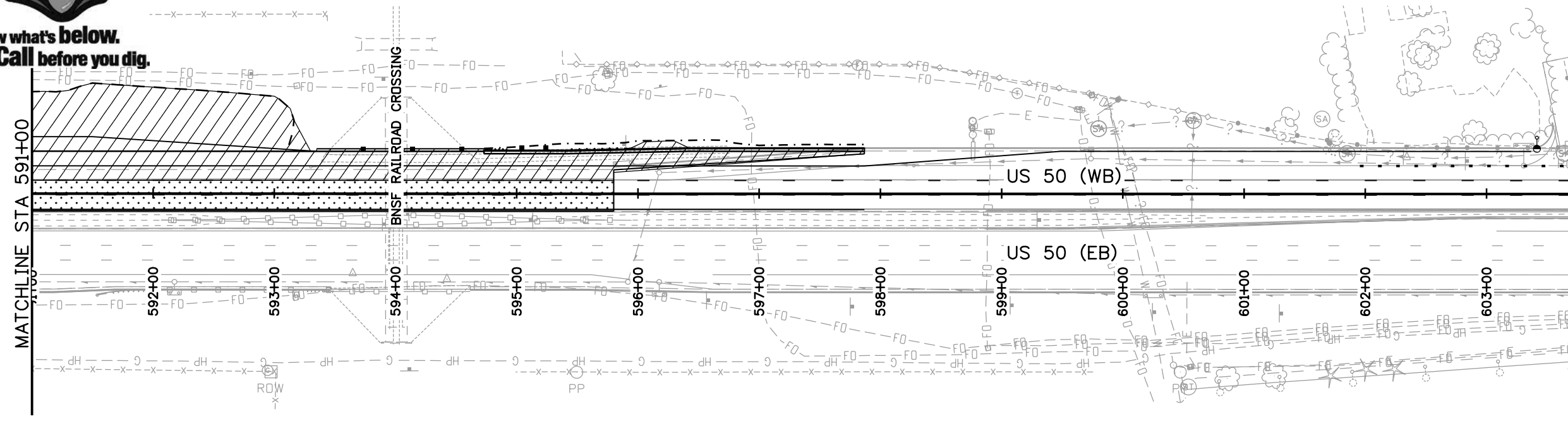
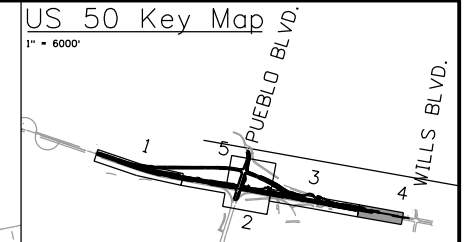
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US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTP	Subset Sheets:	03 of 05

Project No./Code
STA 0503-085
20344
Sheet Number 202

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NOTE
 MAINTAIN 2 LANES ON US 50 WB AND PUEBLO BLVD AT ALL TIMES.
 PHASE 2:
 CONSTRUCT OUTSIDE LANE AND SHOULDER ON US 50 WB FROM STA 591+00 TO STA 597+87.
 MODIFY SLOPE PAVING AT RAILROAD BRIDGE; BUILD BARRIER WITH GUARDRAIL.
 PHASE 3:
 CONSTRUCT US 50 INSIDE LANES FROM STA 591+00 TO 595+80.
 WIDEN PUEBLO BLVD.
 PHASE 6:
 MILL AND OVERLAY.
 BNSF RAILROAD BRIDGE REHAB.

LEGEND

	CONSTRUCTION PHASE 1		CONSTRUCTION PHASE 4
	CONSTRUCTION PHASE 2		CONSTRUCTION PHASE 5
	CONSTRUCTION PHASE 3		MILL OVERLAY - CONSTRUCTION PHASE 6

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**US 50 WEST WESTBOUND
 CONSTRUCTION PHASING
 US 50**

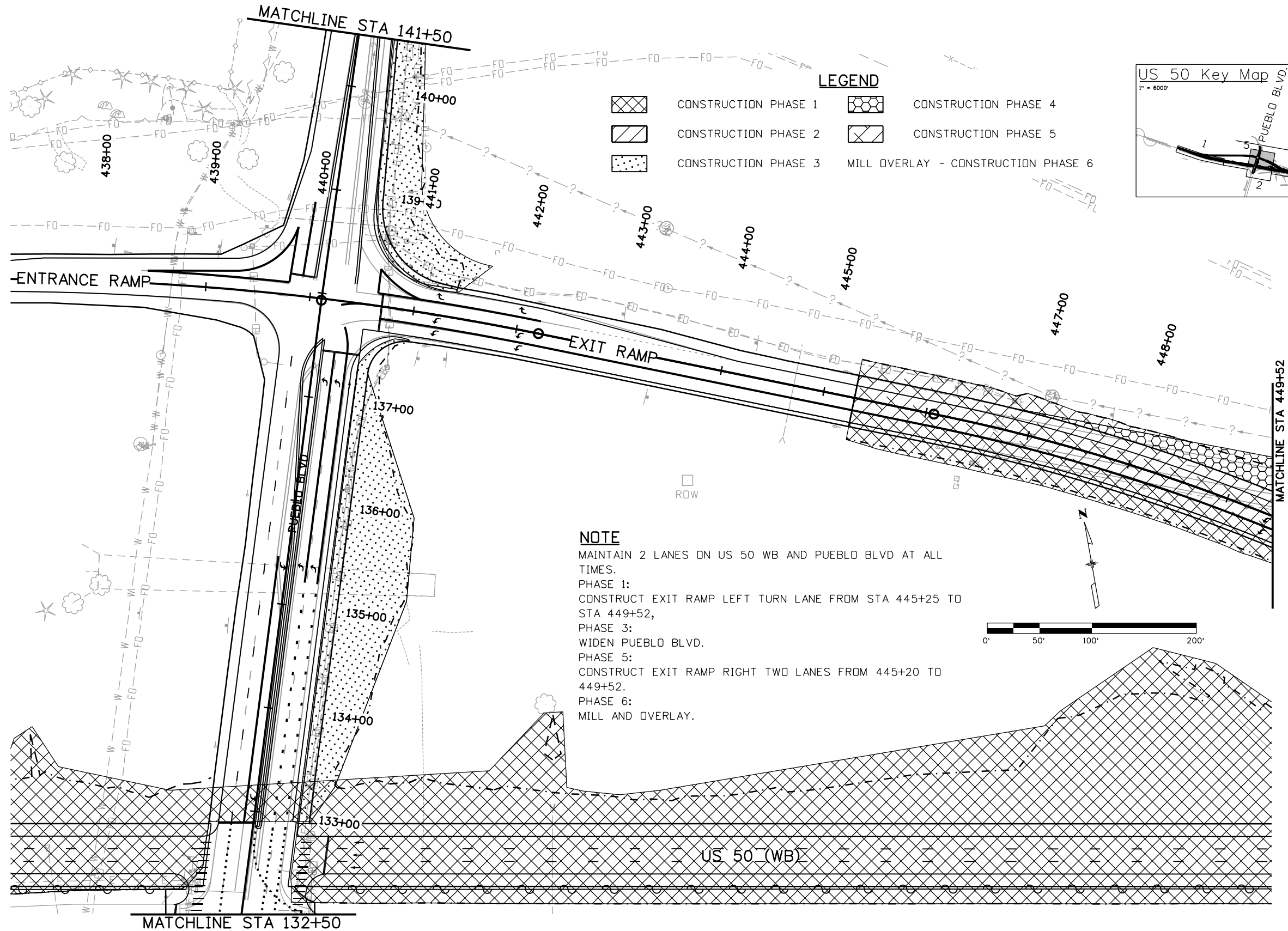
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Subset:	CTP	Subset Sheets:	04 of 05

Project No./Code
 STA 0503-085
 20344
 Sheet Number **203**

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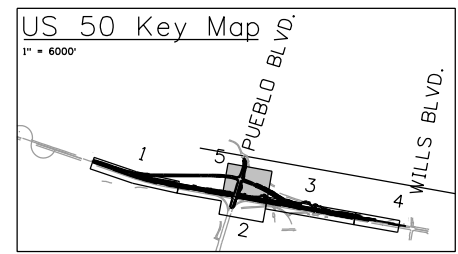


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LEGEND

- CONSTRUCTION PHASE 1
- CONSTRUCTION PHASE 2
- CONSTRUCTION PHASE 3
- CONSTRUCTION PHASE 4
- CONSTRUCTION PHASE 5
- MILL OVERLAY - CONSTRUCTION PHASE 6



NOTE

MAINTAIN 2 LANES ON US 50 WB AND PUEBLO BLVD AT ALL TIMES.
 PHASE 1:
 CONSTRUCT EXIT RAMP LEFT TURN LANE FROM STA 445+25 TO STA 449+52,
 PHASE 3:
 WIDEN PUEBLO BLVD.
 PHASE 5:
 CONSTRUCT EXIT RAMP RIGHT TWO LANES FROM 445+20 TO 449+52.
 PHASE 6:
 MILL AND OVERLAY.

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**US 50 WEST WESTBOUND
 CONSTRUCTION PHASING
 US 50**

Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTP	Subset Sheets:	05 of 05

Project No./Code
STA 0503-085
20344
Sheet Number 204

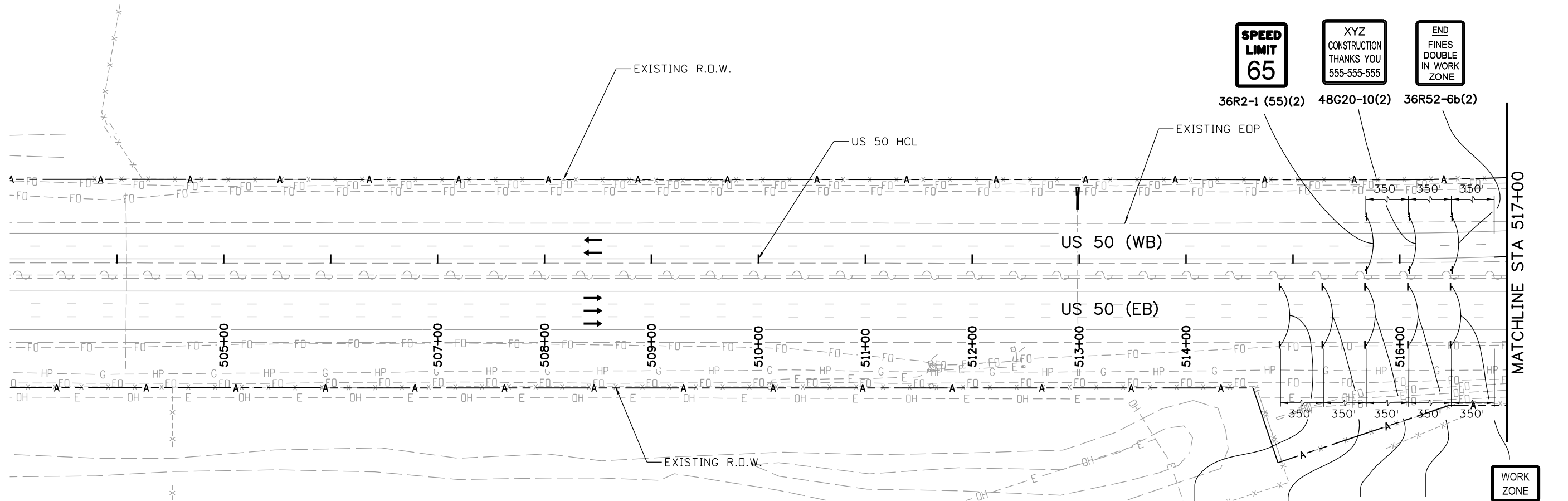
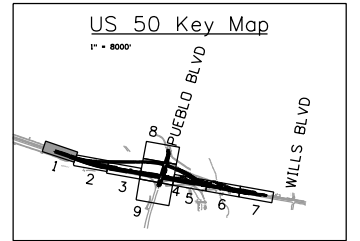


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PHASE 1

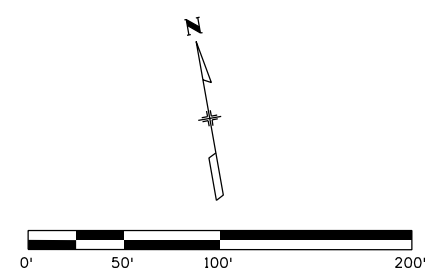
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MAINTAIN US 50 WB TRAFFIC ON EXISTING PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
FULL WIDTH NEW CONSTRUCTION OF US 50 WB LANES.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		



WORK ZONE

36R2-1 (55)(2) 48G20-10(2) 36R52-6b(2)

36G20-5(2)

SCS-1 (5'-6" X 5'-9")(2)

48G20-11(2) 48W20-1 ahead(2) 36R52-6a(2) 36R2-1 (65)(2)

SPEED LIMIT 65

XYZ CONSTRUCTION THANKS YOU 555-555-555

END FINES DOUBLE IN WORK ZONE

ROAD WORK AHEAD

BEGIN FINES DOUBLE IN WORK ZONE

PROJECT FUNDED BY YOUR FASTER VEHICLE REGISTRATION FEES

ROAD WORK FOR INFORMATION

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US 50 WEST WESTBOUND CTC - PHASE 1 US 50			
Designer:	AB	Structure Numbers	
Detailer:	AB		
Subset:	CTC	Subset Sheets: 01 of 09	

Project No./Code	STA 0503-085
	20344
Sheet Number	205

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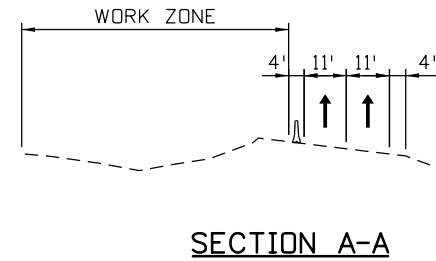


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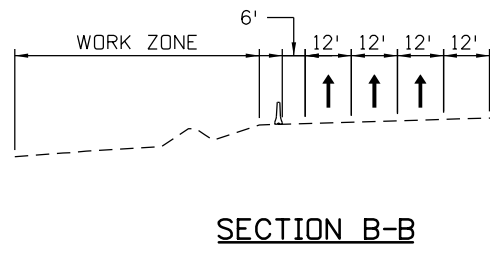
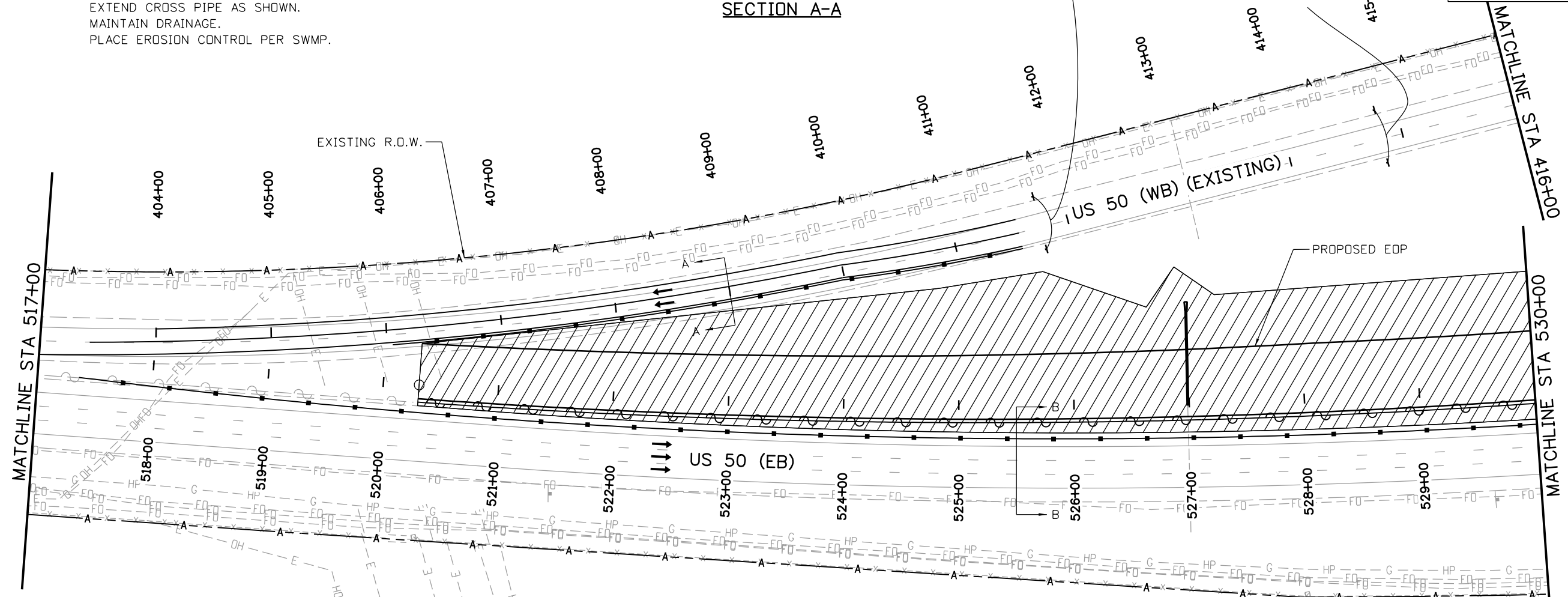
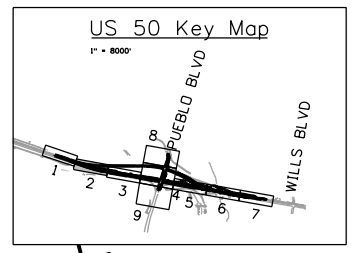
PHASE 1

TRAFFIC CONTROL:
MAINTAIN US 50 WB TRAFFIC ON EXISTING PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB.

CONSTRUCTION:
FULL WIDTH NEW CONSTRUCTION OF US 50 WB LANES.
BUILD NEW MEDIAN BARRIER.
EXTEND CROSS PIPE AS SHOWN.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



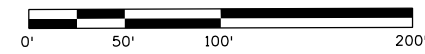
SECTION A-A



SECTION B-B

LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☀ FLASHING BEACON
- TYPE 7 BARRIER
- ▭ IMPACT ATTENUATOR
- BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



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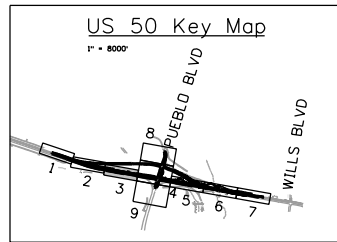
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Detailer:	AB	
Subset:	CTC	Subset Sheets: 02 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 206

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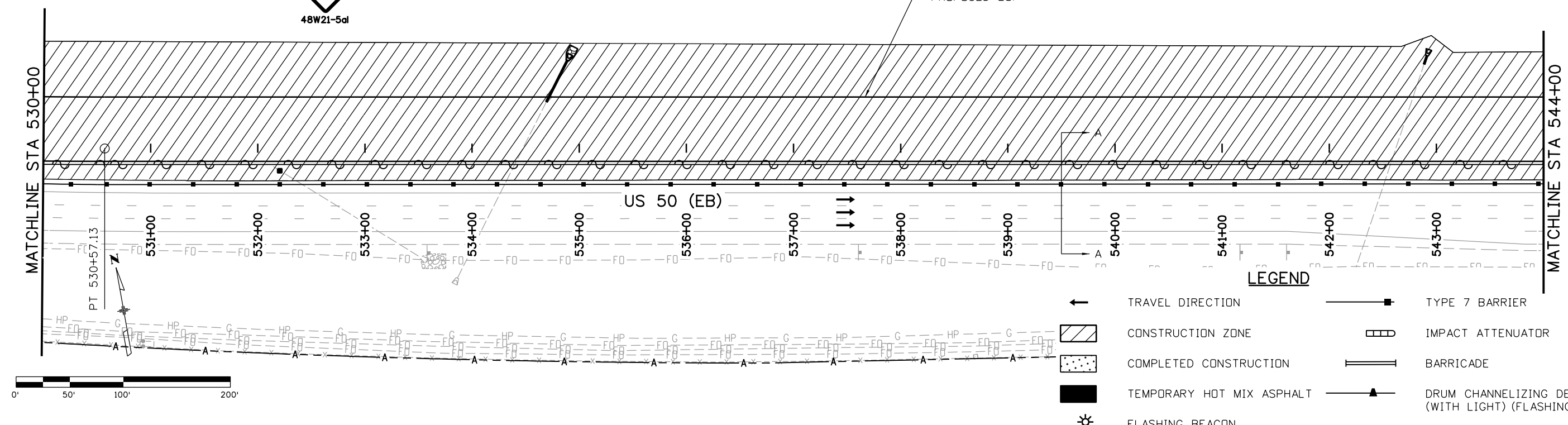
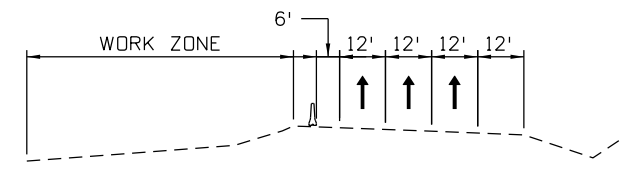
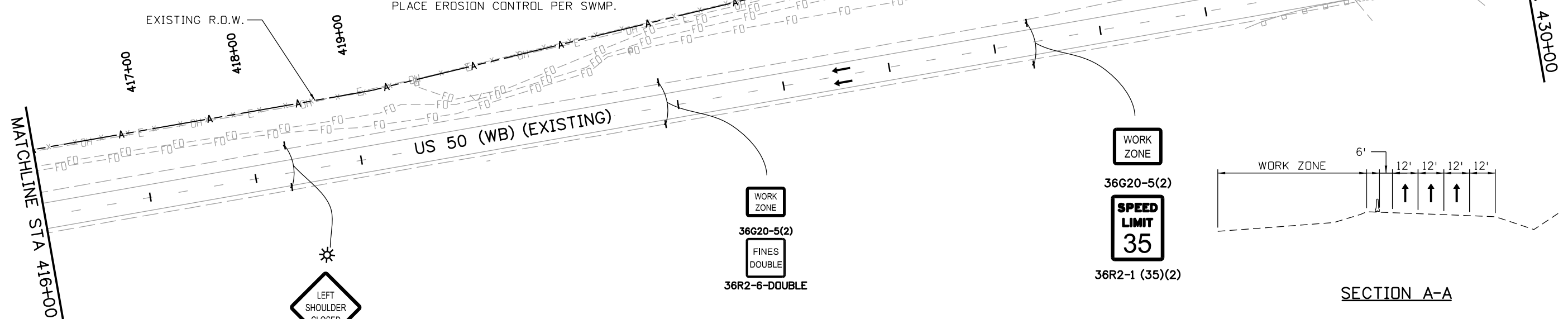
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PHASE 1

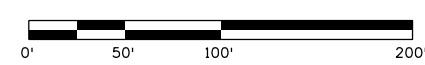
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MAINTAIN US 50 WB TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
FULL WIDTH NEW CONSTRUCTION OF US 50 WB LANES AS SHOWN ALONG WITH MEDIAN BARRIER.
EXTEND CROSS PIPES AND CONSTRUCT NEW MEDIAN BUILD INLET AS SHOWN.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		



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US 50 WEST WESTBOUND CTC - PHASE 1 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	03 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 207

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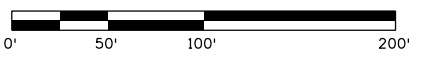
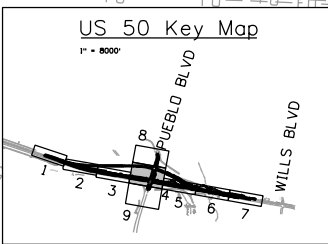
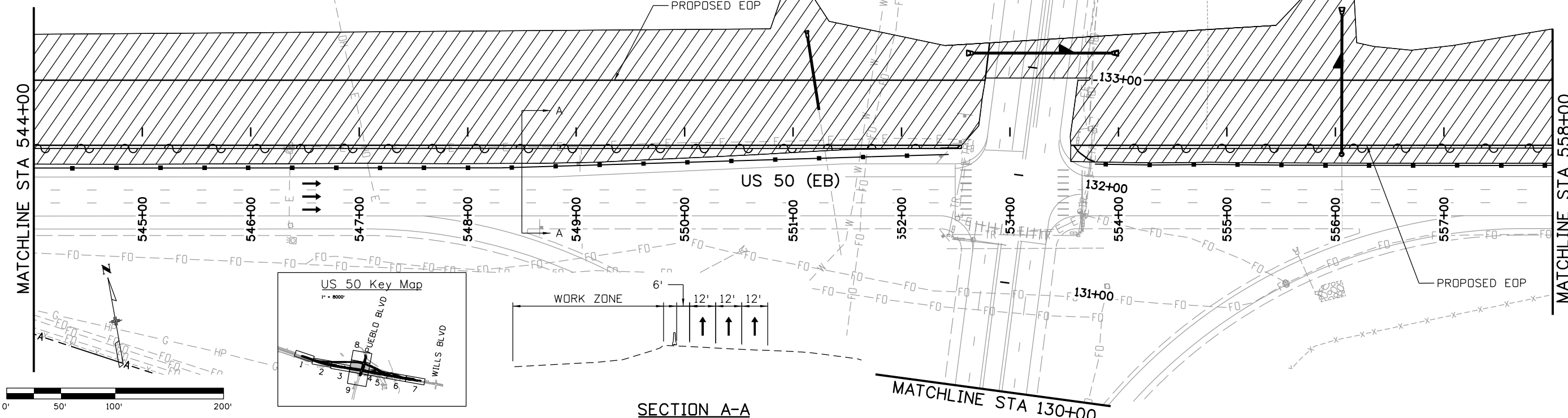
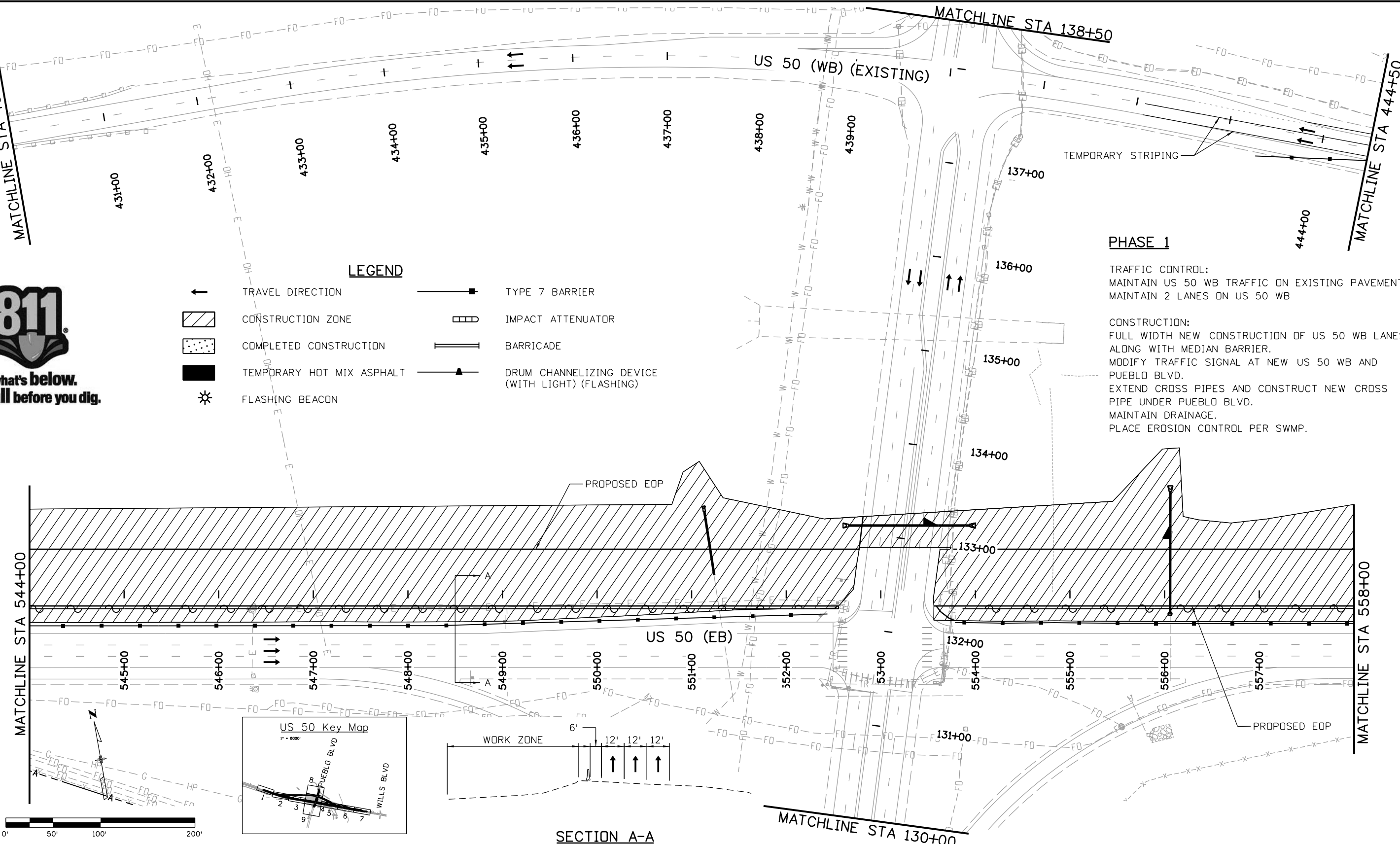
LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		

PHASE 1

TRAFFIC CONTROL:
 MAINTAIN US 50 WB TRAFFIC ON EXISTING PAVEMENT.
 MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
 FULL WIDTH NEW CONSTRUCTION OF US 50 WB LANES
 ALONG WITH MEDIAN BARRIER.
 MODIFY TRAFFIC SIGNAL AT NEW US 50 WB AND
 PUEBLO BLVD.
 EXTEND CROSS PIPES AND CONSTRUCT NEW CROSS
 PIPE UNDER PUEBLO BLVD.
 MAINTAIN DRAINAGE.
 PLACE EROSION CONTROL PER SWMP.



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US 50 WEST WESTBOUND
 CTC - PHASE 1
 US 50
 Designer: AB
 Detailer: AB
 Subset: CTC
 Structure Numbers
 Subset Sheets: 04 of 09

Project No./Code
 STA 0503-085
 20344
 Sheet Number 208

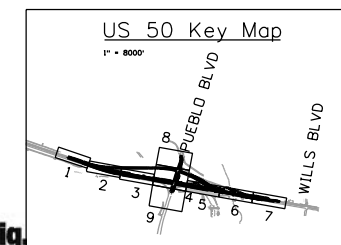
PHASE 1

TRAFFIC CONTROL:
US 50 WB TRAFFIC ON EXISTING PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB.

CONSTRUCTION:
FULL WIDTH NEW CONSTRUCTION OF US 50 WB LANES
AND EXIT RAMP AS SHOWN.
EXTEND WILLIAMS CREEK CBC AND GRADE CHANNEL AS SHOWN.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



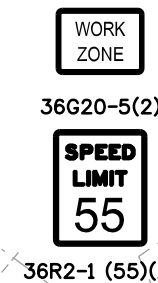
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48W5-1

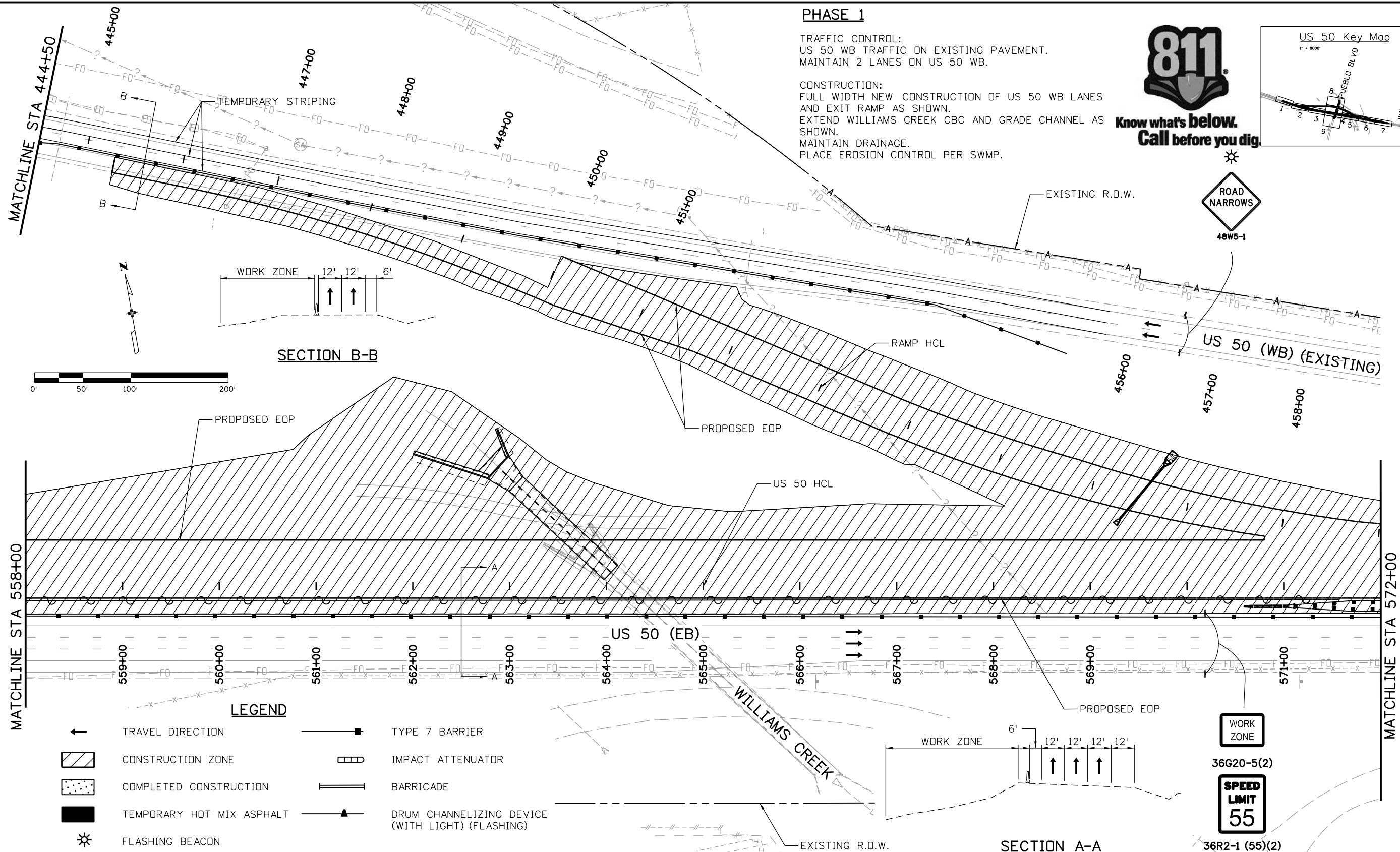
US 50 (WB) (EXISTING)

456+00
457+00
458+00

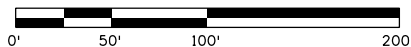
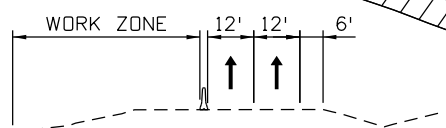


36G20-5(2)

36R2-1 (55)(2)



SECTION B-B



PROPOSED EOP

PROPOSED EOP

US 50 HCL

RAMP HCL

US 50 (EB)

PROPOSED EOP



SECTION A-A

LEGEND

TRAVEL DIRECTION	TYPE 7 BARRIER
CONSTRUCTION ZONE	IMPACT ATTENUATOR
COMPLETED CONSTRUCTION	BARRICADE
TEMPORARY HOT MIX ASPHALT	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
FLASHING BEACON	

Print Date: 3/2/2017
File Name: 20344-CTC Phase1A_5.dgn
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Region 2 DTD

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No Revisions:
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Void:

US 50 WEST WESTBOUND CTC - PHASE 1 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	05 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 209

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Know what's below.
Call before you dig.



48W21-5al



36G20-5(2)



36R2-6-DOUBLE



36G20-5(2)

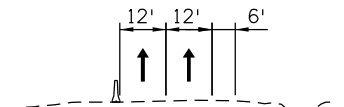
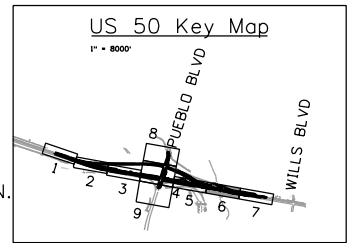


36R2-1 (35)(2)

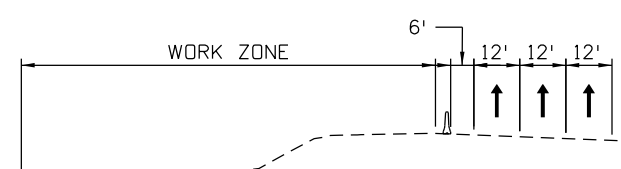
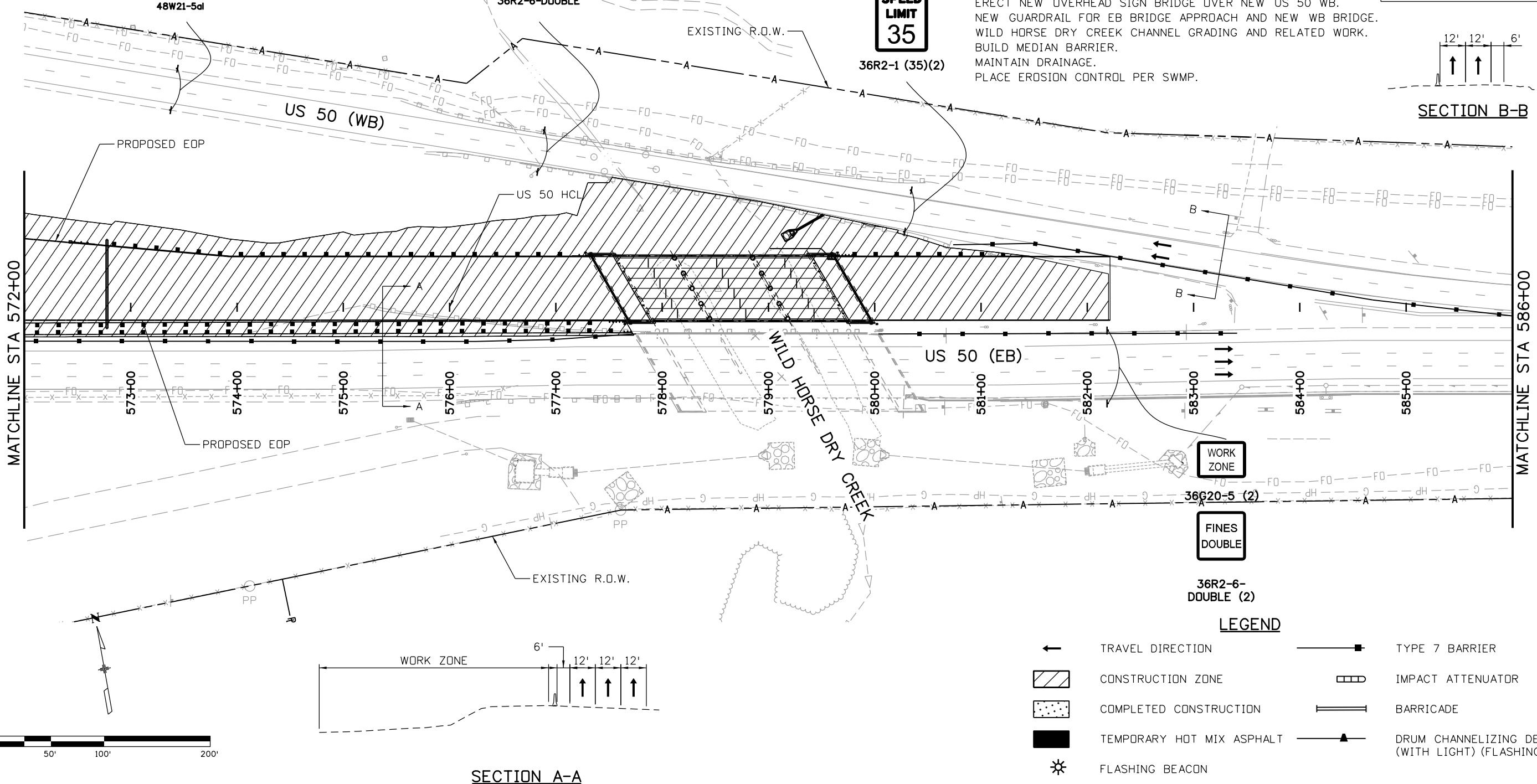
PHASE 1

TRAFFIC CONTROL:
MAINTAIN TRAFFIC ON EXISTING US 50 WB.
MAINTAIN 2 LANES ON US 50 WB

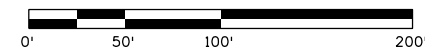
CONSTRUCTION:
FULL WIDTH NEW CONSTRUCTION OF US 50 WB LANES AS SHOWN.
CONSTRUCT NEW BRIDGE OVER WILD HORSE DRY CREEK.
ERECT NEW OVERHEAD SIGN BRIDGE OVER NEW US 50 WB.
NEW GUARDRAIL FOR EB BRIDGE APPROACH AND NEW WB BRIDGE.
WILD HORSE DRY CREEK CHANNEL GRADING AND RELATED WORK.
BUILD MEDIAN BARRIER.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



SECTION B-B



SECTION A-A



LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☼ FLASHING BEACON
- TYPE 7 BARRIER
- ▭ IMPACT ATTENUATOR
- BARRICADE
- ▲— DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

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US 50 WEST WESTBOUND
 CTC - PHASE 1
 US 50

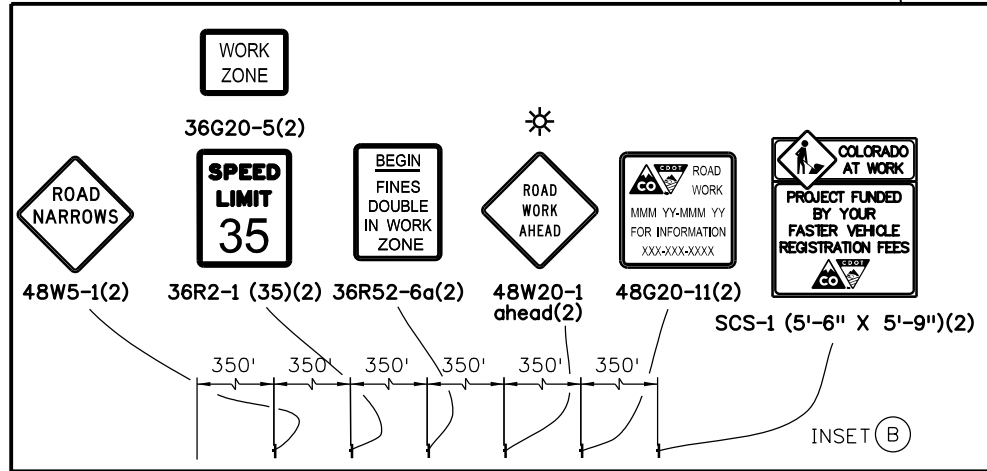
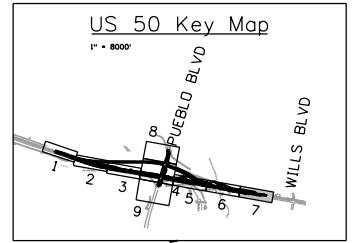
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Subset:	CTC	Subset Sheets: 06 of 09	

Project No./Code	STA 0503-085
	20344
Sheet Number	210

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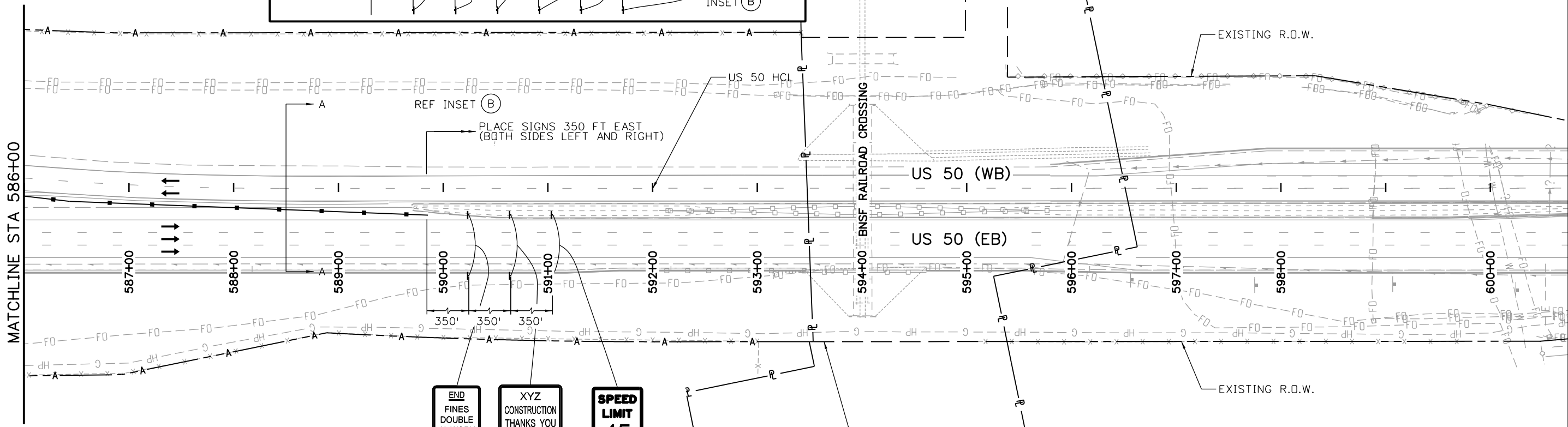
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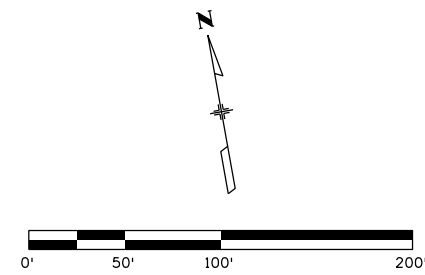
PHASE 1

TRAFFIC CONTROL:
MAINTAIN WESTBOUND TRAFFIC ON EXISTING PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP



SECTION A-A



LEGEND	
	TRAVEL DIRECTION
	CONSTRUCTION ZONE
	COMPLETED CONSTRUCTION
	TEMPORARY HOT MIX ASPHALT
	FLASHING BEACON
	TYPE 7 BARRIER
	IMPACT ATTENUATOR
	BARRICADE
	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

Print Date: 3/2/2017
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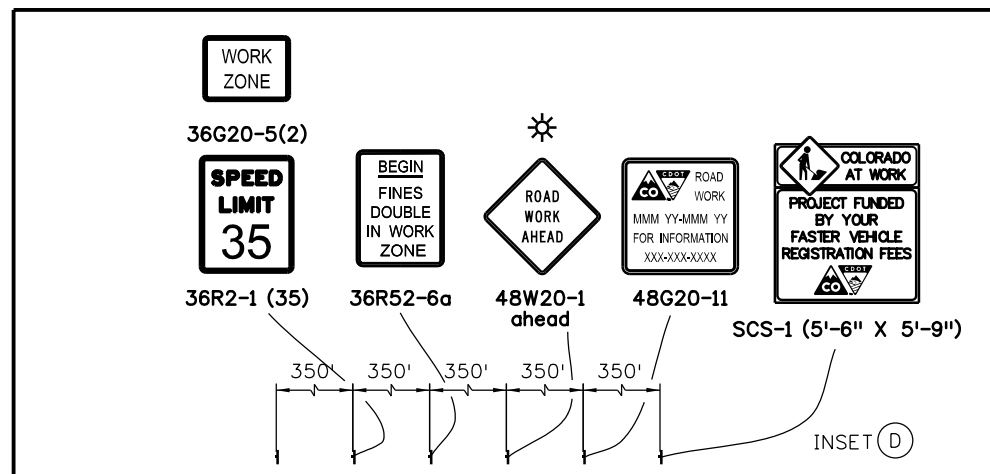
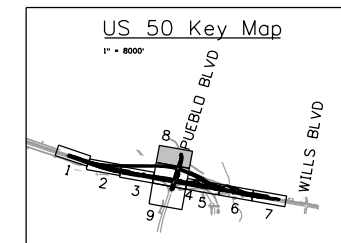
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	07 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 211

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PHASE 1

TRAFFIC CONTROL:
PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT

CONSTRUCTION:
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.

EXISTING R.O.W.

PUEBLO HCL

EXISTING EOP

EXISTING R.O.W.

PLACE SIGNS 350 FT NORTH

REF INSET (D)

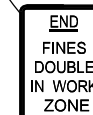
MATCHLINE STA 138+50



36R2-1 (35)



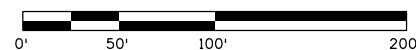
48G20-10



36R52-6b

LEGEND

- TRAVEL DIRECTION
- CONSTRUCTION ZONE
- COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- FLASHING BEACON
- TYPE 7 BARRIER
- IMPACT ATTENUATOR
- BARRICADE
- DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



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US 50 WEST WESTBOUND
CTC - PHASE 1
US 50

Designer: AB

Detailer: AB

Subset: CTC

Structure Numbers

Subset Sheets: 08 of 09

Project No./Code

STA 0503-085

20344

Sheet Number 212



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PHASE 1

TRAFFIC CONTROL:
PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT

CONSTRUCTION:
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP

EXISTING CDOT R.O.W.

EXISTING CDOT R.O.W.

MATCHLINE STA 130+00

PUEBLO HCL

PUEBLO BLVD I

129+00

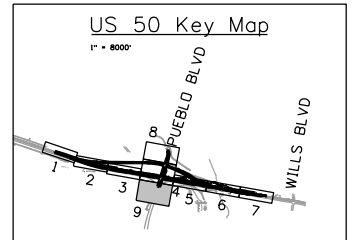
PLACE SIGNS 350 FT SOUTH

REF INSET (E)

128+00

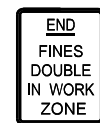
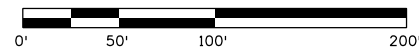
127+00

126+00



LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☀ FLASHING BEACON
- TYPE 7 BARRIER
- ▩ IMPACT ATTENUATOR
- ▬ BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



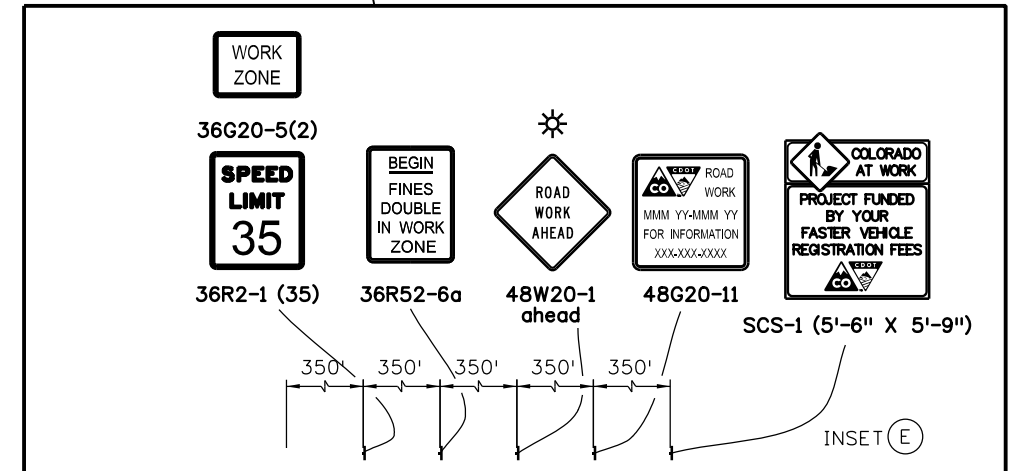
36R52-6b



48G20-10



36R2-1 (45)



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US 50 WEST WESTBOUND CTC - PHASE 1 US 50		
Designer:	AB	Structure Numbers
Detailer:	AB	
Subset:	CTC	Subset Sheets: 09 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 213

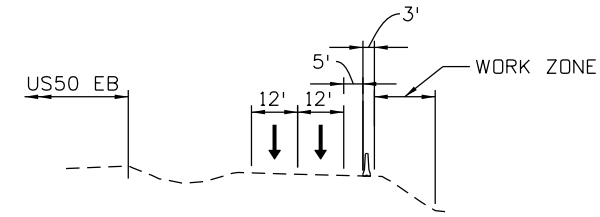


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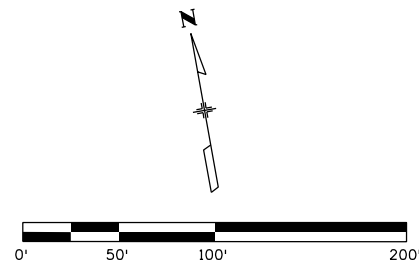
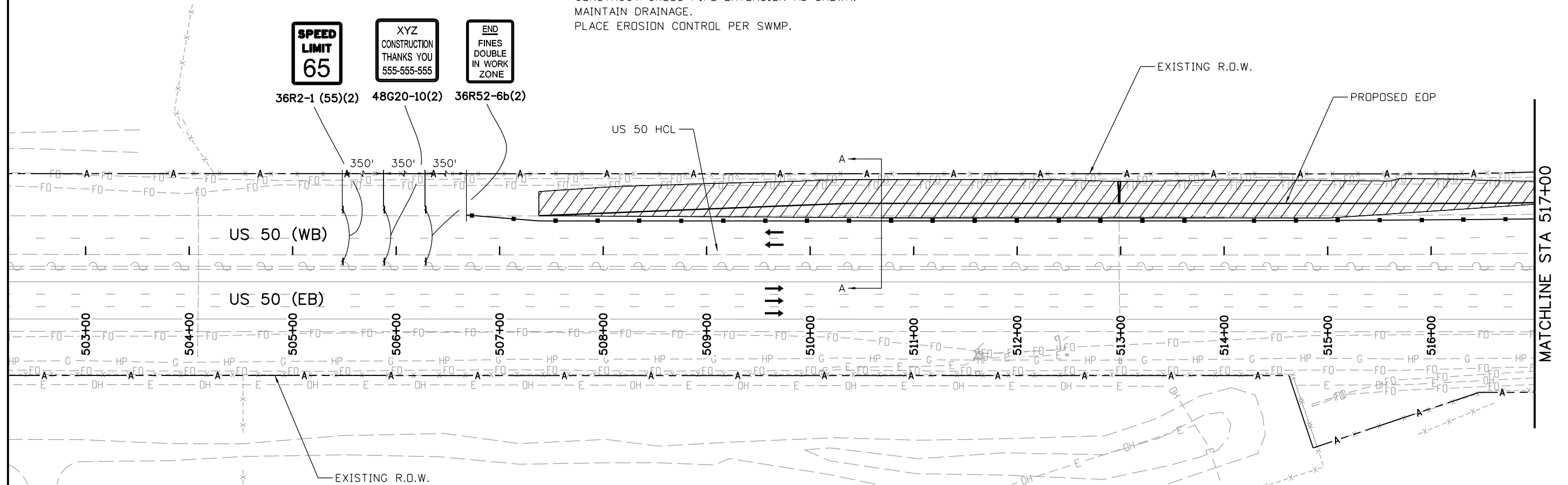
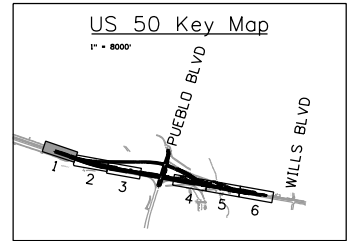
PHASE 2

TRAFFIC CONTROL:
US 50 WB TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
CONSTRUCT US 50 WB ACCELERATION LANE FROM STA 514+00
TO STA 520+43.
2' SAW CUT ALONG US 50 SHOWN IN PLAN.
PLACE TEMP HMA AS NEEDED (NOT SHOWN).
CONSTRUCT CROSS PIPE EXTENSION AS SHOWN.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



SECTION A-A



LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☼ FLASHING BEACON
- TYPE 7 BARRIER
- ▭ IMPACT ATTENUATOR
- BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

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US 50 WEST WESTBOUND CTC - PHASE 2 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	01 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 214

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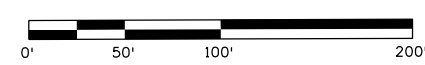
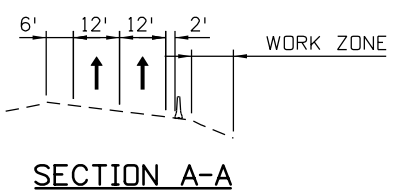
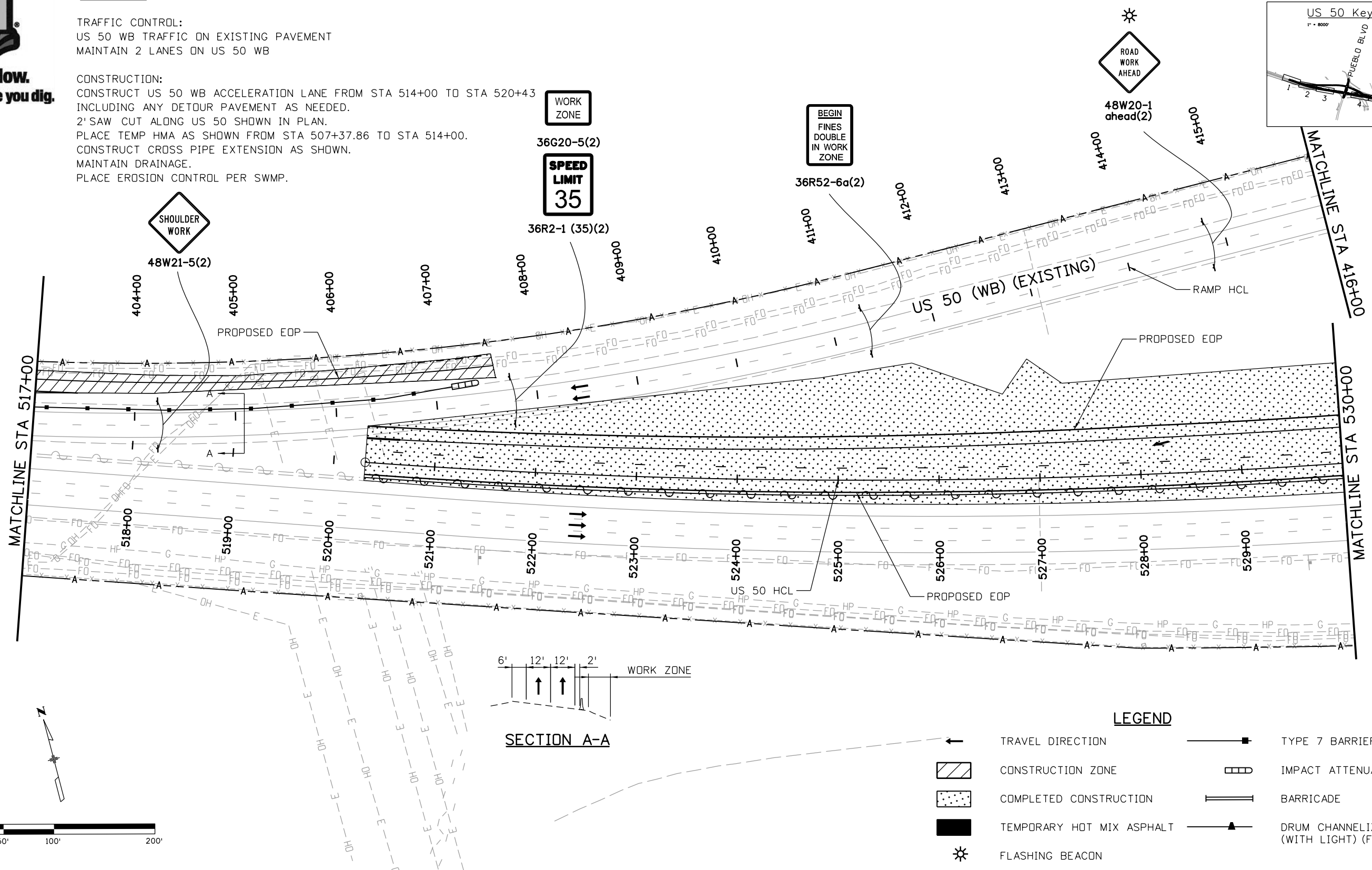
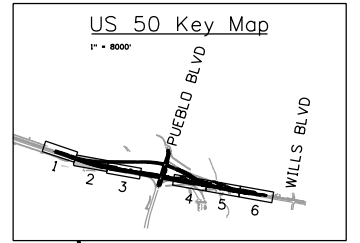


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PHASE 2

TRAFFIC CONTROL:
US 50 WB TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
CONSTRUCT US 50 WB ACCELERATION LANE FROM STA 514+00 TO STA 520+43
INCLUDING ANY DETOUR PAVEMENT AS NEEDED.
2' SAW CUT ALONG US 50 SHOWN IN PLAN.
PLACE TEMP HMA AS SHOWN FROM STA 507+37.86 TO STA 514+00.
CONSTRUCT CROSS PIPE EXTENSION AS SHOWN.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND	
	TRAVEL DIRECTION
	CONSTRUCTION ZONE
	COMPLETED CONSTRUCTION
	TEMPORARY HOT MIX ASPHALT
	FLASHING BEACON
	TYPE 7 BARRIER
	IMPACT ATTENUATOR
	BARRICADE
	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

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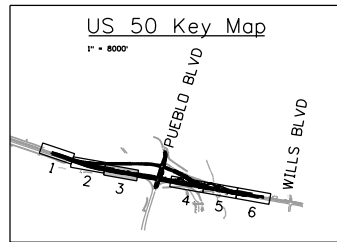
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Designer:	AB	Structure	
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Subset:	CTC	Subset Sheets:	02 of 09

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STA 0503-085
20344
Sheet Number 215

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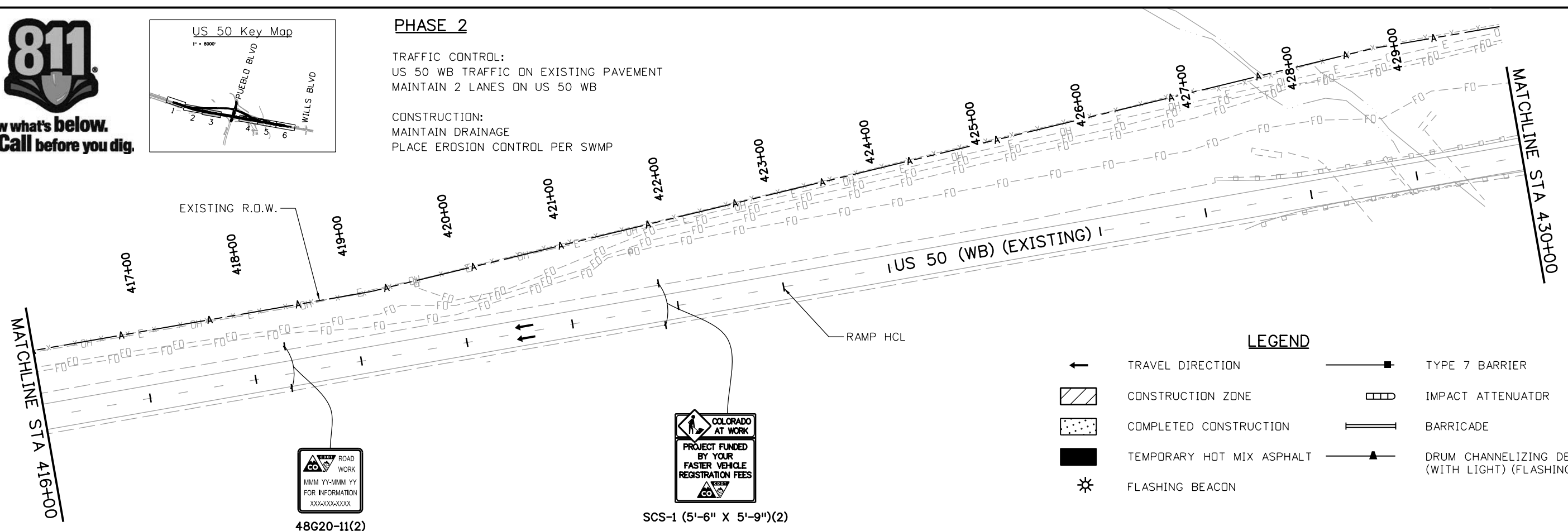
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PHASE 2

TRAFFIC CONTROL:
US 50 WB TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP



LEGEND

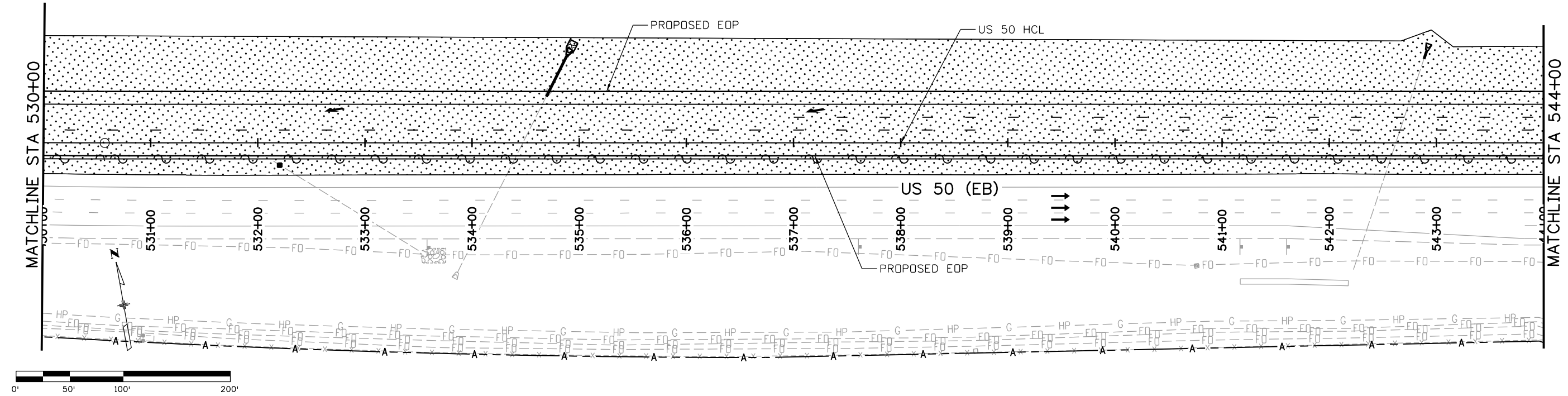
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- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☼ FLASHING BEACON
- TYPE 7 BARRIER
- ▭ IMPACT ATTENUATOR
- ▬ BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



48G20-11(2)



SCS-1 (5'-6" X 5'-9")(2)



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US 50 WEST WESTBOUND
CTC - PHASE 2
US 50

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Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	03 of 09

Project No./Code

STA 0503-085

20344

Sheet Number 216

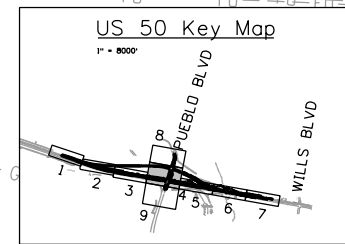
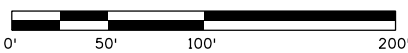
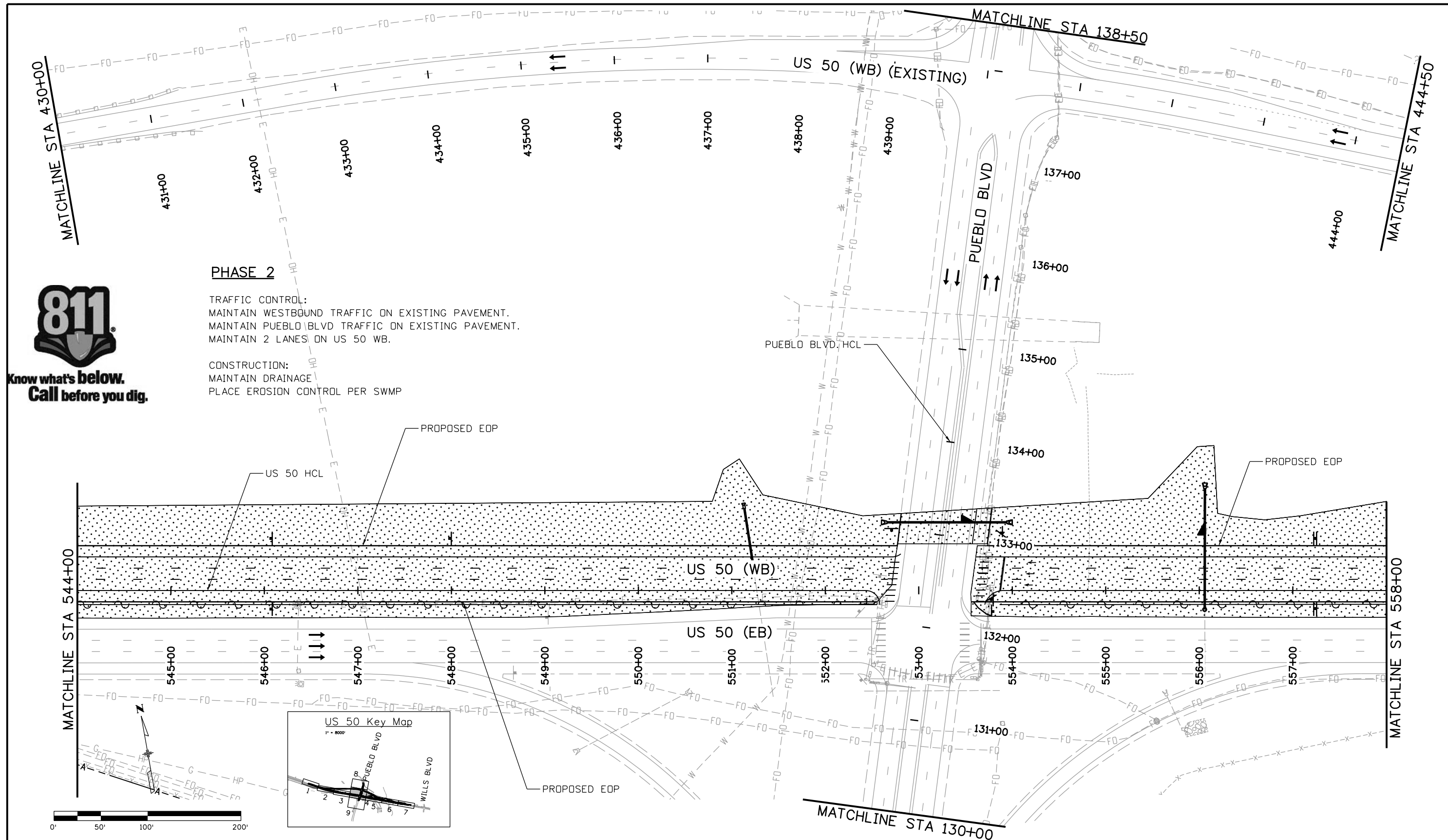


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PHASE 2

TRAFFIC CONTROL:
 MAINTAIN WESTBOUND TRAFFIC ON EXISTING PAVEMENT.
 MAINTAIN PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT.
 MAINTAIN 2 LANES ON US 50 WB.

CONSTRUCTION:
 MAINTAIN DRAINAGE
 PLACE EROSION CONTROL PER SWMP



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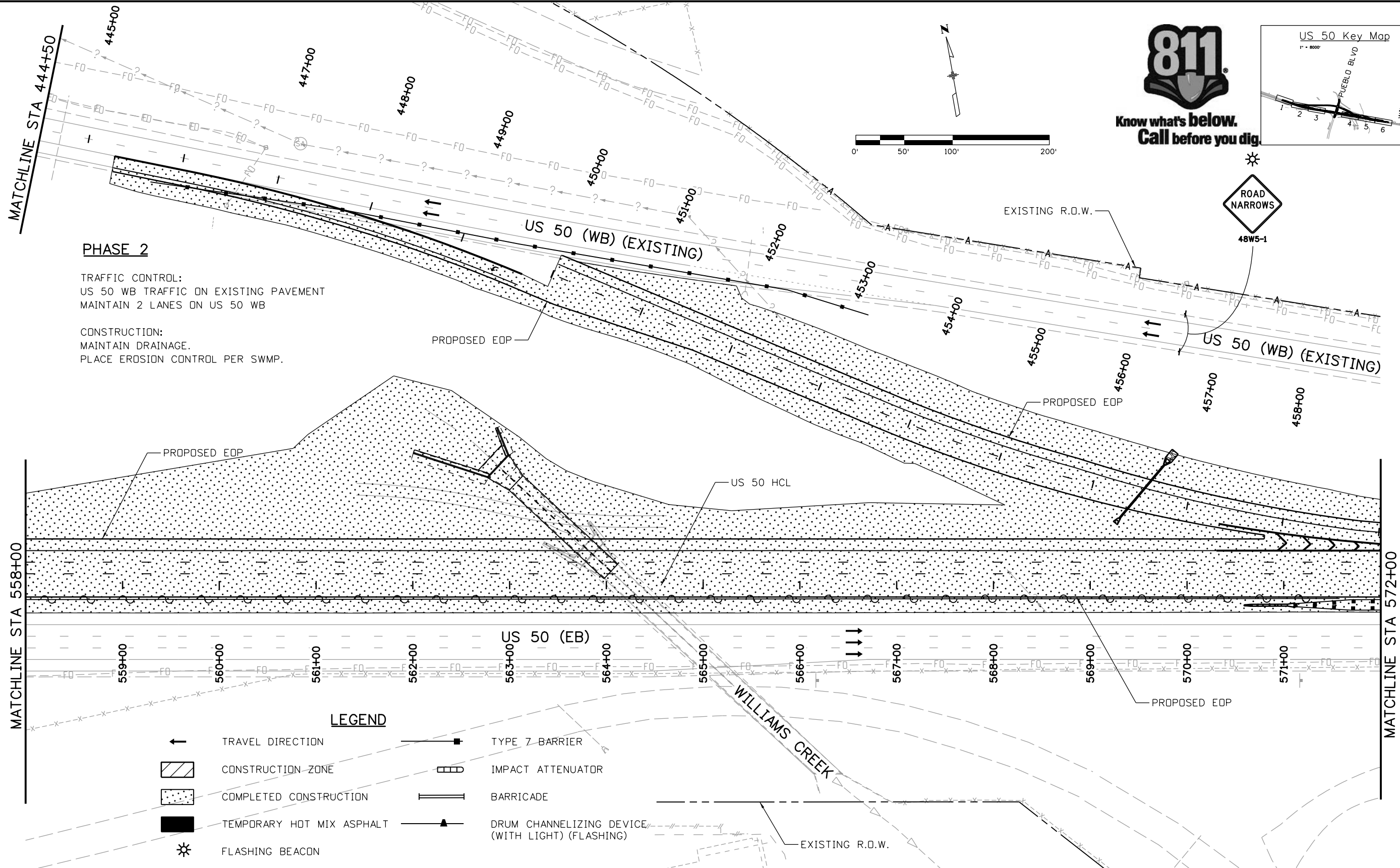
Region 2 DTD

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US 50 WEST WESTBOUND CTC - PHASE 2 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	04 of 09

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STA 0503-085
20344
Sheet Number 217

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PHASE 2

TRAFFIC CONTROL:
US 50 WB TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.

LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION-ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		

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File Name: 20344-CTC Phase2_5.dgn		Date: Comments Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	No Revisions:	Designer: AB Structure	STA 0503-085
Horiz. Scale: 1:100 Vert. Scale:				Revised:	Detailer: AB Numbers	20344
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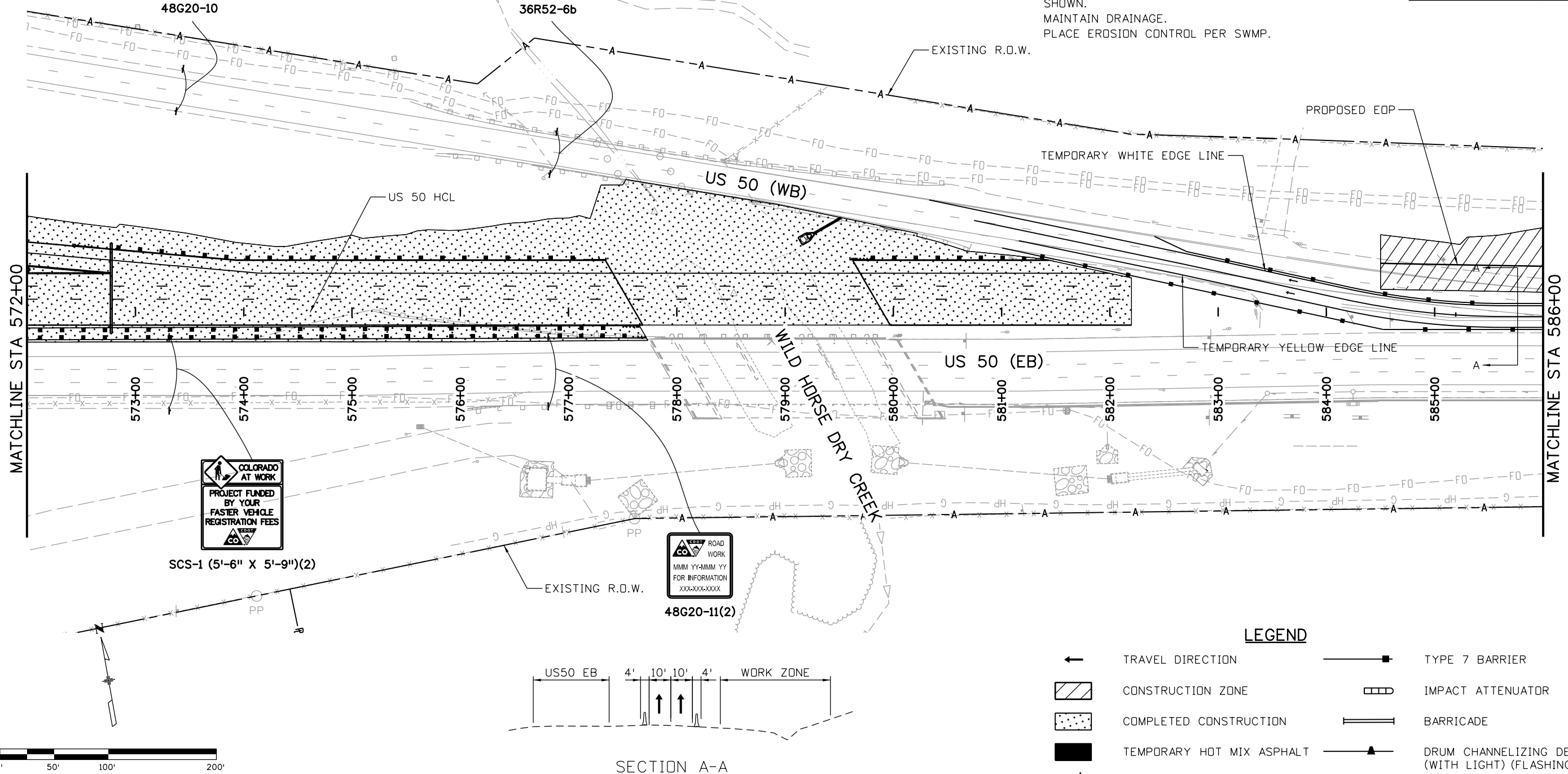
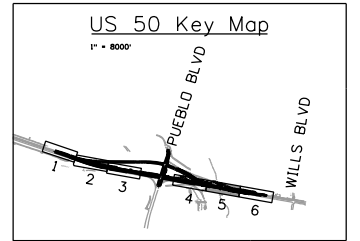
XYZ
CONSTRUCTION
THANKS YOU
555-555-555

END
FINES
DOUBLE
IN WORK
ZONE

PHASE 2

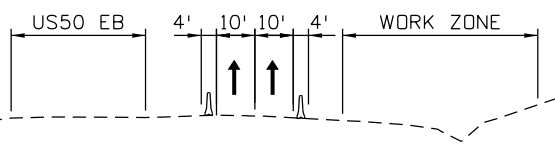
TRAFFIC CONTROL:
US 50 WB TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
CONSTRUCT US 50 OUTSIDE LANE AND SHOULDER AS
SHOWN.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ⚡ FLASHING BEACON
- TYPE 7 BARRIER
- ▭ IMPACT ATTENUATOR
- BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



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As Constructed
 No Revisions:
 Revised:
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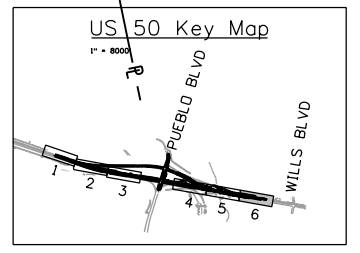
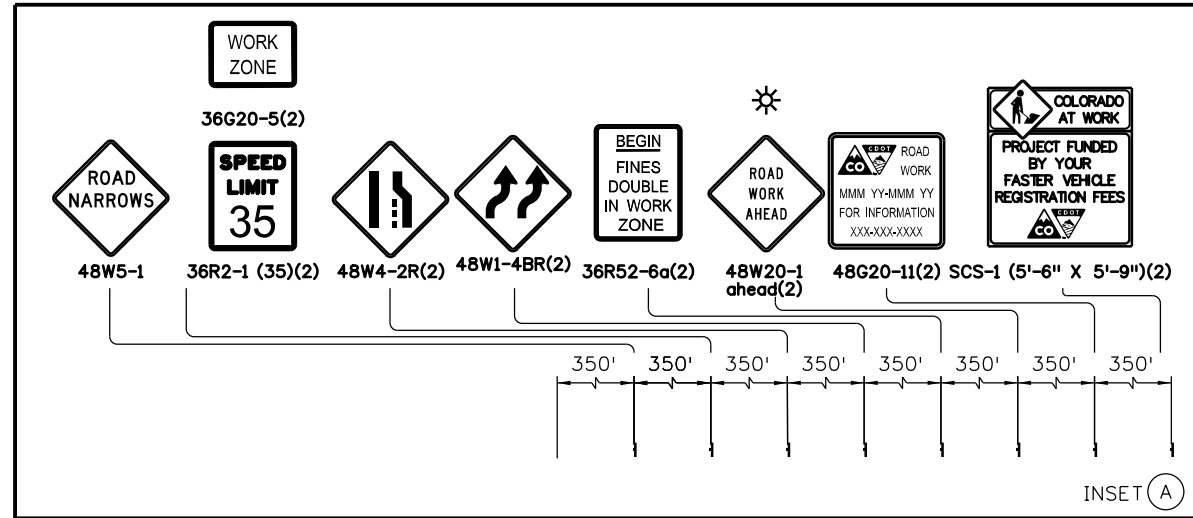
US 50 WEST WESTBOUND
 CTC - PHASE 2
 US 50
 Designer: AB Structure
 Detailer: AB Numbers
 Subset: CTC Subset Sheets: 06 of 09

Project No./Code
 STA 0503-085
 20344
 Sheet Number 219

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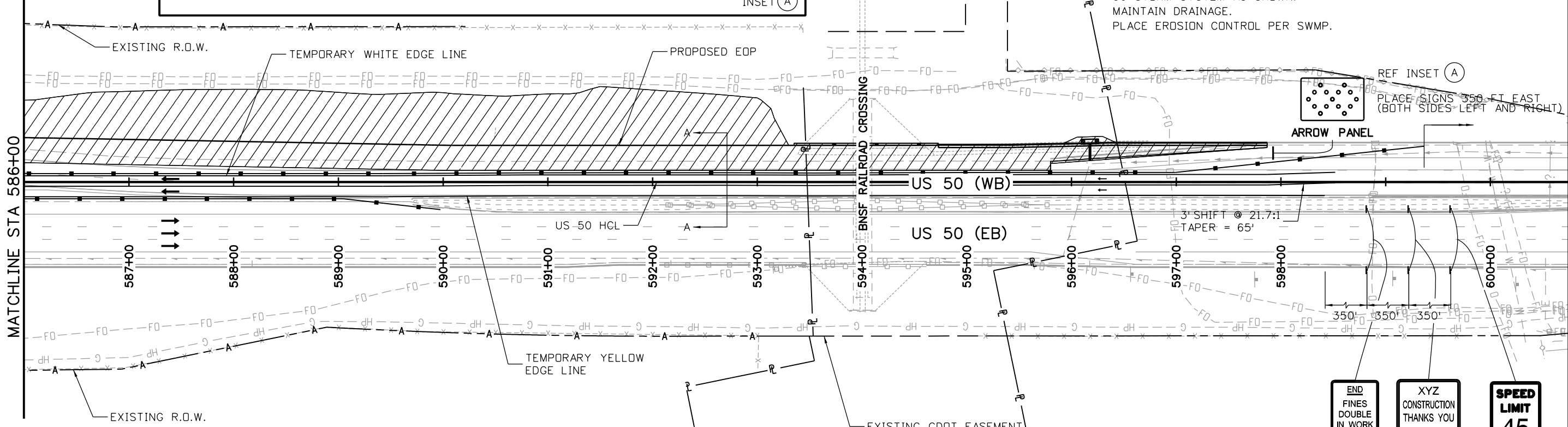
Know what's below. Call before you dig.



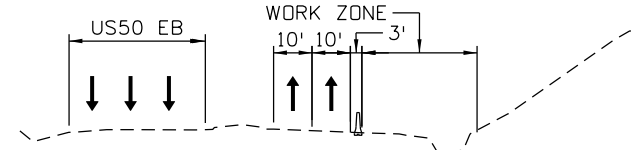
PHASE 2

TRAFFIC CONTROL:
 US 50 WB TRAFFIC ON EXISTING PAVEMENT
 MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
 CONSTRUCT OUTSIDE LANE, SHOULDER, GRADING, SWALE, CRUB AND GUTTER, AND RAILROAD SLOPE PAVING AS SHOWN.
 CONSTRUCT STORM SYSTEM AT STA 596+17.57. TIE INTO EXISTING US 50 STORM SYSTEM AS SHOWN.
 MAINTAIN DRAINAGE.
 PLACE EROSION CONTROL PER SWMP.



REF INSET (A)
 PLACE SIGNS 350 FT EAST (BOTH SIDES-LEFT AND RIGHT)



SECTION A-A



LEGEND	
	TRAVEL DIRECTION
	CONSTRUCTION ZONE
	COMPLETED CONSTRUCTION
	TEMPORARY HOT MIX ASPHALT
	FLASHING BEACON
	TYPE 7 BARRIER
	IMPACT ATTENUATOR
	BARRICADE
	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

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As Constructed	US 50 WEST WESTBOUND CTC - PHASE 2 US 50
No Revisions:	
Revised:	
Void:	

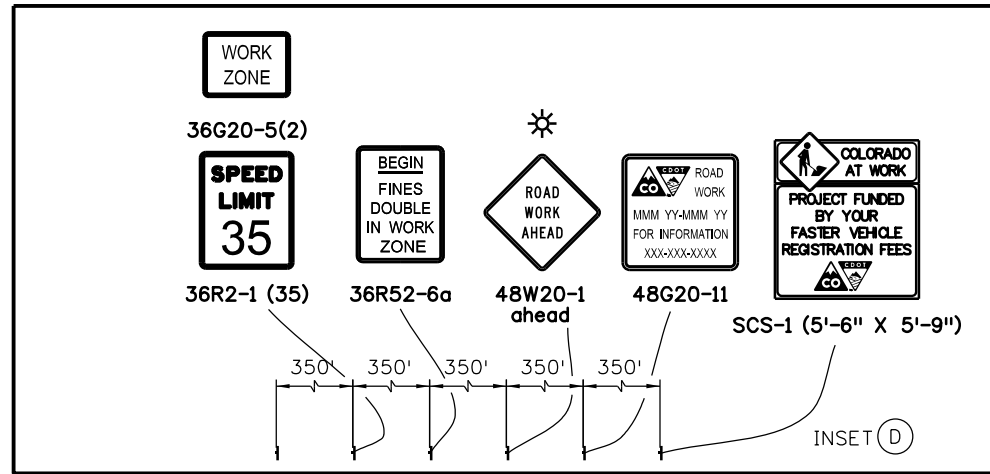
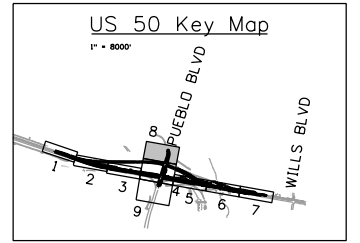
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Detailer:	AB		
Subset:	CTC	Subset Sheets: 07 of 09	

Project No./Code	STA 0503-085
	20344
Sheet Number	220

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PHASE 2

TRAFFIC CONTROL:
PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT

CONSTRUCTION:
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.

EXISTING R.O.W.

INSET (D)

PUEBLO HCL

EXISTING EOP

EXISTING R.O.W.

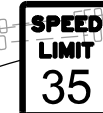
142+00

141+00

PLACE SIGNS 350 FT NORTH

REF. INSET (D)

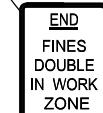
MATCHLINE STA 138+50



36R2-1 (35)



48G20-10



36R52-6b

LEGEND

- ← TRAVEL DIRECTION
- ▬ TYPE 7 BARRIER
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☀ FLASHING BEACON
- ▭ IMPACT ATTENUATOR
- ▬ BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



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Region 2

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As Constructed

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Revised:

Void:

US 50 WEST WESTBOUND
CTC - PHASE 2
US 50

Designer:	AB	Structure Numbers	
Detailer:	AB		
Subset:	CTC	Subset Sheets: 08 of 09	

Project No./Code

STA 0503-085

20344

Sheet Number 221



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PHASE 2

TRAFFIC CONTROL:
PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT

CONSTRUCTION:
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP

EXISTING CDOT R.O.W.

EXISTING CDOT R.O.W.

MATCHLINE STA 130+00

PUEBLO HCL

PUEBLO BLVD I

129+00

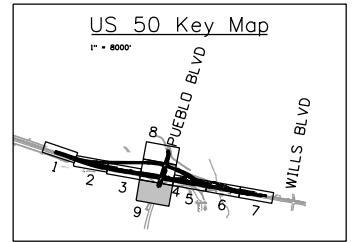
PLACE SIGNS 350 FT SOUTH

REF INSET (E)

128+00

127+00

126+00



LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☀ FLASHING BEACON
- TYPE 7 BARRIER
- ▩ IMPACT ATTENUATOR
- ▬ BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



END
FINES
DOUBLE
IN WORK
ZONE

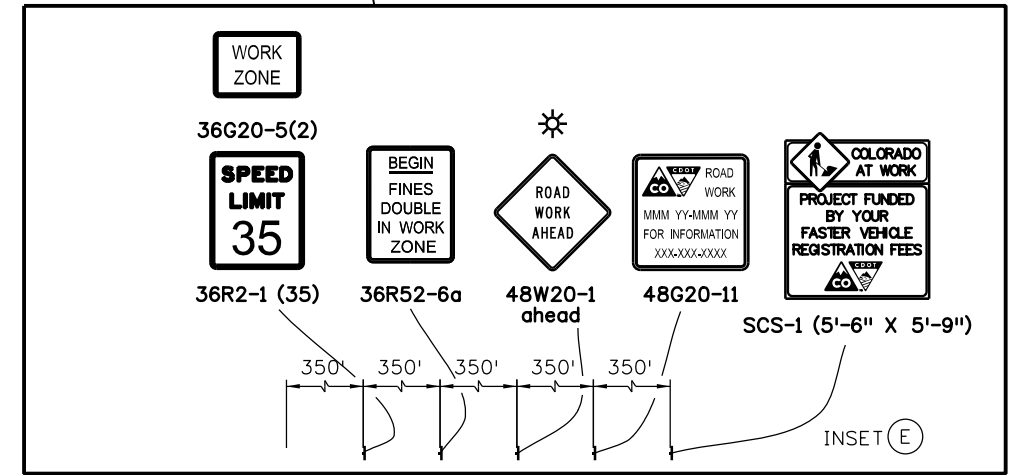
36R52-6b

XYZ
CONSTRUCTION
THANKS YOU
555-555-555

48G20-10

SPEED
LIMIT
45

36R2-1 (45)



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Void:	

US 50 WEST WESTBOUND CTC - PHASE 2 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	09 of 09

Project No./Code	STA 0503-085
	20344
Sheet Number	222

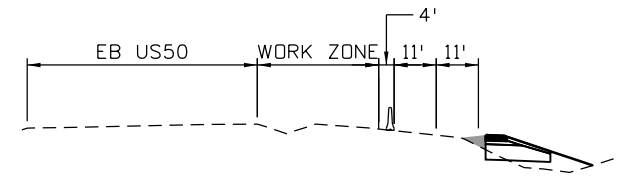
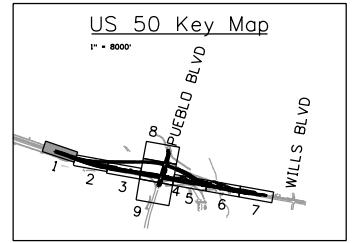


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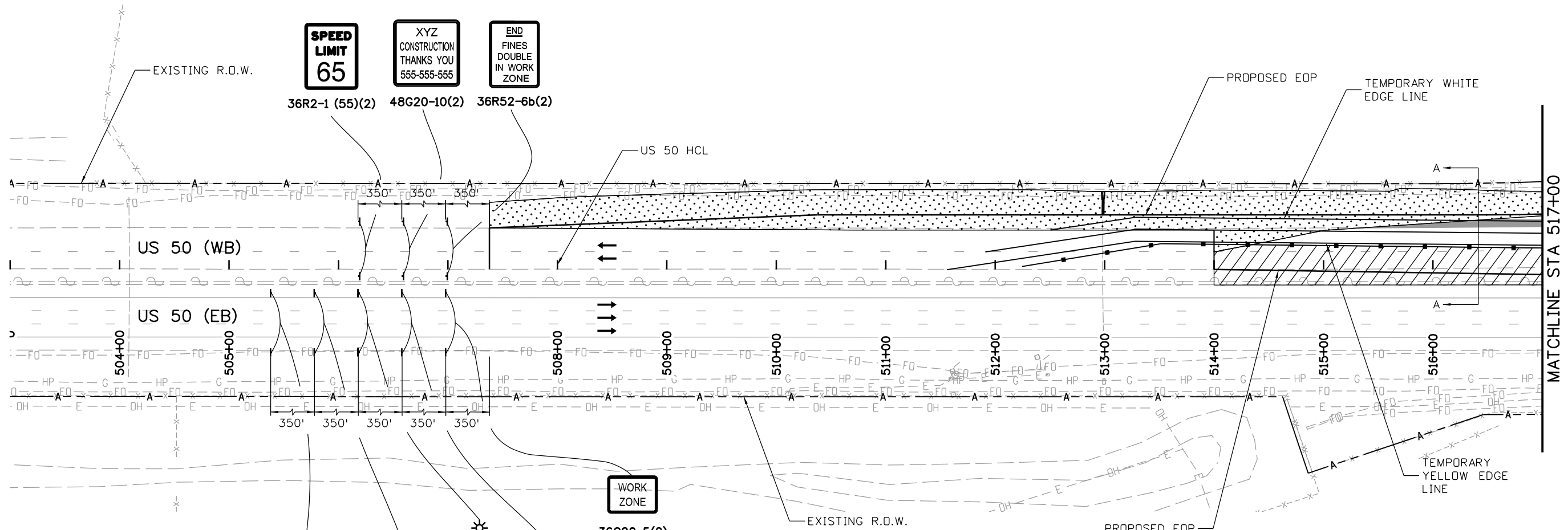
PHASE 3

TRAFFIC CONTROL:
MAINTAIN US 50 TRAFFIC ON EXISTING AND DETOUR PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
CONSTRUCT US 50 INSIDE LANES AND MEDIAN BARRIER AS SHOWN.
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP



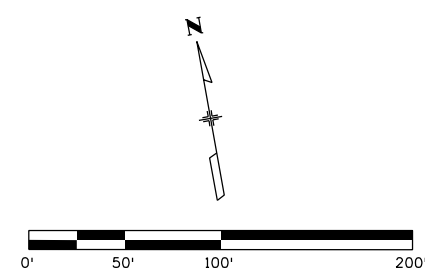
SECTION A-A



SPEED LIMIT 65
XYZ
CONSTRUCTION
THANKS YOU
555-555-555
END FINES DOUBLE IN WORK ZONE

WORK ZONE
36G20-5(2)
SPEED LIMIT 65
SCS-1 (5'-6" X 5'-9")(2)
48G20-11(2)
48W20-1 ahead(2)
36R52-6a(2)
36R2-1 (65)(2)

LEGEND	
	TRAVEL DIRECTION
	CONSTRUCTION ZONE
	COMPLETED CONSTRUCTION
	TEMPORARY HOT MIX ASPHALT
	FLASHING BEACON
	TYPE 7 BARRIER
	IMPACT ATTENUATOR
	BARRICADE
	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

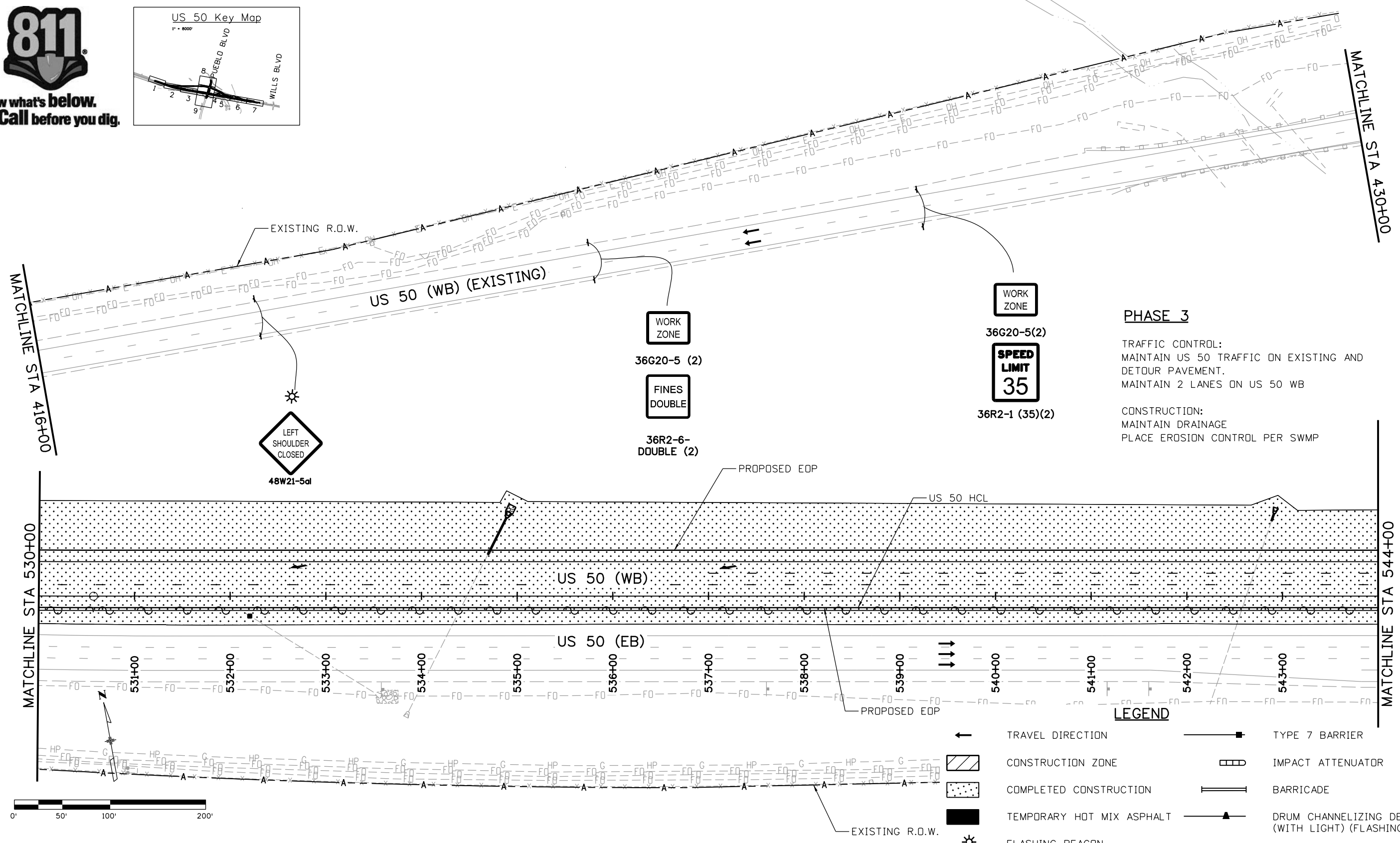
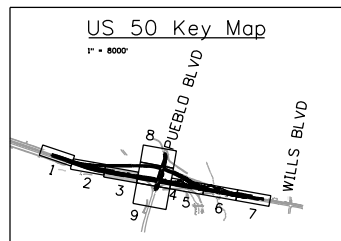


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File Name: 20344-CTC Phase3_1.dgn	Date:	Comments	Init.			CTC - PHASE 3			
Horiz. Scale: 1:100					No Revisions:	US 50			STA 0503-085
Vert. Scale:						902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	Revised:	Designer:	AB
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						DTD		Subset:	CTC

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PHASE 3

TRAFFIC CONTROL:
MAINTAIN US 50 TRAFFIC ON EXISTING AND
DETOUR PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP

WORK
ZONE

36G20-5(2)

SPEED
LIMIT
35

36R2-1 (35)(2)

WORK
ZONE

36G20-5 (2)

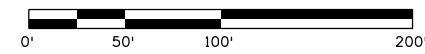
FINES
DOUBLE

36R2-6-
DOUBLE (2)

LEFT
SHOULDER
CLOSED
48W21-5al

LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ⚡ FLASHING BEACON
- TYPE 7 BARRIER
- ▤ IMPACT ATTENUATOR
- BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



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File Name: 20344-CTC Phase3_3.dgn
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**US 50 WEST WESTBOUND
CTC - PHASE 3
US 50**

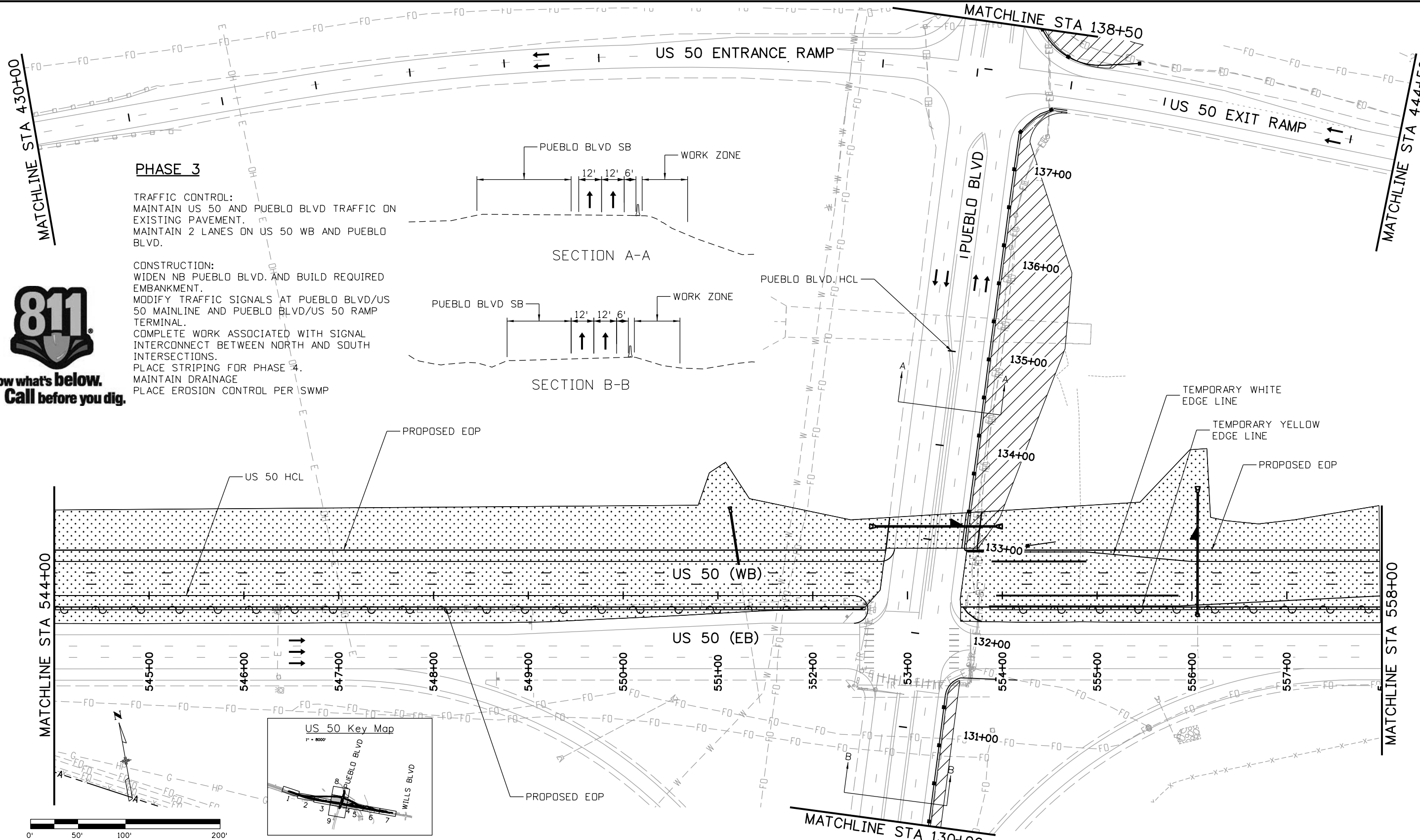
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Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	03 of 09

Project No./Code
STA 0503-085

20344

Sheet Number **225**

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PHASE 3

TRAFFIC CONTROL:
 MAINTAIN US 50 AND PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT.
 MAINTAIN 2 LANES ON US 50 WB AND PUEBLO BLVD.

CONSTRUCTION:
 WIDEN NB PUEBLO BLVD. AND BUILD REQUIRED EMBANKMENT.
 MODIFY TRAFFIC SIGNALS AT PUEBLO BLVD/US 50 MAINLINE AND PUEBLO BLVD/US 50 RAMP TERMINAL.
 COMPLETE WORK ASSOCIATED WITH SIGNAL INTERCONNECT BETWEEN NORTH AND SOUTH INTERSECTIONS.
 PLACE STRIPING FOR PHASE 4.
 MAINTAIN DRAINAGE
 PLACE EROSION CONTROL PER SWMP



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Void:

US 50 WEST WESTBOUND CTC - PHASE 3 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	04 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 226



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48W21-5al



36G20-5(2)



36R2-6-DOUBLE



36G20-5(2)

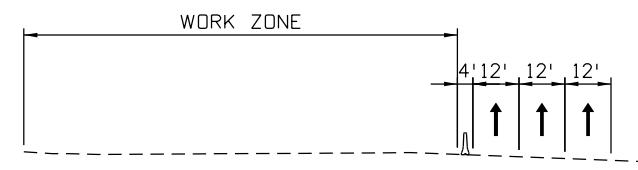
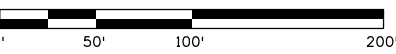
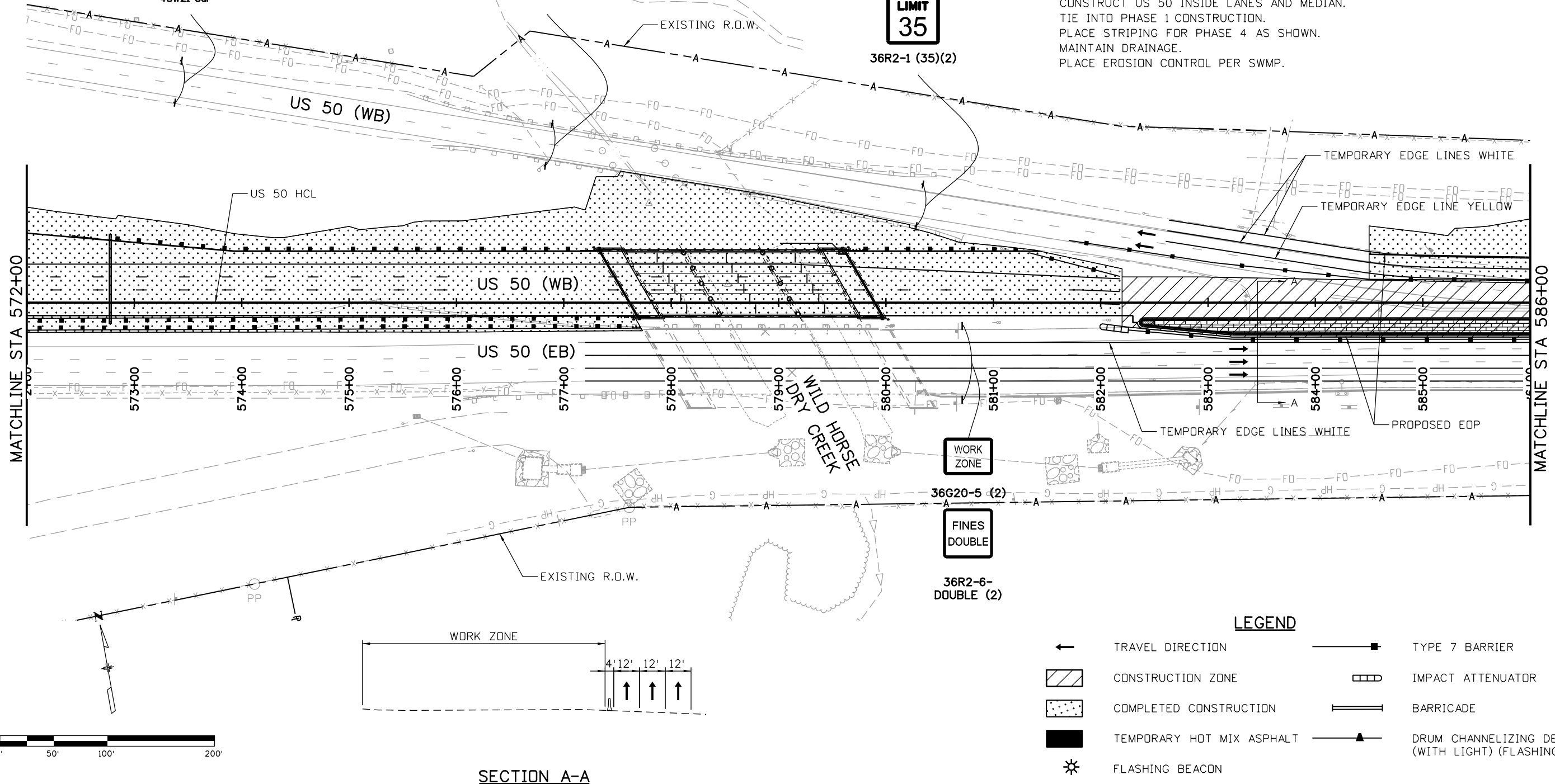
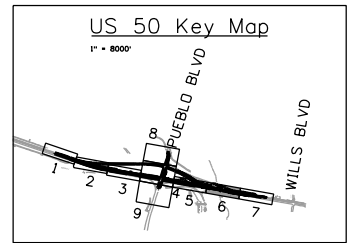


36R2-1 (35)(2)

PHASE 3

TRAFFIC CONTROL:
MAINTAIN WB TRAFFIC ON EXISTING PAVEMENT AND
PHASE 1 CONSTRUCTION.
MAINTAIN 2 LANES ON US 50 WB.

CONSTRUCTION:
CONSTRUCT US 50 INSIDE LANES AND MEDIAN.
TIE INTO PHASE 1 CONSTRUCTION.
PLACE STRIPING FOR PHASE 4 AS SHOWN.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		

SECTION A-A

Print Date: 3/2/2017
 File Name: 20344-CTC Phase3_6.dgn
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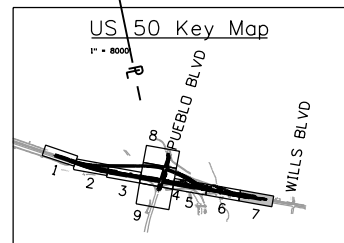
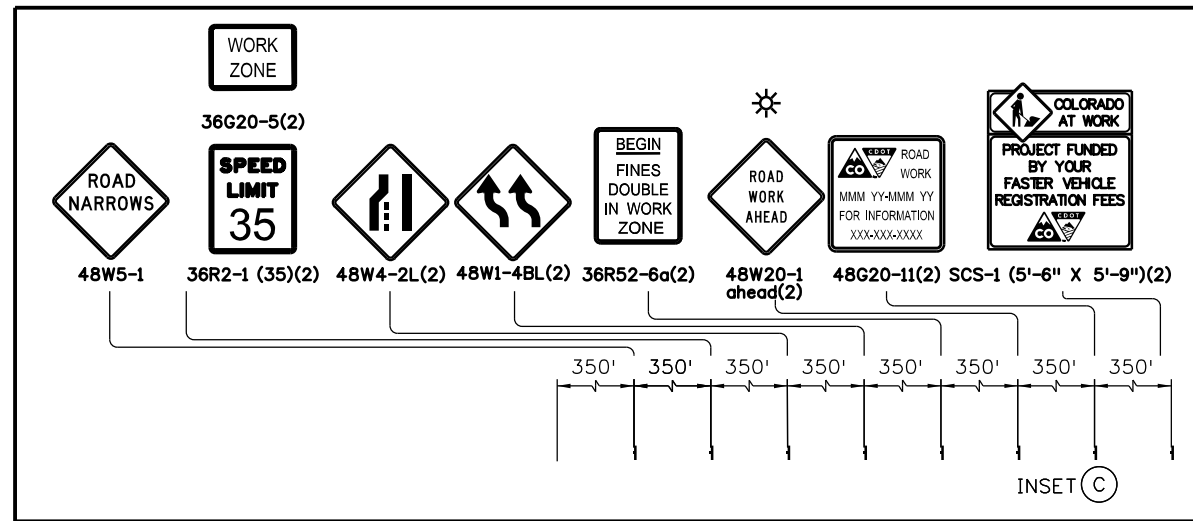
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	06 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 228

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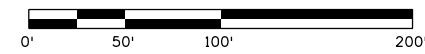
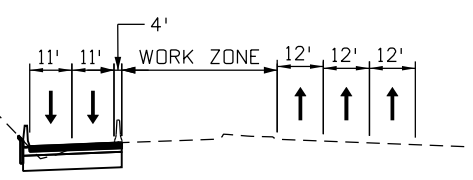
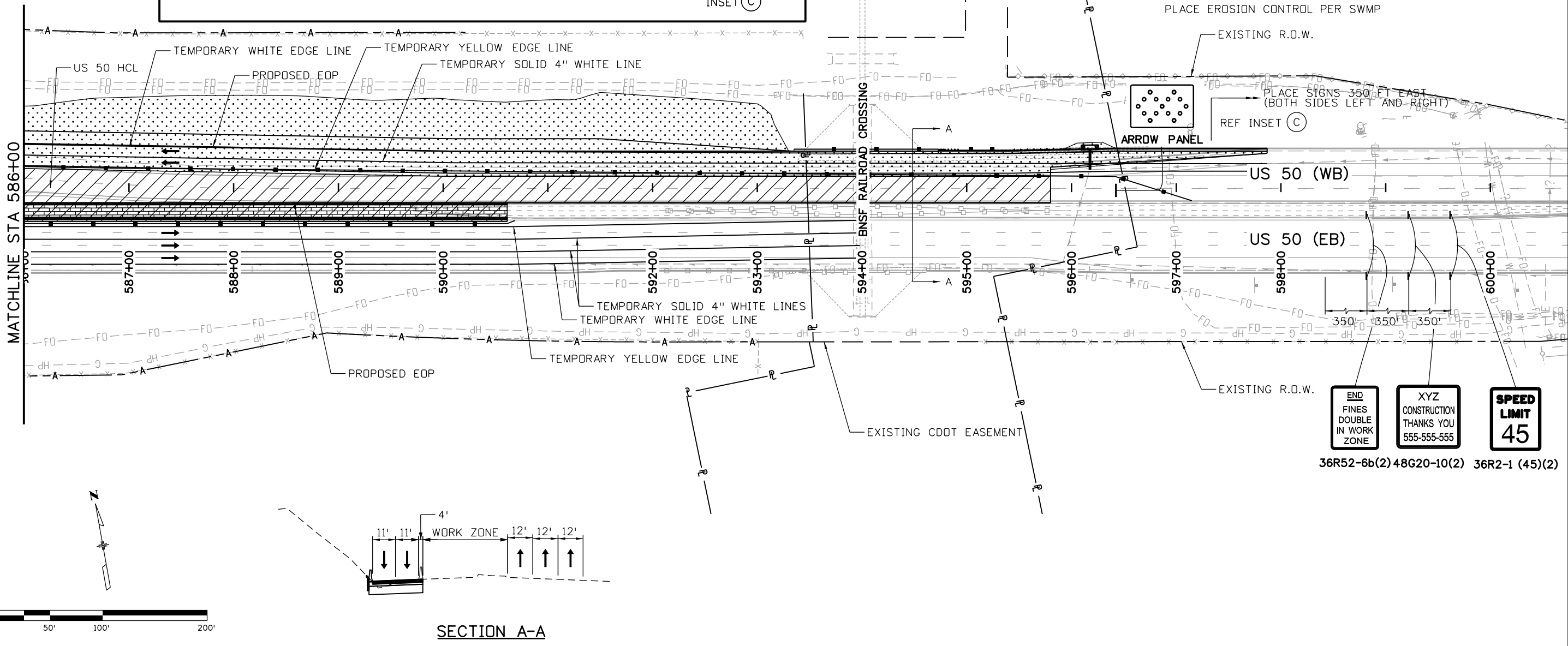
Know what's below.
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PHASE 3

TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON PHASE 1 CONSTRUCTION.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION
BUILD INSIDE LANES AND MEDIAN.
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP



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US 50 WEST WESTBOUND
CTC - PHASE 3
US 50

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Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	07 of 09

Project No./Code
STA 0503-085

20344

Sheet Number 229

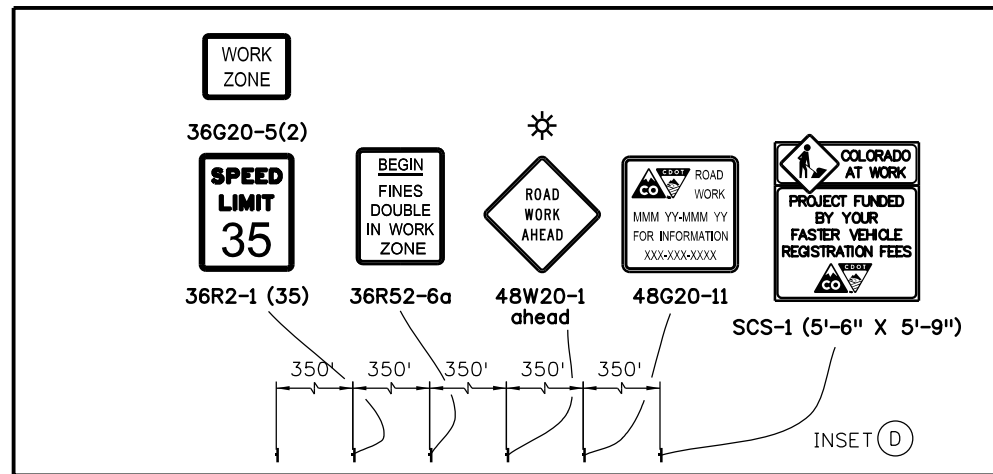
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10' MEDIAN
PUEBLO BLVD SB
12'
9'
WORK ZONE

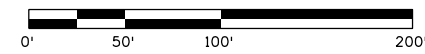
SECTION A-A



PHASE 3

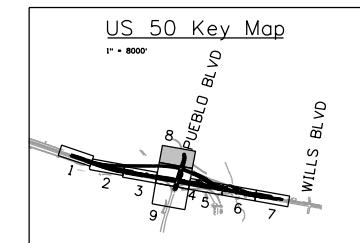
TRAFFIC CONTROL:
PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON PUEBLO BLVD

CONSTRUCTION:
WIDEN NB PUEBLO BLVD.
MODIFY TRAFFIC SIGNAL AT PUEBLO BLVD/US 50 RAMP TERMINAL.
COMPLETE WORK ASSOCIATED WITH SIGNAL INTERCONNECT BETWEEN
NORTH AND SOUTH INTERSECTIONS.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



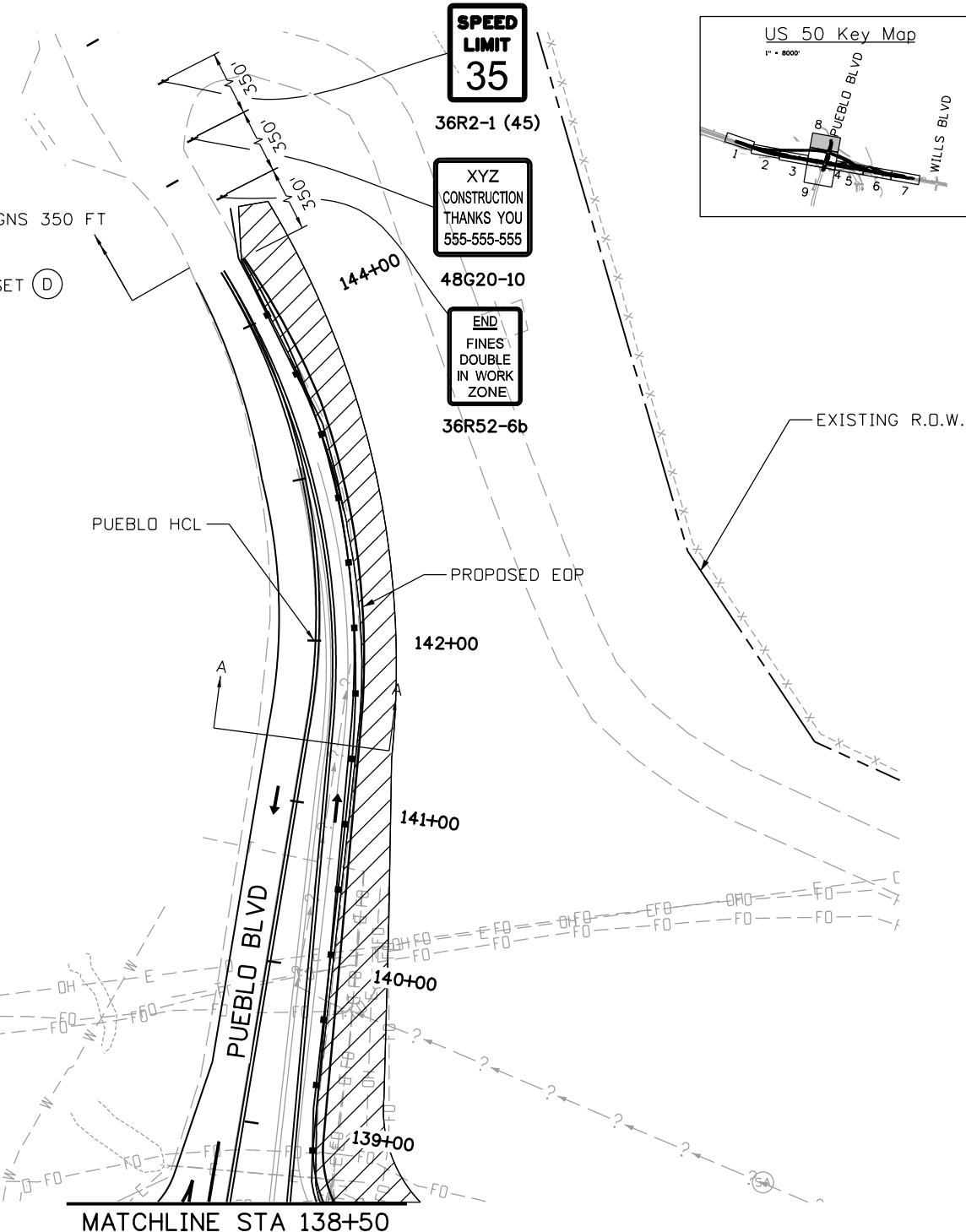
LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☀ FLASHING BEACON
- TYPE 7 BARRIER
- ▭ IMPACT ATTENUATOR
- ▬ BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



PLACE SIGNS 350 FT
NORTH
REF INSET (D)

MATCHLINE STA 138+50



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US 50 WEST WESTBOUND CTC - PHASE 3 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	08 of 09

Project No./Code	STA 0503-085
	20344
Sheet Number	230

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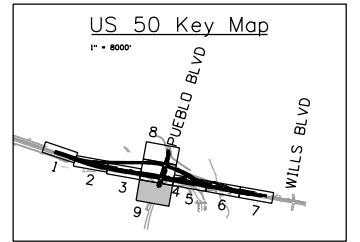
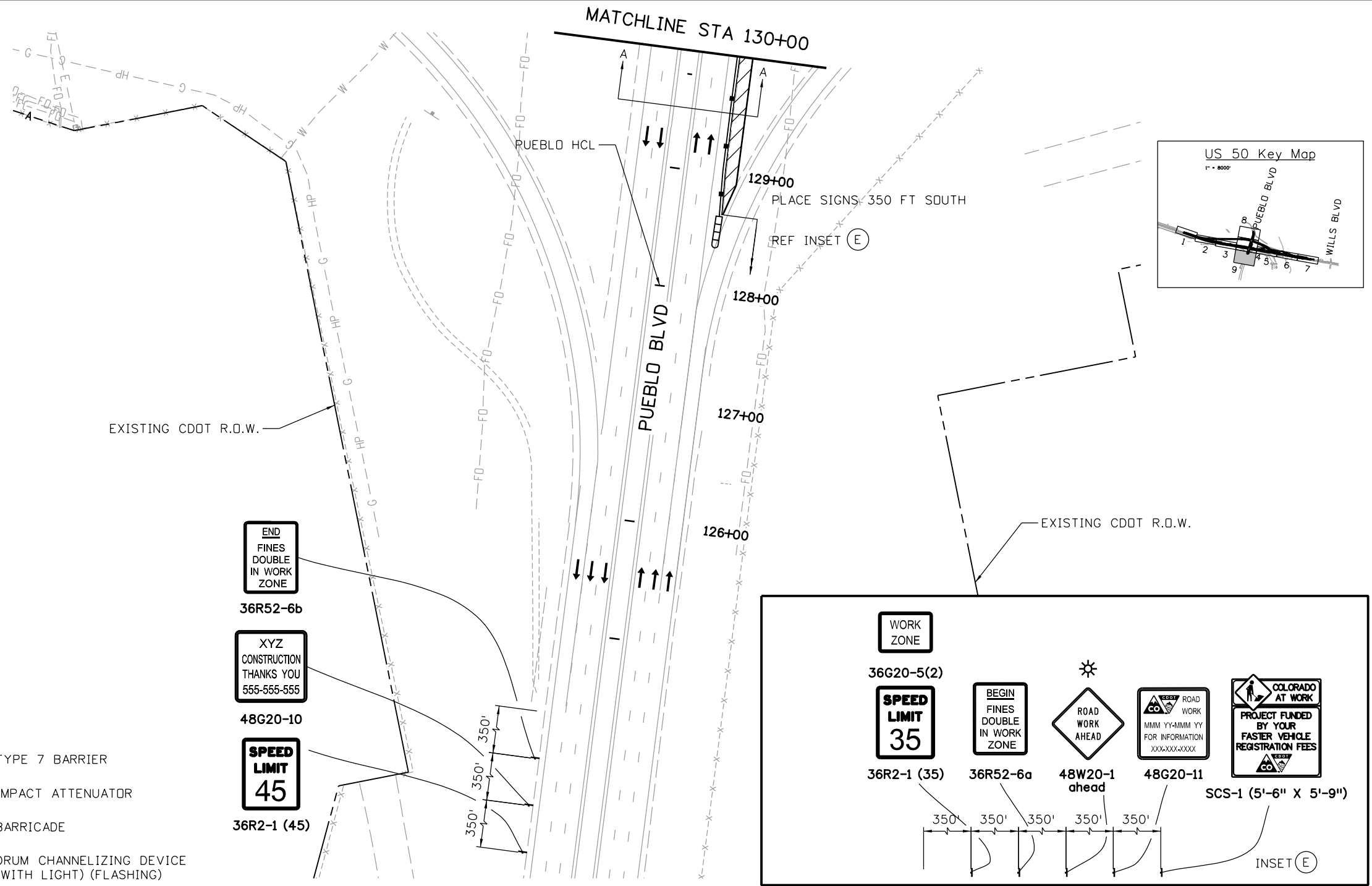
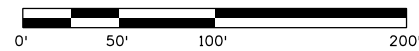
PHASE 3

TRAFFIC CONTROL:
PUEBLO BLVD TRAFFIC ON EXISTING PAVEMENT
MAINTAIN 2 LANES ON PUEBLO BLVD

CONSTRUCTION:
WIDEN NB PUEBLO BLVD.
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP

LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☀ FLASHING BEACON
- TYPE 7 BARRIER
- ▩ IMPACT ATTENUATOR
- ▬ BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



END
FINES
DOUBLE
IN WORK
ZONE

36R52-6b

XYZ
CONSTRUCTION
THANKS YOU
555-555-555

48G20-10

SPEED
LIMIT
45

36R2-1 (45)

WORK
ZONE

36G20-5(2)

SPEED
LIMIT
35

36R2-1 (35)

BEGIN
FINES
DOUBLE
IN WORK
ZONE

36R52-6a

ROAD
WORK
AHEAD

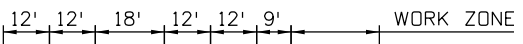
48W20-1
ahead

ROAD
WORK
FOR INFORMATION
XXX-XXX-XXXX

48G20-11

COLORADO
AT WORK
PROJECT FUNDED
BY YOUR
FASTER VEHICLE
REGISTRATION FEES

SCS-1 (5'-6" X 5'-9")



SECTION A-A

Print Date: 3/2/2017
 File Name: 20344-CTC Phase3_9.dgn
 Horiz. Scale: 1:100 Vert. Scale:
JFS & A J. F. SATO AND ASSOCIATES
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Sheet Revisions		
Date:	Comments	Init.

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 Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND
 CTC - PHASE 3
 US 50

Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	09 of 09

Project No./Code	STA 0503-085
	20344
Sheet Number	231

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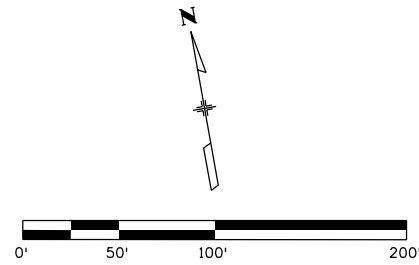
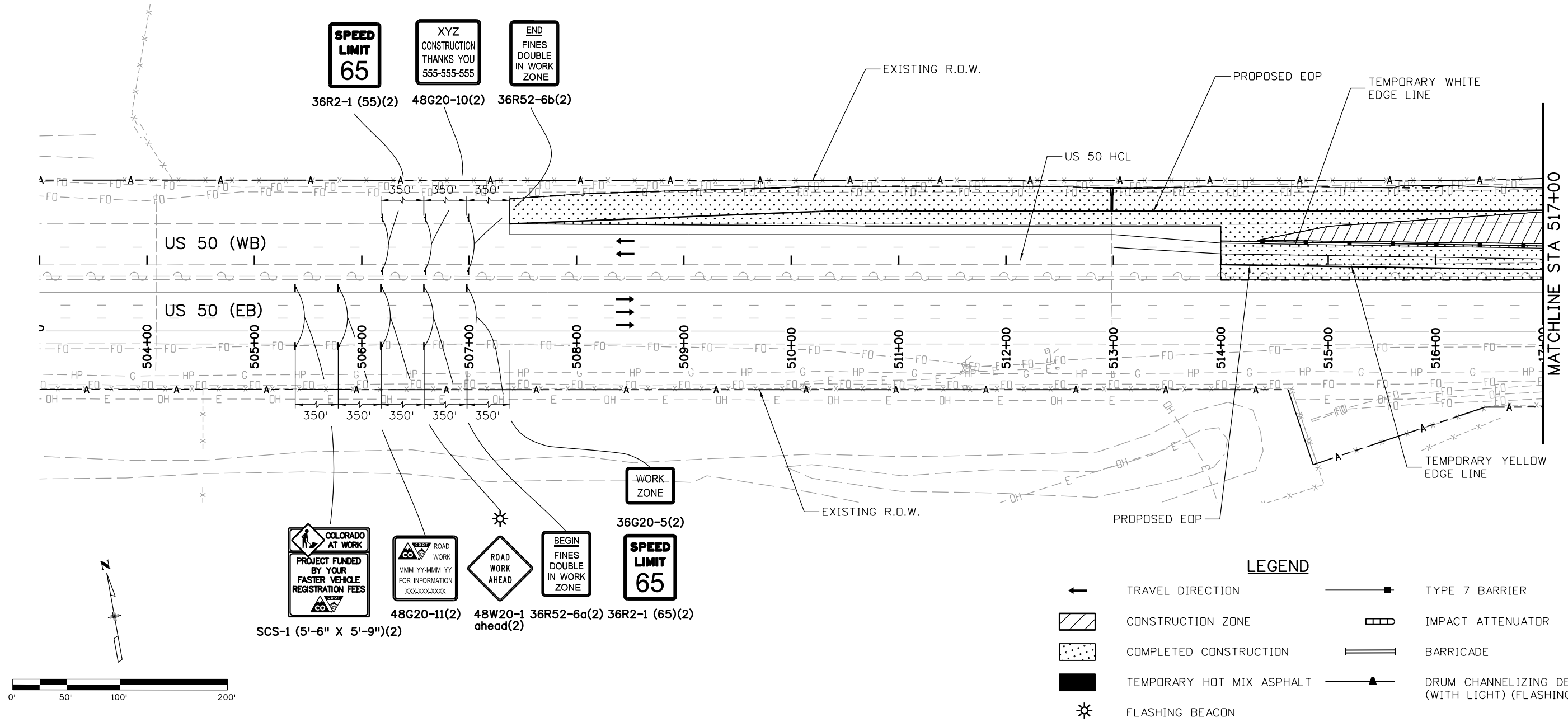
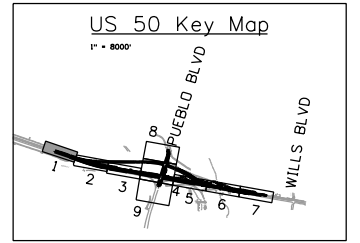


Know what's below.
Call before you dig.

PHASE 4

TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
CONSTRUCT US 50 ENTRANCE RAMP CONNECTION AND GORE.
TIE INTO PHASE 1 AND PHASE 2 CONSTRUCTION.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND	
←	TRAVEL DIRECTION
▨	CONSTRUCTION ZONE
▤	COMPLETED CONSTRUCTION
■	TEMPORARY HOT MIX ASPHALT
⚡	FLASHING BEACON
—■—	TYPE 7 BARRIER
▭▭▭	IMPACT ATTENUATOR
— —	BARRICADE
—▲—	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

Print Date: 3/2/2017
 File Name: 20344-CTC Phase4_1.dgn
 Horiz. Scale: 1:100 Vert. Scale:
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US 50 WEST WESTBOUND CTC - PHASE 4 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	01 of 09

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STA 0503-085
20344
Sheet Number 232

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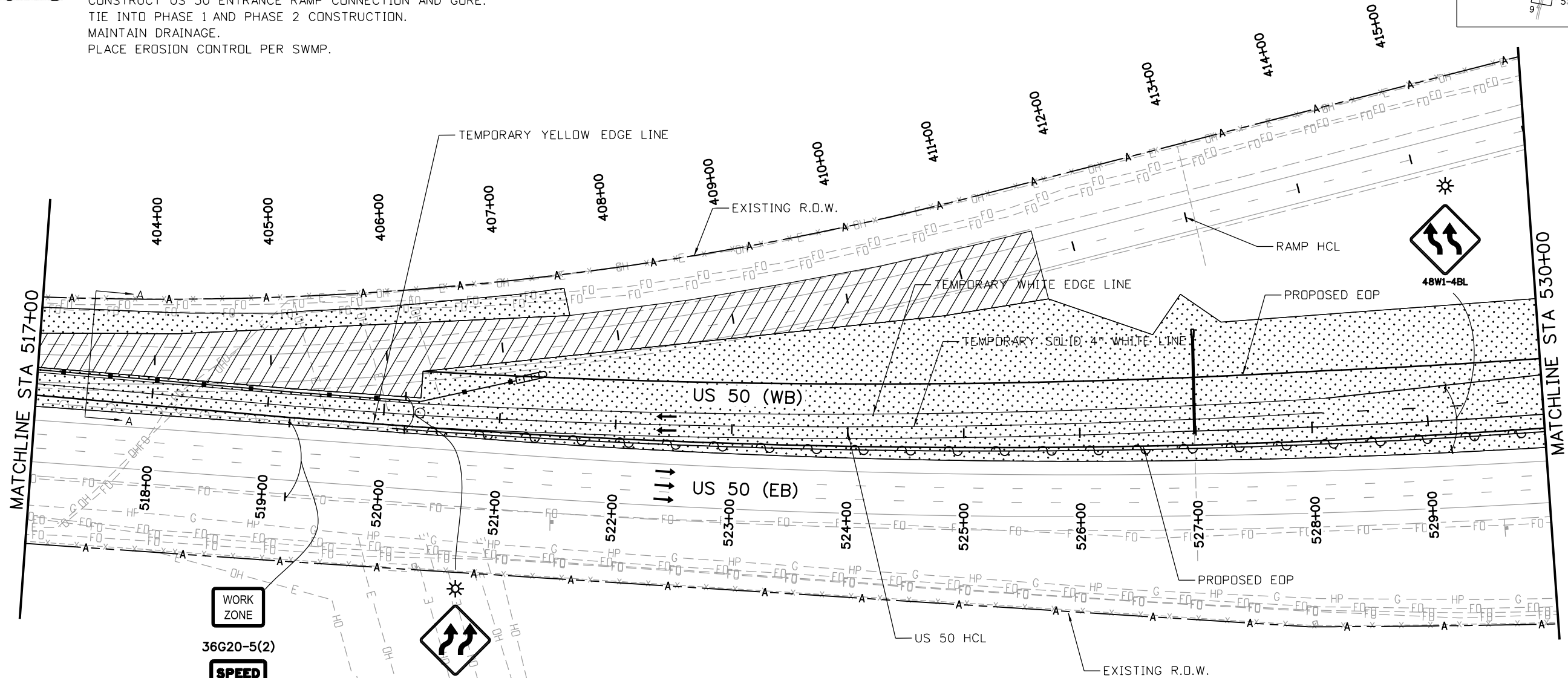
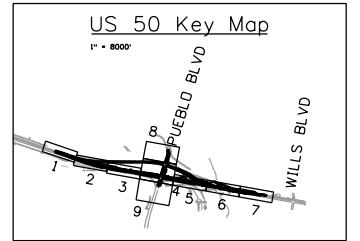


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PHASE 4

TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
CONSTRUCT US 50 ENTRANCE RAMP CONNECTION AND GORE.
TIE INTO PHASE 1 AND PHASE 2 CONSTRUCTION.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



WORK ZONE
36G20-5(2)

SPEED LIMIT
65
36R2-1 (65)(2)



LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ☼ FLASHING BEACON
- TYPE 7 BARRIER
- ▤ IMPACT ATTENUATOR
- BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

Print Date: 3/2/2017
File Name: 20344-CTC Phase4_2.dgn
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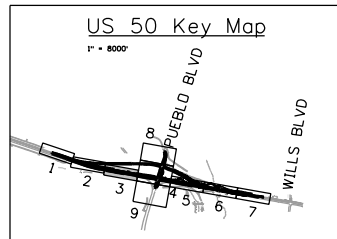
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	02 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 233

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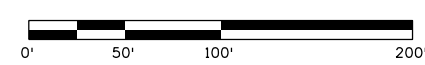
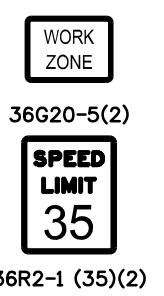
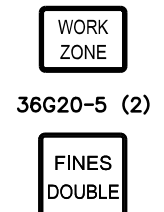
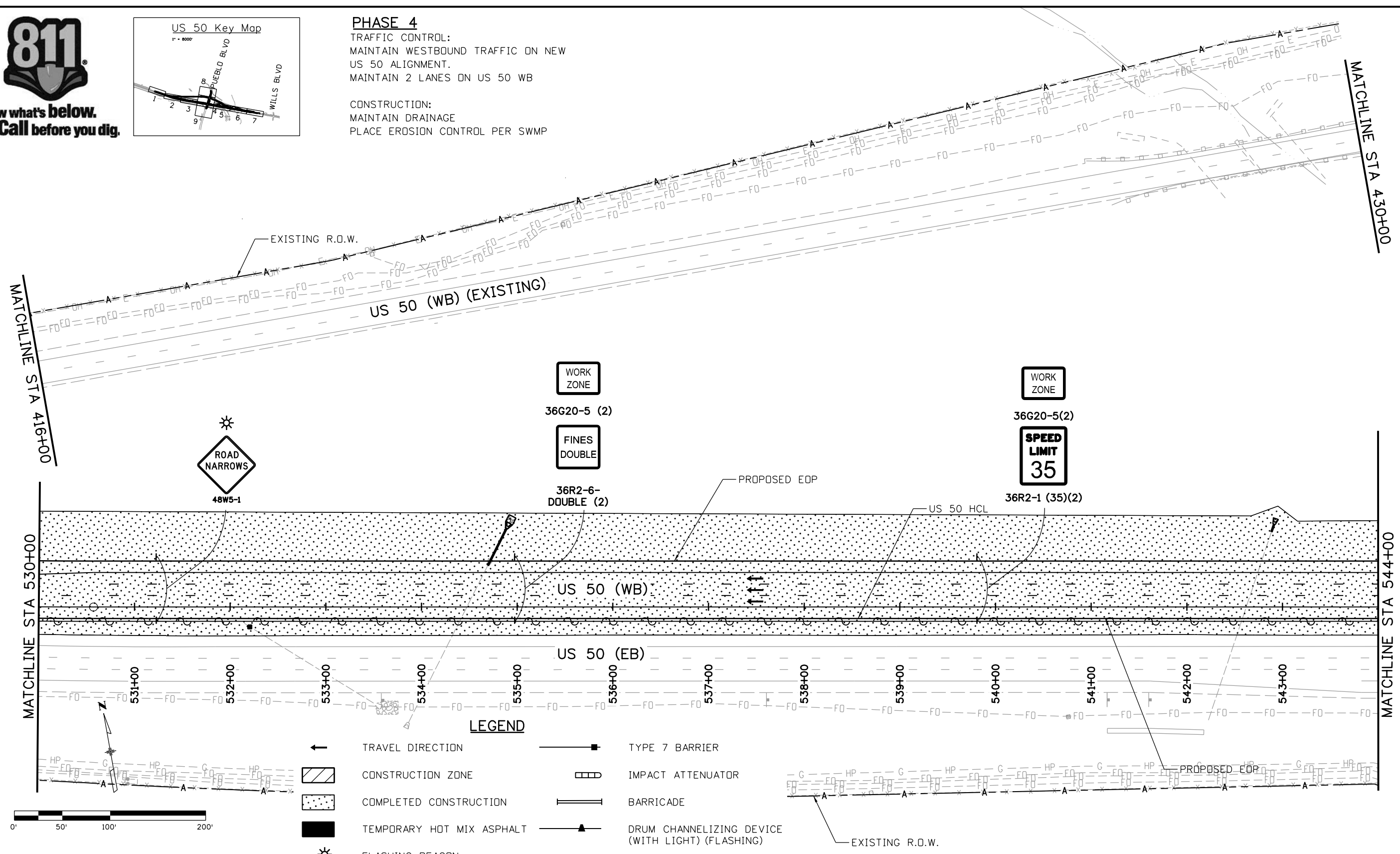
Know what's below.
Call before you dig.



PHASE 4

TRAFFIC CONTROL:
MAINTAIN WESTBOUND TRAFFIC ON NEW
US 50 ALIGNMENT.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
MAINTAIN DRAINAGE
PLACE EROSION CONTROL PER SWMP



LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		

Print Date: 3/2/2017
 File Name: 20344-CTC Phase4_3.dgn
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US 50 WEST WESTBOUND CTC - PHASE 4 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	03 of 09

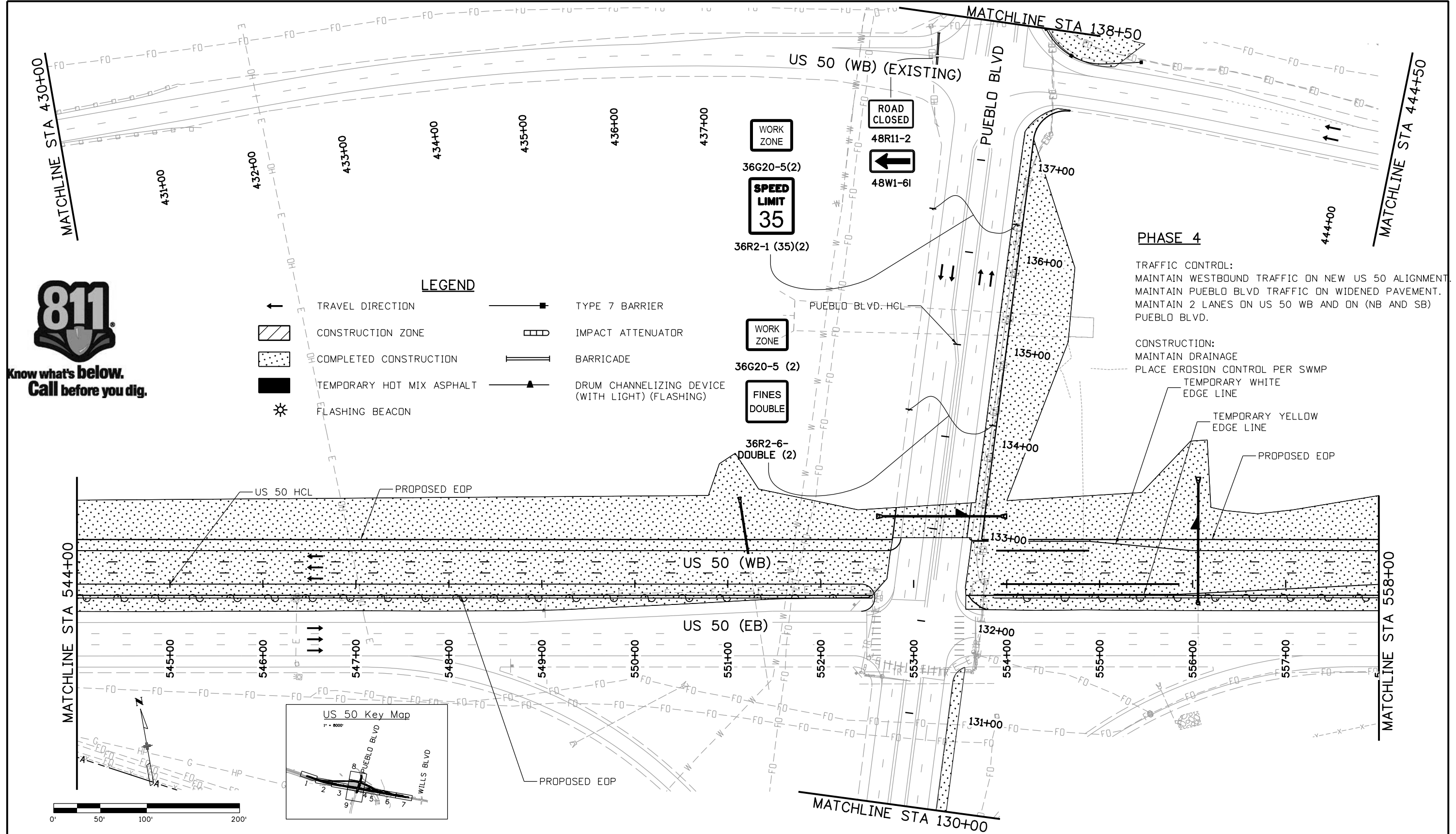
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20344
Sheet Number 234

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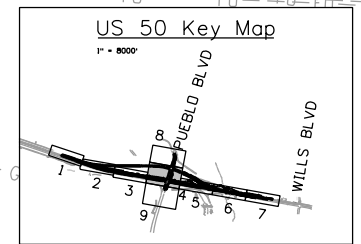
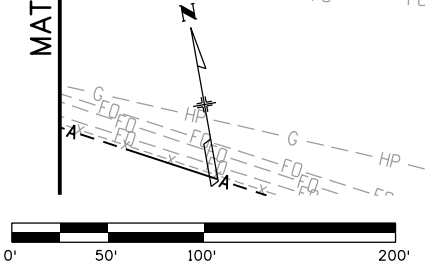
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	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		



PHASE 4

TRAFFIC CONTROL:
 MAINTAIN WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT.
 MAINTAIN PUEBLO BLVD TRAFFIC ON WIDENED PAVEMENT.
 MAINTAIN 2 LANES ON US 50 WB AND ON (NB AND SB) PUEBLO BLVD.

CONSTRUCTION:
 MAINTAIN DRAINAGE
 PLACE EROSION CONTROL PER SWMP
 TEMPORARY WHITE EDGE LINE
 TEMPORARY YELLOW EDGE LINE

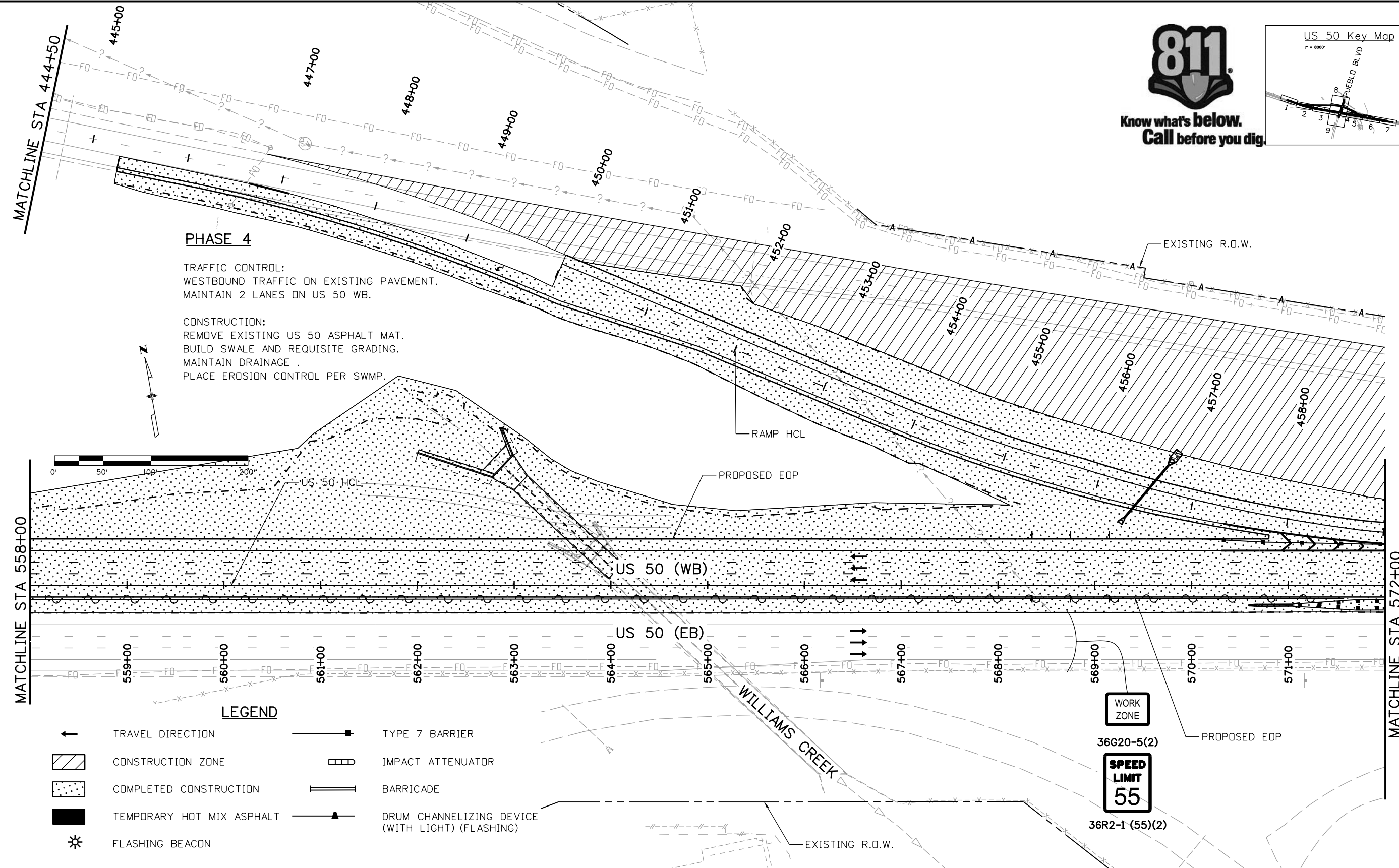
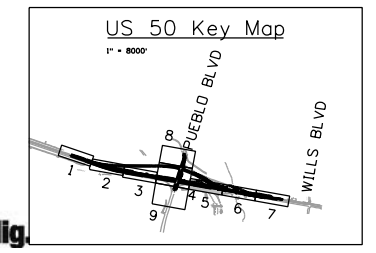


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Horiz. Scale: 1:100 Vert. Scale:	0000			902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	Revised:	US 50			20344
J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120			Region 2			Void:	Designer: AB	Structure Numbers	
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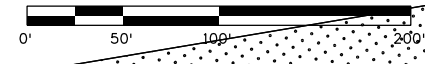
Know what's below.
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PHASE 4

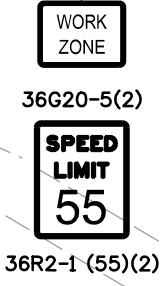
TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON EXISTING PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB.

CONSTRUCTION:
REMOVE EXISTING US 50 ASPHALT MAT.
BUILD SWALE AND REQUISITE GRADING.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		



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File Name: 20344-CTC Phase4_5.dgn		Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		STA 0503-085		
Horiz. Scale: 1:100 Vert. Scale:					Region 2 DTD		Revised:		20344		
		J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120				Void:		Designer: AB Structure Numbers		Sheet Number 236	
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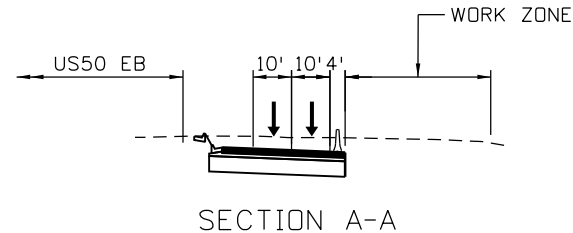
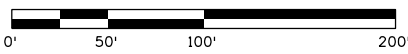
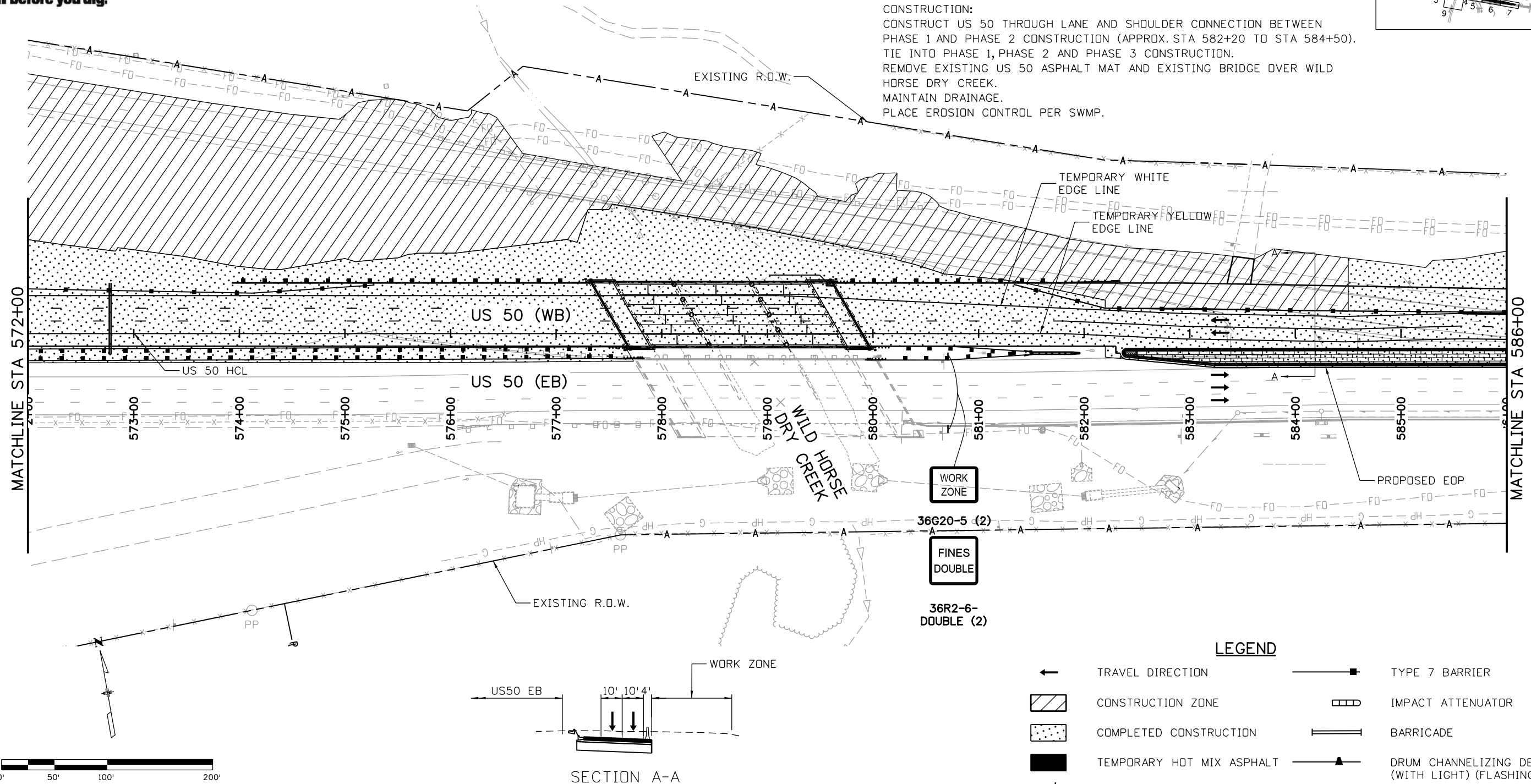
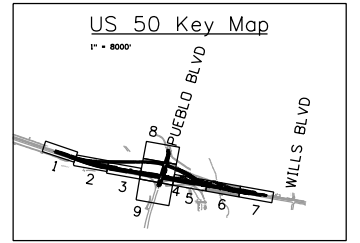


Know what's below.
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PHASE 4

TRAFFIC CONTROL:
MAINTAIN WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT.
MAINTAIN 2 LANES ON US 50 WB.

CONSTRUCTION:
CONSTRUCT US 50 THROUGH LANE AND SHOULDER CONNECTION BETWEEN
PHASE 1 AND PHASE 2 CONSTRUCTION (APPROX. STA 582+20 TO STA 584+50).
TIE INTO PHASE 1, PHASE 2 AND PHASE 3 CONSTRUCTION.
REMOVE EXISTING US 50 ASPHALT MAT AND EXISTING BRIDGE OVER WILD
HORSE DRY CREEK.
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



WORK ZONE
FINES DOUBLE
36R2-6-DOUBLE (2)

LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ⚡ FLASHING BEACON
- TYPE 7 BARRIER
- ▩ IMPACT ATTENUATOR
- BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

Print Date: 3/2/2017
 File Name: 20344-CTC Phase4_6.dgn
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Region 2 DTD

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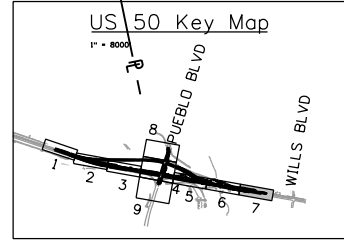
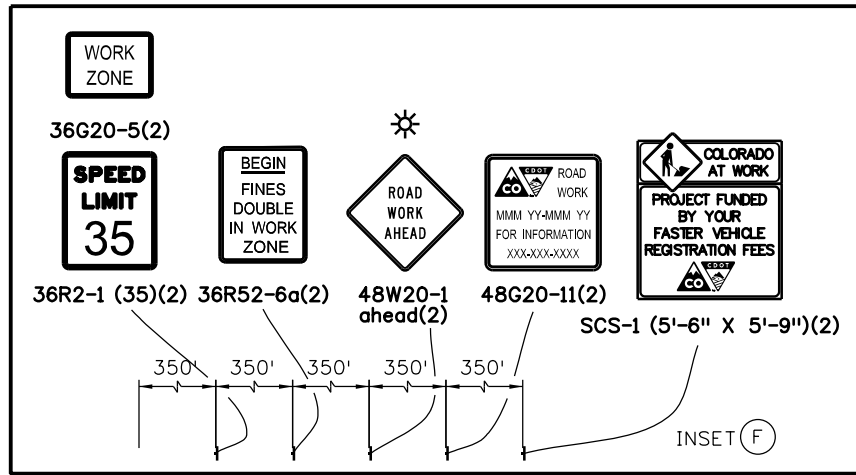
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Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	06 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 237

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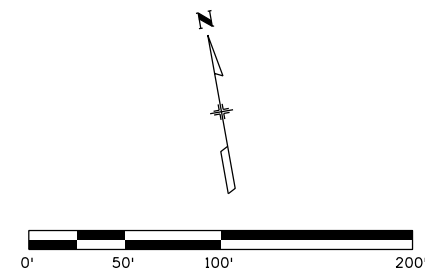
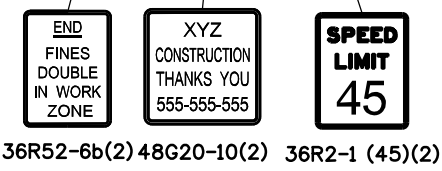
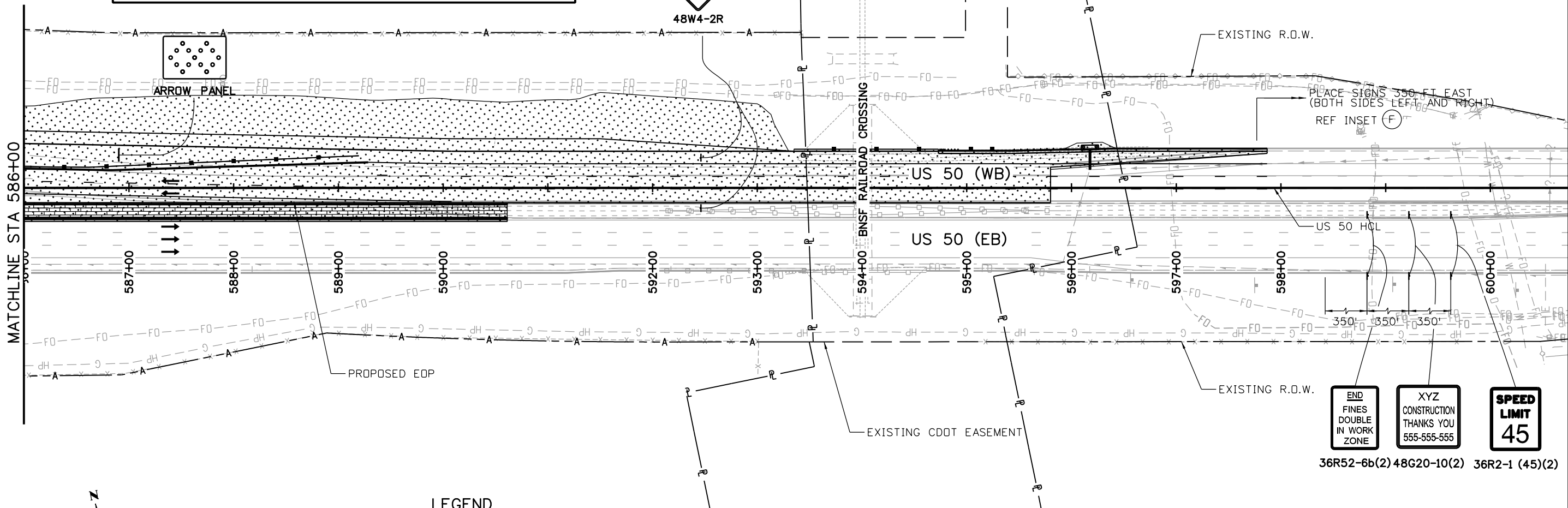


Know what's below.
Call before you dig.



PHASE 4

TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON NEW US 50 PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB



LEGEND

	TRAVEL DIRECTION		TYPE 7 BARRIER
	CONSTRUCTION ZONE		IMPACT ATTENUATOR
	COMPLETED CONSTRUCTION		BARRICADE
	TEMPORARY HOT MIX ASPHALT		DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
	FLASHING BEACON		

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 File Name: 20344-CTC Phase4_7.dgn
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Sheet Revisions		
Date:	Comments	Init.

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US 50 WEST WESTBOUND CTC - PHASE 4 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	07 of 09

Project No./Code
STA 0503-085
20344
Sheet Number 238

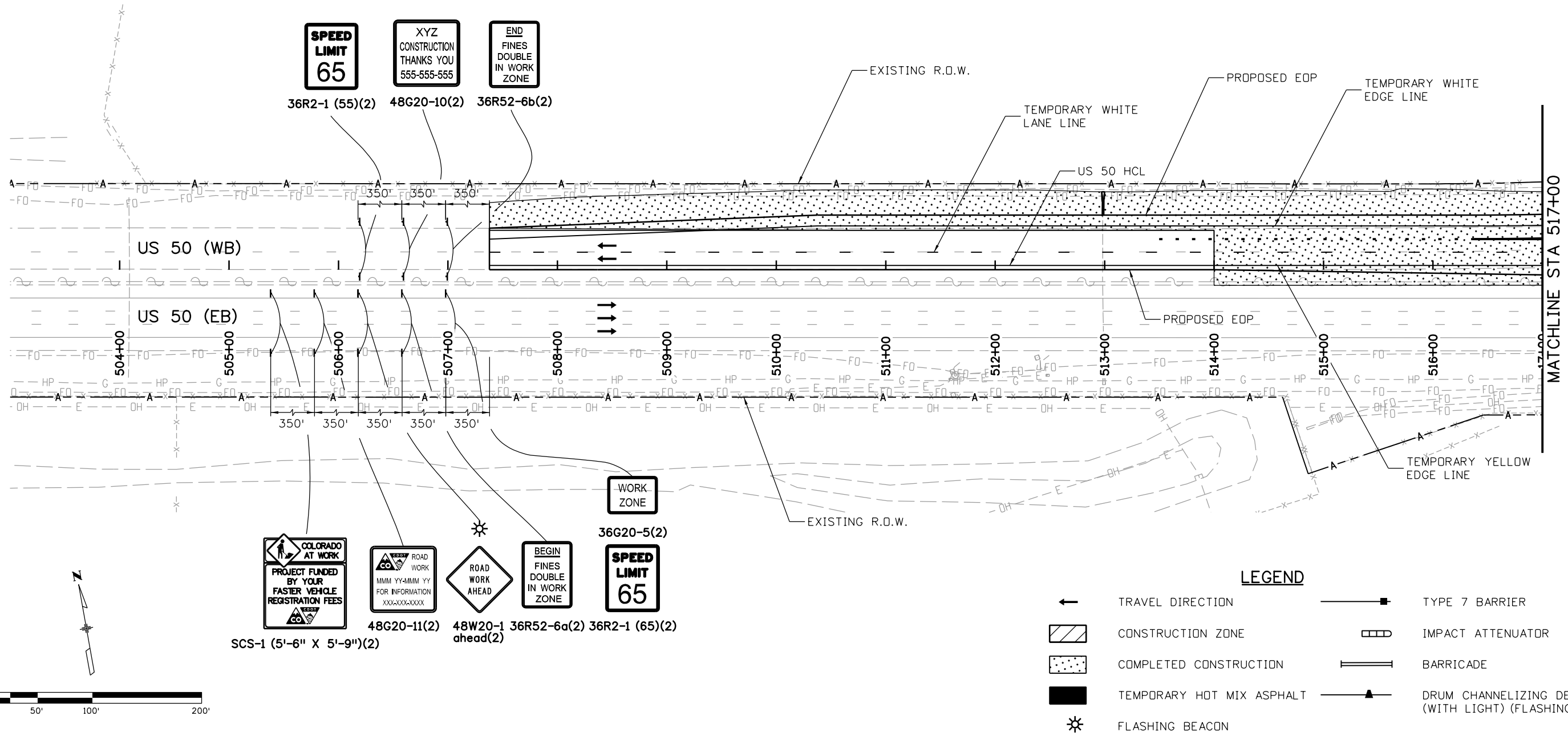
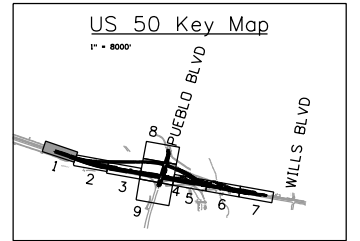


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PHASE 5

TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT.
MAINTAIN 2 LANES ON US 50 WB

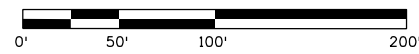
CONSTRUCTION:
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



SPEED LIMIT 65
 XYZ CONSTRUCTION THANKS YOU 555-555-555
 END FINES DOUBLE IN WORK ZONE

WORK ZONE
SPEED LIMIT 65
 COLORADO AT WORK
 PROJECT FUNDED BY YOUR FASTER VEHICLE REGISTRATION FEES
 ROAD WORK
 MMM YY-MM YY FOR INFORMATION XXX-XXX-XXXX
 ROAD WORK AHEAD
 BEGIN FINES DOUBLE IN WORK ZONE
 36G20-5(2)
 48G20-11(2) 48W20-1 36R52-6a(2) 36R2-1 (65)(2)
 SCS-1 (5'-6" X 5'-9")(2)

LEGEND	
←	TRAVEL DIRECTION
▨	CONSTRUCTION ZONE
▤	COMPLETED CONSTRUCTION
■	TEMPORARY HOT MIX ASPHALT
⚡	FLASHING BEACON
—■—	TYPE 7 BARRIER
▭▭▭	IMPACT ATTENUATOR
— —	BARRICADE
—▲—	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



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US 50 WEST WESTBOUND CTC - PHASE 5 US 50			
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Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	01 of 07

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STA 0503-085
20344
Sheet Number 239

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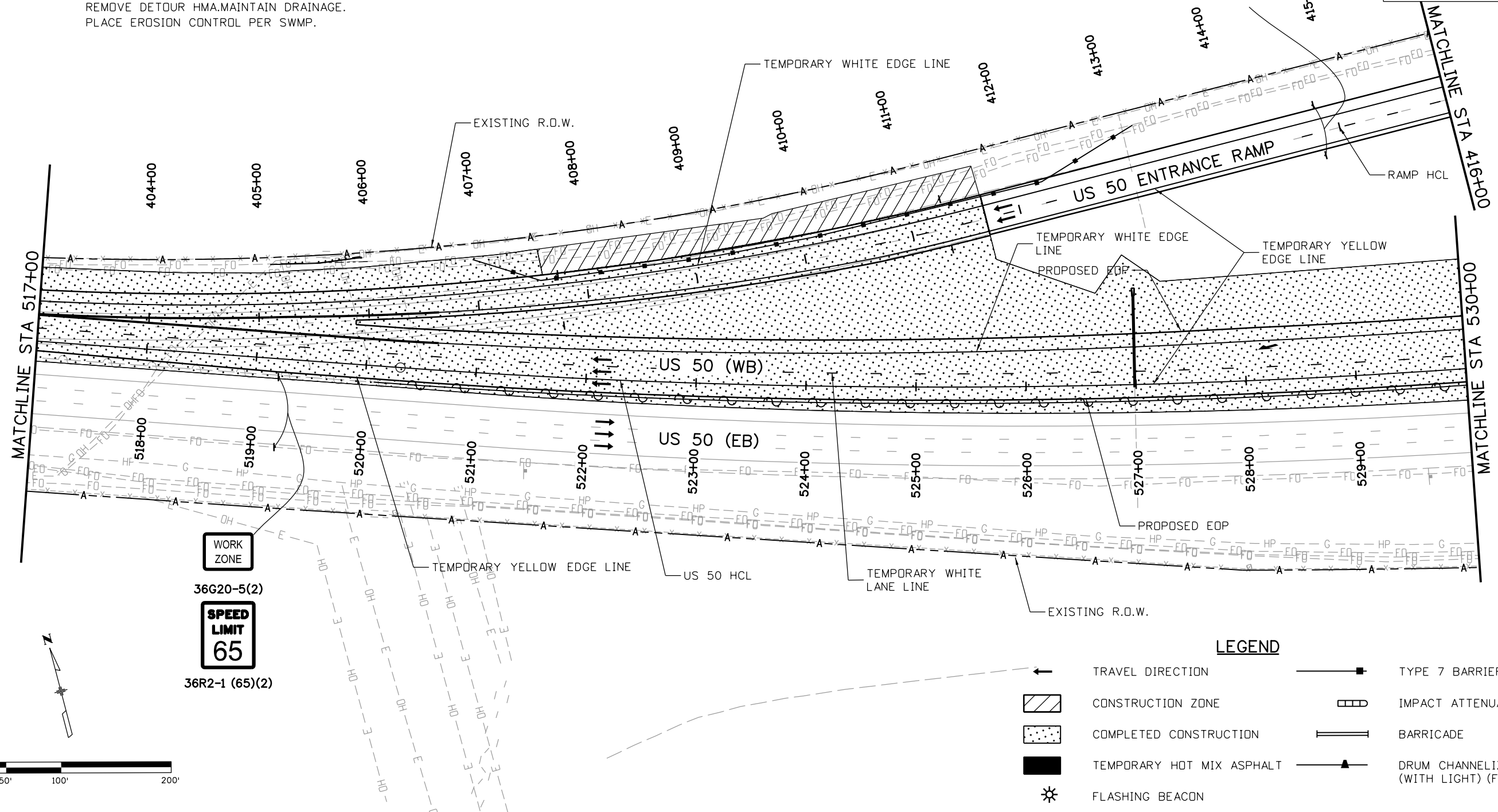
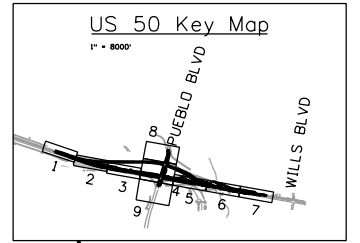


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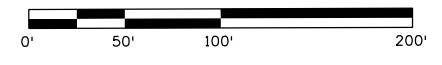
PHASE 5

TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT AND
ENTRANCE RAMP.
MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
COMPLETE ENTRANCE RAMP.
REMOVE DETOUR HMA. MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



WORK ZONE
36G20-5(2)
SPEED LIMIT 65
36R2-1 (65)(2)



LEGEND

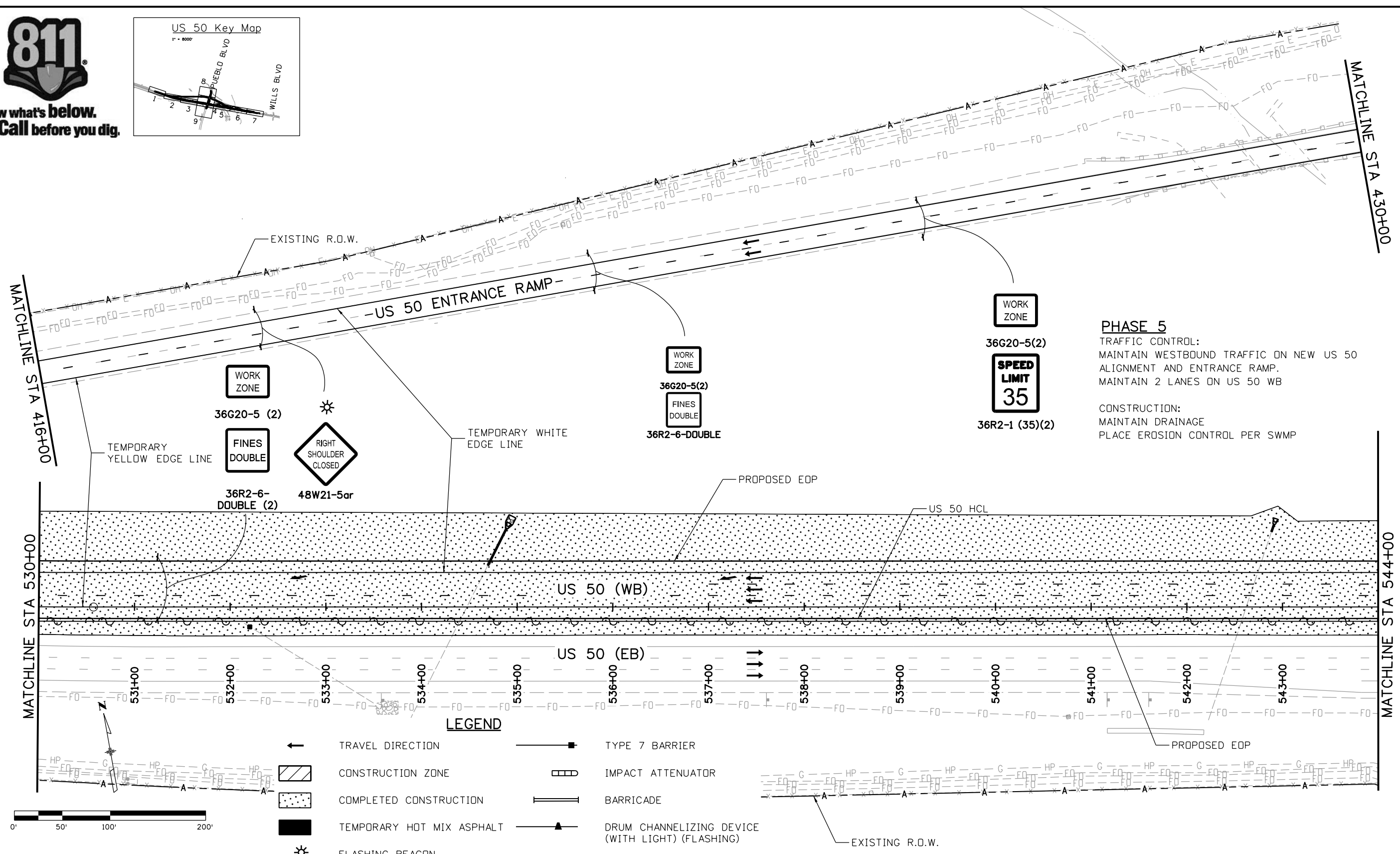
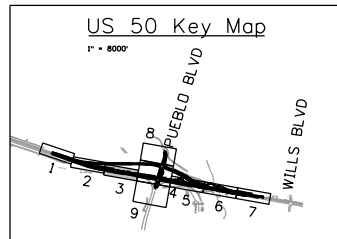
- TRAVEL DIRECTION
- CONSTRUCTION ZONE
- COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- FLASHING BEACON
- TYPE 7 BARRIER
- IMPACT ATTENUATOR
- BARRICADE
- DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

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File Name: 20344-CTC Phase5_2.dgn		Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD			No Revisions:		Designer: AB Structure Detailer: AB Numbers Subset: CTC Subset Sheets: 02 of 07			STA 0503-085	
Horiz. Scale: 1:100 Vert. Scale:								Revised:					20344	
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PHASE 5
 TRAFFIC CONTROL:
 MAINTAIN WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT AND ENTRANCE RAMP.
 MAINTAIN 2 LANES ON US 50 WB

CONSTRUCTION:
 MAINTAIN DRAINAGE
 PLACE EROSION CONTROL PER SWMP

WORK ZONE

36G20-5(2)

SPEED LIMIT 35

36R2-1 (35)(2)

WORK ZONE

36G20-5(2)

FINES DOUBLE

36R2-6-DOUBLE

WORK ZONE

36G20-5 (2)

FINES DOUBLE

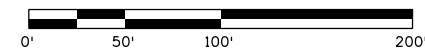
36R2-6-DOUBLE (2)



48W21-5ar

LEGEND

- ← TRAVEL DIRECTION
- ▨ CONSTRUCTION ZONE
- ▤ COMPLETED CONSTRUCTION
- TEMPORARY HOT MIX ASPHALT
- ⚡ FLASHING BEACON
- TYPE 7 BARRIER
- ▭ IMPACT ATTENUATOR
- BARRICADE
- ▲ DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)



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Date:	Comments	Init.

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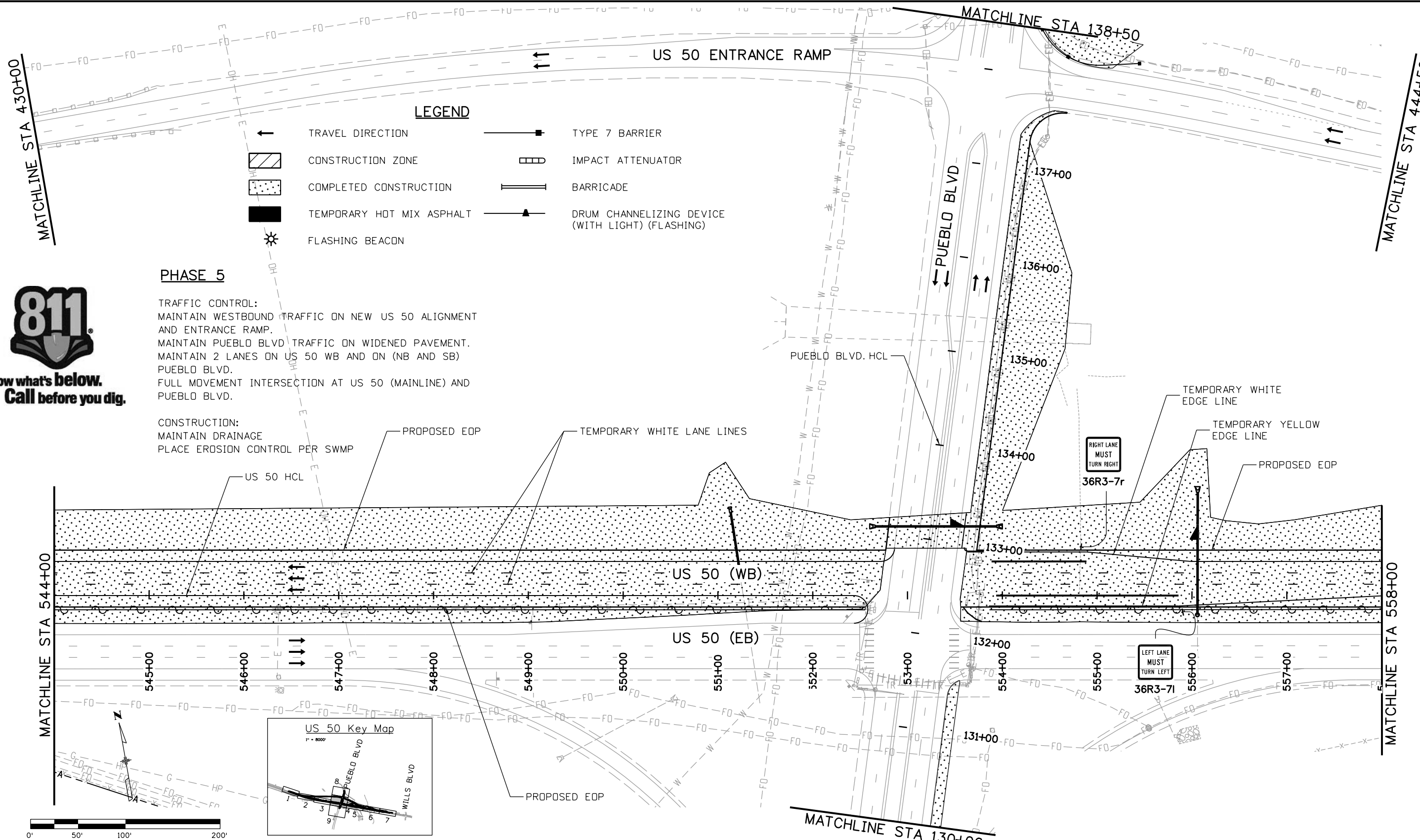
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Revised:
Void:

US 50 WEST WESTBOUND
 CTC - PHASE 5
 US 50

Designer: AB Structure Numbers
 Detailer: AB
 Subset: CTC Subset Sheets: 03 of 07

Project No./Code
STA 0503-085
20344
Sheet Number 241

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LEGEND

←	TRAVEL DIRECTION	—■—	TYPE 7 BARRIER
▨	CONSTRUCTION ZONE	▭	IMPACT ATTENUATOR
▤	COMPLETED CONSTRUCTION	▬	BARRICADE
■	TEMPORARY HOT MIX ASPHALT	▲	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)
☼	FLASHING BEACON		

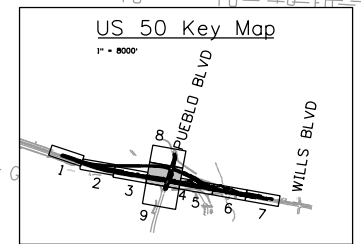
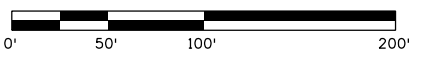
PHASE 5

TRAFFIC CONTROL:
 MAINTAIN WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT AND ENTRANCE RAMP.
 MAINTAIN PUEBLO BLVD TRAFFIC ON WIDENED PAVEMENT.
 MAINTAIN 2 LANES ON US 50 WB AND ON (NB AND SB) PUEBLO BLVD.
 FULL MOVEMENT INTERSECTION AT US 50 (MAINLINE) AND PUEBLO BLVD.

CONSTRUCTION:
 MAINTAIN DRAINAGE
 PLACE EROSION CONTROL PER SWMP



Know what's below. Call before you dig.



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Print Date: 3/2/2017	Sheet Revisions			Colorado Department of Transportation	As Constructed	US 50 WEST WESTBOUND		Project No./Code
File Name: 20344-CTC Phase5_4.dgn	Date:	Comments	Init.			No Revisions:	CTC - PHASE 5	
Horiz. Scale: 1:100 Vert. Scale:	0000			902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	Revised:	Designer: AB	Structure	20344
J.F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120					Void:	Detailer: AB	Numbers	
				Region 2	DTD	Subset: CTC	Subset Sheets: 04 of 07	Sheet Number 242

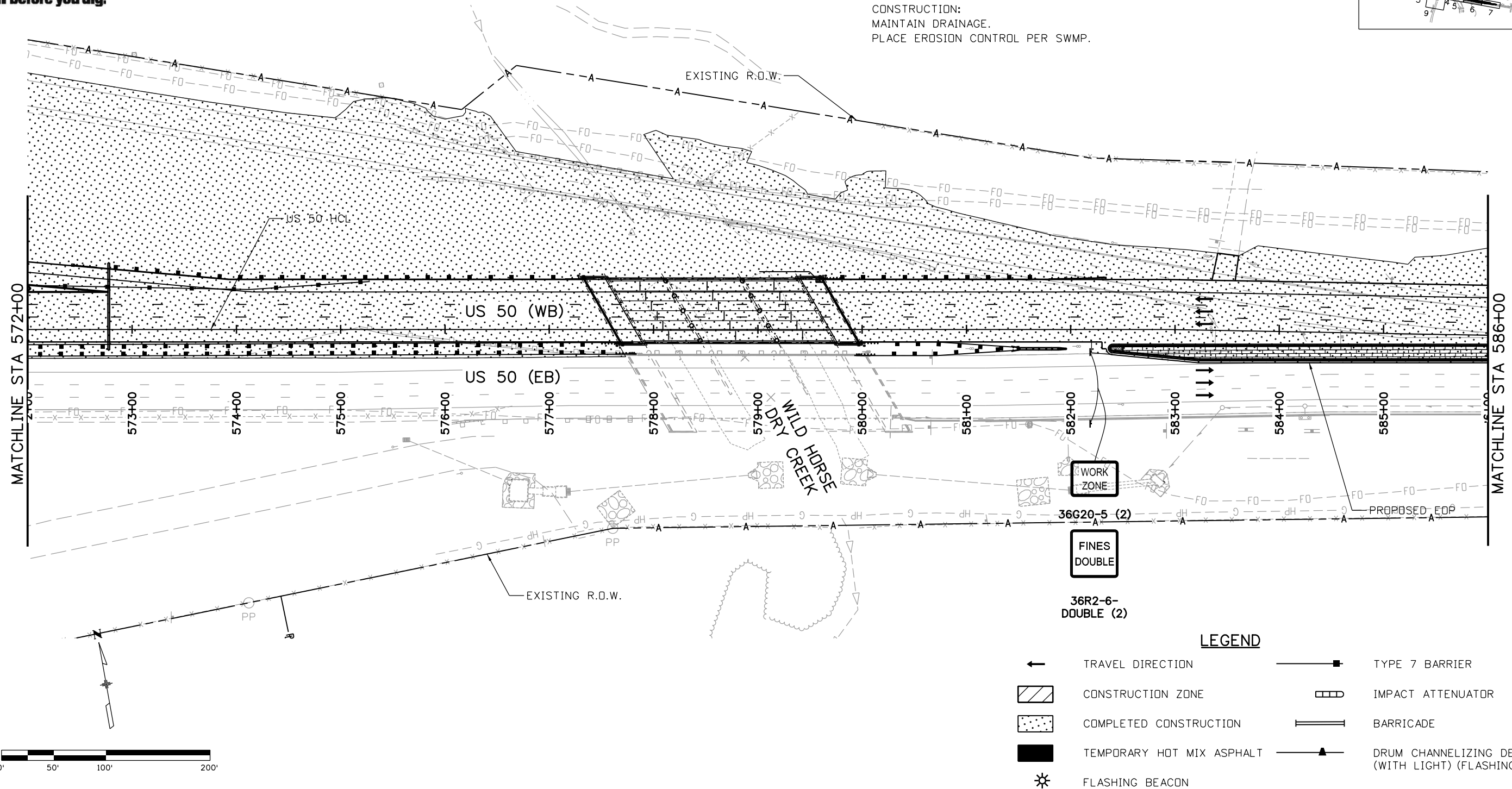
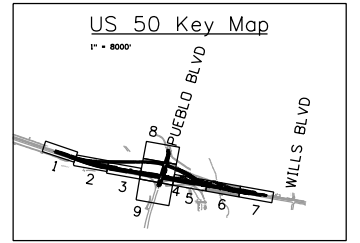


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PHASE 5

TRAFFIC CONTROL:
MAINTAIN WESTBOUND TRAFFIC ON NEW US 50 ALIGNMENT.
MAINTAIN 2 LANES ON US 50 WB.

CONSTRUCTION:
MAINTAIN DRAINAGE.
PLACE EROSION CONTROL PER SWMP.



LEGEND	
	TRAVEL DIRECTION
	CONSTRUCTION ZONE
	COMPLETED CONSTRUCTION
	TEMPORARY HOT MIX ASPHALT
	FLASHING BEACON
	TYPE 7 BARRIER
	IMPACT ATTENUATOR
	BARRICADE
	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)

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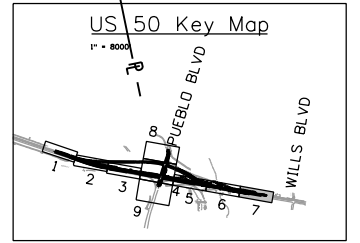
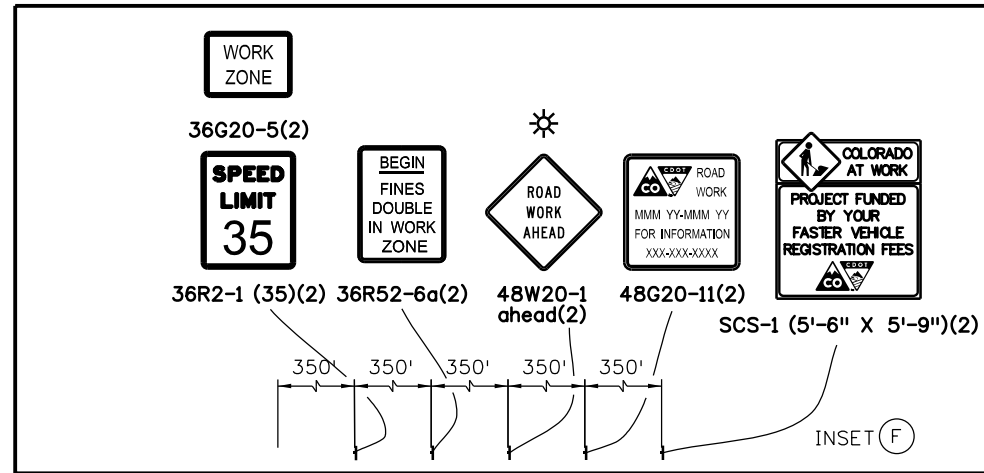
US 50 WEST WESTBOUND
 CTC - PHASE 5
 US 50
 Designer: AB Structure Numbers
 Detailer: AB
 Subset: CTC Subset Sheets: 06 of 07

Project No./Code
 STA 0503-085
 20344
 Sheet Number 244

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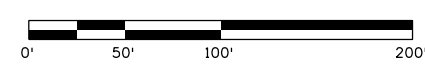
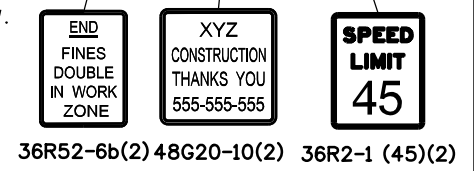
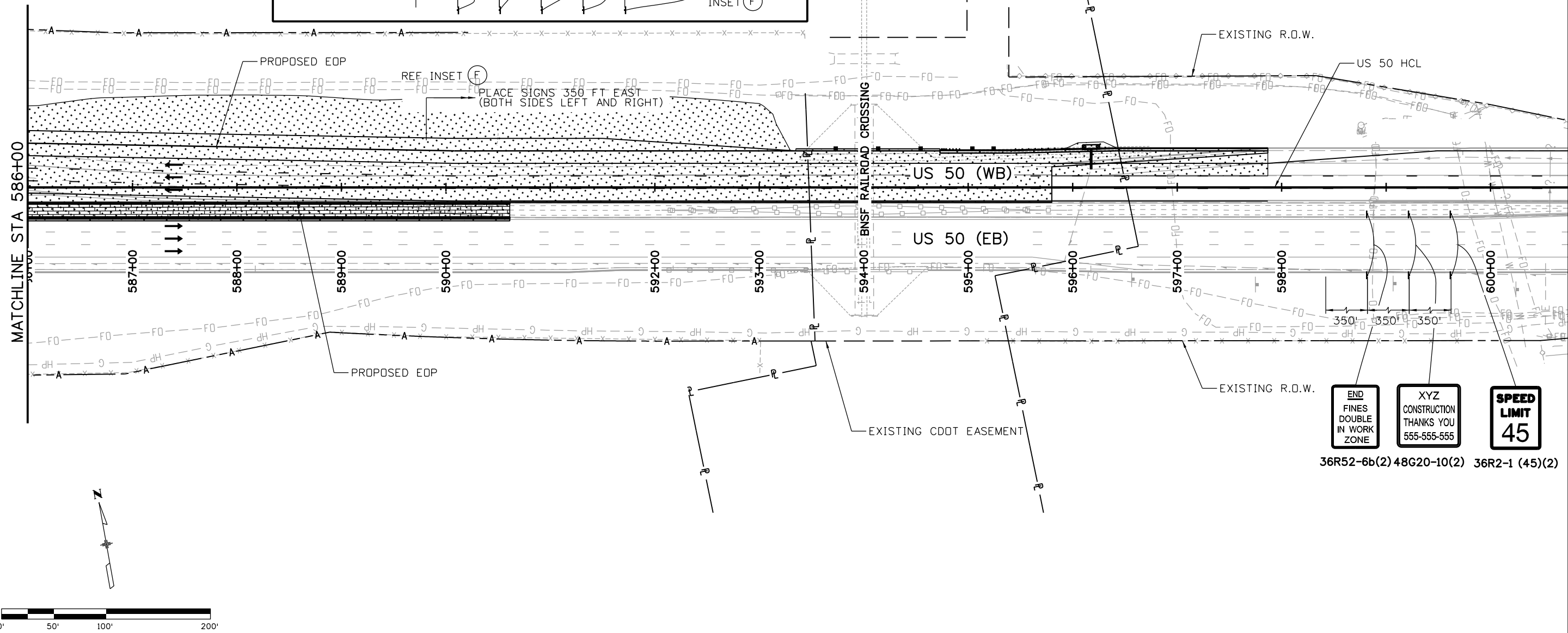


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PHASE 5

TRAFFIC CONTROL:
WESTBOUND TRAFFIC ON NEW US 50 PAVEMENT.
MAINTAIN 2 LANES ON US 50 WB



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US 50 WEST WESTBOUND CTC - PHASE 5 US 50			
Designer:	AB	Structure	
Detailer:	AB	Numbers	
Subset:	CTC	Subset Sheets:	07 of 07

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	20344
Sheet Number	245

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