

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: FC-NC(CX)160-2(048)
Project Number: 91050
Project Code:
R.O.W. Projects:
R.O.W. Project Description: NH 160A-003
Code: 16056

TABULATION OF LENGTH & DESIGN DATA

STATION	LINEAR FEET		
	ROADWAY		MAJOR STRUCTURE
	US 160	US 550	
STA. 31+52.40 TO STA. 32+52.40 ~ 100' APPROACH TO PROJECT			
STATION 32+52.40 ~ BEGIN PROJECT NH 1602-114 = STATION 190+50 ON PROJECT C 1601-037=M.P. 88.000	7,065.19		
STATION 103+17.59 ~ END PROJECT NH 1602-114 = STATION 116+52.34 ON PROJECT NH 1602-100 =M.P. 89.490			
STA. 103+17.59 TO STA. 104+17.59 ~ 100' APPROACH TO PROJECT			
STATION 265+73 ~ BEGIN CONSTRUCTION ON US 550 = STATION 273+00 ~ END CONSTRUCTION ON US 550		304.00	423.00**
SUBTOTAL	7,065.19	304.00	423.00
RAMP A	RAMPS		
STA. 298+00 ~ BEGIN RAMP A STA. 316+95.73 BEGIN STR. P-05-V STA. 321+38.73 END STR. P-05-V STA. 325+00 ~ END RAMP A	1,895.73		443.00
	361.27		
RAMP C			
STA. 510+00 ~ BEGIN RAMP C STA. 512+00 BEGIN STR. P-05-W STA. 514+08 END STR. P-05-W STA. 516+00 ~ END RAMP C	200.00		208.00
	192.00		
RAMP D			
STA. 609+00 ~ BEGIN RAMP D STA. 611+02 BEGIN STR. P-05-Y STA. 612+82 END STR. P-05-Y STA. 623+00.65 ~ END RAMP D	202.00		180.00
	1,018.65		
SUBTOTAL	3,869.65		831.00

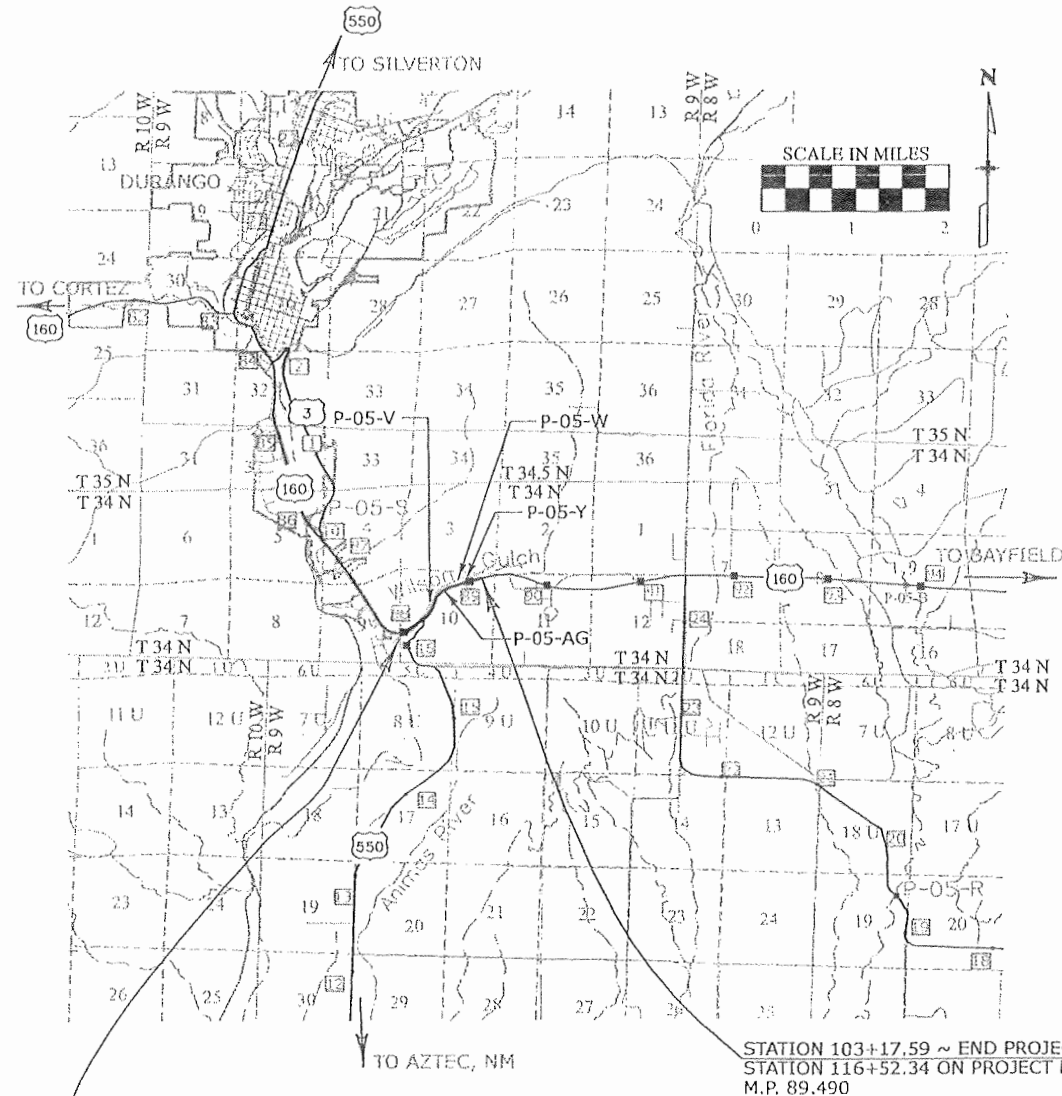
SUMMARY OF PROJECT LENGTH	FEET	MILES
ROADWAY (NET LENGTH)	11,238.84	2.129
STRUCTURE (NET LENGTH)	1,254.00	0.238
PROJECT GROSS LENGTH	12,492.84	2.366

DESIGN DATA *	US 160	US 550	RAMPS A & D		RAMP C	Entrance to US 160
			Ramp	Exit	Exit	
MINIMUM RADIUS OF CURVE	1444.40 Ft. (Exist.)	4,000.00 Ft.	314 Ft.	758 Ft.	600 Ft.	275 Ft.
MAXIMUM GRADE	6.0% (Exist.)	3.0%	6.0%	6.0%	4.19%	4.19%
MINIMUM S.S.D. HORIZONTAL	570 Ft.	>730 Ft.	250 Ft.	425 Ft.	>730 Ft.	>730 Ft.
MINIMUM S.S.D. VERTICAL	570 Ft.	>730 Ft.	250 Ft.	425 Ft.	297 Ft.	297 Ft.
MAXIMUM DESIGN SPEED	55 MPH (Exist.)	60 MPH	30 MPH	50 MPH	35 MPH	30 MPH
CLEAR ZONE DISTANCE (FILL)	36 Ft.	36 Ft.	16 Ft.	28 Ft.	16 Ft.	28 Ft.
CLEAR ZONE DISTANCE (CUT)	24 Ft.	24 Ft.	14 Ft.	22 Ft.	14 Ft.	22 Ft.

TRAFFIC DATA	US 160	US 550	RAMPS		
			Ramp A	Ramp C	Ramp D
2007 TRAFFIC VOLUME					
ADT	22,493	7,900			
TRUCKS	4.5%	6.5%			
2027 DESIGN TRAFFIC DATA					
ADT	80,500	12,794	14,369	9,438	4,719
DHV	8,555	1,151	1,540	945	380
TRUCKS	6.4%	6.5%			

* FOR INFORMATION ONLY ** STA. 266+00 TO 270+23 (US 550) ~ STR. NO. P-05-AG

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED ^{As Constructed} FEDERAL AID PROJECT NO. NH 1602-114 STATE HIGHWAY NO. 160 LA PLATA COUNTY CONSTRUCTION PROJECT CODE NO. 16042



SHEET NO.	INDEX OF SHEETS
(R-D) 1	TITLE SHEET
2	STANDARD PLANS LIST
(R-D) 3-9	TYPICAL SECTIONS
10-11	GENERAL NOTES
(R-D) 12-16	SUMMARY OF APPROXIMATE QUANTITIES
(R-D) 17-18	TABULATIONS
19-24	HORIZONTAL ALIGNMENTS
25-30	EXISTING UTILITIES
(R-D) 31-36	PLAN SHEETS
37-47	PROFILE SHEETS
48	ENTRANCE DETAILS
49-50	GORE DETAILS
51	MEDIAN DETAIL
52	WIDE VEHICLE PARKING
53	WALL GENERAL NOTES
(R-D) 54	WALL QUANTITIES
55-56	GROUND NAIL TYPICAL SECTION
57-59	GROUND NAIL DETAILS
60	MSE TYPICAL SECTION
61-68	MSE DETAILS
69-71	WALL P-05-L RIPRAP PROTECTION
72-80	WALL PLAN AND ELEVATION
81	BORING LEGEND
82	LABORATORY TEST RESULTS
83-84	BRIDGE RAIL DETAILS
85-92	LIGHTING PLAN
93-94	WETLAND ENHANCEMENT PLAN
95-103	LANDSCAPING PLAN
104-105	SIGNAL PLAN
106-115	SIGNING AND PAVEMENT MARKING PLAN
(R-D) 116	AESTHETIC GUIDELINES

Print Date: 3/12/2008
 Drawing File Name: 16042TitleSheet.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Unit Information Unit Leader: E.J.A.

Sheet Revisions			
Date:	Comments	Init.	
03/17/08	Revisions under AD	EJA	(R-D)

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

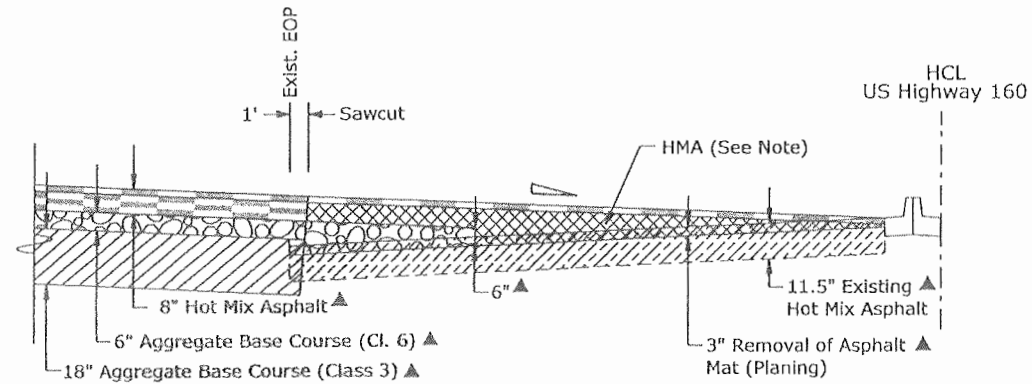
As Constructed
 No Revisions:
 Revised: 12-1-11
 Void:

Contract Information
 Contractor: SEMA CONSTRUCTION
 Resident Engineer: Ed ARCHULETA
 Project Engineer: JOE COLLEY
 PROJECT STARTED: 6/30/08 ACCEPTED: 12/1/11
 Comments: FINAL SET

Project No./Code
 NH 1602-114
 16042
 Sheet Number 1

SUPERELEVATION DETAIL

Station 41+98.51 to Station 51+25.97

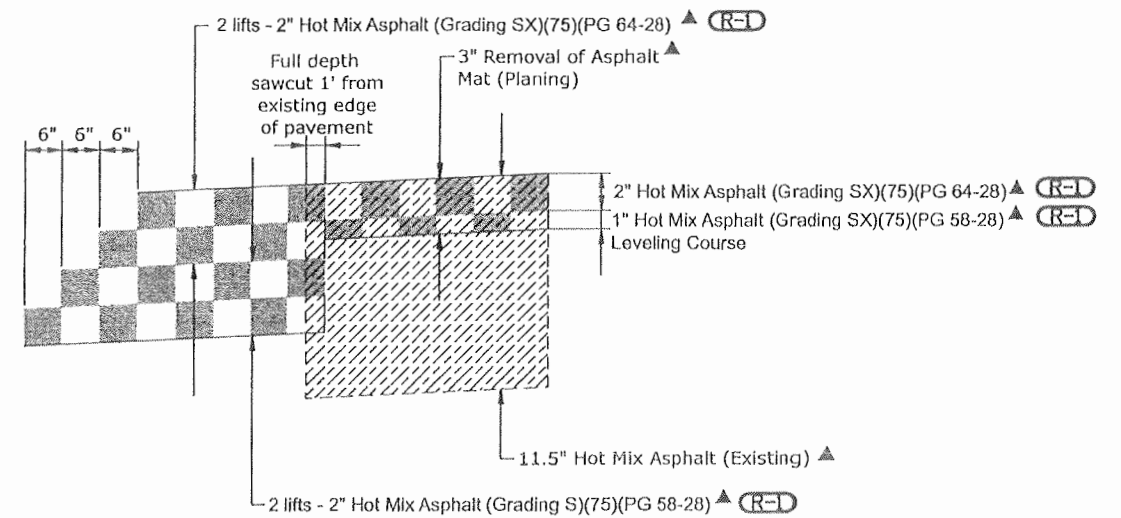


From Sta. 41+98.51 to Sta. 51+25.97 the pavement shall be super-elevated. The Contractor shall use Hot Mix Asphalt (Grading SX)(75)(PG 64-28) for the top 3 to 4 inches. The area above the existing asphalt and below the top 3 to 4 inches shall be Hot Mix Asphalt (Grading S)(75)(PG 58-28). Maximum asphalt lifts shall be 2 inches thick.

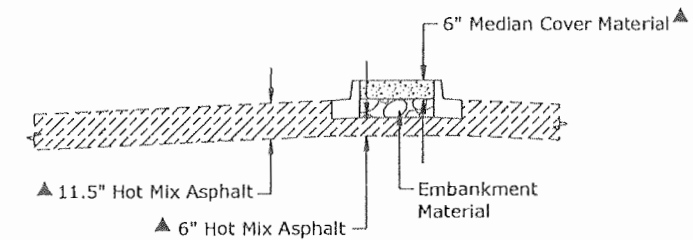


- ▲ Approximate thickness
- ▾ See Cross Sections
- HCL Horizontal Control Line

PAVING DETAIL
(not to scale)



EXISTING PAVEMENT SECTION
FROM STA 32+52.40 TO STA 59+05
(FOR INFORMATION ONLY)



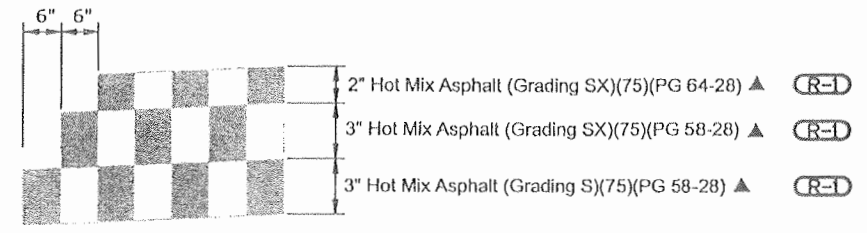
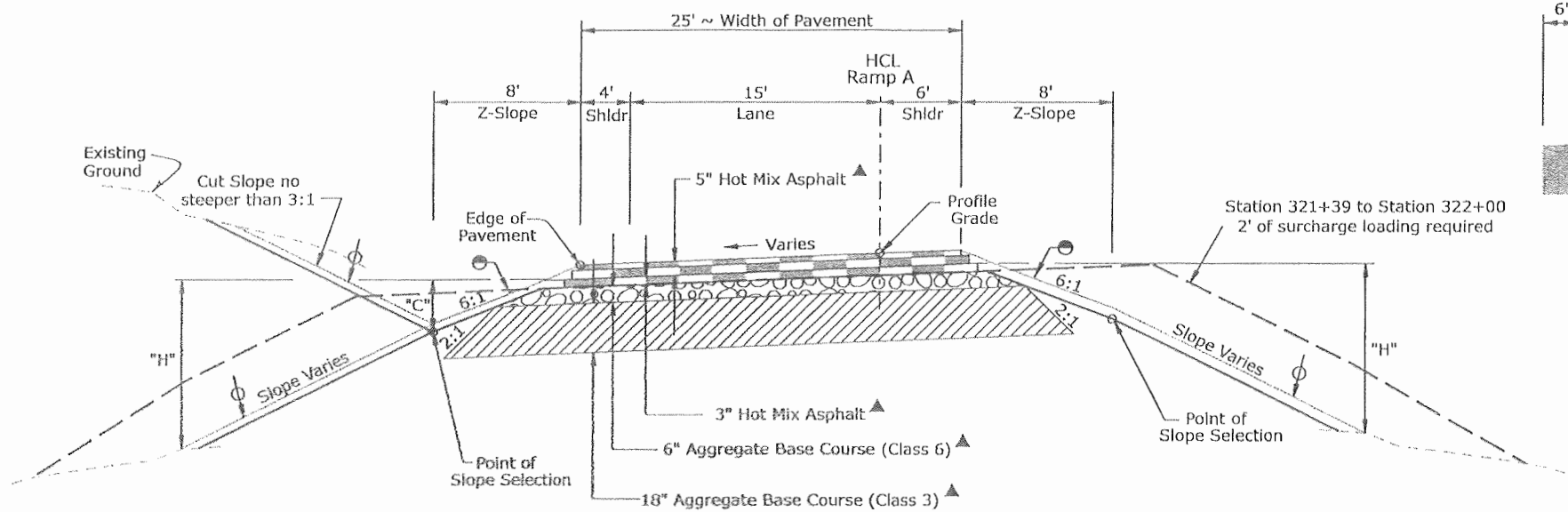
Note: Existing curb and gutter is vertically doweled into pavement.

Print Date: 3/12/2008	Sheet Revisions			Colorado Department of Transportation		As Constructed		TYPICAL SECTION DETAILS FOR US 160			Project No./Code	
Drawing File Name: 16042 Typical Sections Details.dgn	Date:	Comments	Init.	3803 North Main Avenue		No Revisions:		Designer: Inr			NH 1602-114	
Horiz. Scale: 1:10	03/17/08	Moved Symbols	EJA	Suite 200		Revised:		Detailer: Inr/tlb			16042	
Unit Information				Durango, CO 81301		Void:		Sheet Subset: TYPICAL			Sheet Number	
				Phone: 970-385-1440 FAX: 970-385-8365				Structure Numbers: na			6	
				Region 5				Subset Sheets: 4 of 7				

TYPICAL SECTION "RAMP A"

No ABC or HMA will be constructed in the below station ranges
 Station 311+50 to Station 314+50 (Grade to the bottom of ABC (CL 3) only)
 Station 321+39 to Station 322+00 (2' of surcharge loading required)

RAMP PAVING DETAIL
(not to scale)



TYPICAL SECTION NOTES

Break points on slopes and in bottoms of ditches shall be rounded during construction for a pleasing appearance.

Ramp A bridge to be constructed between approximate Station 316+96 and Station 321+39. Refer to bridge details.

Cut Slopes:

Slope 6:1 where "C" is 6' to 4'
 Slope 3:1 where "C" is over 4'

Fill Slopes:

Slope 6:1 where "H" is 4' or less
 Slope 4:1 where "H" is 4' to 10'
 Slope 3:1 where "H" is over 10'

The Contractor will be required to place a minimum of 4 inches of Topsoil or specified alternative to this line.

- Approximate thickness
- The Contractor will be required to place shoudering material as shown.

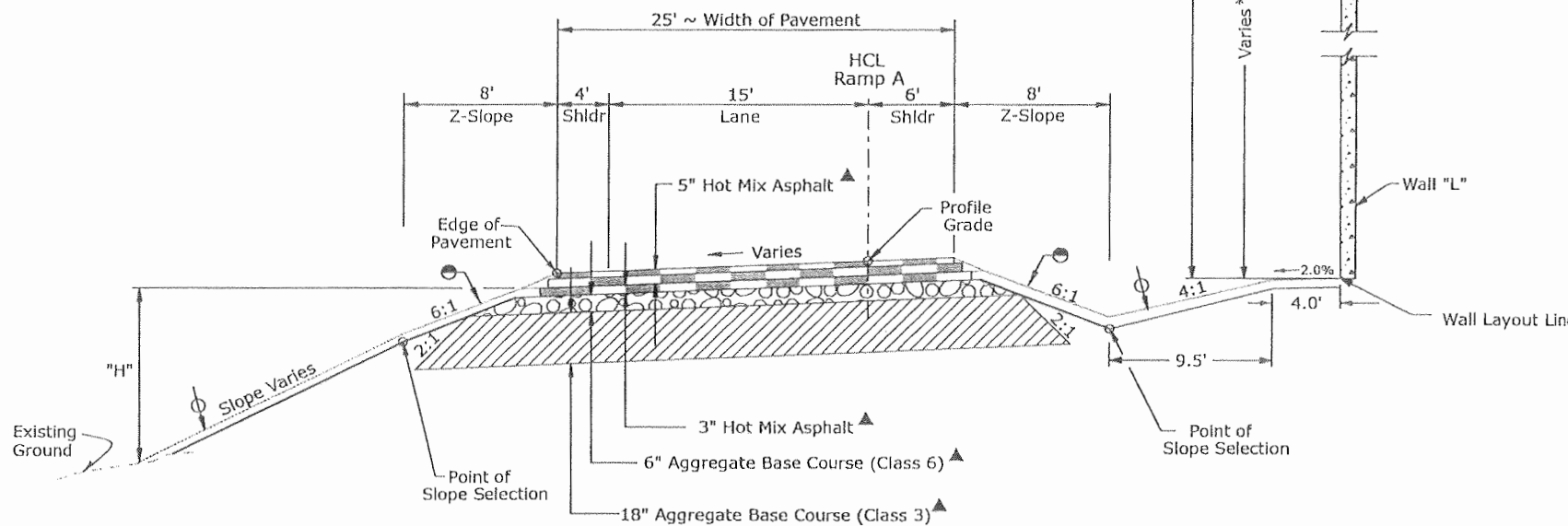
* See retaining wall details.

HCL Horizontal Control Line

- - - Surcharge Embankment Grade

TYPICAL SECTION "RAMP A"

Station 298+00 to Station 300+38 (Full Pavement Section)
 Station 300+38 to Station 311+50 (Grade to Bottom of ABC Cl. 3 Only)



Print Date: 3/12/2008
Drawing File Name: 16042 Typical Sections Ramp A(1).dgn
Horiz. Scale: 1:10 Vert. Scale: As Noted
Unit Information Project Manager: SPC

Sheet Revisions			
Date:	Comments	Init.	
3/17/08	Moved Symbols	EJA	

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

As Constructed
No Revisions:
Revised:
Void:

TYPICAL SECTION DETAILS			
RAMP A			
Designer:	Inr	Structure Numbers:	na
Detailer:	Inr/tlb	Subset Sheets:	na
Sheet Subset:	TYPICAL	Subset Sheets:	5 of 7

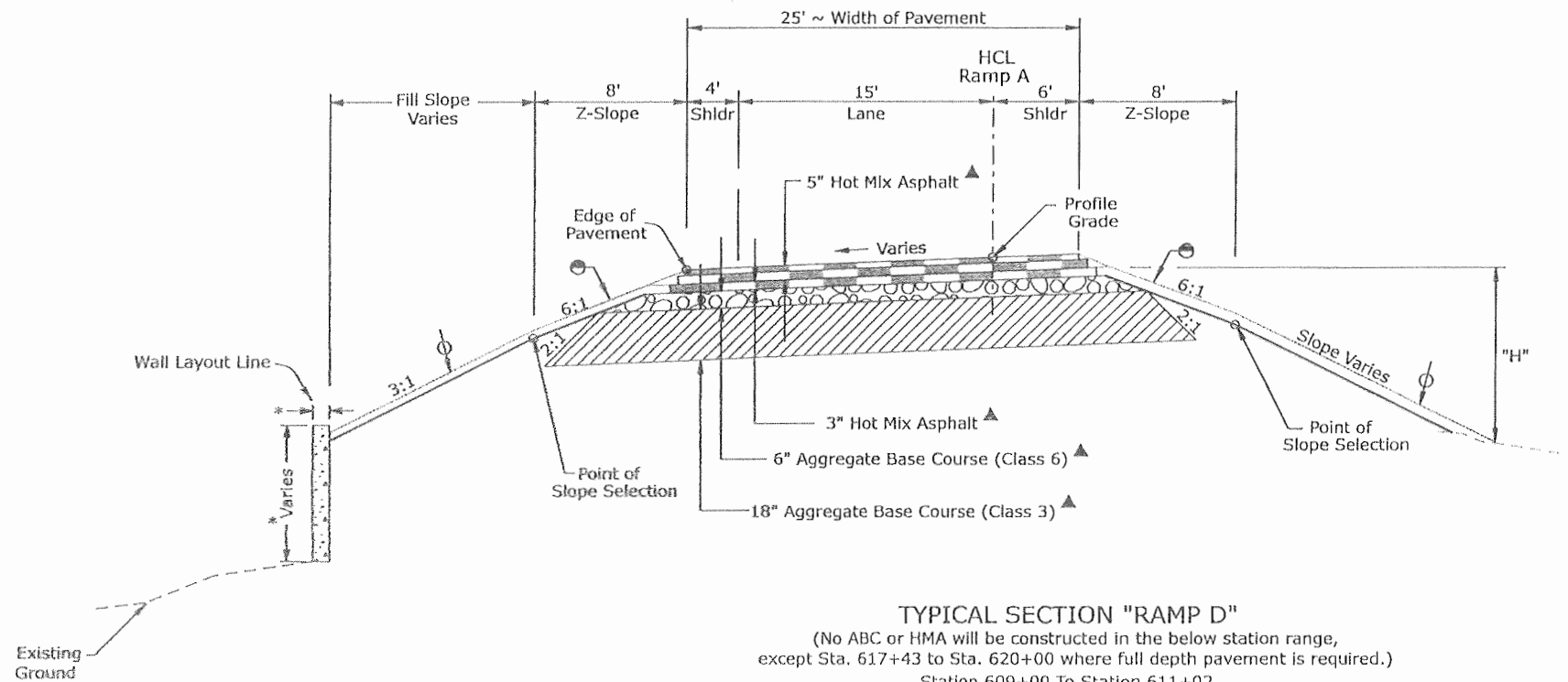
Project No./Code	NH 1602-114
Sheet Number	7

TYPICAL SECTION "RAMP A"

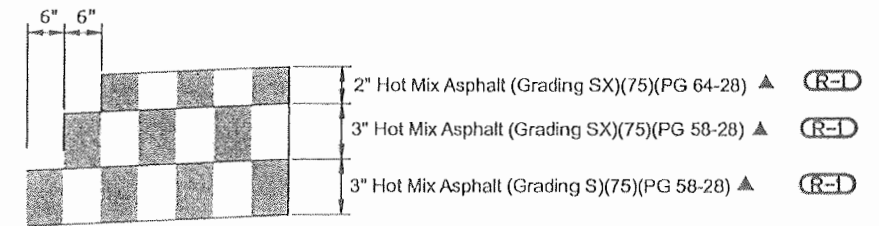
FILL WALL

(No ABC or HMA will be constructed in the below station range)

Station 314+50 to Station 316+96
(Grade to the bottom of ABC (Class 3) Only)

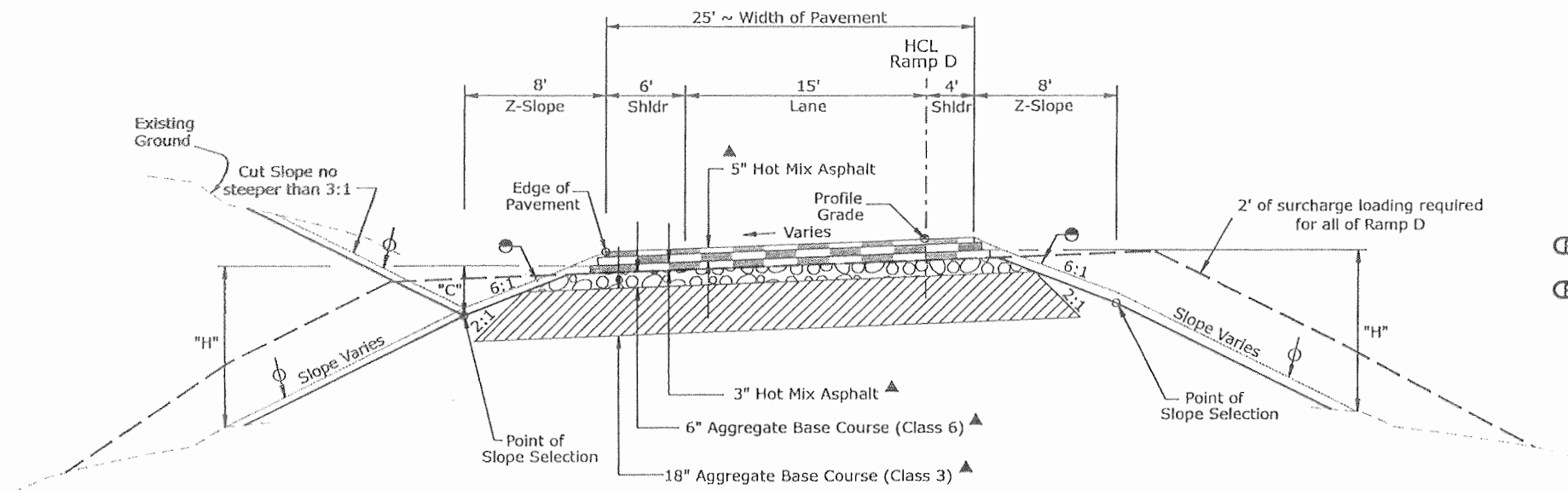


RAMP PAVING DETAIL
(not to scale)



TYPICAL SECTION "RAMP D"

(No ABC or HMA will be constructed in the below station range, except Sta. 617+43 to Sta. 620+00 where full depth pavement is required.)
Station 609+00 To Station 611+02
Station 612+82 To Station 620+00



TYPICAL SECTION NOTES

Break points on slopes and in bottoms of ditches shall be rounded during construction for a pleasing appearance.

Ramp D bridge to be constructed between approximate Station 611+02 and Station 612+82. Refer to bridge details.

Cut Slopes:

Slope 6:1 where "C" is 0' to 4'
Slope 3:1 where "C" is over 4'

Fill Slopes:

Slope 6:1 where "H" is 4' or less
Slope 4:1 where "H" is 4' to 10'
Slope 3:1 where "H" is over 10'

The Contractor will be required to place a minimum of 4 inches of Topsoil or specified alternative to this line.

(R-1) ▲ Approximate thickness

(R-1) ● The Contractor will be required to place shouldering material as shown.

* See retaining wall details.

HCL Horizontal Control Line

--- Surcharge Embankment Grade

Print Date: 3/12/2008	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	TYPICAL SECTION DETAILS			Project No./Code NH 1602-114
Drawing File Name: 16042 Typical Sections Ramp A & D.dgn	Date: 03/17/08	Comments: Moved Symbols	Init.: EJA			RAMP A AND RAMP D			
Horiz. Scale: 1:10	Vert. Scale: As Noted				No Revisions:	Designer: Inr	Structure Numbers: na	16042	
Unit Information	Project Manager: SPC				Revised:	Detailer: Inr/tlb	Subset Sheets: na	Sheet Number 8	
					Void:	Sheet Subset: TYPICAL	Subset Sheets: 6 of 7		

US 160 4th Lane

Project Number: NH1602-114

Project Code: 16042


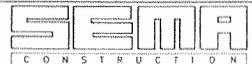

As-Constructed Drawings

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By AML	08/08	DRA	08/08	Quantities By AML	08/08
Checked By GWK	08/08	GWK	08/08	Checked By GWK	08/08

SHEET NO.	INDEX OF SHEETS
118	Tabulations US 160, Ramp C and D
119	Typical Section Details US 160 and Ramp C
120	Typical Section Details Ramp A and Ramp D
121	Ramp C and US 160 Plan Sheet
122	Ramp D Plan Sheet
123	Shared Use Path Typical Section
124-129	Shared Use Path Plan & Profile
130-149	Shared Use Path Cross Section
150-151	Lighting Foundation Detail
152	Traffic Signal Foundation
153-184	Drainage Plans
185-191	Ramp A Drip Irrigation Plan
192-229	Structure P-05-AG Bridge Plans
230-266	Structure P-05-V Bridge Plans
267-300	Structure P-05-W Bridge Plans
301-326	Structure P-05-Y Bridge Plans
327-331	Anti-Icing Plans Structure P-05-AG
332-336	Anti-Icing Plans Structure P-05-V
337-341	Anti-Icing Plans Structure P-05-W
342-346	Anti-Icing Plans Structure P-05-Y
347-357	Structure P-05-F and P-05-W Wall Plans
358-371	Structure P-05-T and P-05-AK Wall Plans
372-383	Structure P-05-AP and P-05-AS Wall Plans
384-388	Ramp A Wall Plans

CHANGE ORDER NO. 1

389	Ramp C Gore Details
390	Ramp C Profile Sheet
391-409	Ramp C Cross Sections
410-419	Drainage Plans
420-433	Bridge Plans

Print Date: 10/1/2010	Sheet Revisions			Colorado Department of Transportation		As Constructed		US 160 4TH LANE SHEET INDEX		Project No./Code	
File Name: 16042_Sheet_Index_01.dgn	Date:	Comments	Init.	 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365		No Revisions:		Designer: R. Artman Detailer: R. Artman		NH 1602-114	
Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:				Structure Numbers	
Unit Information 0221 Unit Leader STW						Region 5 EJA		Void:		Sheet Subset: Sheet Subset Sheets: S1 of S1	
 											

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL TWO BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES



Sta. 37+43 to Sta. 62+15 Lt.
Required abandon 3.5" electric
line for existing light standards

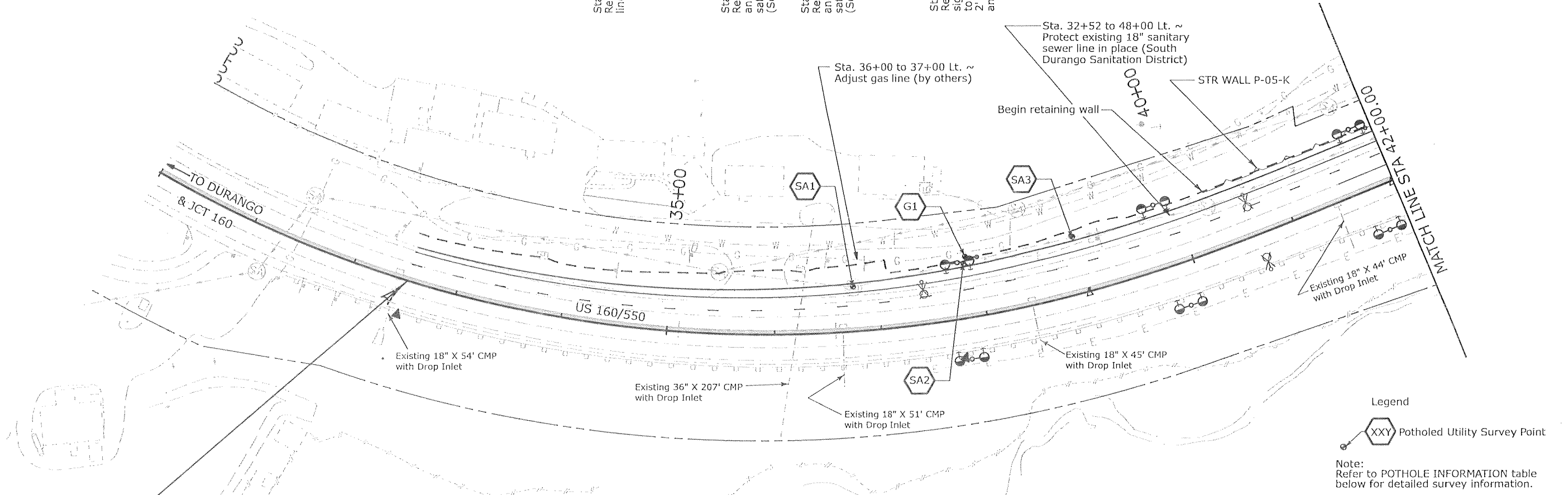
Sta. 36+76 Lt.
Required adjust manhole
and provide a traffic
safe lid
(See manhole tab)

Sta. 40+29 Lt.
Required adjust manhole
and provide a traffic
safe lid
(See manhole tab)

Sta. 32+53 to Sta. 63+00 Lt.
Required 2" conduit for future
signal interconnect line. Line
to be buried a minimum of
2' deep in the ditch or gutter
and tied to new signal pole.

UTILITY OWNER - CONTACT INFORMATION

LPEA - Rick Baker (970) 219-1567
Fast Track - Rick Baker (970) 219-1567
ATMOS Energy - Steve McNeil (970) 247-3813
South Durango Sanitation District - Rick Johnson (970) 884-9749
Qwest - Mike Looman (970) 259-1441
City of Durango - Mark Gallegos (970) 759-4359
Bresnan - Eric Copeland (970) 759-5424
CDOT - Joe Monahan (970) 749-6208



Legend
XXY Potholed Utility Survey Point
Note:
Refer to POTHOLE INFORMATION table below for detailed survey information.

Notes:
The information shown on this drawing concerning type and location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making all determinations as to the type and location of underground and other utilities as maybe necessary to avoid damage thereto. Call 1-800-922-1987 for utility information.
The Contractor shall be responsible for additional adjustments to utilities other than those shown herein.
All existing light standard foundations shall be removed.
See lighting sheets for proposed lighting design.
Concrete cap removal over sanitary line from approx. Sta. 36+00 to 48+00 Lt. will not be paid for separately, but shall be included in the cost of the work.

* POTHOLE INFORMATION

ID	STATION	OFFSET	SIDE	ELEVATION	UTILITY
G1	37+88.4	57.9	L	6474.23	GAS LINE
SA1	36+76.3	41.6	L	6473.06	SANITARY SEWER AT TOP OF MANHOLE
SA2	37+84.6	50.4	L	6470.24	SANITARY SEWER
SA3	38+96.2	53.8	L	6474.51	SANITARY SEWER

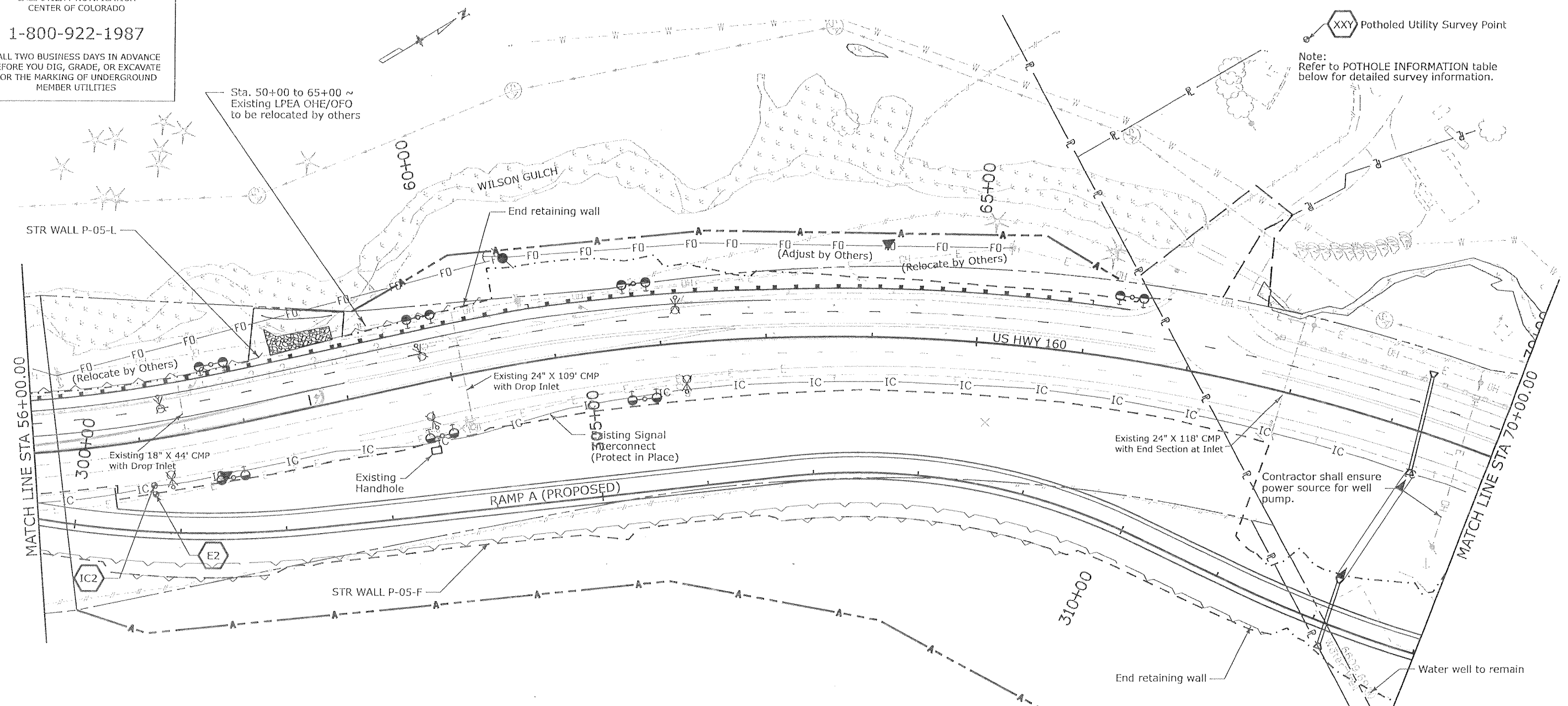
* Elevations are taken at the top of pipe unless otherwise noted.

STA. 32+52.40 ~ BEGIN PROJECT NH 1602-114 =
STA. 190+50 ON PROJECT C 1601-037 = MP 88.000
N 1210295.08
E 2316170.19

Print Date: 1/2/2008		Sheet Revisions Date: Comments Init.		Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5 EJA	As Constructed	US 160 UTILITIES		Project No./Code	
File Name: 16042 Utilities Sheet1.dgn					No Revisions:			NH 1602-114	
Horiz. Scale: 1:100 Vert. Scale: As Noted						Revised:	Designer: spc	Structure: -	16042
Unit Information Project Manager: spc				Void:	Detailer: Inr	Numbers: -	Sheet Number 25		
					Sheet Subset: Utilities	Subset Sheets: 1 of 6			

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL TWO BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES

Legend
XXY Potholed Utility Survey Point
Note:
Refer to POTHOLE INFORMATION table
below for detailed survey information.



*** POTHOLE INFORMATION**

ID	STATION	OFFSET	SIDE	ELEVATION	UTILITY
IC2	57+07.1	43.3	R	6543.59	2" CONDUIT SIGNAL INTERCONNECT
E2	57+07.3	51.6	R	6544.10	3.5" ELECTRICAL CONDUIT

* Elevations are taken at the top of pipe unless otherwise noted.

Notes:
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The Contractor shall be responsible for additional adjustments to utilities other than those shown herein.
All existing light standard foundations shall be removed.
See lighting sheets for proposed lighting design.

Print Date: 1/2/2008
File Name: 16042 Utilities Sheet3.dgn
Horiz. Scale: 1:100
Unit Information
Vert. Scale: As Noted
Project Manager: spc

Sheet Revisions		
Date:	Comments	Init.

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

As Constructed
No Revisions:
Revised:
Void:

US 160 UTILITIES			
Designer:	SPC	Structure	-
Detailer:	Inr	Numbers	-
Sheet Subset:	Utilities	Subset Sheets:	3 of 6

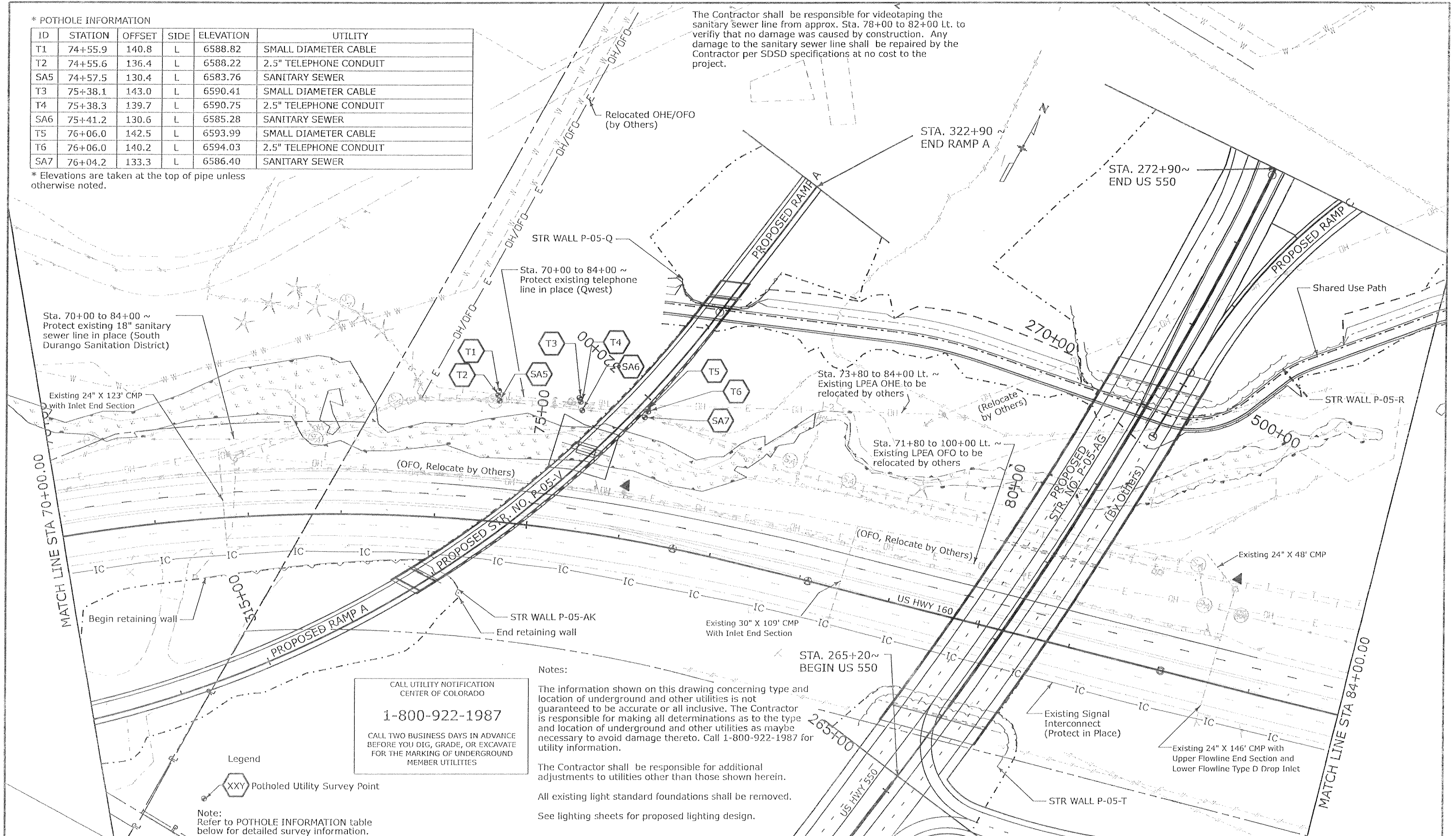
Project No./Code
NH 1602-114
16042
Sheet Number 27

*** POTHOLE INFORMATION**

ID	STATION	OFFSET	SIDE	ELEVATION	UTILITY
T1	74+55.9	140.8	L	6588.82	SMALL DIAMETER CABLE
T2	74+55.6	136.4	L	6588.22	2.5" TELEPHONE CONDUIT
SA5	74+57.5	130.4	L	6583.76	SANITARY SEWER
T3	75+38.1	143.0	L	6590.41	SMALL DIAMETER CABLE
T4	75+38.3	139.7	L	6590.75	2.5" TELEPHONE CONDUIT
SA6	75+41.2	130.6	L	6585.28	SANITARY SEWER
T5	76+06.0	142.5	L	6593.99	SMALL DIAMETER CABLE
T6	76+06.0	140.2	L	6594.03	2.5" TELEPHONE CONDUIT
SA7	76+04.2	133.3	L	6586.40	SANITARY SEWER

* Elevations are taken at the top of pipe unless otherwise noted.

The Contractor shall be responsible for videotaping the sanitary sewer line from approx. Sta. 78+00 to 82+00 Lt. to verify that no damage was caused by construction. Any damage to the sanitary sewer line shall be repaired by the Contractor per SDDSD specifications at no cost to the project.



Notes:

The information shown on this drawing concerning type and location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making all determinations as to the type and location of underground and other utilities as maybe necessary to avoid damage thereto. Call 1-800-922-1987 for utility information.

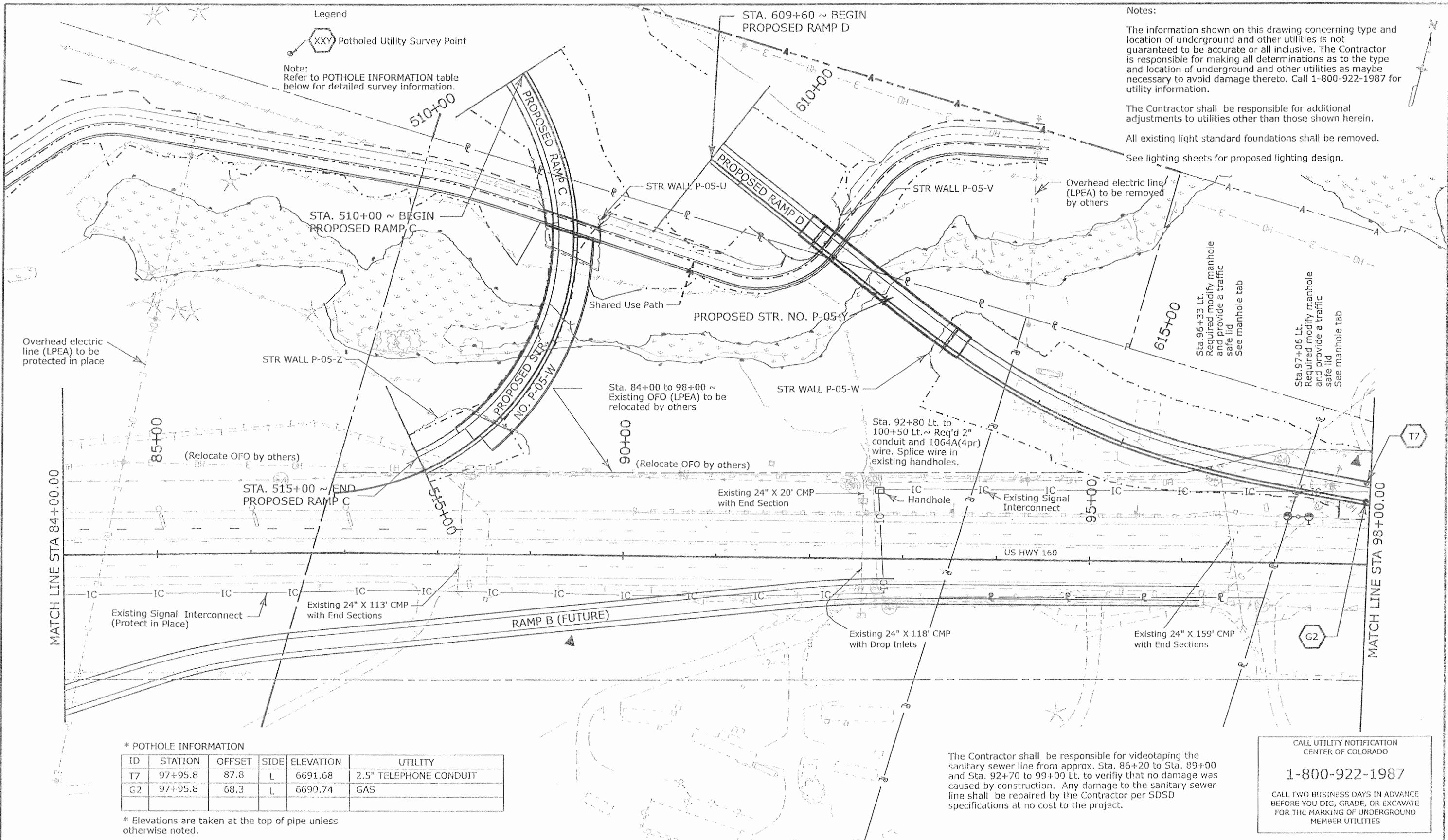
The Contractor shall be responsible for additional adjustments to utilities other than those shown herein.
 All existing light standard foundations shall be removed.
 See lighting sheets for proposed lighting design.

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
 CALL TWO BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

Legend
 XXY Potholed Utility Survey Point

Note:
 Refer to POTHOLE INFORMATION table below for detailed survey information.

Print Date: 1/2/2008	Sheet Revisions			Colorado Department of Transportation		As Constructed		Project No./Code	
File Name: 16042 Utilities Sheet4.dgn	Date:	Comments	Init.	3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365		No Revisions:		NH 1602-114	
Horiz. Scale: 1:100				Region 5		Revised:		16042	
Unit Information				EJA		Void:		Sheet Number 28	
Vert. Scale: As Noted						US 160 UTILITIES			
Project Manager: spc						Designer: spc		Structure Numbers	
						Detailer: Inr		4 of 6	
						Sheet Subset: Utilities		Subset Sheets: 4 of 6	



Notes:
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 All existing light standard foundations shall be removed.
 See lighting sheets for proposed lighting design.

Legend
 XXY Potholed Utility Survey Point
 Note:
 Refer to POTHOLE INFORMATION table below for detailed survey information.

* POTHOLE INFORMATION

ID	STATION	OFFSET	SIDE	ELEVATION	UTILITY
T7	97+95.8	87.8	L	6691.68	2.5" TELEPHONE CONDUIT
G2	97+95.8	68.3	L	6690.74	GAS


* Elevations are taken at the top of pipe unless otherwise noted.

The Contractor shall be responsible for videotaping the sanitary sewer line from approx. Sta. 86+20 to Sta. 89+00 and Sta. 92+70 to 99+00 Lt. to verify that no damage was caused by construction. Any damage to the sanitary sewer line shall be repaired by the Contractor per SDSA specifications at no cost to the project.

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
 CALL TWO BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

Print Date: 1/2/2008	Sheet Revisions			Colorado Department of Transportation		As Constructed		Project No./Code	
File Name: 16042 Utilities Sheet5.dgn	Date:	Comments	Init.	3803 North Main Avenue		No Revisions:		US 160 UTILITIES	
Horiz. Scale: 1:100				Suite 200		Revised:		NH 1602-114	
Unit Information				Durango, CO 81301		Void:		16042	
				Phone: 970-385-1440 FAX: 970-385-8365				Sheet Number 29	
				Region 5 EJA				Sheet Subst: Utilities	
								Subset Sheets: 5 of 6	

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL TWO BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES

Legend
 Potholed Utility Survey Point
 Note:
 Refer to POTHOLE INFORMATION table
 below for detailed survey information.

**TABULATION OF SANITARY
SEWER MANHOLES**

STATION	SIDE	RIM ELEVATION		COMMENT
		EXISTING	PROPOSED	
36+76	LT	6472.91	6474.06	ADJUST MANHOLE
40+29	LT	6483.82	6484.45	ADJUST MANHOLE
43+91	LT	6494.91	6497.49	MODIFY MANHOLE
45+39	LT	6498.67	6501.56	MODIFY MANHOLE
47+86	LT	6507.27	6507.02	ADJUST MANHOLE
48+08	LT	6507.31	6506.86	ADJUST MANHOLE
96+33	LT	6679.02	6689.41	MODIFY MANHOLE
97+06	LT	6687.37	6691.98	MODIFY MANHOLE

Adjustment and modification of South Durango
Sanitation District manholes shall be in accordance
with District specifications.

***POTHOLE INFORMATION**

ID	STATION	OFFSET	SIDE	ELEVATION	UTILITY
T8	99+10.8	88.1	L	6695.13	2.5" TELEPHONE CONDUIT
T9	99+13.6	72.1	L	6696.49	SMALL DIAMETER CABLE
T10	99+13.8	65.9	L	6697.18	2.5" TELEPHONE CONDUIT
T11	99+96.4	96.3	L	6697.73	2.5" TELEPHONE CONDUIT
T12	99+96.8	90.3	L	6698.29	2.5" TELEPHONE CONDUIT

* Elevations are taken at the top of pipe unless otherwise
noted.

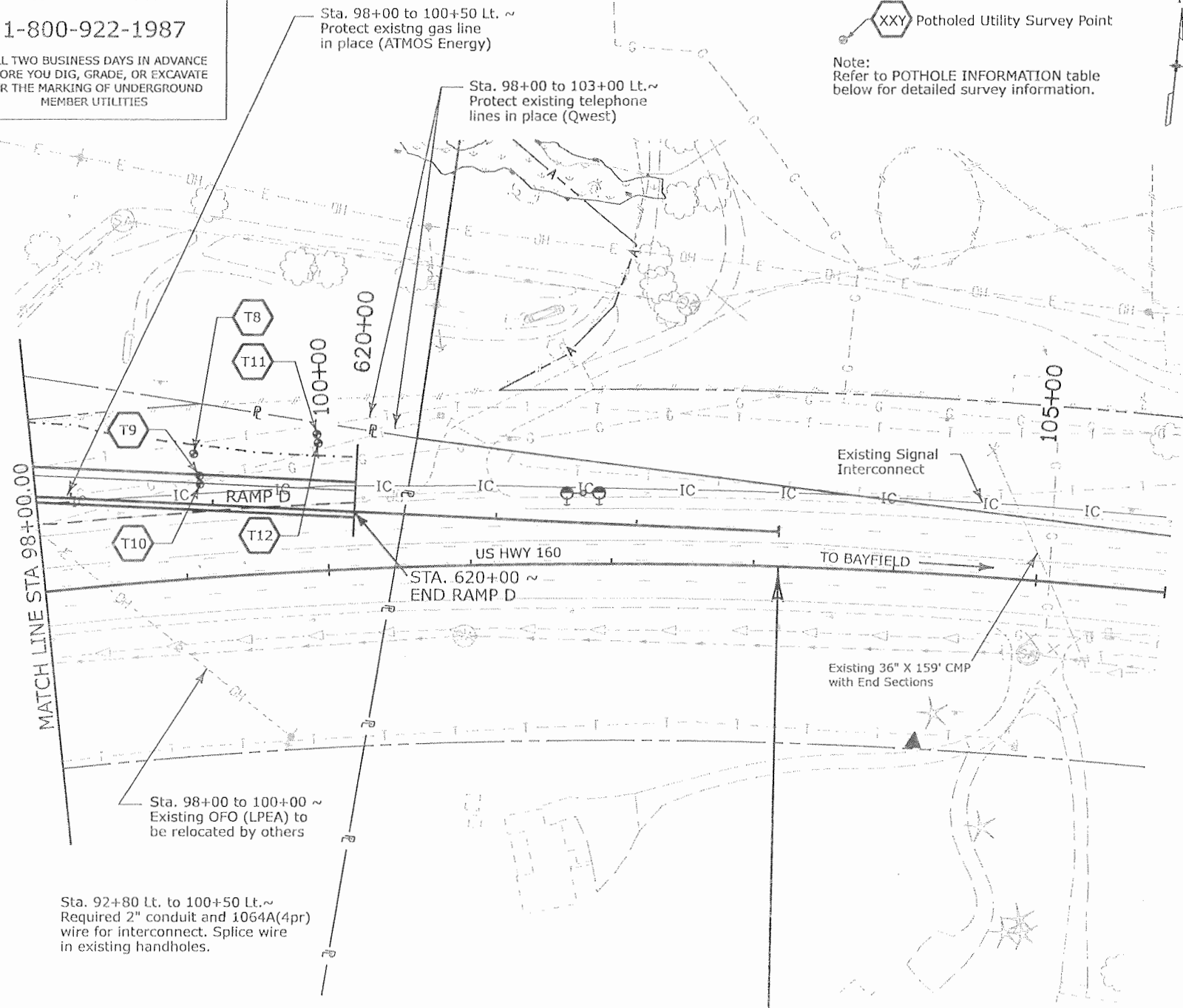
Notes:

The information shown on this drawing concerning type and
location of underground and other utilities is not
guaranteed to be accurate or all inclusive. The Contractor
is responsible for making all determinations as to the type
and location of underground and other utilities as maybe
necessary to avoid damage thereto. Call 1-800-922-1987 for
utility information.

The Contractor shall be responsible for additional
adjustments to utilities other than those shown herein.

All existing light standard foundations shall be removed.

See lighting sheets for proposed lighting design.



Sta. 92+80 Lt. to 100+50 Lt. ~
Required 2" conduit and 1064A(4pr)
wire for interconnect. Splice wire
in existing handholes.

Sta. 98+00 to 100+00 ~
Existing OFO (LPEA) to
be relocated by others

Sta. 98+00 to 100+50 Lt. ~
Protect existing gas line
in place (ATMOS Energy)

Sta. 98+00 to 103+00 Lt. ~
Protect existing telephone
lines in place (Qwest)

STA. 103+17.59 ~ END PROJECT NH 1602-114 =
STA. 116+52.34 ON PROJECT NH 1602-100 = MP 89.490
N 1213631.36
E 2321946.07

Print Date: 1/2/2008	Sheet Revisions			Colorado Department of Transportation			As Constructed		Project No./Code	
File Name: 16042 Utilities Sheet6.dgn	Date:	Comments	Init.	3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365			No Revisions:		NH 1602-114	
Horiz. Scale: 1:100 Vert. Scale: As Noted				Region 5 EJA			Revised:		16042	
Unit Information Project Manager: spc							Void:		Sheet Number 30	
									US 160 UTILITIES	
									Designer: spc Structure -	
									Detailer: Inr Numbers -	
									Sheet Subset: Utilities Subset Sheets: 6 of 6	

REMOVAL TABULATION

STATION TO STATION	LOCATION	SIDE	201-00001	202-00220	202-01130	210-00090	REMARK
			CLEARING AND GRUBBING ACRE	REMOVAL OF ASPHALT MAT SY	REMOVAL OF GUARDRAIL TYPE 3 LF	REMOVAL OF DELINEATORS EACH	
77+20.62 to 77+20.62	US 160	LT					
77+20.62 to 86+34.89	US 160	LT		102			
77+41.57 to 82+53.86	US 160	LT			512		
78+02.57	US 160	LT				1	
79+02.91	US 160	LT				1	
80+02.68	US 160	LT				1	
81+03.61	US 160	LT				1	
82+02.71	US 160	LT				1	
82+54.84	US 160	LT				1	
83+02.03	US 160	LT				1	
84+00.98	US 160	LT				1	
TOTALS			0	102	512	8	

* Removal of End Anchorage is to be included in the Removal of Guardrail Type 3

RESET and ADJUST TABULATION

STATION TO STATION	LOCATION	SIDE	210-00810	210-04010	REMARK
			RESET GROUND SIGNS EACH	ADJUST MANHOLE EACH	
82+40.19	US 160	LT	1		Class I
85+02.06	US 160	LT	1		Half-Butterfly
86+01.17	US 160	LT	1		Half-Butterfly
87+01.16	US 160	LT	1		Half-Butterfly
87+99.88	US 160	LT	1		Half-Butterfly
516+51.66	Ramp C	RT		1	
TOTALS			5	1	

ROADWAY TABULATION

STATION TO STATION	LOCATION	SIDE	304-03005	304-06007	403-00720	2" HMA (Grading SX) (75) (PG 64-28) (FUTURE)	3" HMA (Grading SX) (75) (PG 58-28)	3" HMA (Grading S) (75) (PG 58-28)	609-60011	REMARKS
			EMBANKMENT MATERIAL (CIP) * CY	18" AGGREG. BASE COURSE (Class 3) CY	6" AGGREG. BASE COURSE (Class 6) CY	2" HMA (PATCHING) (ASPH) SY	2" HMA (Grading SX) (75) (PG 64-28) (FUTURE) SY	3" HMA (Grading SX) (75) (PG 58-28) SY	3" HMA (Grading S) (75) (PG 58-28) SY	
77+20.62 to 87+99.06	US 160	LT	306	694	209	338	1,423	1,475	1,528	End at Ramp C STA 514+59.30
77+31.50 to 85+05.51	US 160	LT							736	
613+32.09 to 614+52.64	Ramp D	RT				90				
613+34.27 to 620+49.91	Ramp D	LT				737				
613+34.27 to 620+49.91	Ramp D	LT							707	
TOTALS			306	694	209	1,165	1,423	1,475	1,528	1,503

* Does not include 2' surcharge embankment.

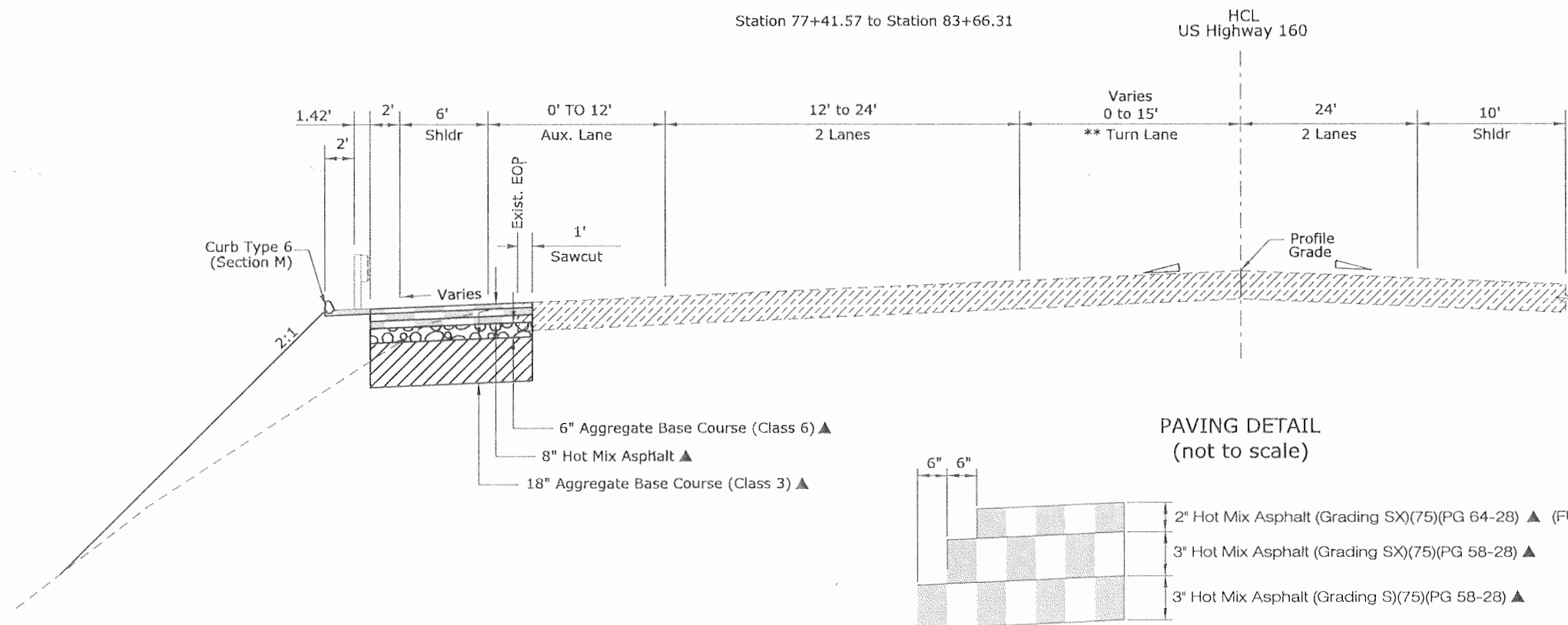
GUARDRAIL TABULATION

STATION TO STATION	LOCATION	SIDE	606-00301	606-01370	606-02003	606-02005	REMARKS
			GUARDRAIL TYPE 3 (6-3 POST SPACING) LF	TRANSITION TYPE 3G EACH	END ANCHORAGE (NONFLARED) EACH	END ANCHORAGE (FLARED) EACH	
77+41.57 to 83+66.31	US 160	LT	625.0		1		
613+53.16 to 614+52.64	Ramp D	RT	100.0	1		1	
613+55.34 to 616+66.12	Ramp D	LT	300.0	1		1	
TOTALS			1,025.0	2	1	2	

Print Date: 9/23/2010	Sheet Revisions			 Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	TABULATIONS			Project No./Code
Drawing File Name: 17280_Tabs.dgn	Date:	Comments:	Init.		No Revisions: 9/10	US 160, RAMP C & RAMP D			NH 1602-114
Horiz. Scale: 1:10 Vert. Scale: As Noted					Revised:	Designer: JMB	Structure Numbers	na	16042
Unit Information Project Manager: SPC					Void:	Detailer: JMB	Sheet Subset: Roadway	Subset Sheets: R1 of 5	Sheet Number 119

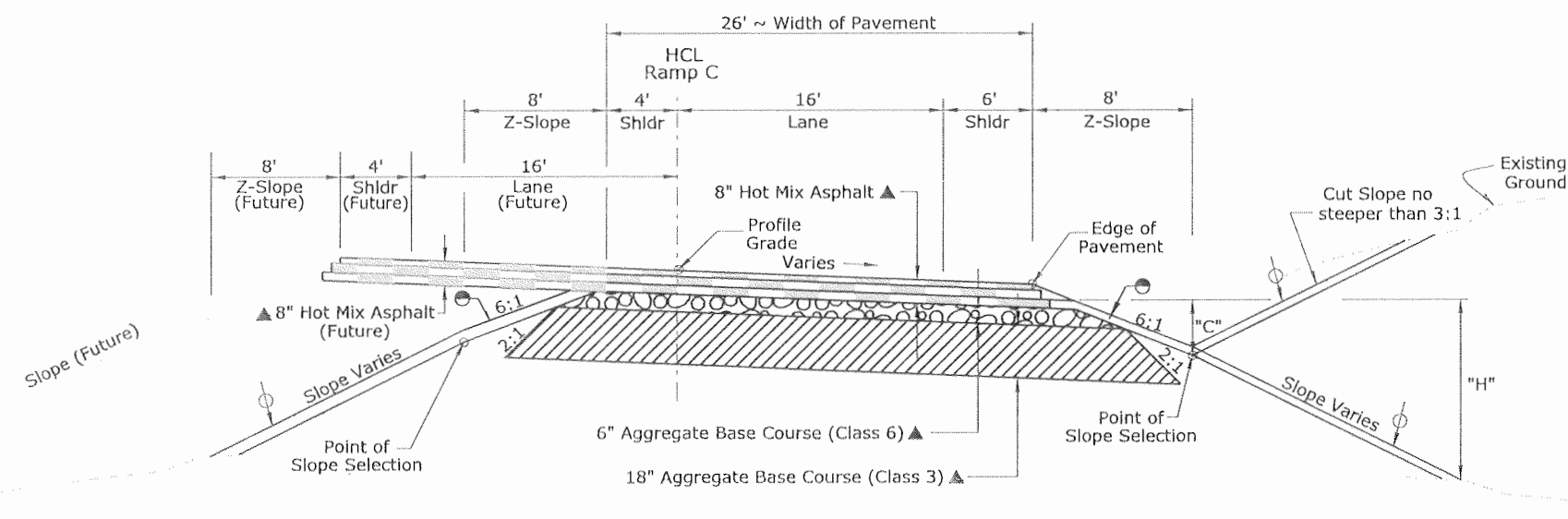
TYPICAL SECTION "US 160"
(GUARDRAIL SECTION)

Station 77+41.57 to Station 83+66.31



TYPICAL SECTION "RAMP C"
(No ABC or HMA will be constructed in the below station ranges)

Station 514+08 To Station 516+00



TYPICAL SECTION NOTES

Break points on slopes and in bottoms of ditches shall be rounded during construction for a pleasing appearance.

US 550 bridge to be constructed between approximate Station 266+00 and Station 270+23. Refer to bridge details.

Ramp C bridge to be constructed between approximate Station 512+00 and Station 514+08. Refer to bridge details.

Cut Slopes:

- Slope 6:1 where 'C' is 0' to 4'
- Slope 3:1 where 'C' is over 4'

Fill Slopes:

- Slope 6:1 where 'H' is 4' or less
- Slope 4:1 where 'H' is 4' to 10'
- Slope 3:1 where 'H' is over 10'

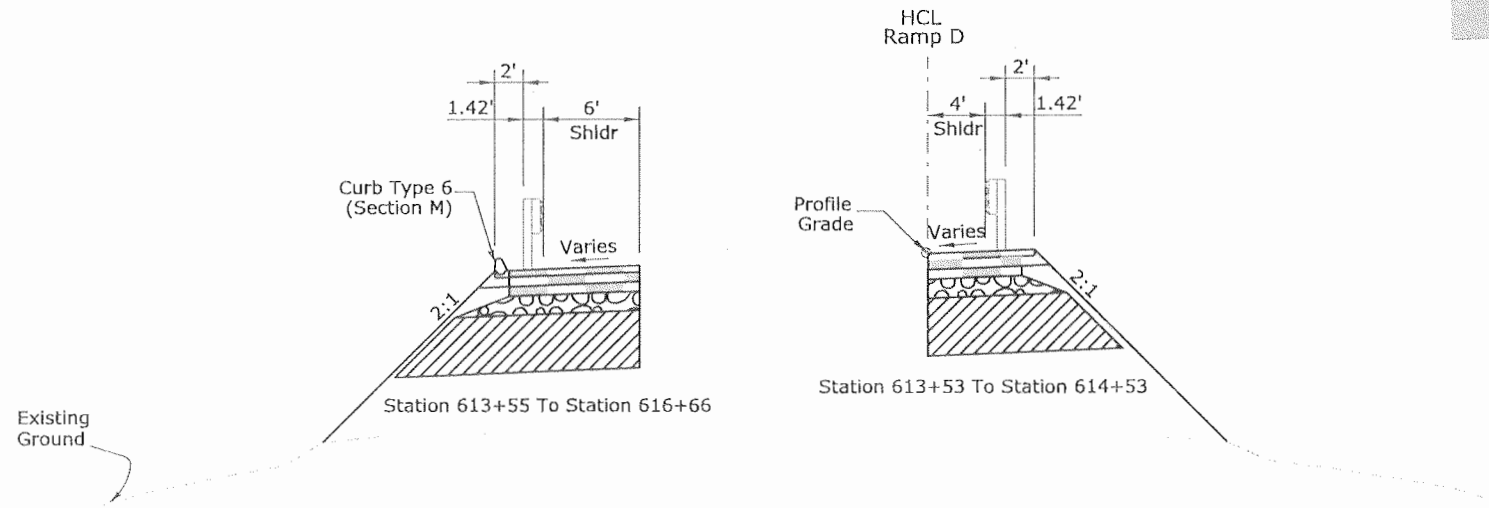
The Contractor will be required to place a minimum of 4 inches of Topsoil or specified alternative to this line.

- ▲ Approximate thickness
- The Contractor will be required to place shoudering material as shown.

HCL Horizontal Control Line
 --- Surcharge Embankment Grade

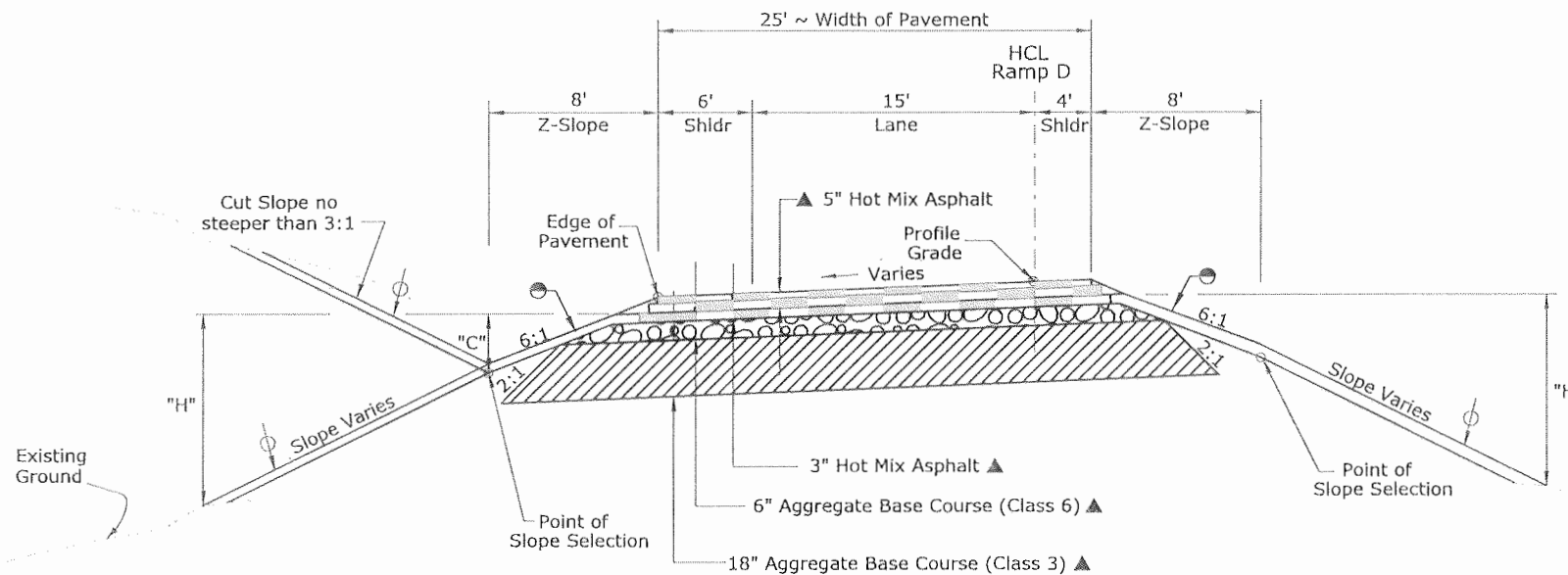
Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5 EJA	As Constructed		TYPICAL SECTION DETAILS		Project No./Code	
Drawing File Name: 17280_GY501.dgn	Date:	Comments:	Init.		No Revisions: 9/10		US 160 AND RAMP C		NH 1602-114	
Horiz. Scale: 1:10 Vert. Scale: As Noted					Revised:	Designer: JMB	Structure Numbers	na	16042	
Unit Information Project Manager: SPC					Void:	Detailer: JMB	Subset Sheets:	R2 of 5	Sheet Number 120	

RAMP PAVING DETAIL
(not to scale)



TYPICAL SECTION "RAMP D"

(No ABC or HMA will be constructed in the below station range, except Sta. 617+43 to Sta. 620+00 where full depth pavement is required.)
Station 609+00 To Station 611+02
Station 612+82 To Station 620+00



TYPICAL SECTION NOTES

Break points on slopes and in bottoms of ditches shall be rounded during construction for a pleasing appearance.

Ramp D bridge to be constructed between approximate Station 611+02 and Station 612+82. Refer to bridge details.

Cut Slopes:

Slope 6:1 where "C" is 0' to 4'
Slope 3:1 where "C" is over 4'

Fill Slopes:

Slope 6:1 where "H" is 4' or less
Slope 4:1 where "H" is 4' to 10'
Slope 3:1 where "H" is over 10'

The Contractor will be required to place a minimum of 4 inches of Topsoil or specified alternative to this line.

▲ Approximate thickness

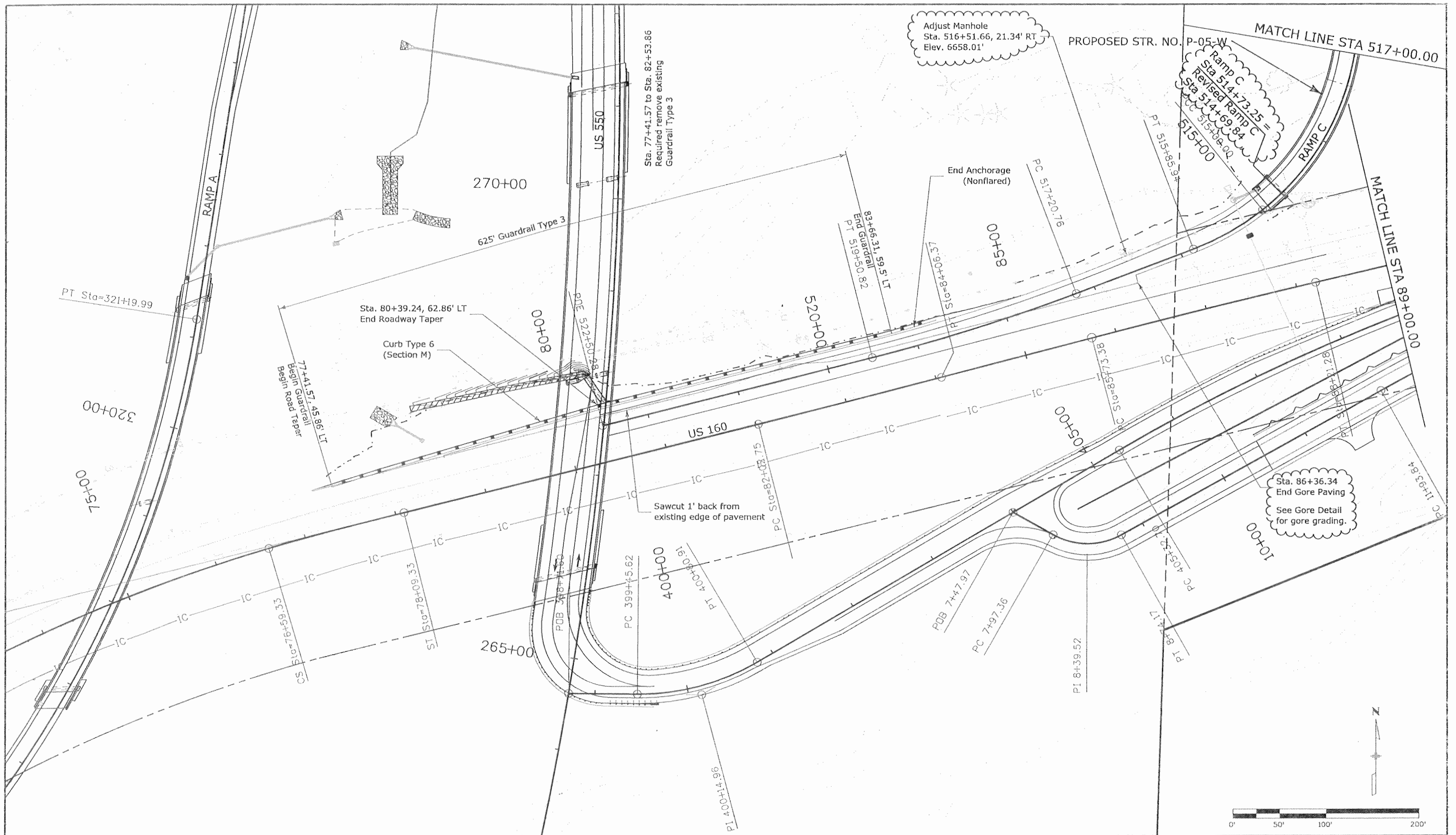
● The Contractor will be required to place shouldering material as shown.

* See retaining wall details.

HCL Horizontal Control Line

— Surcharge Embankment Grade

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5 EJA	As Constructed	TYPICAL SECTION DETAILS RAMP A AND RAMP D			Project No./Code
Drawing File Name: 17280_GY601.dgn	Date:	Comments:	Init.:		No Revisions: 9/10	Designer: JMB Structure Numbers na			NH 1602-114
Horiz. Scale: 1:10 Vert. Scale: As Noted				Revised:	Detailer: JMB			16042	
Unit Information Project Manager: SPC				Void:	Sheet Subset: Roadway Subset Sheets: R3 of 5			Sheet Number 121	



Print Date: 9/23/2010
 File Name: 17280_GP502.dgn
 Horiz. Scale: 1:100
 Unit Information
 Vert. Scale: As Noted
 Project Manager: spc

Sheet Revisions			
Date:	Comments	Init.	
04/01/10	Ramp C Sta Equation, Refer to Drainage Shts Note	JMB	(R-1)
04/15/10	Adjust MH Note, Gore Grading, Refer to Gore Detail Note	JMB	(R-2)
			000

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 Region 5 EJA

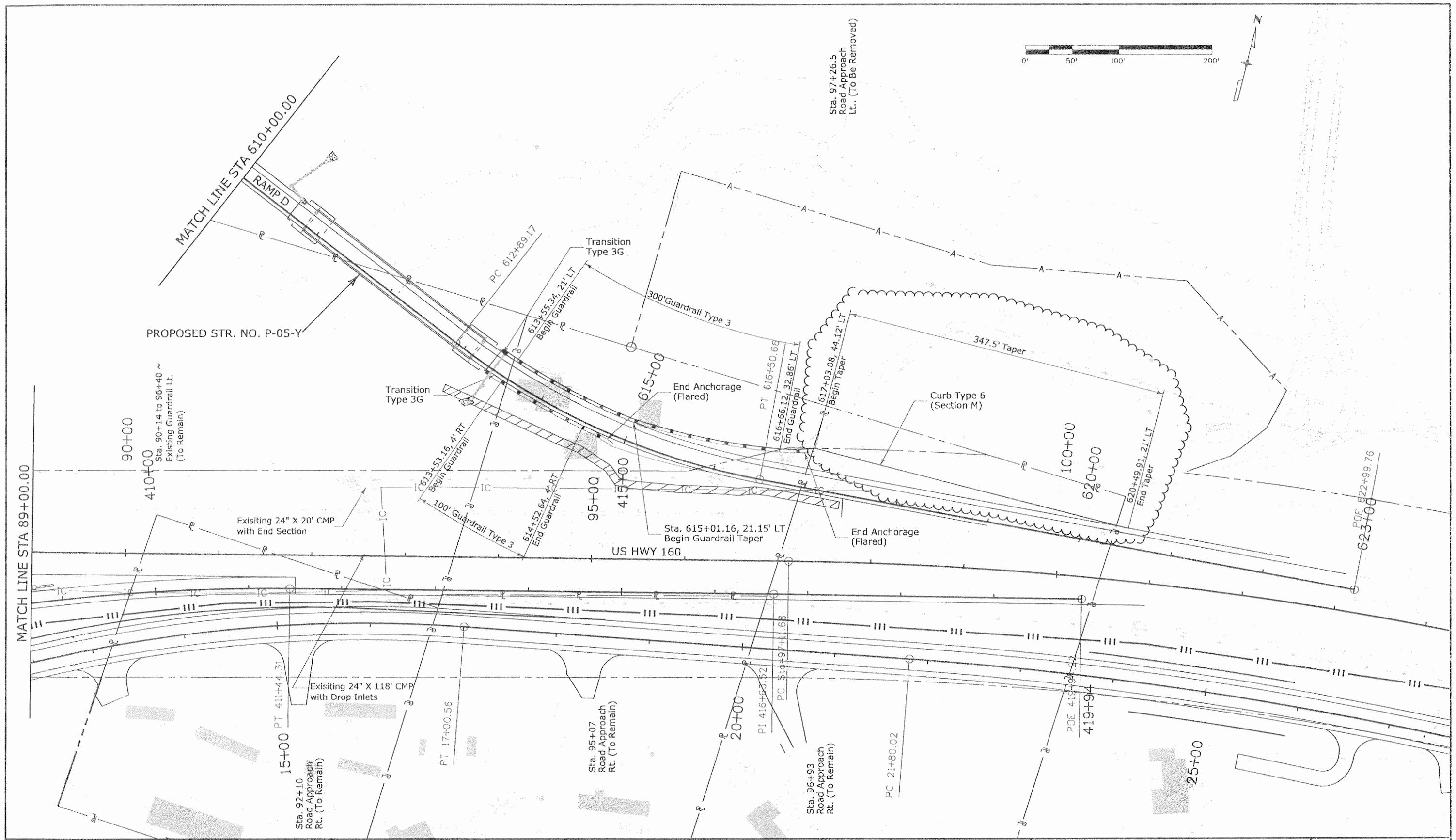
As Constructed
 No Revisions: 9/10
 Revised:
 Void:

Ramp C and US 160
 PLAN SHEET
 Designer: JMB
 Detailer: JMB
 Sheet Subset: Roadway
 Structure Numbers: n/a
 Subset Sheets: R4 of 5

Project No./Code
 NH 1602-114
 16042
 Sheet Number 122

\08-100-302-01\16042\Plot\Sets\As-Built\Change No. 1\Roadway\Electronic Drawings\17280_GP502.dgn

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Print Date: 9/23/2010
File Name: 17280_GP601.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Project Manager: spc

Sheet Revisions		
Date:	Comments	Init.
04/01/10	Pavt Taper Call Outs	JMB

Colorado Department of Transportation

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Phone: 970-385-1440 FAX: 970-385-8365

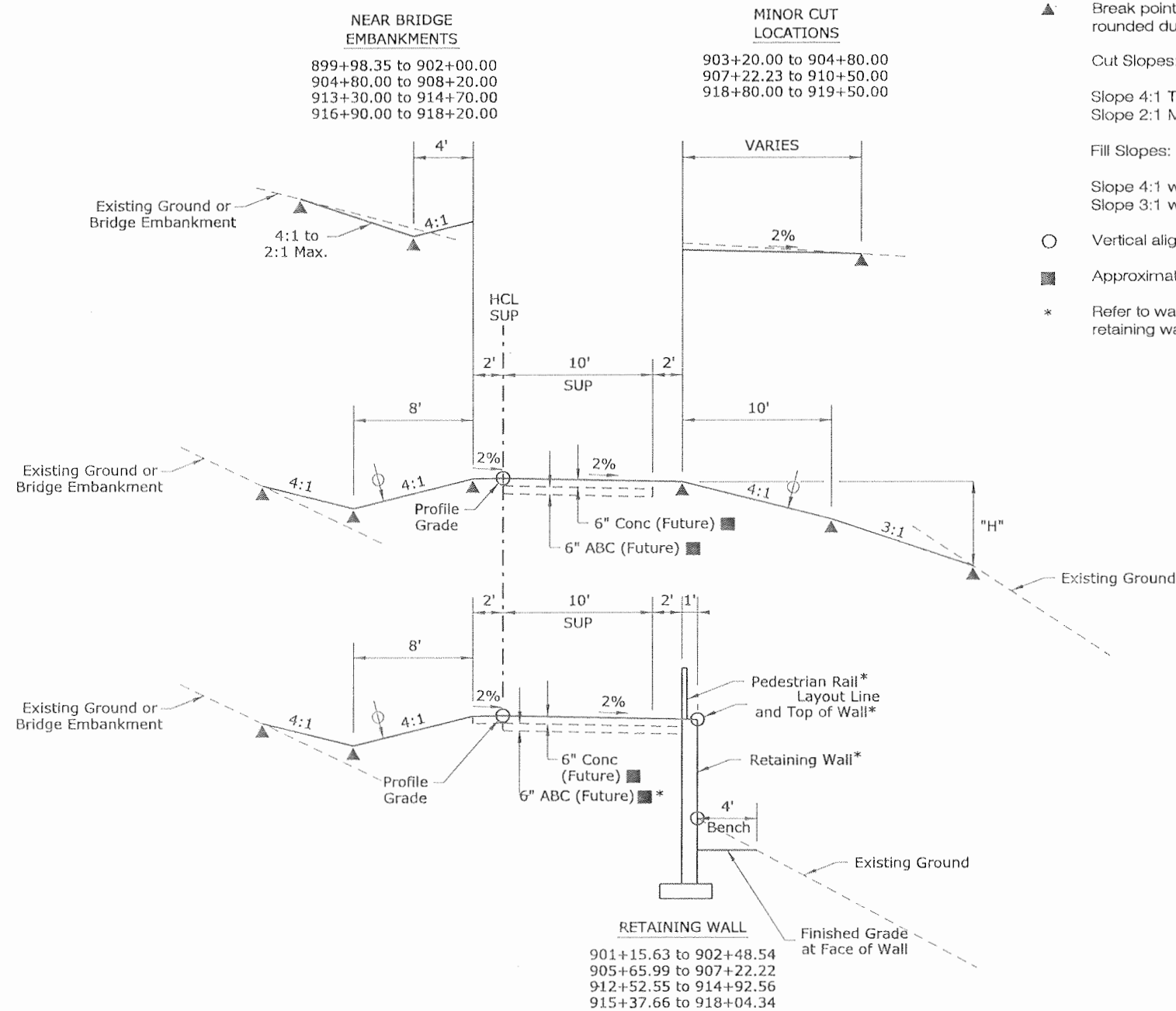
Region 5 **EJA**

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

Ramp D PLAN SHEET			
Designer:	JMB	Structure	n/a
Detailer:	JMB	Numbers	n/a
Sheet Subset:	Roadway	Subset Sheets:	R5 of 5

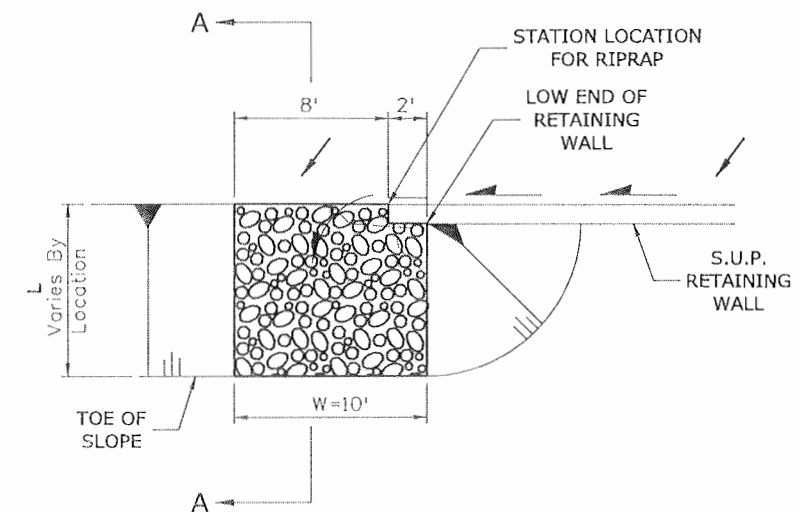
Project No./Code	
NH 1602-114	
16042	
Sheet Number	123

TYPICAL SECTION - SHARED USE PATH



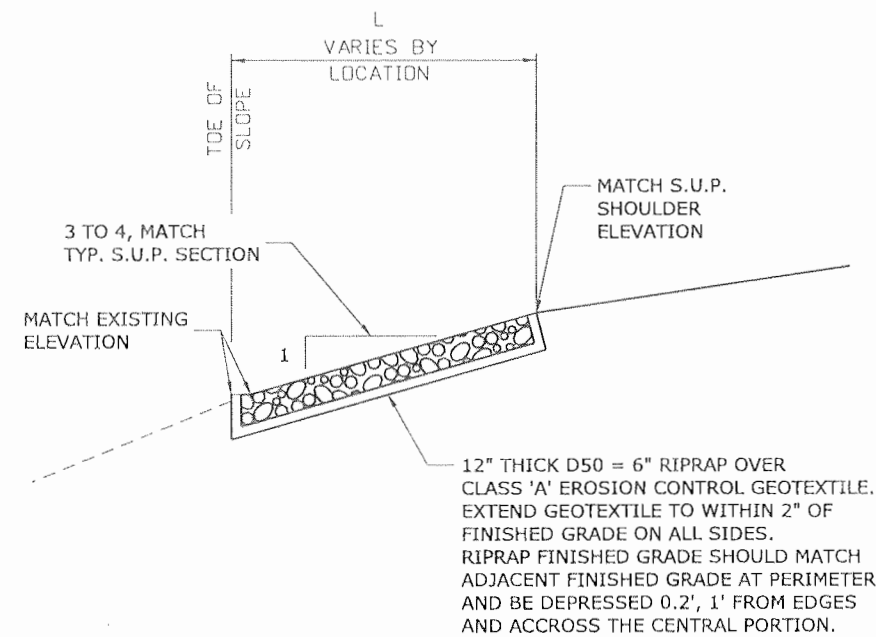
TYPICAL SECTION NOTES

- The Contractor will be required to place 4 inches of topsoil to this line.
- ▲ Break points in slopes and in bottom of ditches shall be rounded during construction for a pleasing appearance.
- Cut Slopes:
Slope 4:1 Typical
Slope 2:1 Max. near bridge embankments
- Fill Slopes:
Slope 4:1 where "H" is 2.5' or less
Slope 3:1 where "H" is over 2.5'
- Vertical alignment control points
- Approximate thickness (minimum).
- * Refer to wall sheets for details on pedestrian rail and retaining walls.



RIPRAP SLOPE PROTECTION AT SUP WALL LOWER END

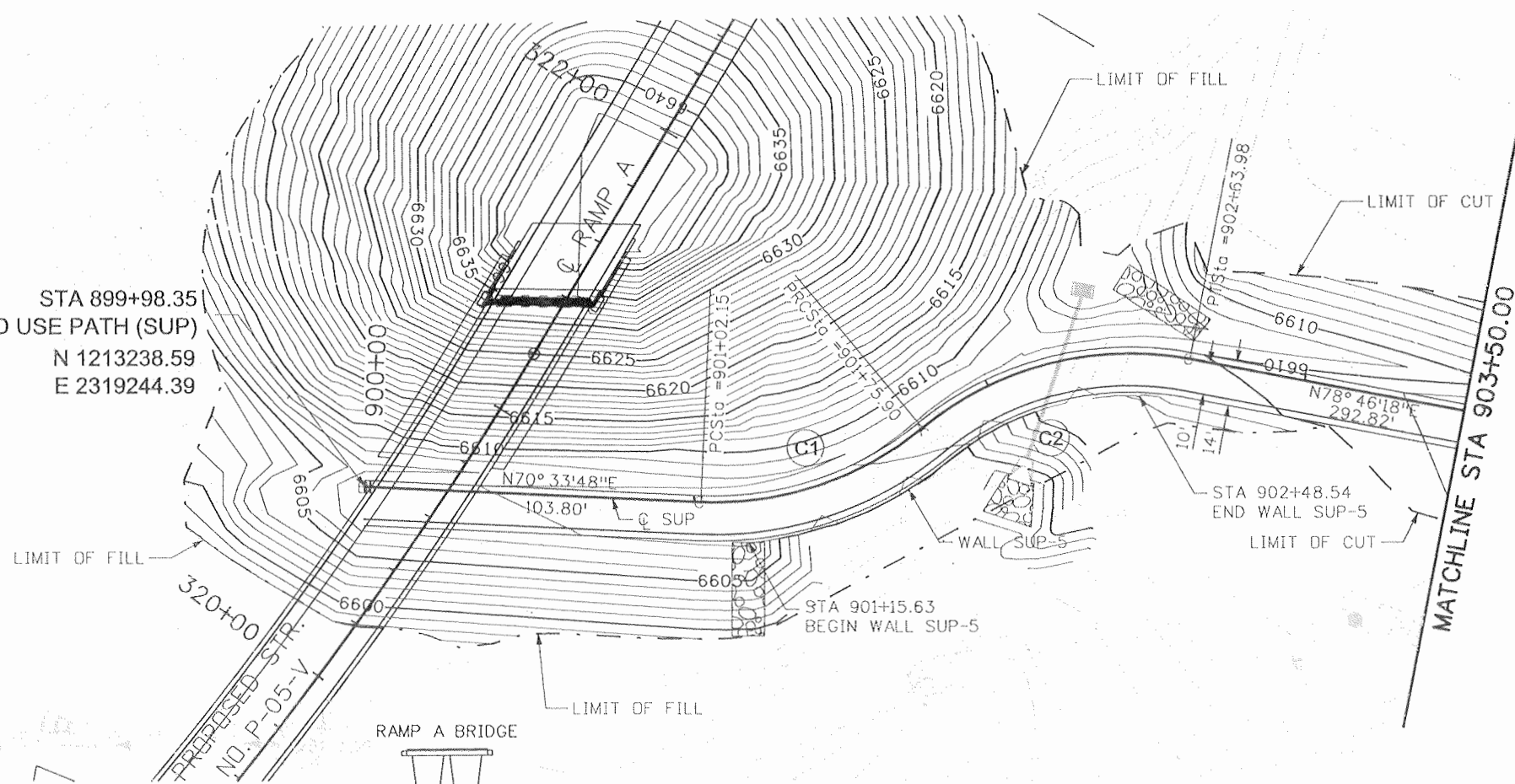
PLAN N.T.S.



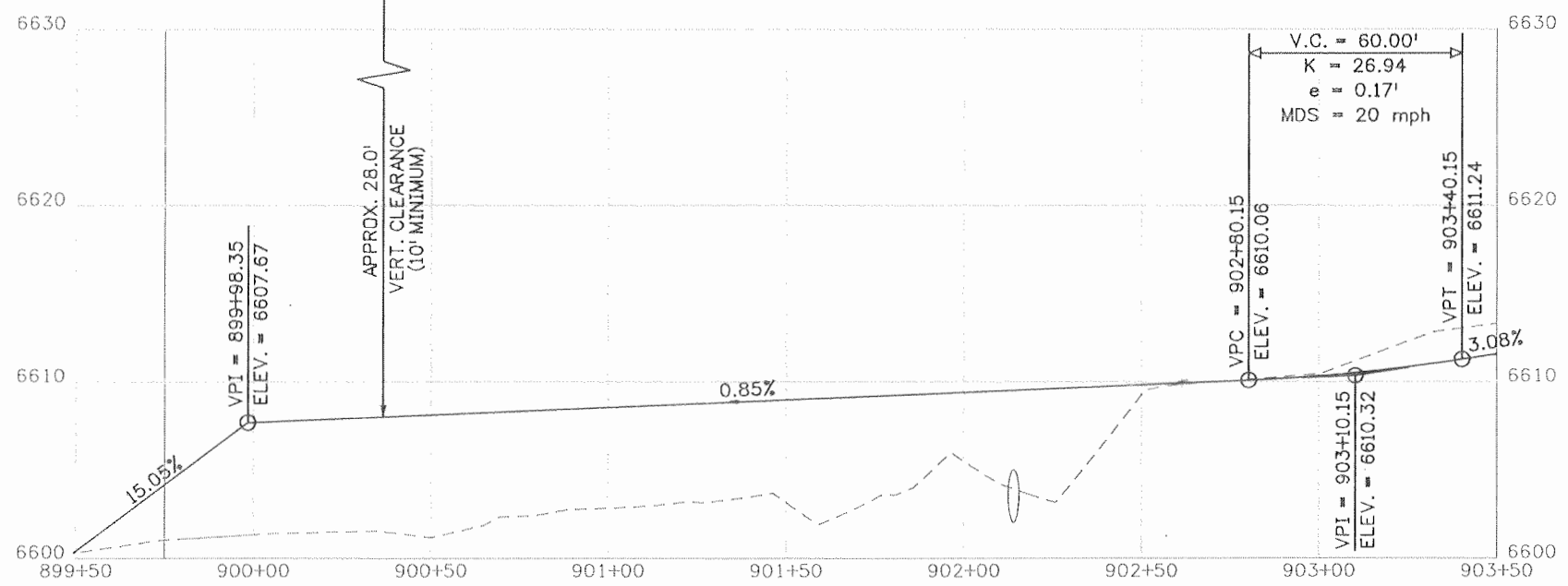
SECTION A-A
N.T.S.

Print Date: 9/22/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365	As Constructed	SHARED USE PATH TYPICAL SECTION		Project No./Code
File Name: 16042_GY701.dgn	Date:	Comments	Init.		No Revisions: 9/10			NH 1602-114
Horiz. Scale: 1:10 Vert. Scale: As Noted				Region 5	Revised:	Designer: KSF	Structure Numbers	16042
Unit Information Unit Leader Initials					Void:	Detailer: MAM/RKL	Subset Sheets: SUP1 of 6	Sheet Number 124
SEMA CONSTRUCTION	WILSON & COMPANY			EJA				

STA 899+98.35
 BEGIN SHARED USE PATH (SUP)
 N 1213238.59
 E 2319244.39



STA 901+15.63 INSTALL
 11.4 CY D50=6"
 RIPRAP (W=10, L=29, T=1)
 OVER CLASS 'A' EROSION
 CONTROL GEOTEXTILE



Print Date: 9/23/2010	
File Name: 16042_GP701.dgn	
Horiz. Scale: 1:50 Vert. Scale: 1:10	
Unit Information Unit Leader Initials	

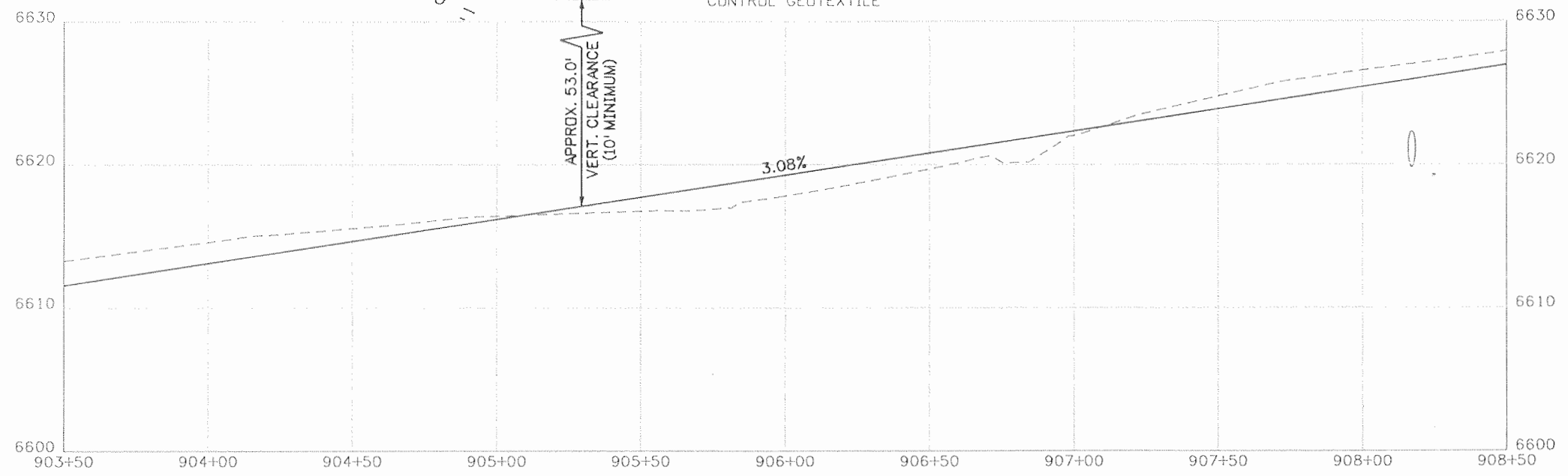
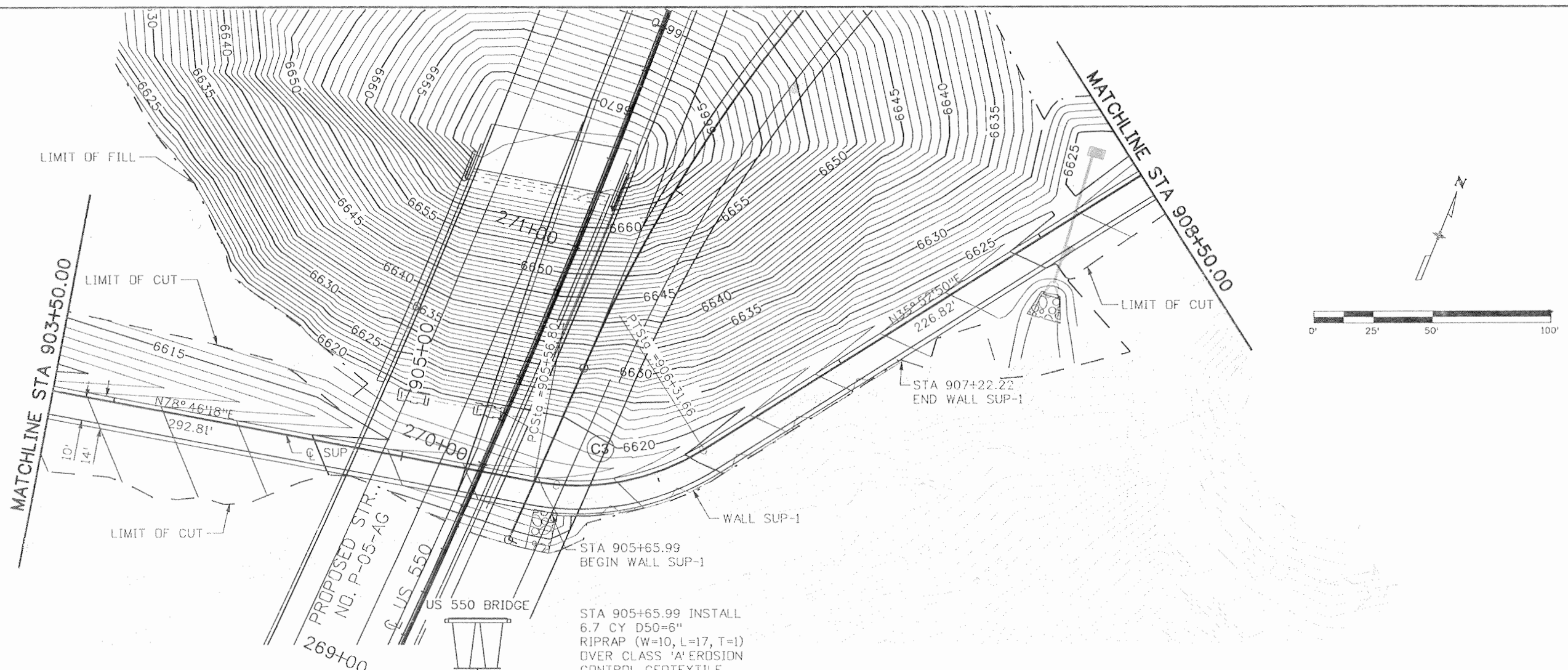
Sheet Revisions		
Date:	Comments	Init.




Colorado Department of Transportation
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 Region 5 EJA

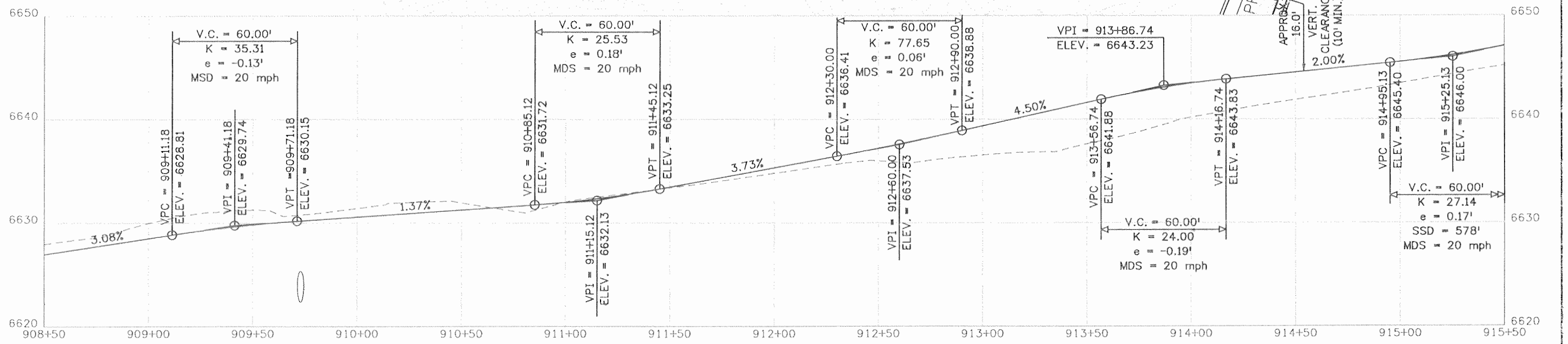
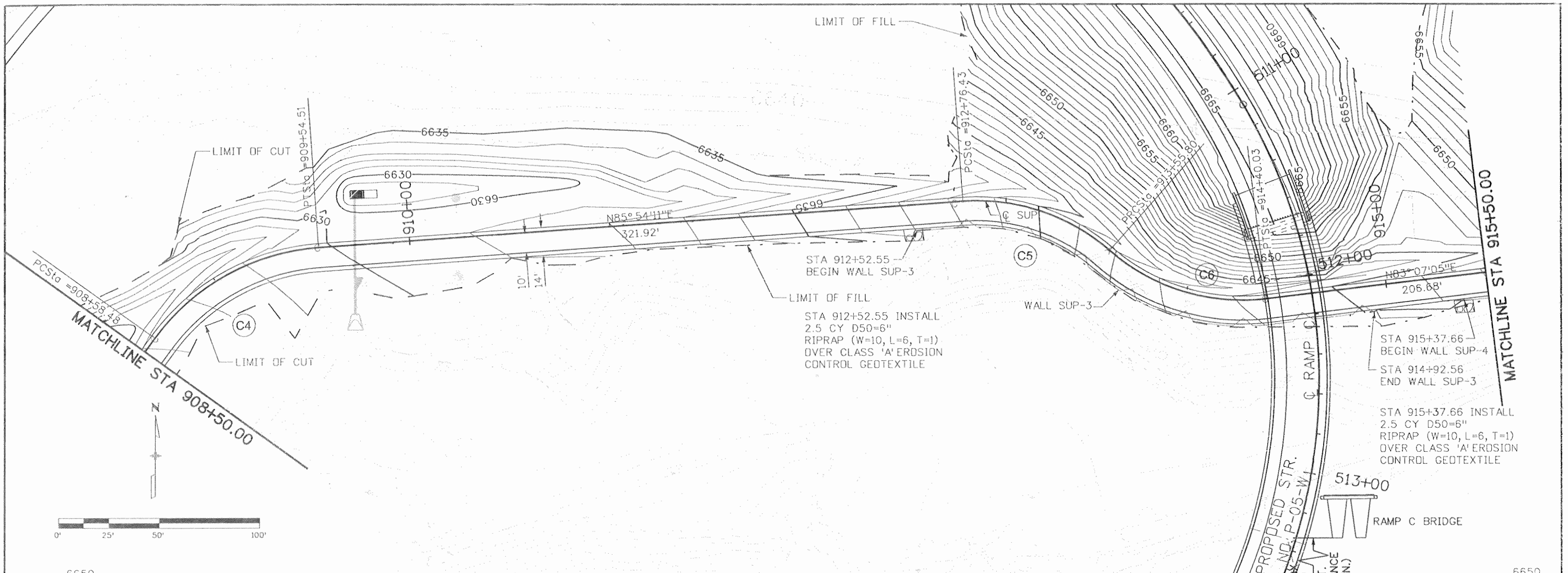
As Constructed
No Revisions: 9/10
Revised:
Void:

SHARED USE PATH PLAN & PROFILE	
Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP	Subset Sheets: SUP2 of 6

Project No./Code
NH 1602-114
16042
Sheet Number 125



Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365	As Constructed		SHARED USE PATH PLAN & PROFILE		Project No./Code
File Name: 16042_GP702.dgn	Date:	Comments	Init.		No Revisions: 9/10				NH 1602-114
Horiz. Scale: 1:50				 Region 5	Revised:	Designer:	Structure		16042
Unit Information	Unit Leader Initials				Void:	Detailer:	Numbers		Sheet Number
				EJA	Sheet Subset: SUP	Subset Sheets: SUP3 of 6		126	



Print Date: 9/23/2010
 File Name: 16042_GP703.dgn
 Horiz. Scale: 1:50
 Unit Information
 Vert. Scale: 1:10
 Unit Leader Initials
SEMA
WILSON & COMPANY

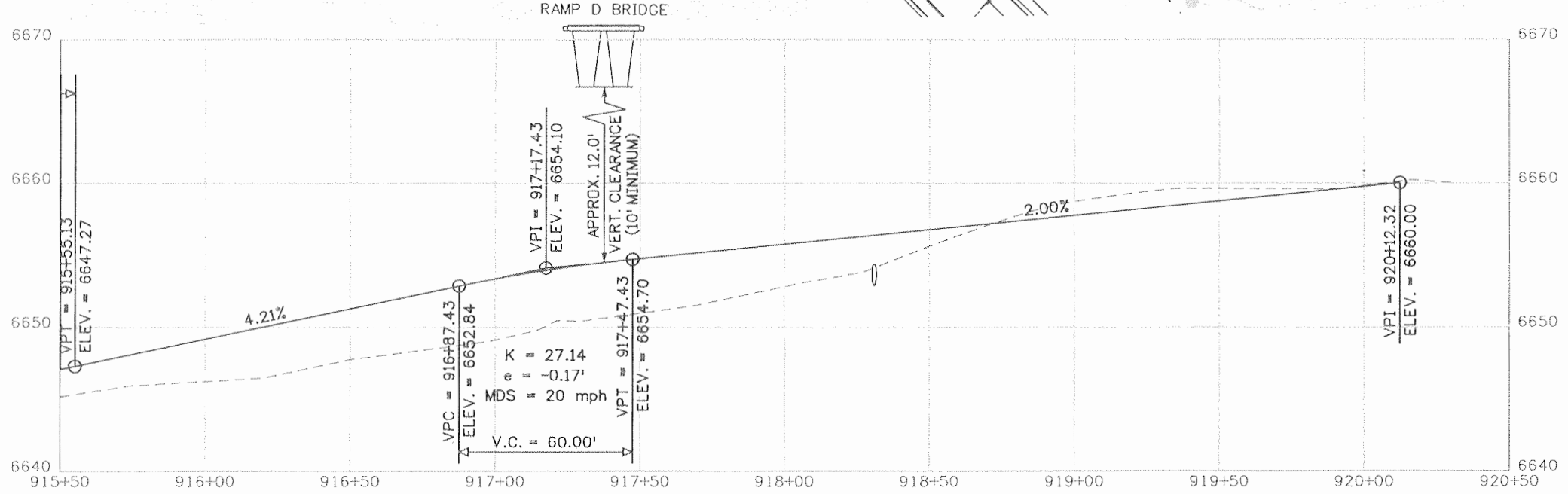
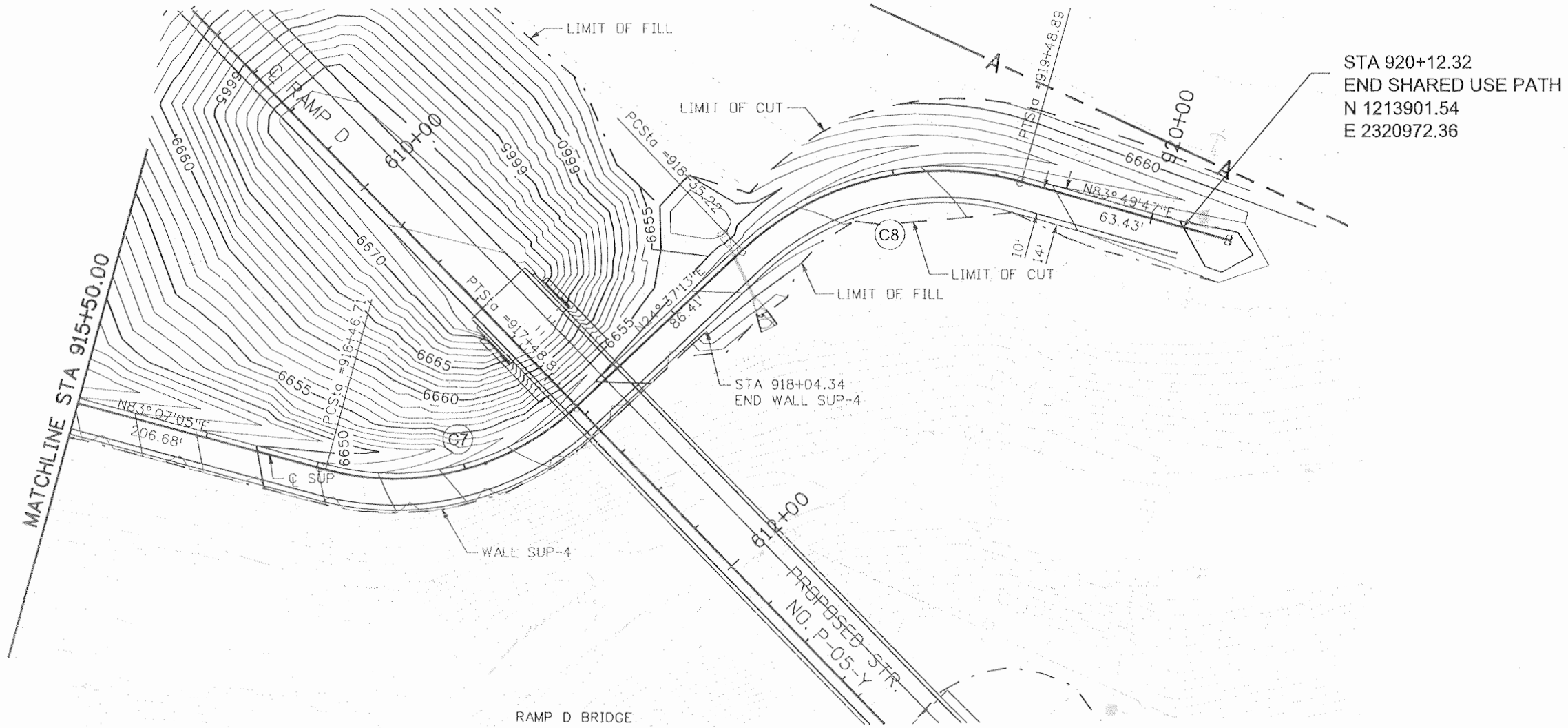
Sheet Revisions		
Date:	Comments	Init.

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 Region 5 EJA

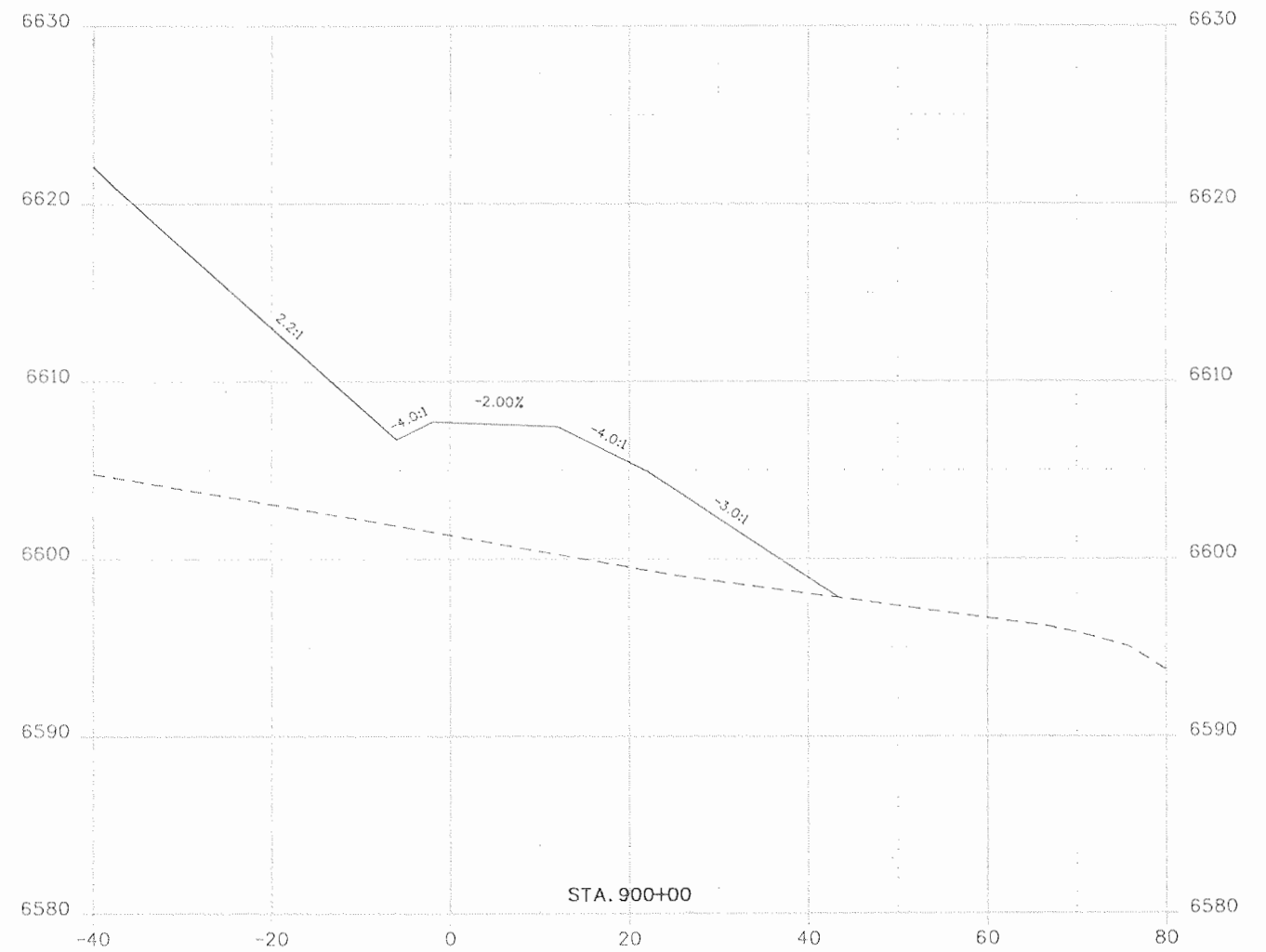
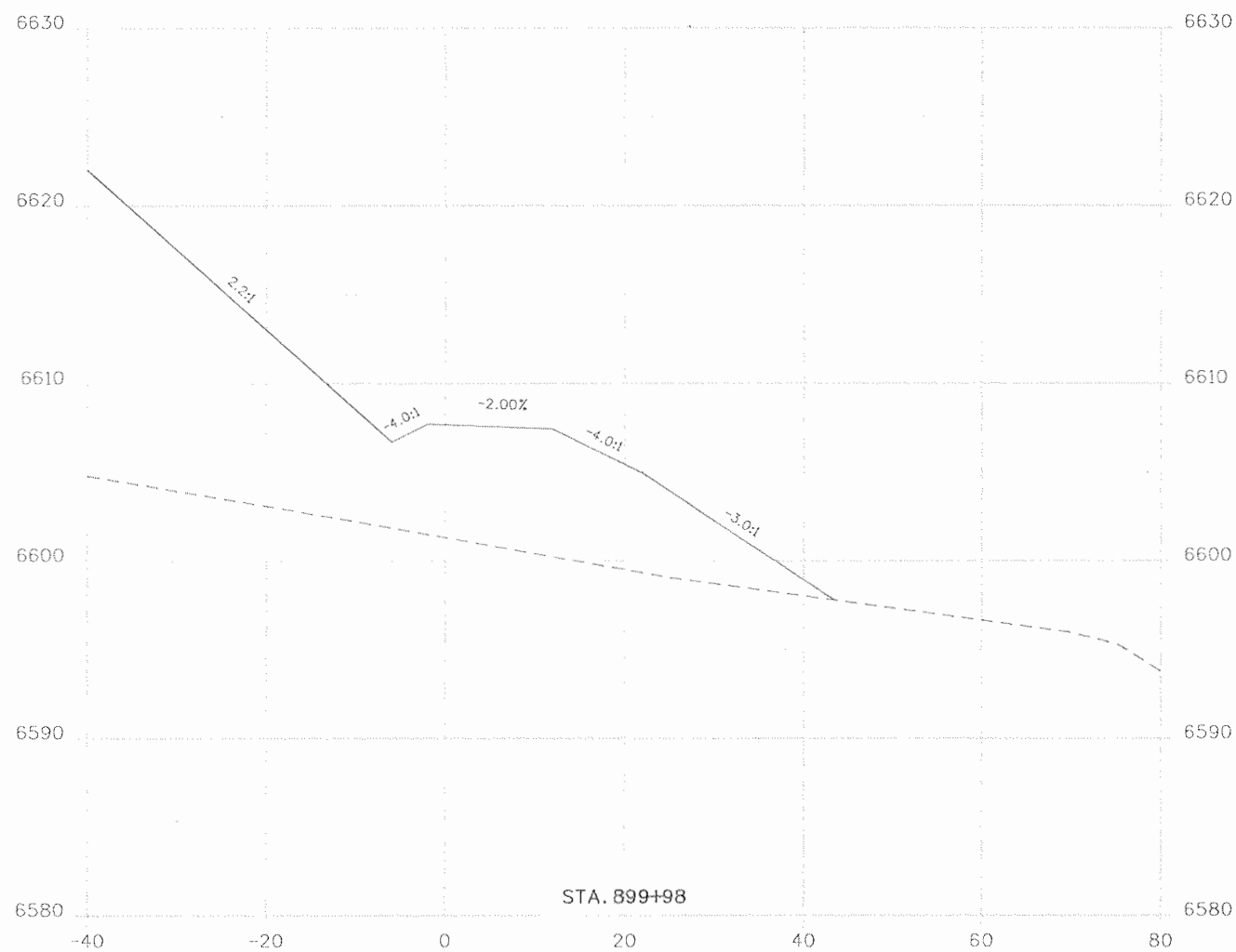
As Constructed
 No Revisions: 9/10
 Revised:
 Void:

SHARED USE PATH
 PLAN & PROFILE
 Designer:
 Detailer:
 Sheet Subset: SUP
 Structure Numbers:
 Subset Sheets: SUP4 of 6

Project No./Code
 NH 1602-114
 16042
 Sheet Number 127



Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	SHARED USE PATH PLAN & PROFILE		Project No./Code
File Name: 16042_CP704.dgn	Date:	Comments	Init.		No Revisions: 9/10			NH 1602-114
Horiz. Scale: 1:50					Revised:	Designer:	Structure Numbers	16042
Unit Information	Unit Leader Initials				Void:	Detailer:	Sheet Subset: SUP	Subset Sheets: SUP5 of 6



Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

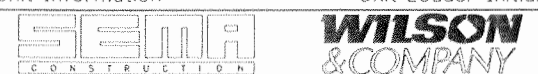
Colorado Department of Transportation
 3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365
 Region 5 EJA

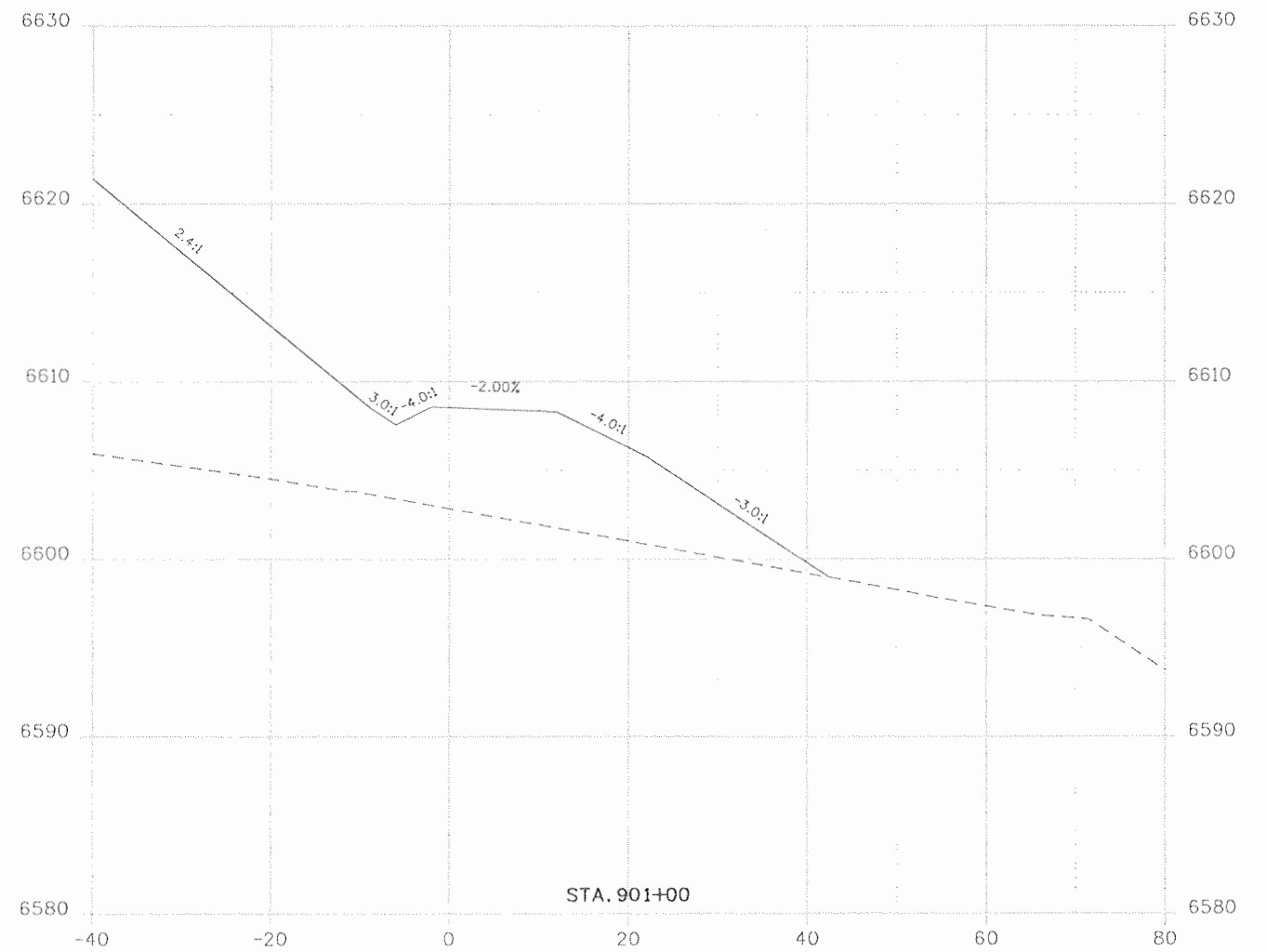
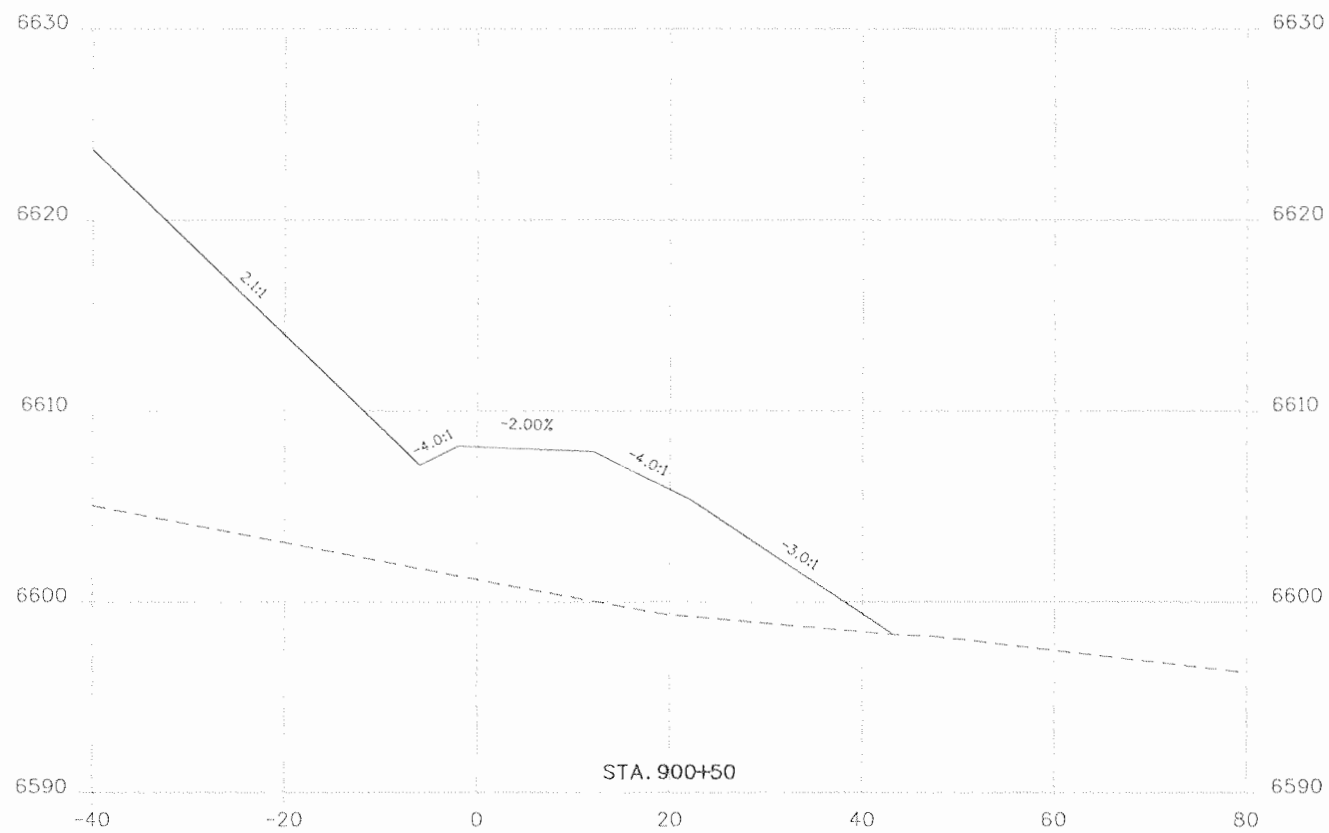
As Constructed
 No Revisions: 9/10
 Revised:
 Void:

SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS1 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 130





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

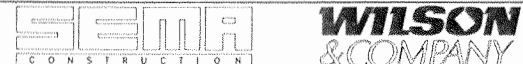
Colorado Department of Transportation
 3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365
 Region 5 EJA

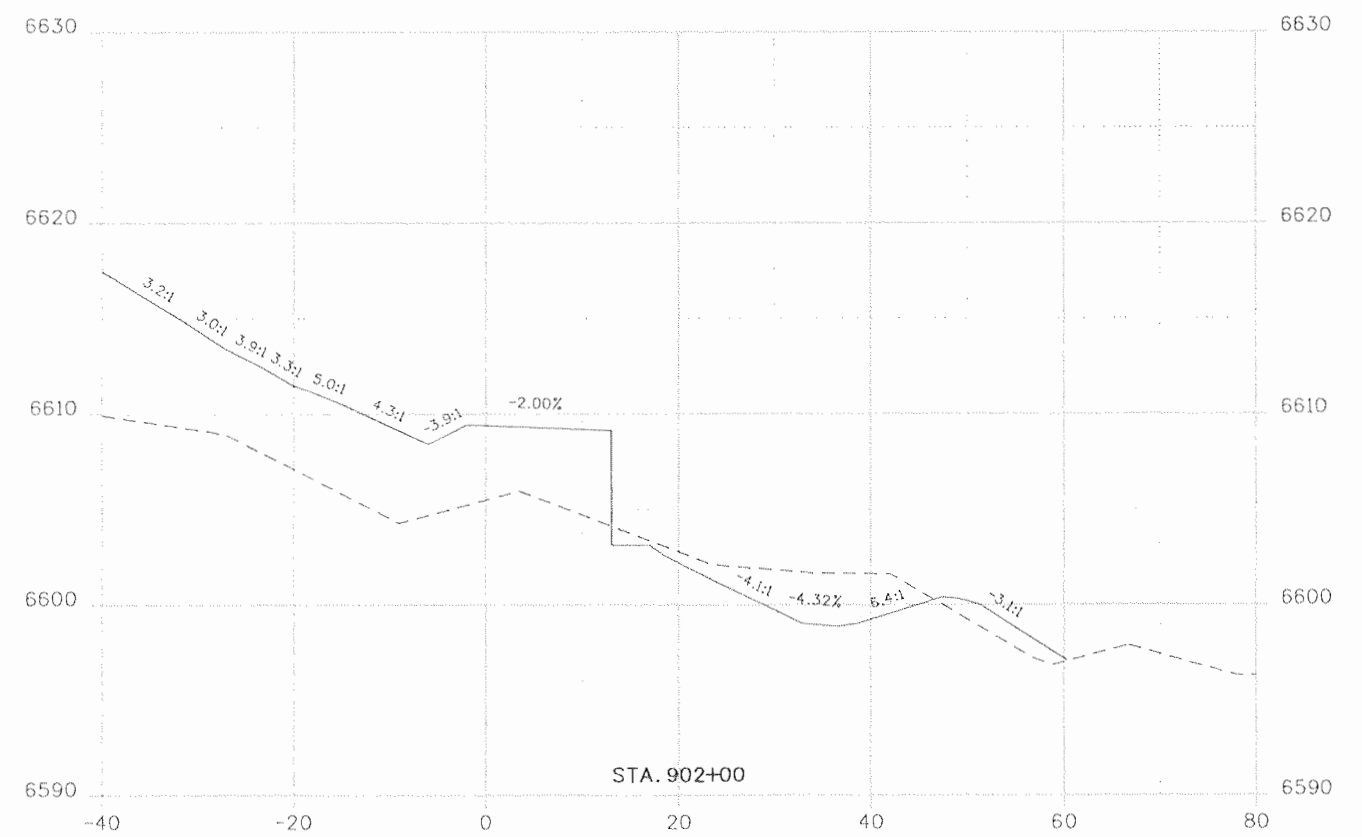
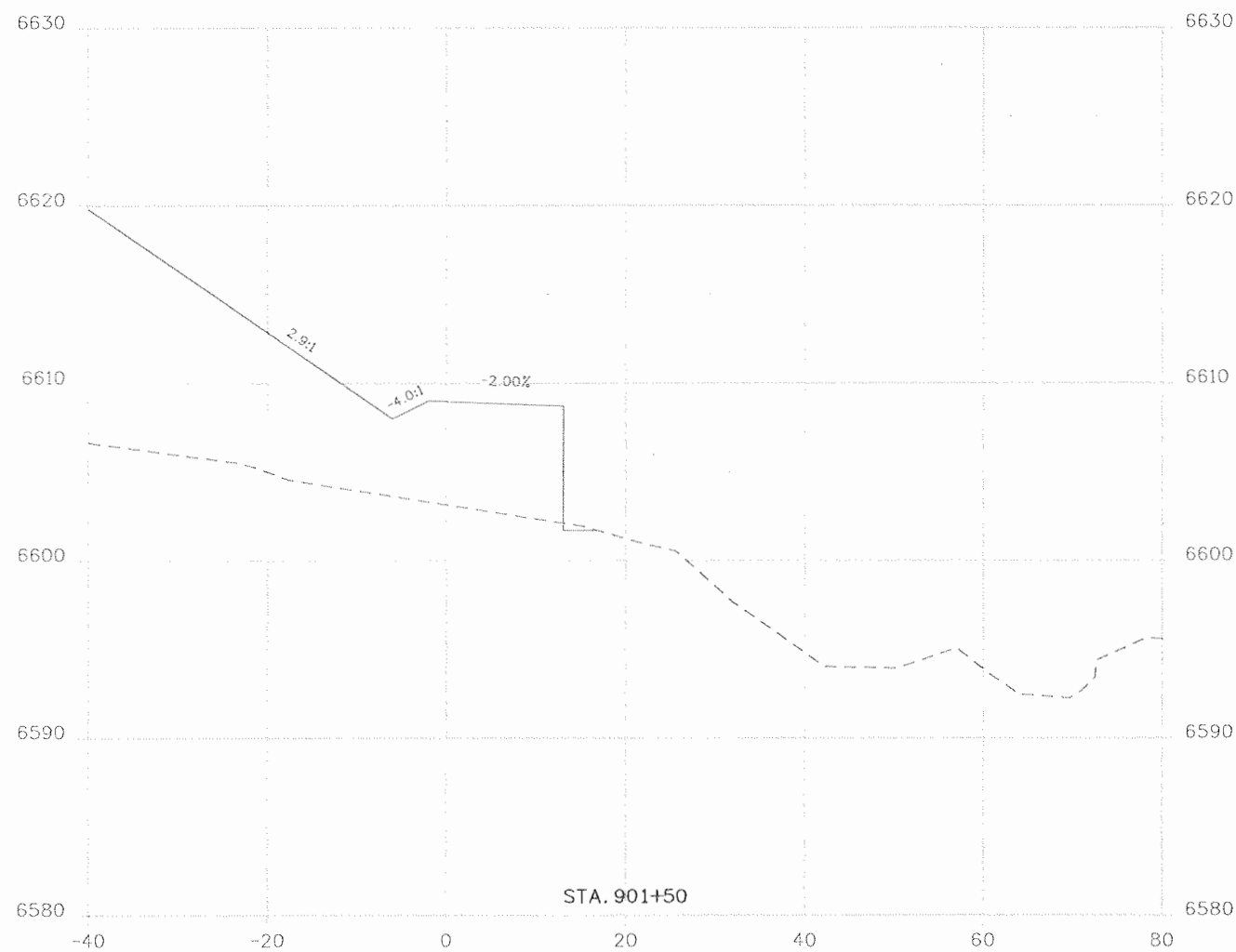
As Constructed
 No Revisions: 9/10
 Revised:
 Void:

SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS2 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 131





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

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Sheet Revisions		
Date:	Comments	Init.

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 3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365

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Region 5 EJA

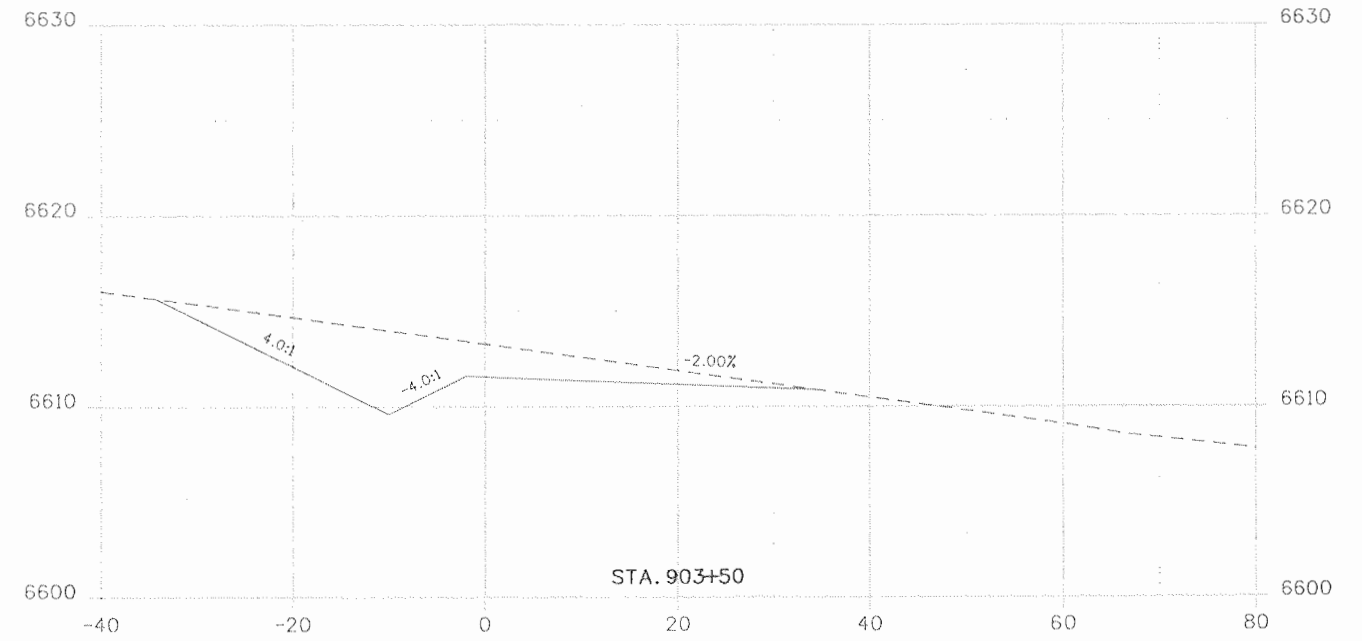
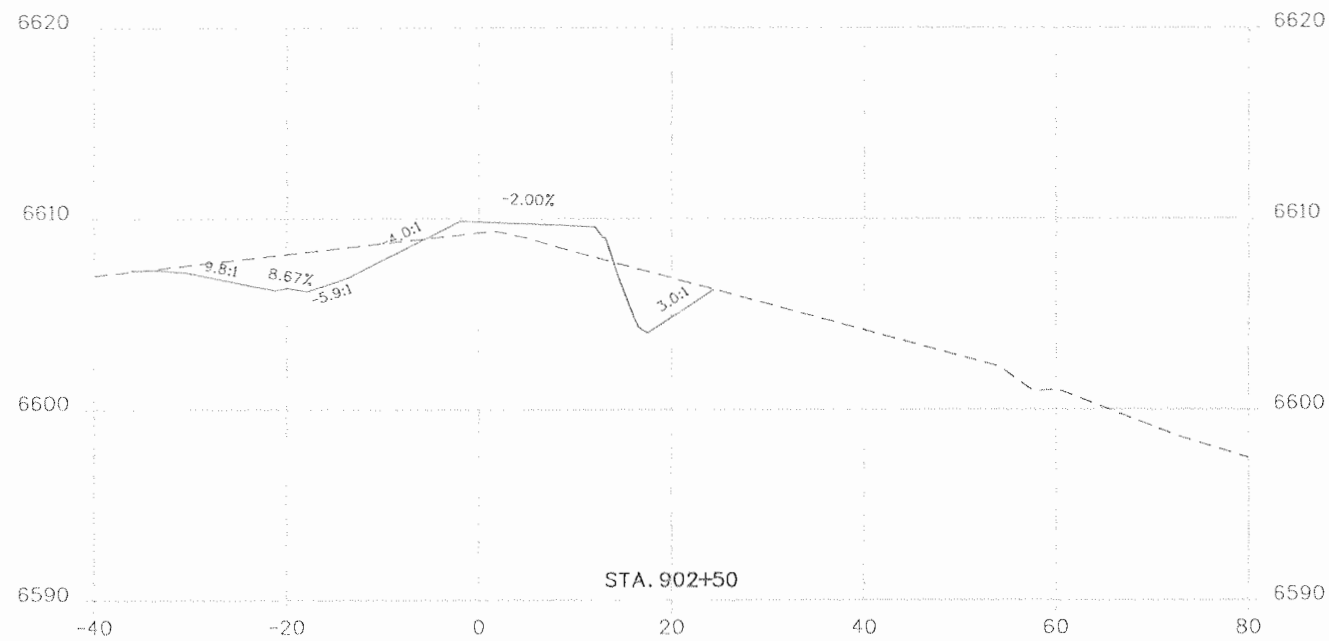
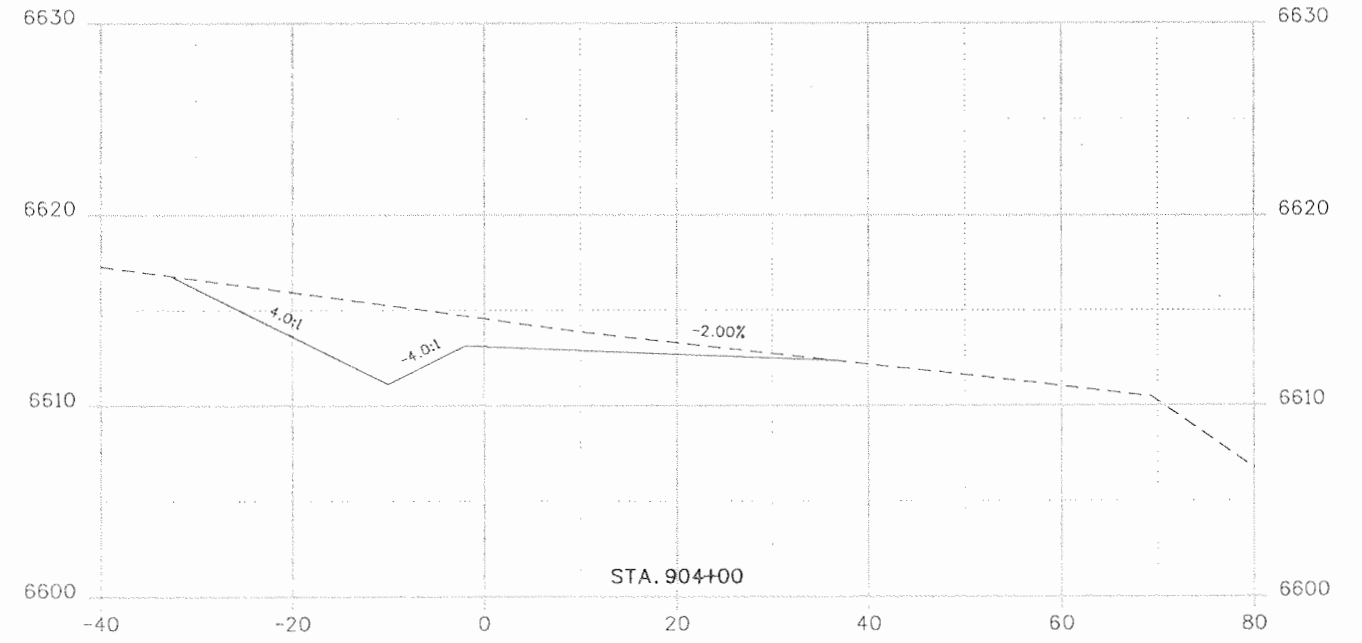
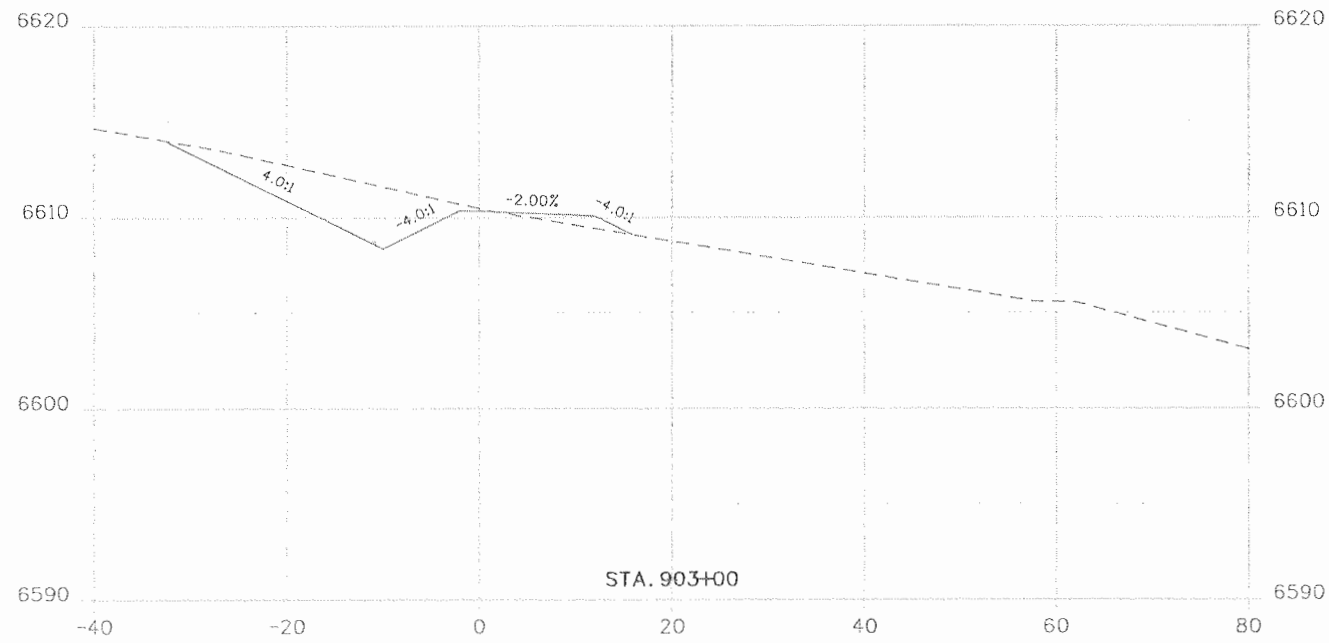
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 No Revisions: 9/10
 Revised:
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SHARED USE PATH
 CROSS SECTIONS

Designer:
 Detailer:
 Sheet Subset: SUP XS

Structure Numbers:
 Subset Sheets: XS3 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 132



Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

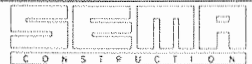
Colorado Department of Transportation
 3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365
 Region 5 EJA

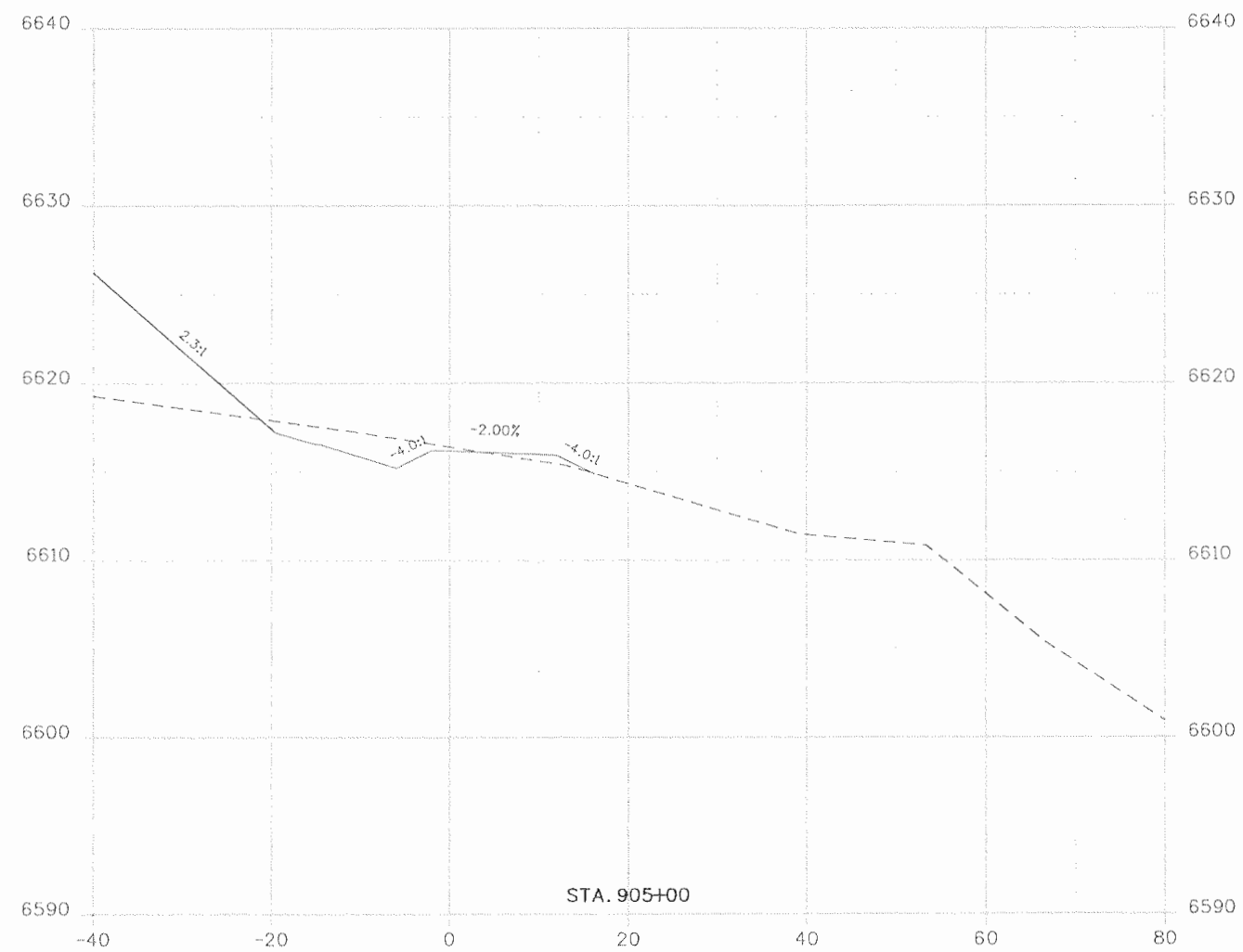
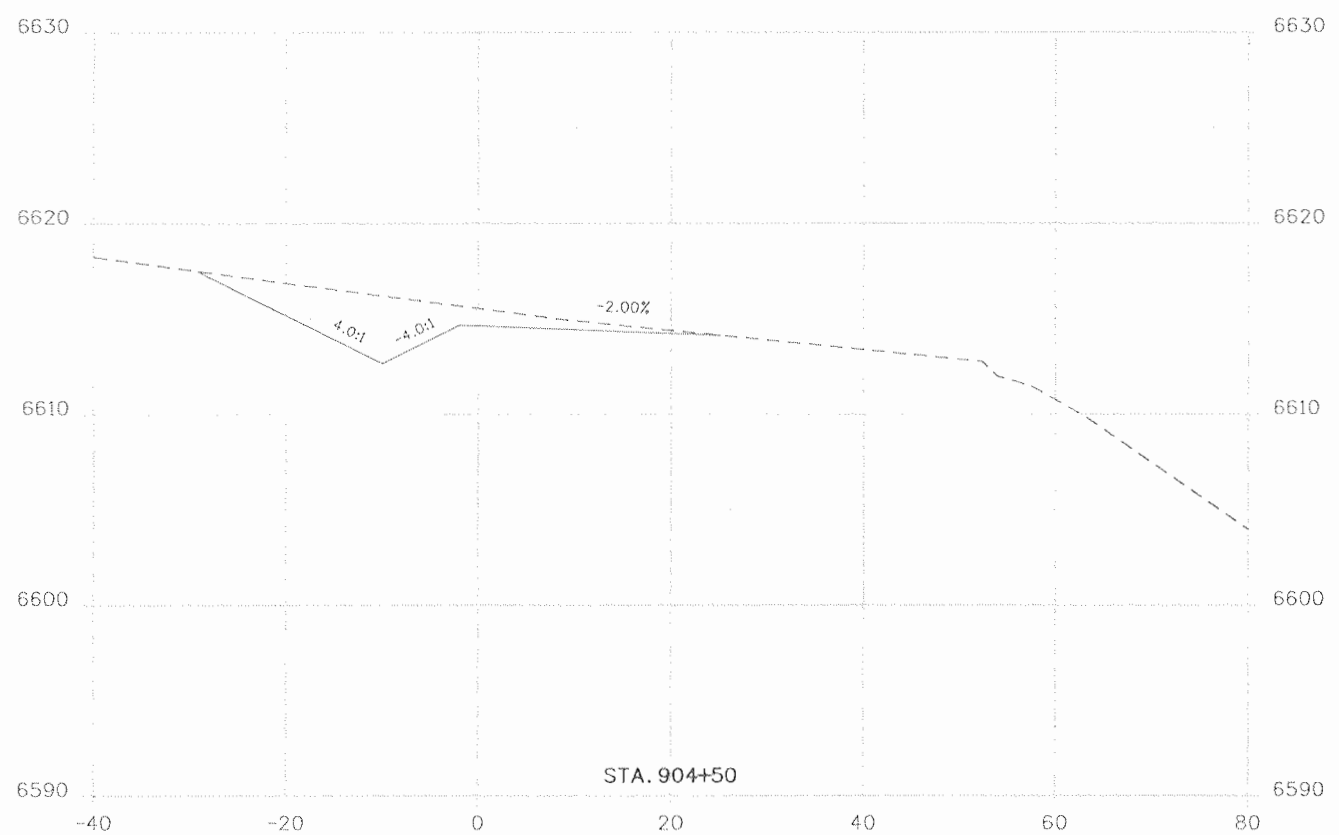
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 Revised:
 Void:

SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS4 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 133





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

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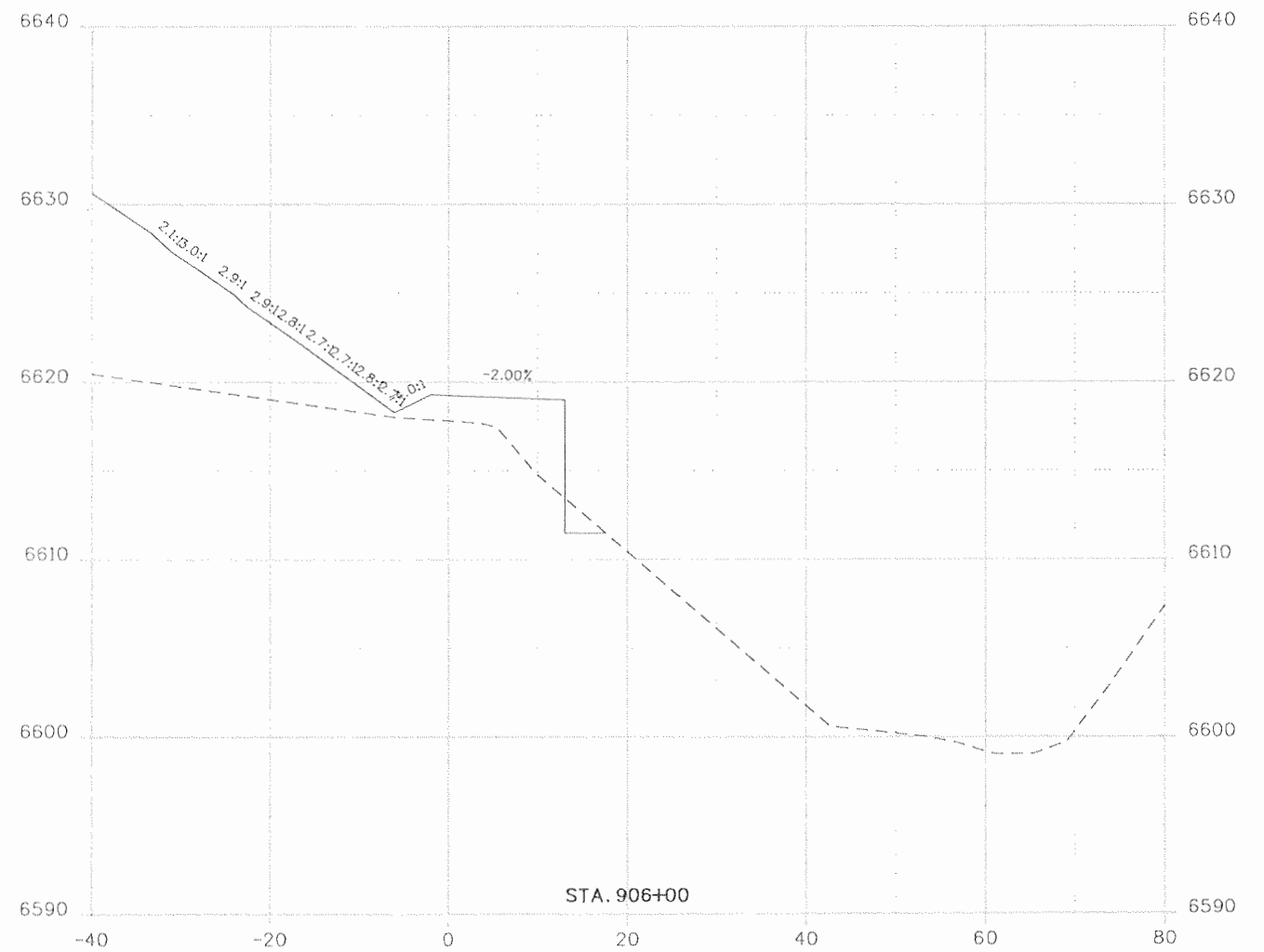
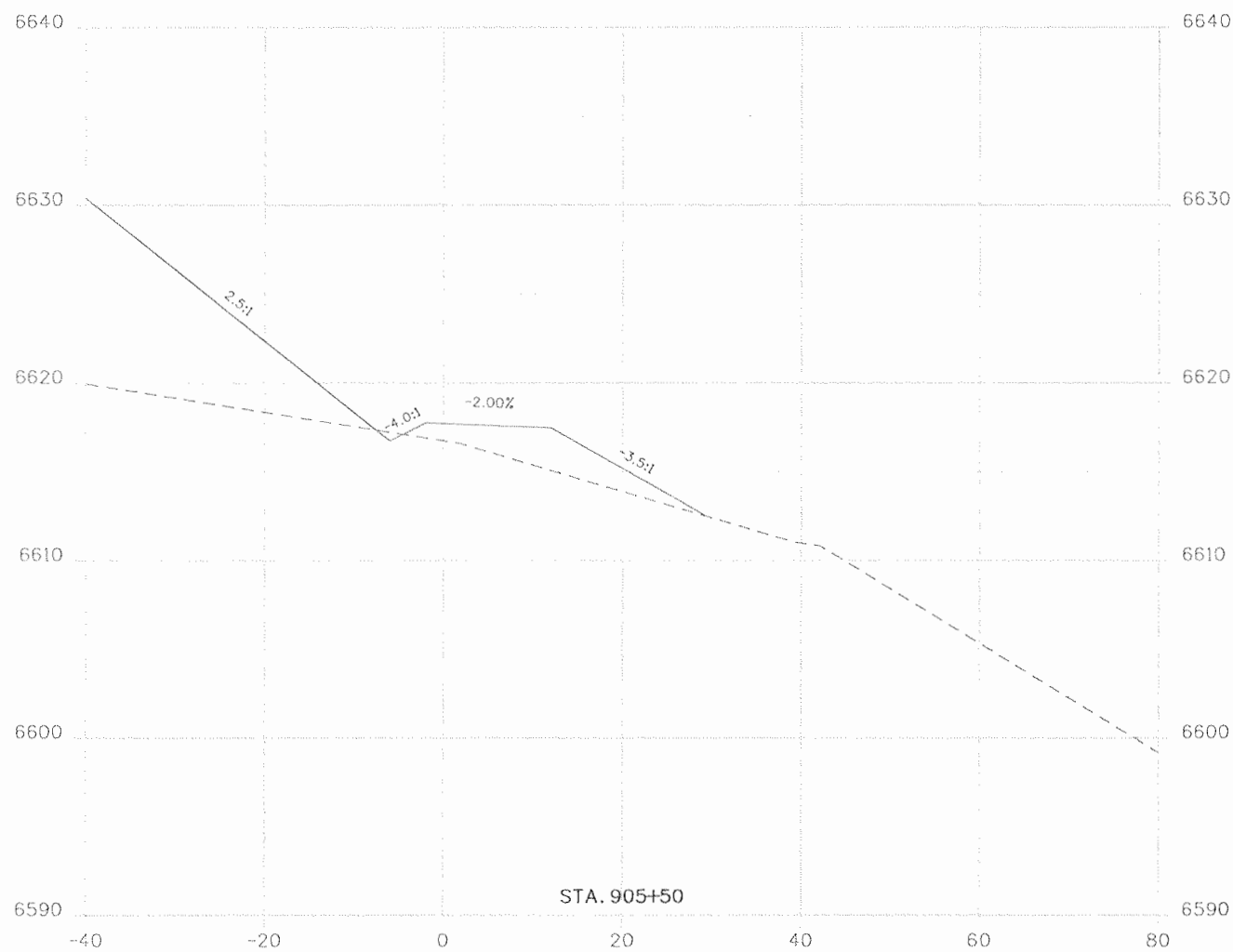
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 Revised:
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SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS5 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 134





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

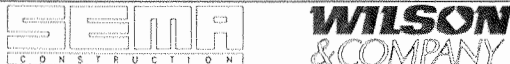
Colorado Department of Transportation
 3803 North Main Avenue
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 Region 5 EJA

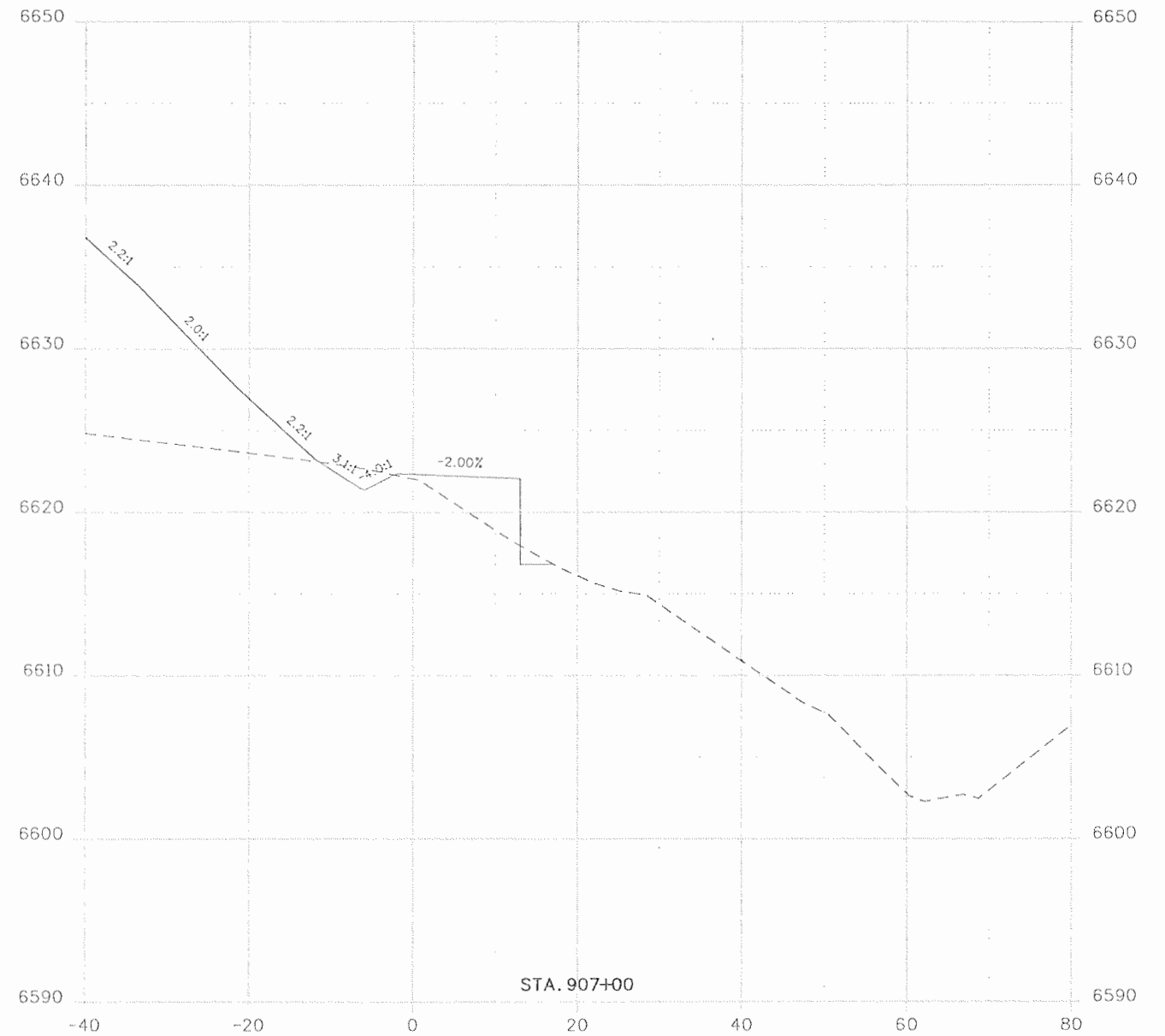
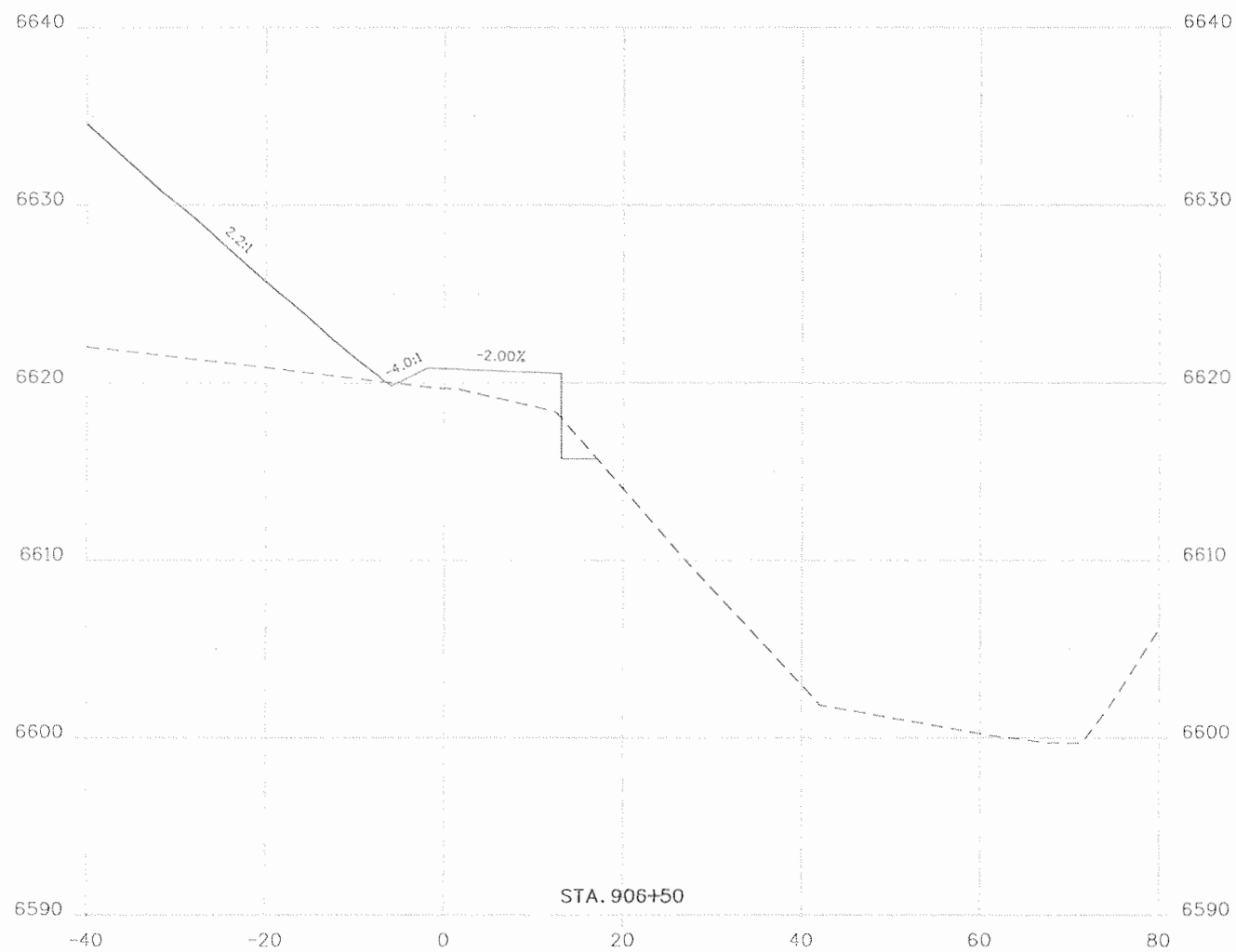
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 No Revisions: 9/10
 Revised:
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SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS6 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 135





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
 3803 North Main Avenue
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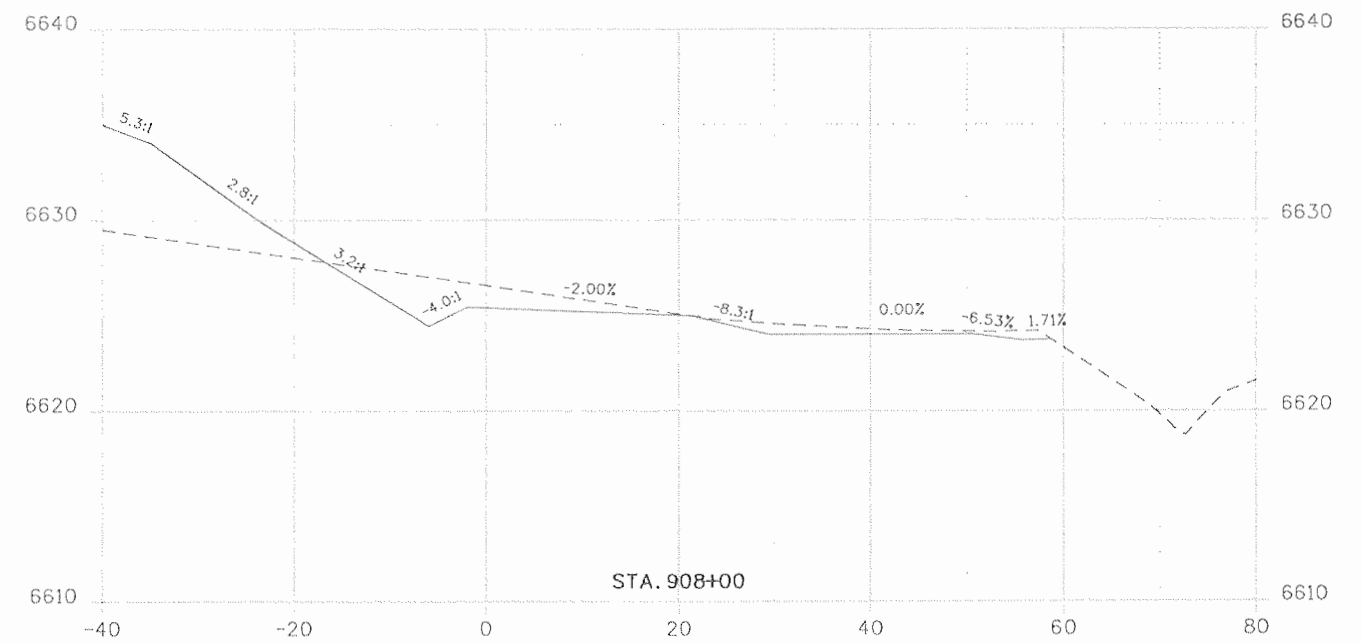
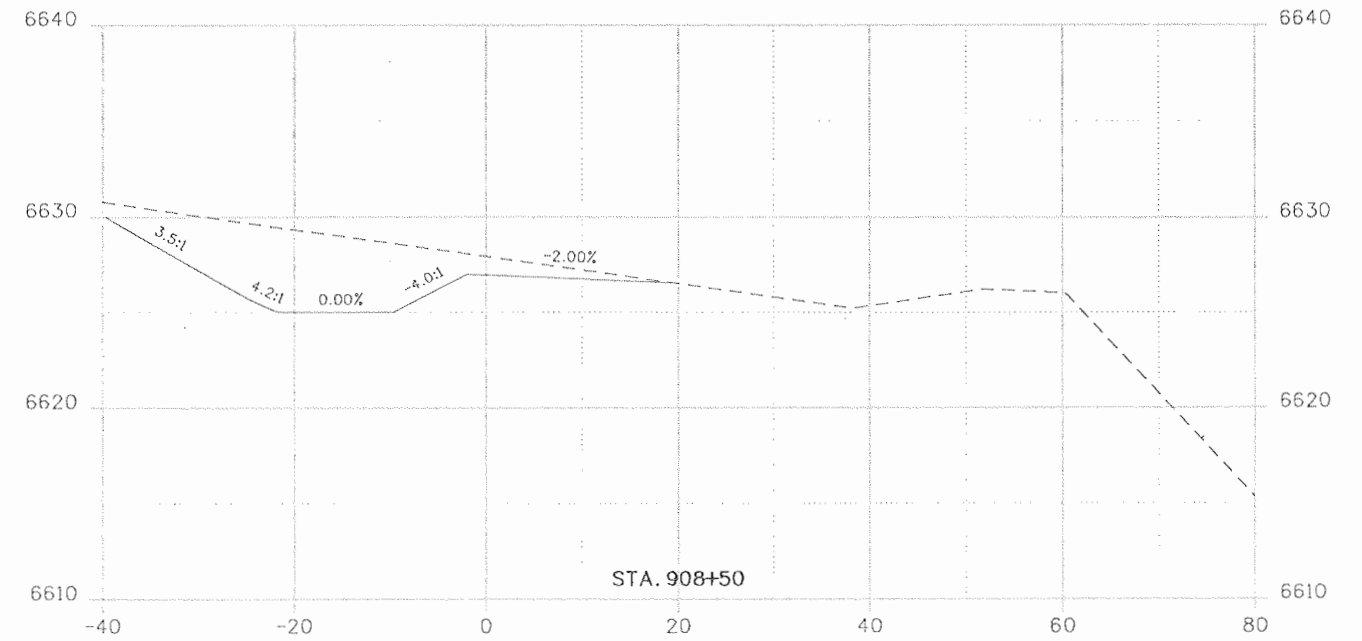
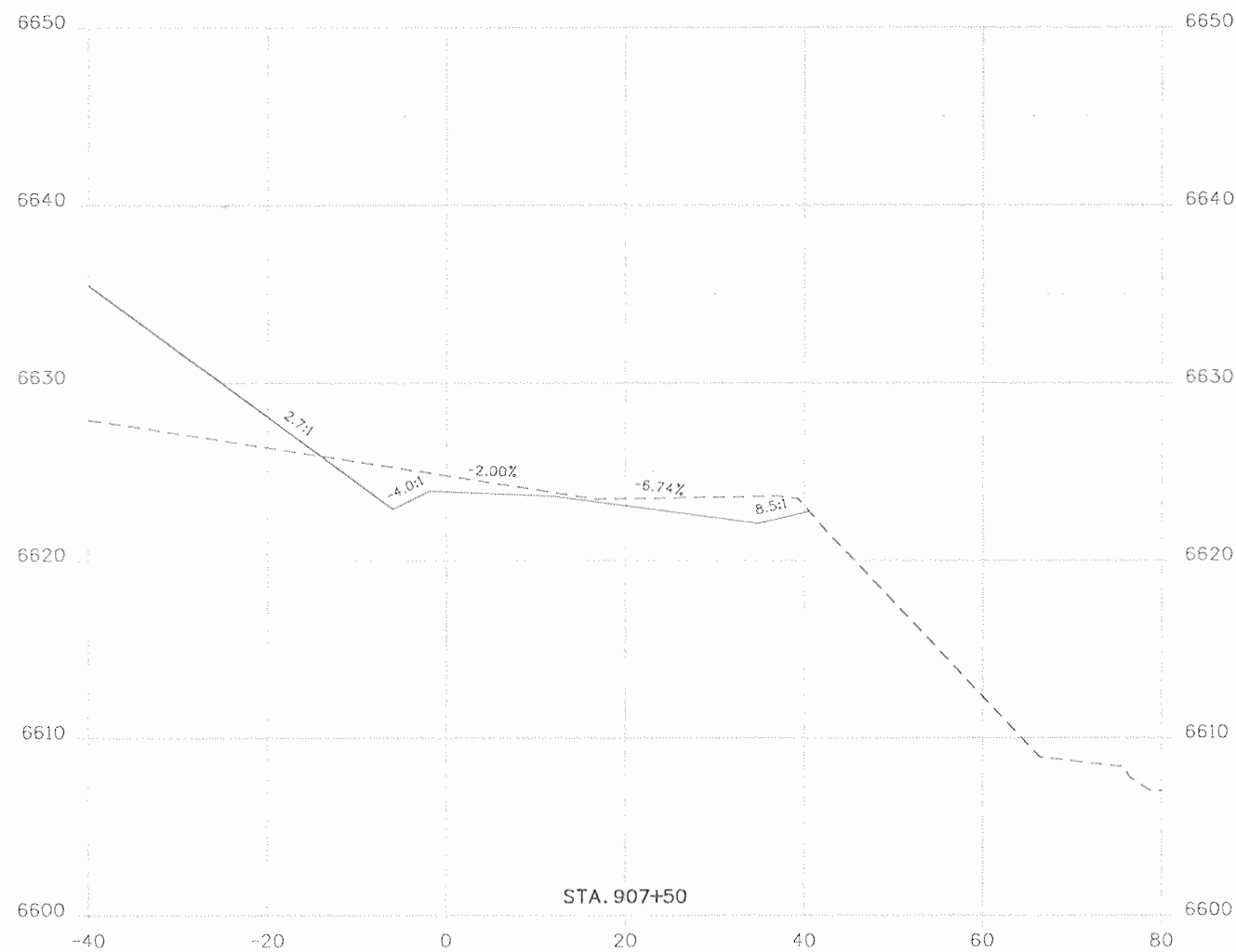
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 Revised:
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SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS7 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 136





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

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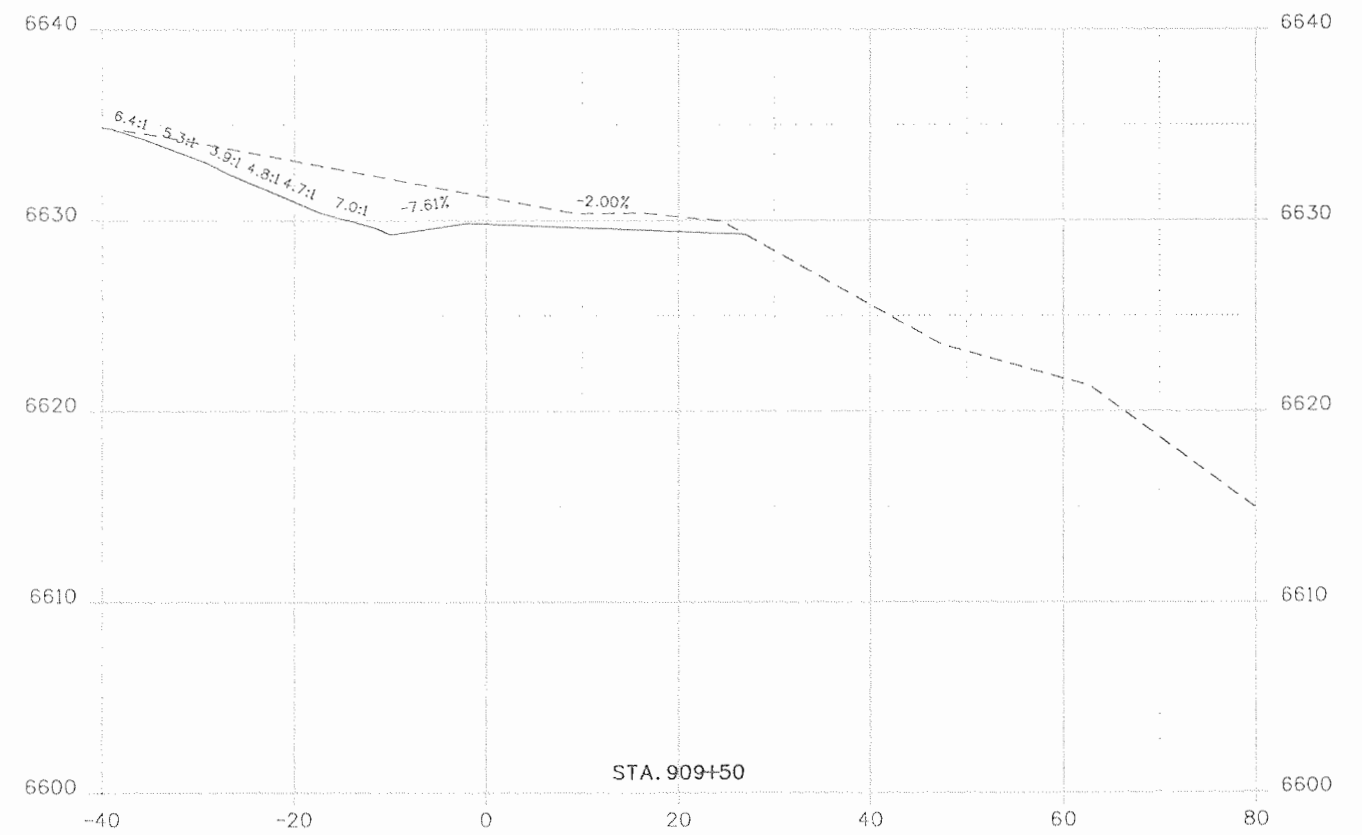
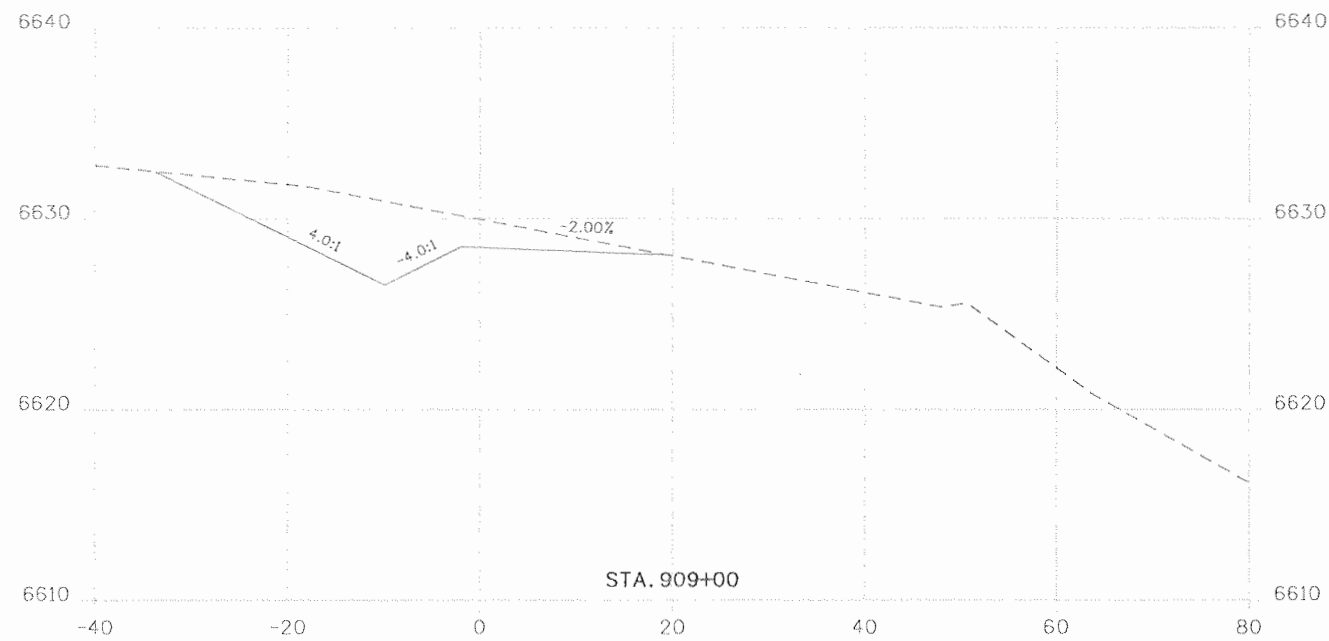
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 No Revisions: 9/10
 Revised:
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SHARED USE PATH
 CROSS SECTIONS

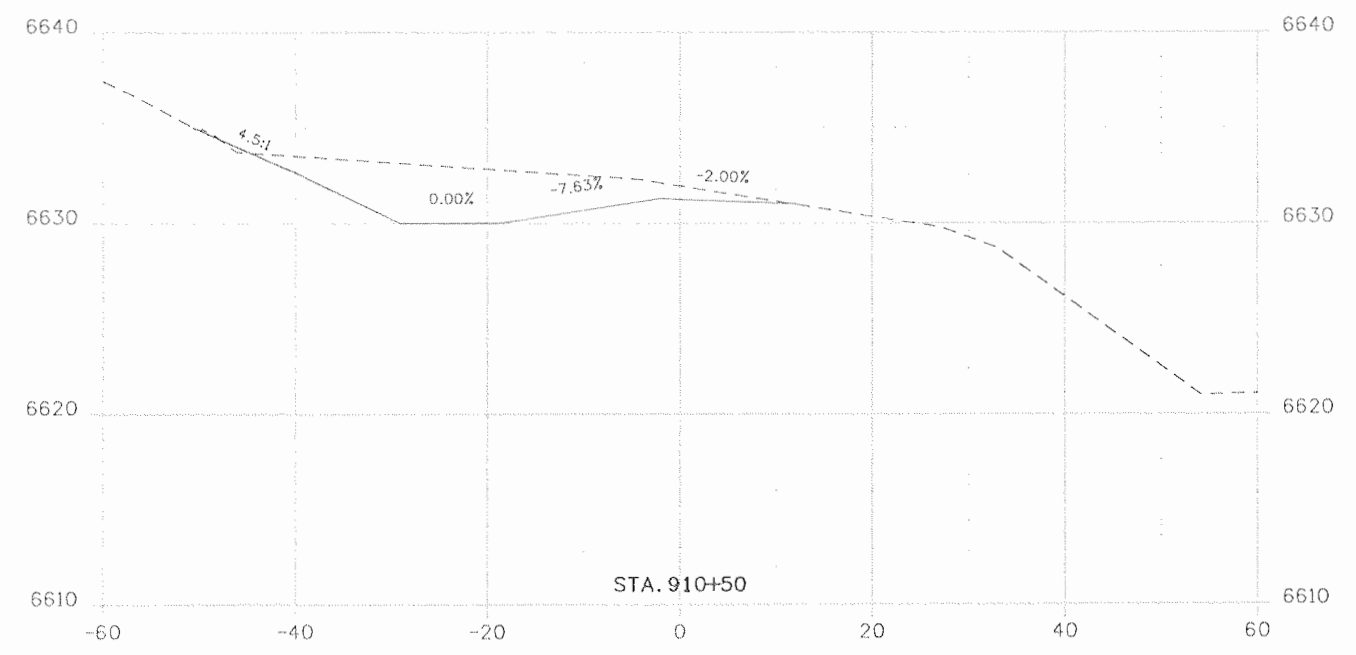
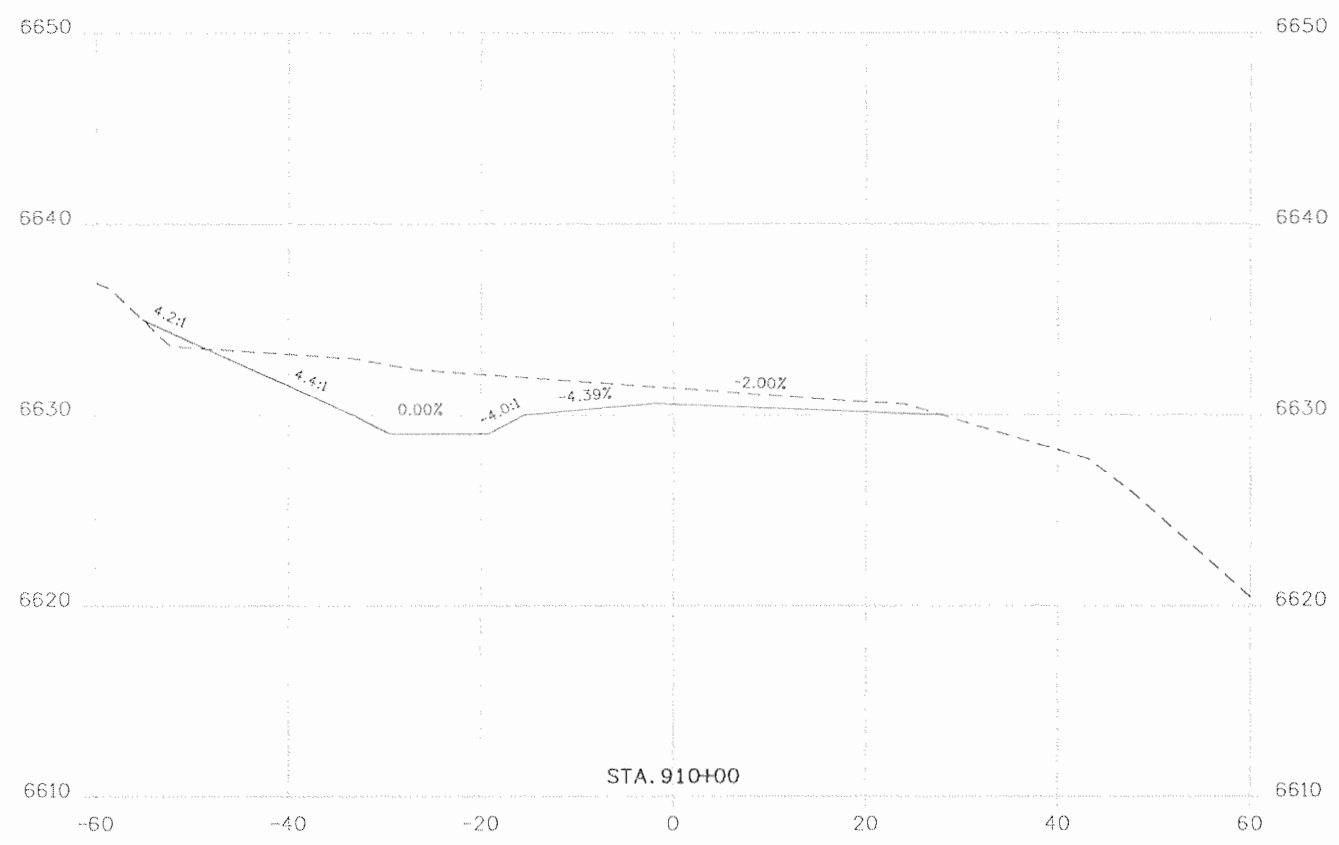
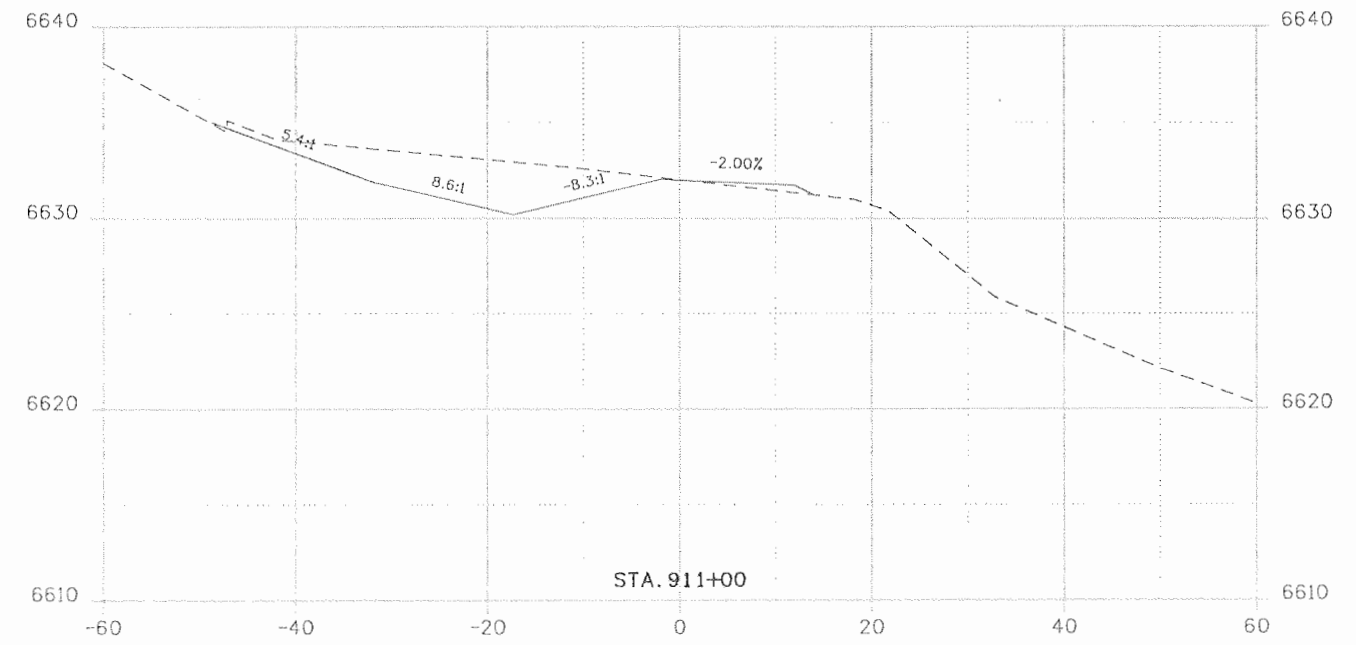
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Project No./Code
 NH 1602-114
 16042
 Sheet Number 137

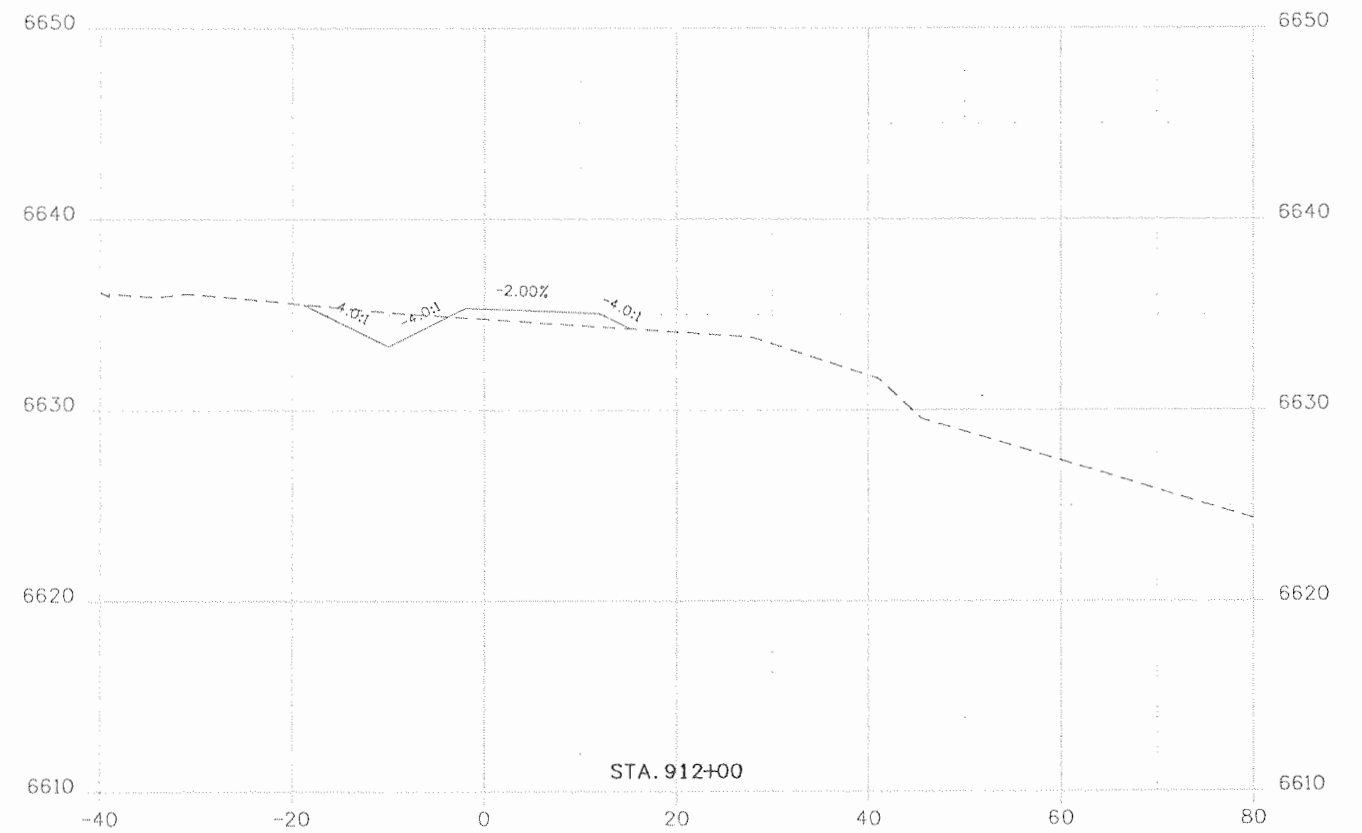
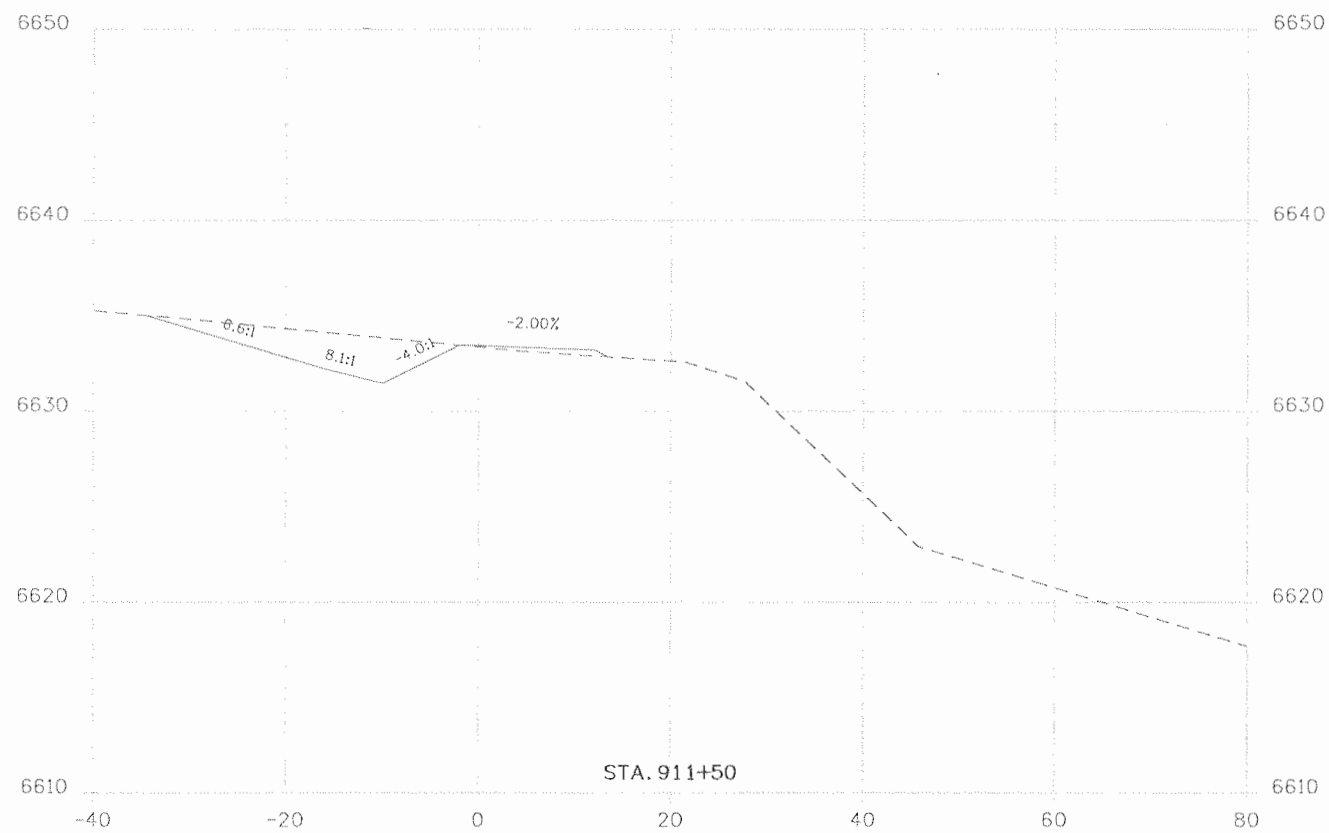




Print Date: 9/23/2010		Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed		SHARED USE PATH CROSS SECTIONS		Project No./Code	
File Name: 16042_SUP_Xsections.dgn		Date:	Comments	Init.		No Revisions: 9/10	NH 1602-114				
Horiz. Scale: 1:20 Vert. Scale: As Noted						Revised:	Designer:	Structure	16042		
Unit Information Unit Leader Initials						Void:	Detailer:	Numbers	Sheet Number 138		
					Region 5 EJA		Sheet Subset: SUP XS	Subset Sheets: XS9 of 20			



Print Date: 9/23/2010		Sheet Revisions			 Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed		SHARED USE PATH CROSS SECTIONS		Project No./Code	
File Name: 16042_SUP_Xsections.dgn		Date:	Comments	Init.		No Revisions: 9/10	NH 1602-114				
Horiz. Scale: 1:20 Vert. Scale: As Noted						Revised:	Designer:	Structure Numbers	16042		
Unit Information Unit Leader Initials						Void:	Sheet Subset: SUP XS	Subset Sheets: XS10 of 20	Sheet Number	139	



Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

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Date:	Comments	Init.

Colorado Department of Transportation.
 3803 North Main Avenue
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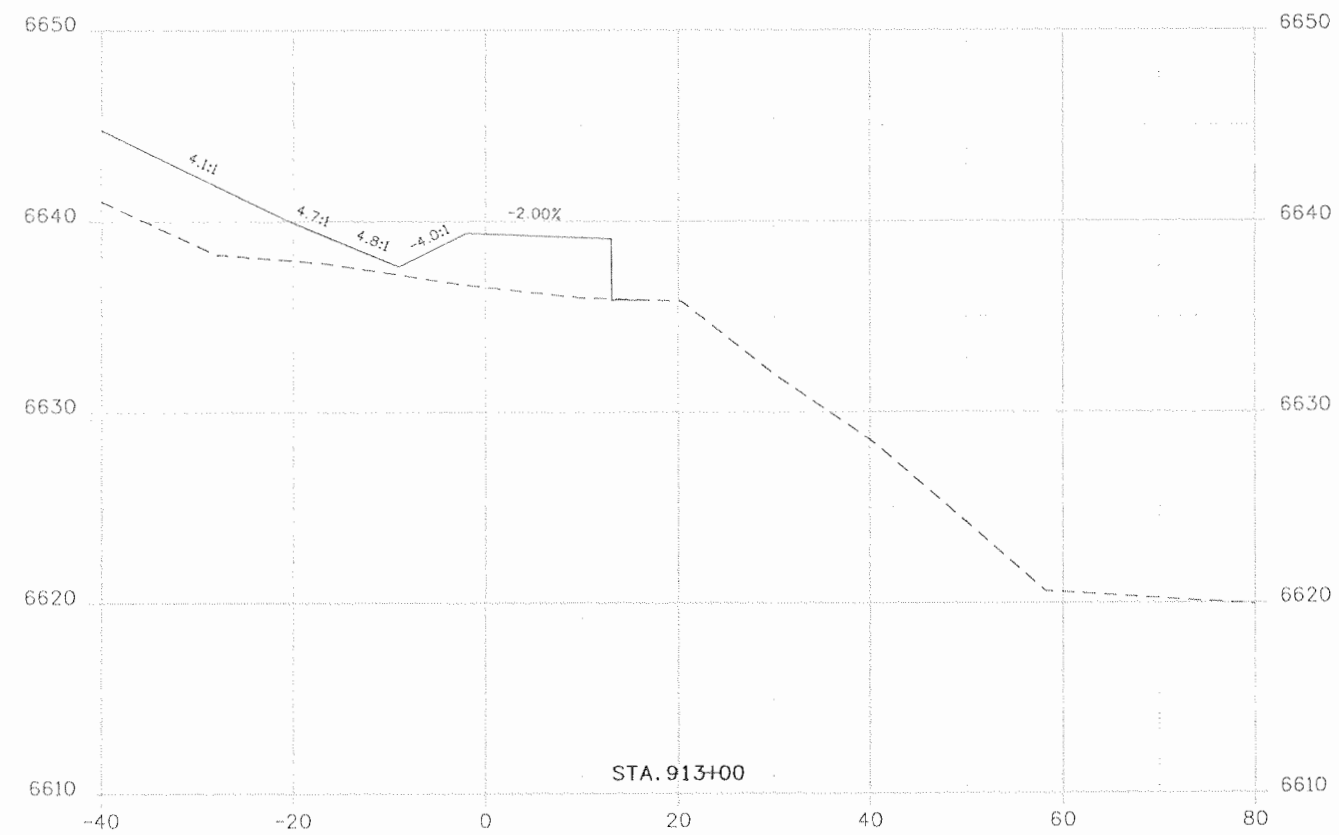
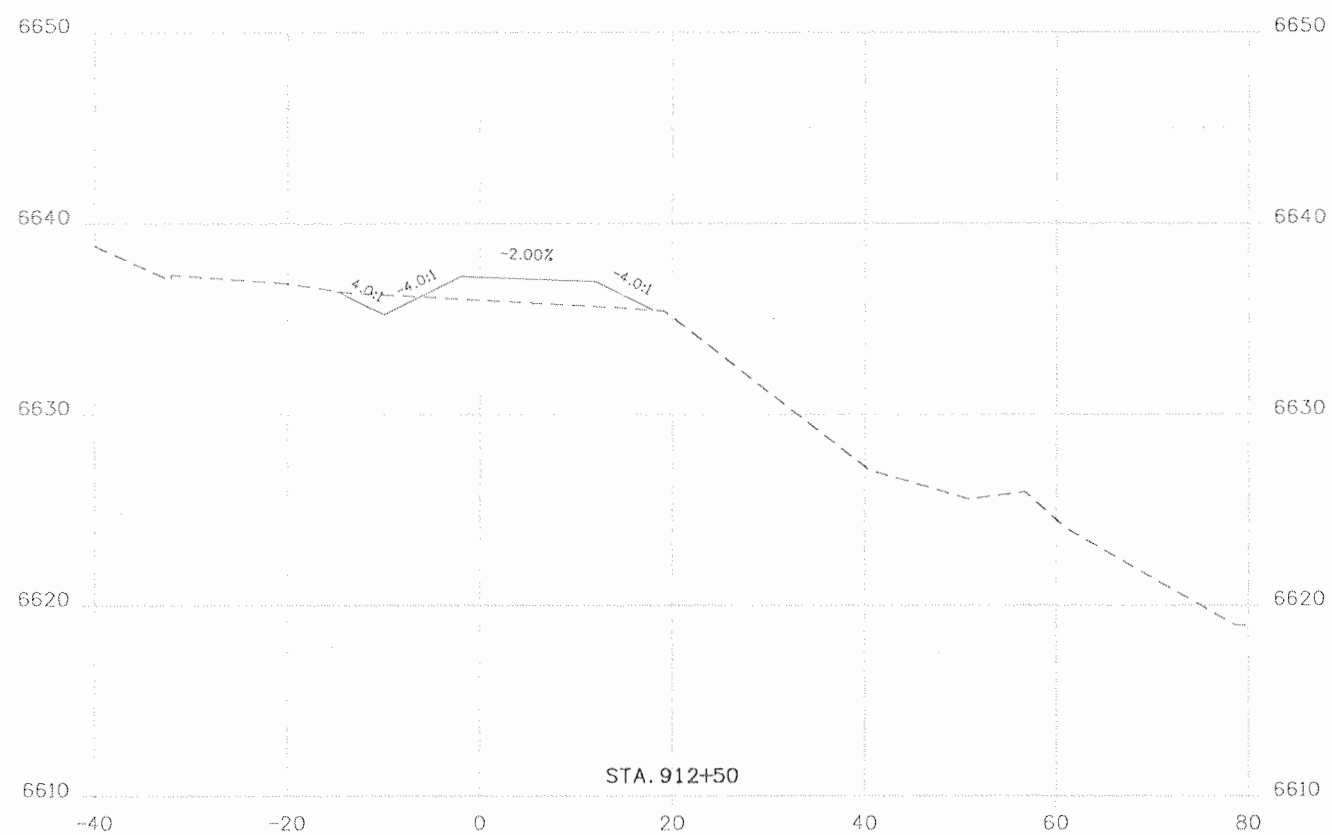
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Region 5 EJA

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

SHARED USE PATH CROSS SECTIONS	
Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS11 of 20

Project No./Code
NH 1602-114
16042
Sheet Number 140



Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

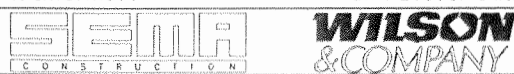
Colorado Department of Transportation
 3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365
 Region 5 EJA

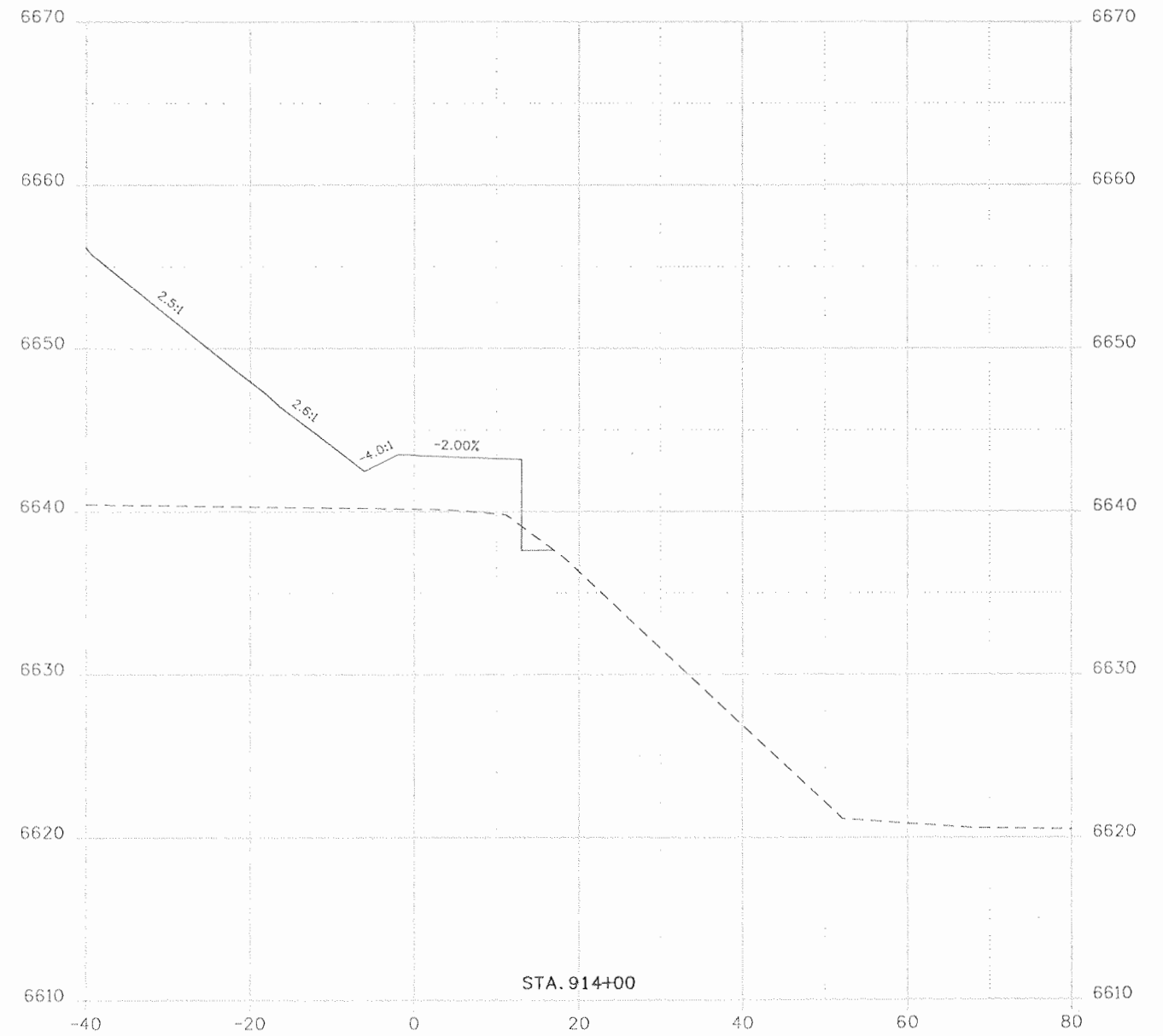
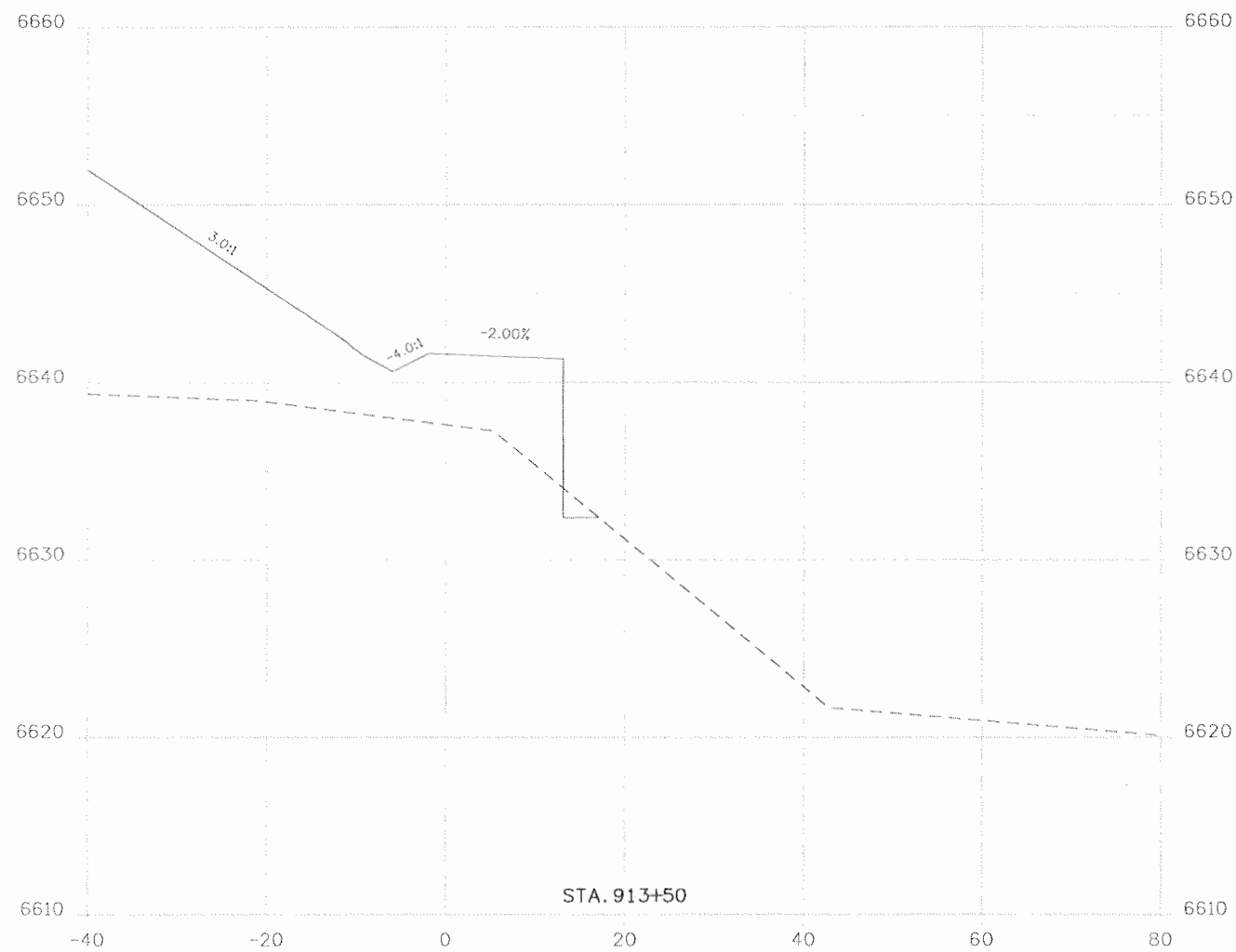
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 No Revisions: 9/10
 Revised:
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SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS12 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 141





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

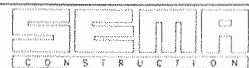
Colorado Department of Transportation
 3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365
 Region 5 EJA

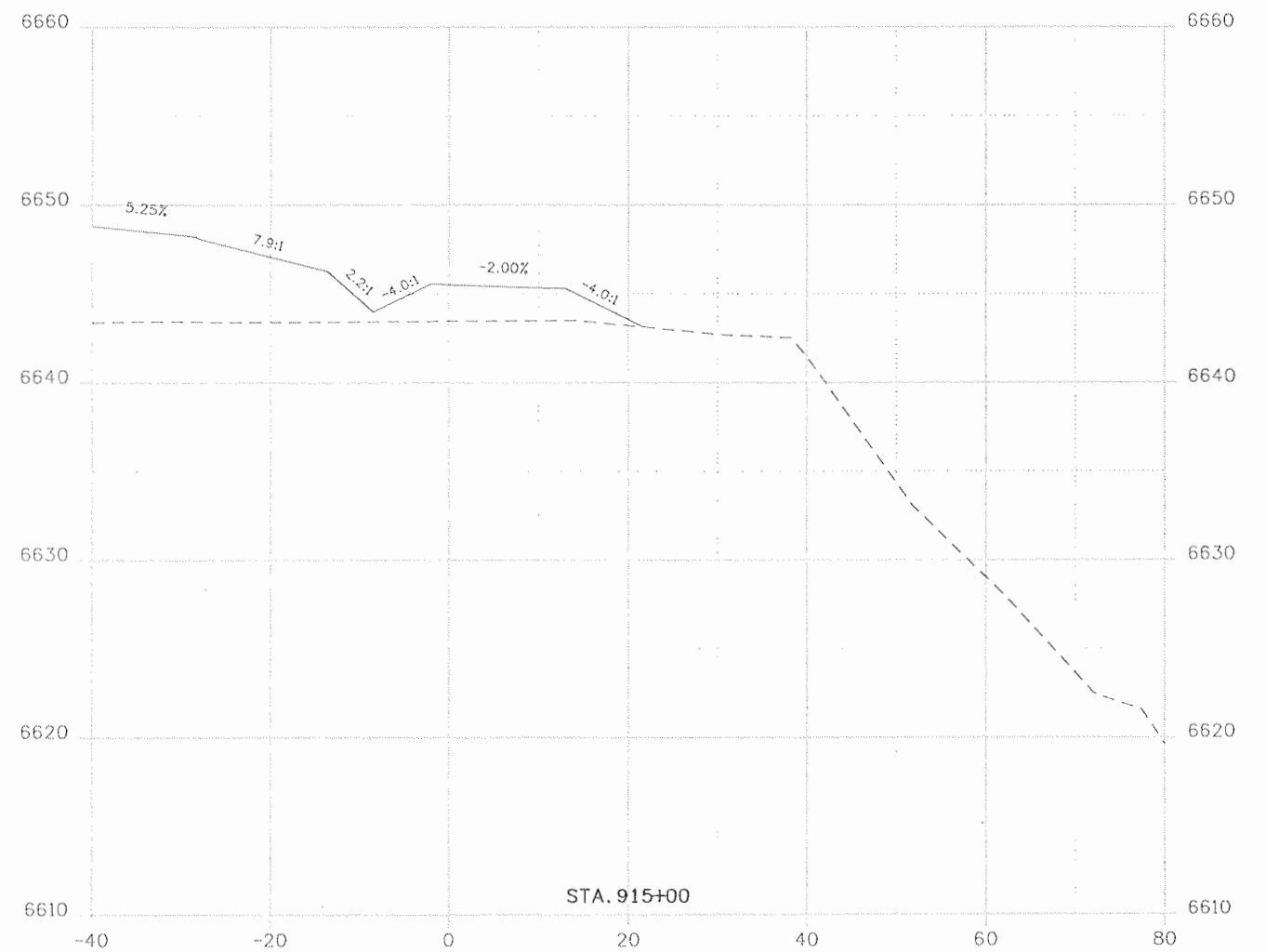
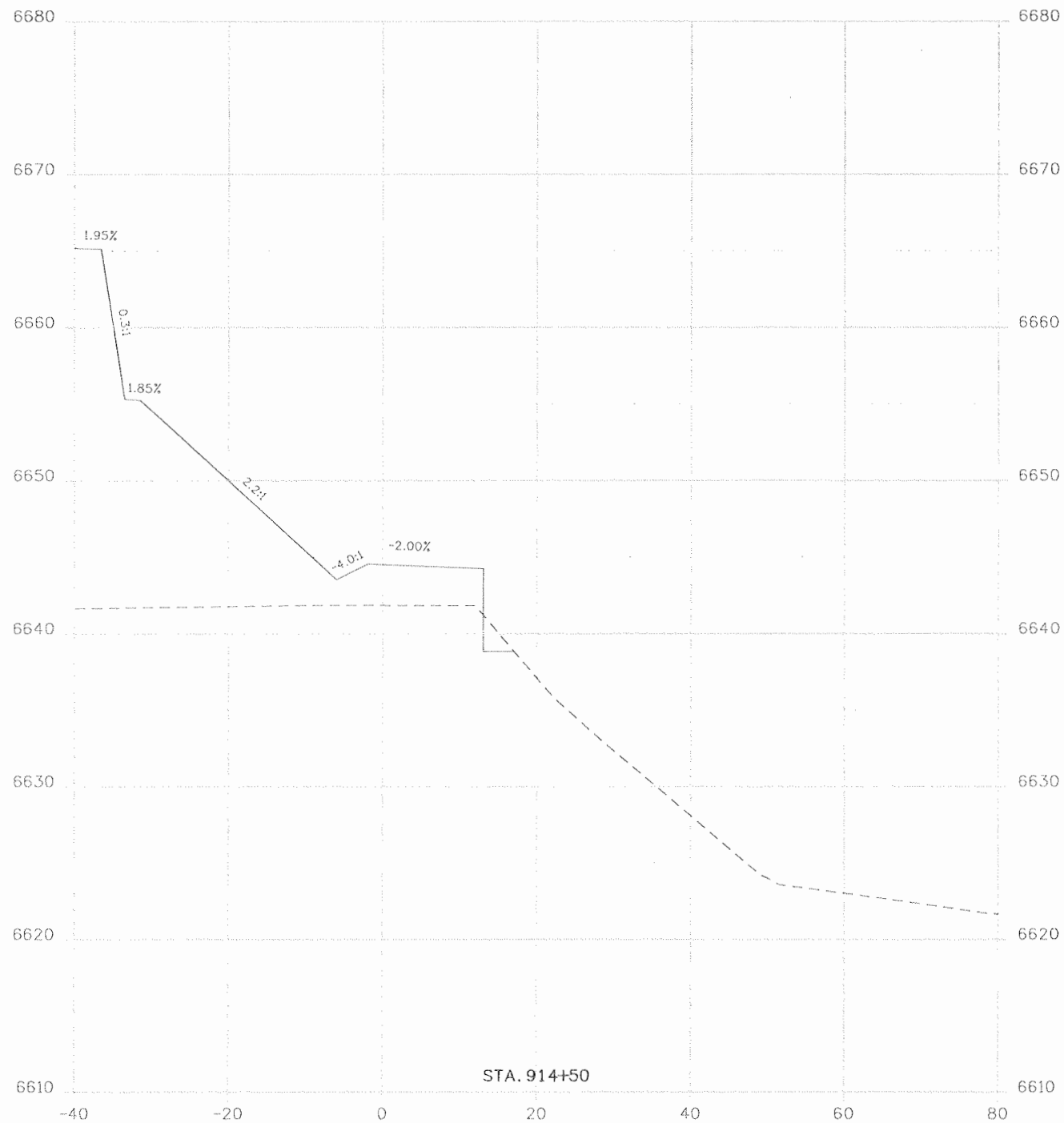
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 Revised:
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SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
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Project No./Code
 NH 1602-114
 16042
 Sheet Number 142





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

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Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
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 Phone: 970-385-1440 FAX: 970-385-8365

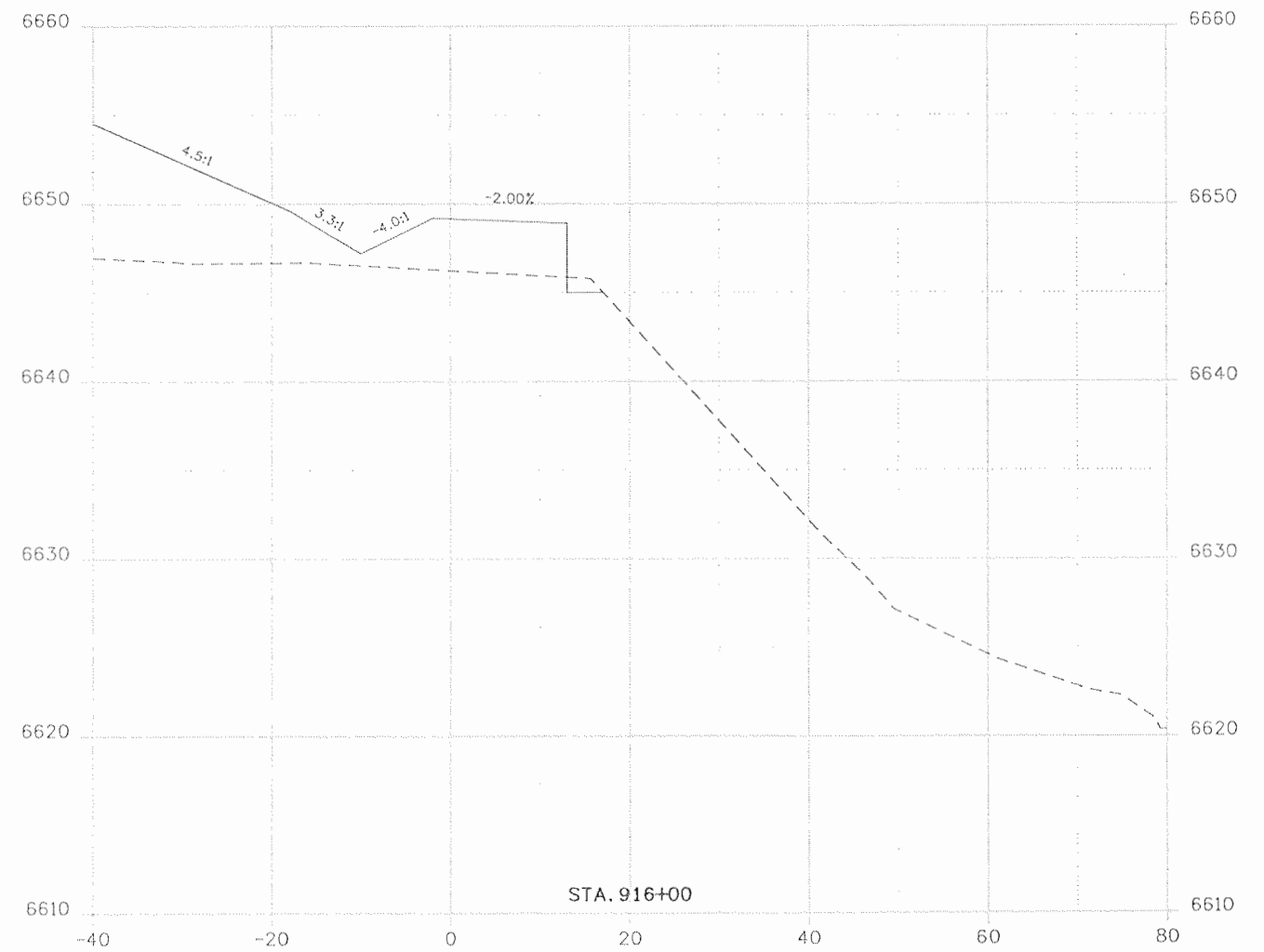
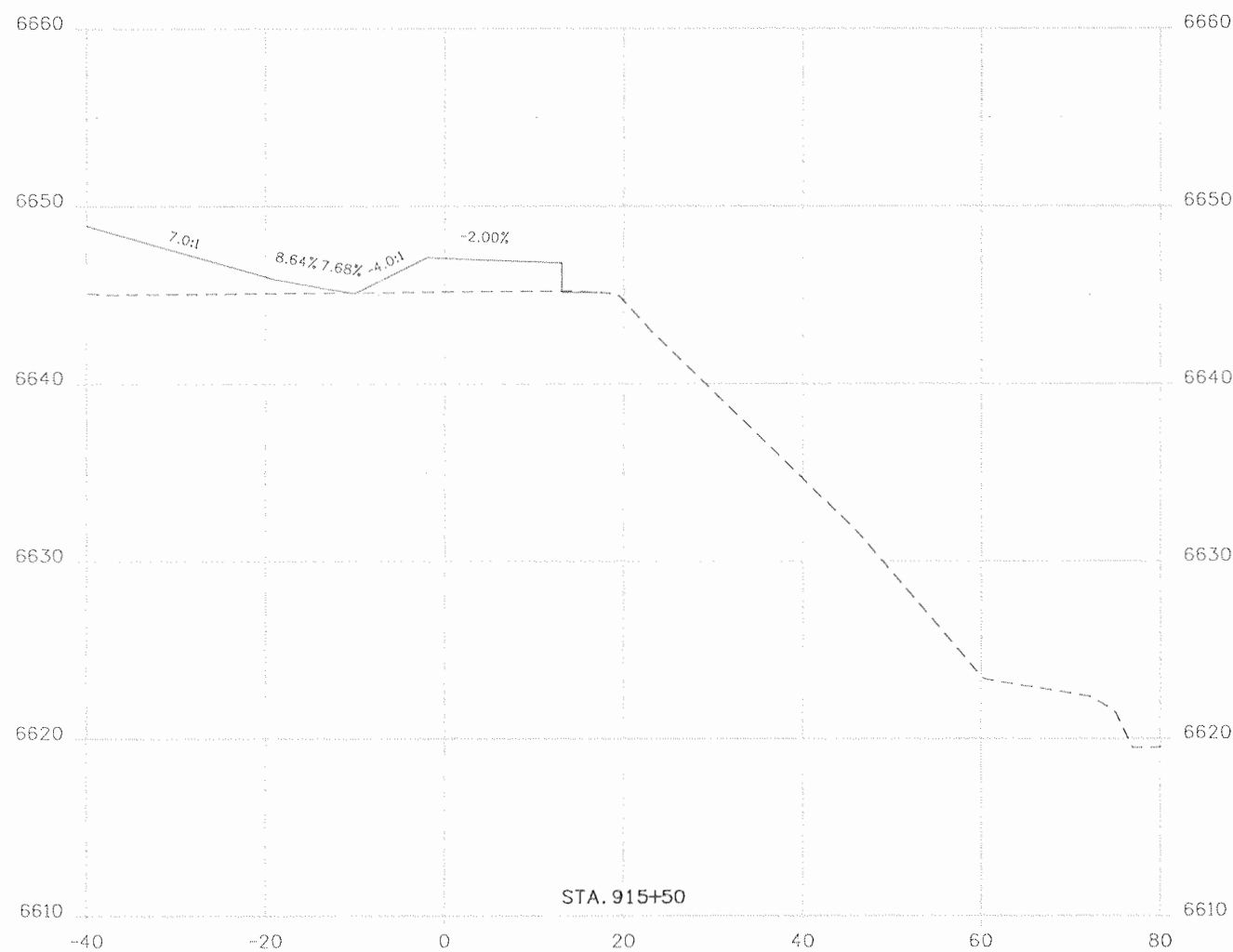
Region 5 **EJA**

As Constructed
 No Revisions: 9/10
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SHARED USE PATH CROSS SECTIONS

Designer:	Structure Numbers
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Project No./Code
 NH 1602-114
 16042
 Sheet Number 143



Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

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

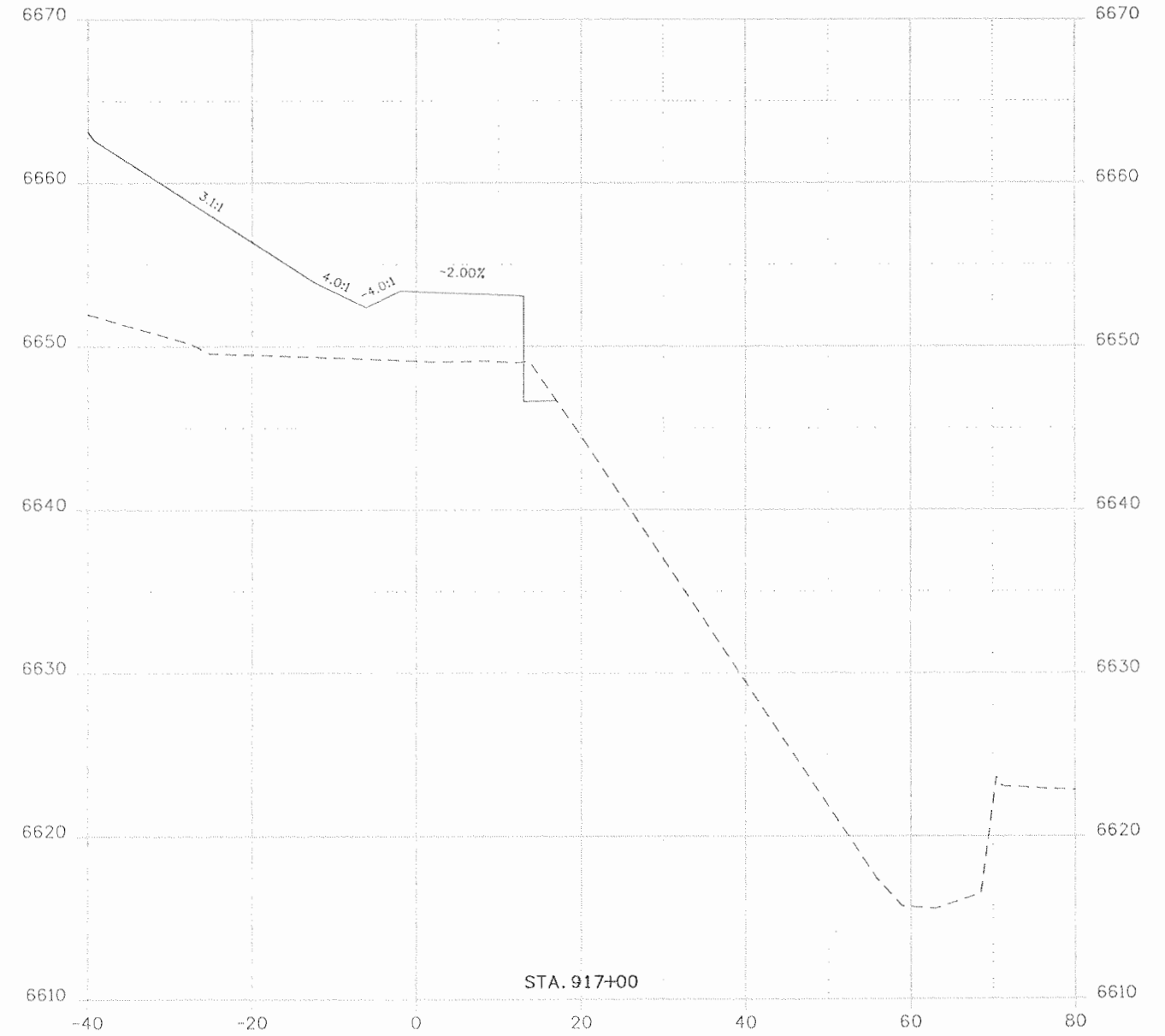
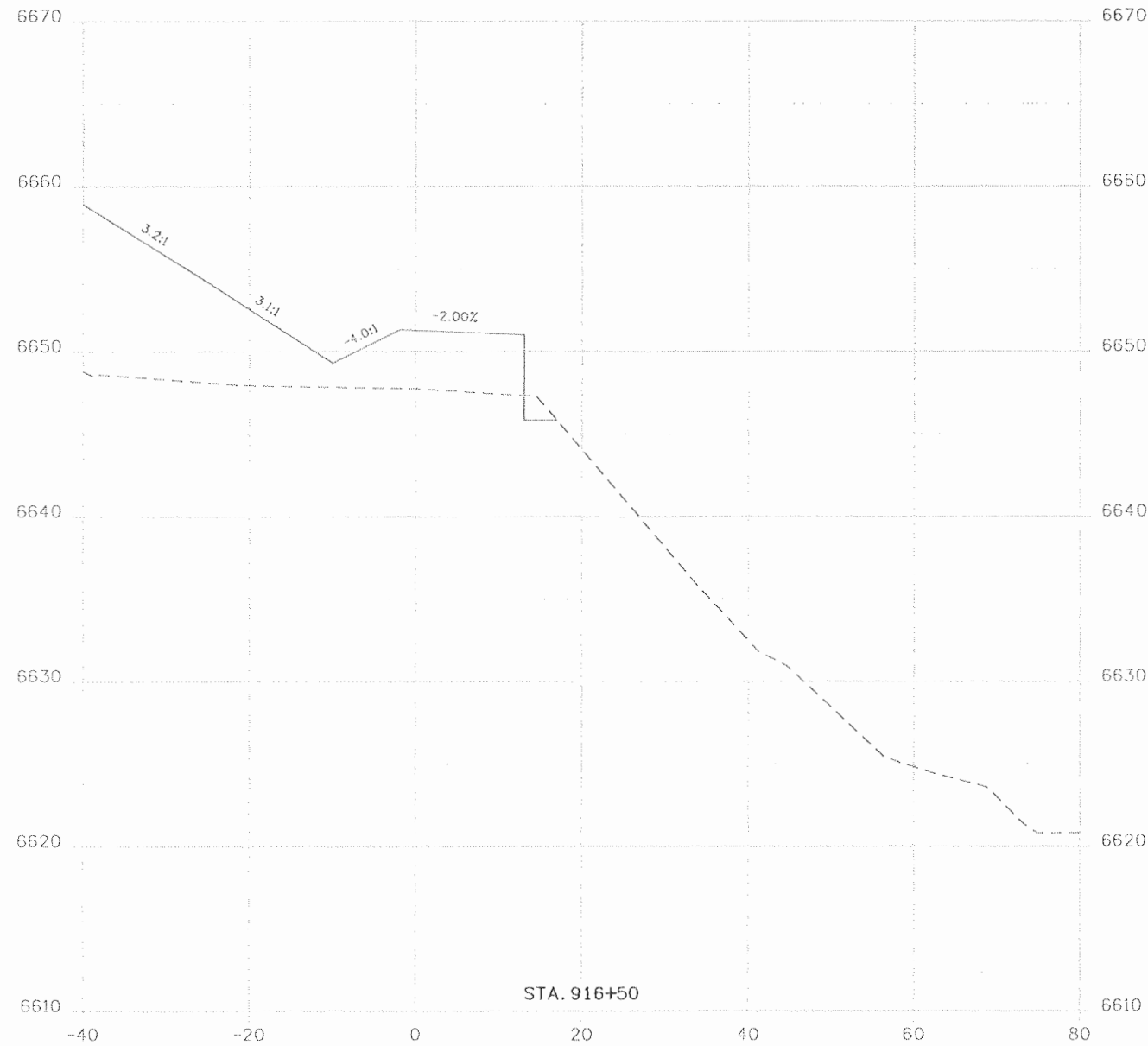
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 Revised:
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SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS15 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 144





Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

SEMA CONSTRUCTION
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Sheet Revisions		
Date:	Comments	Init.

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

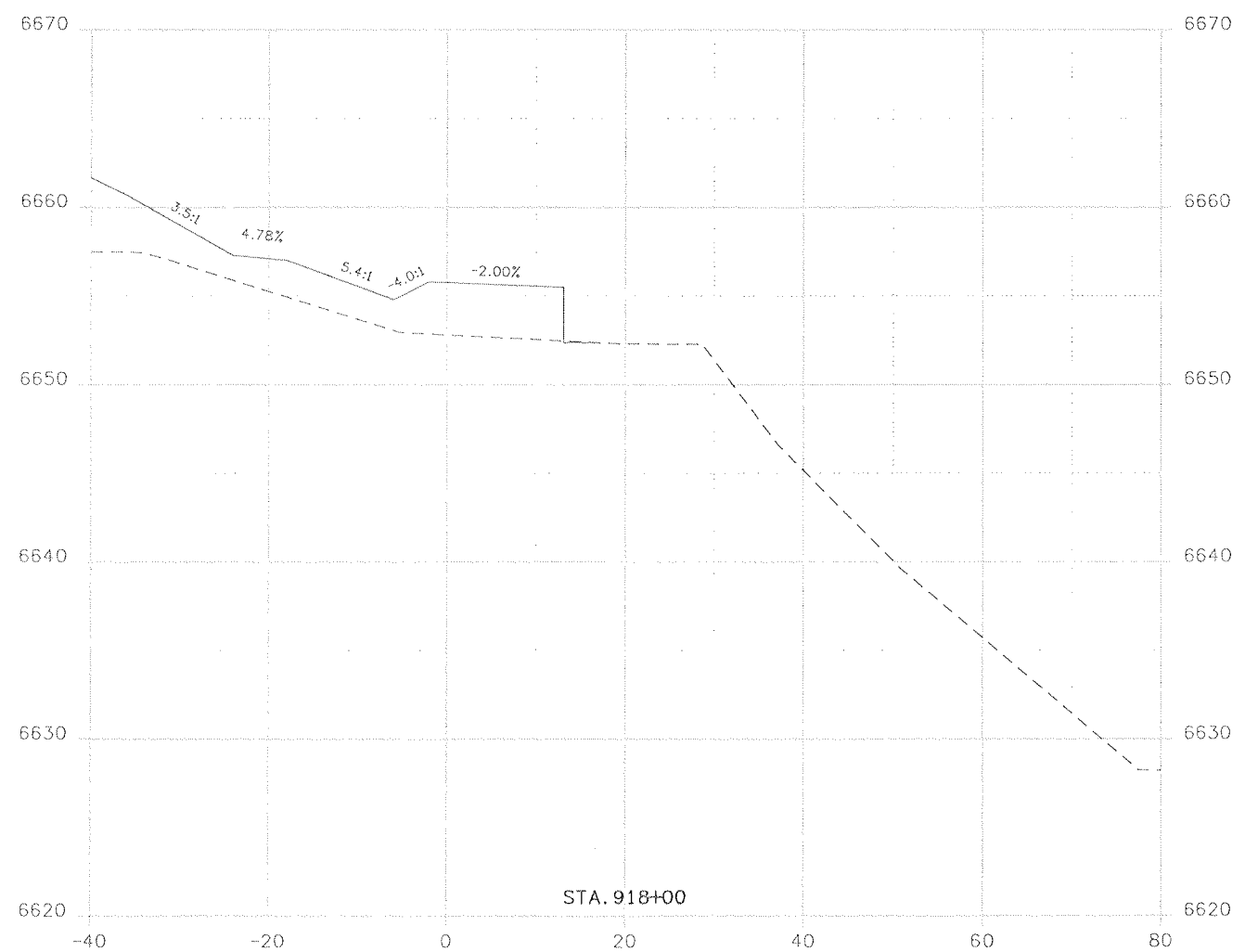
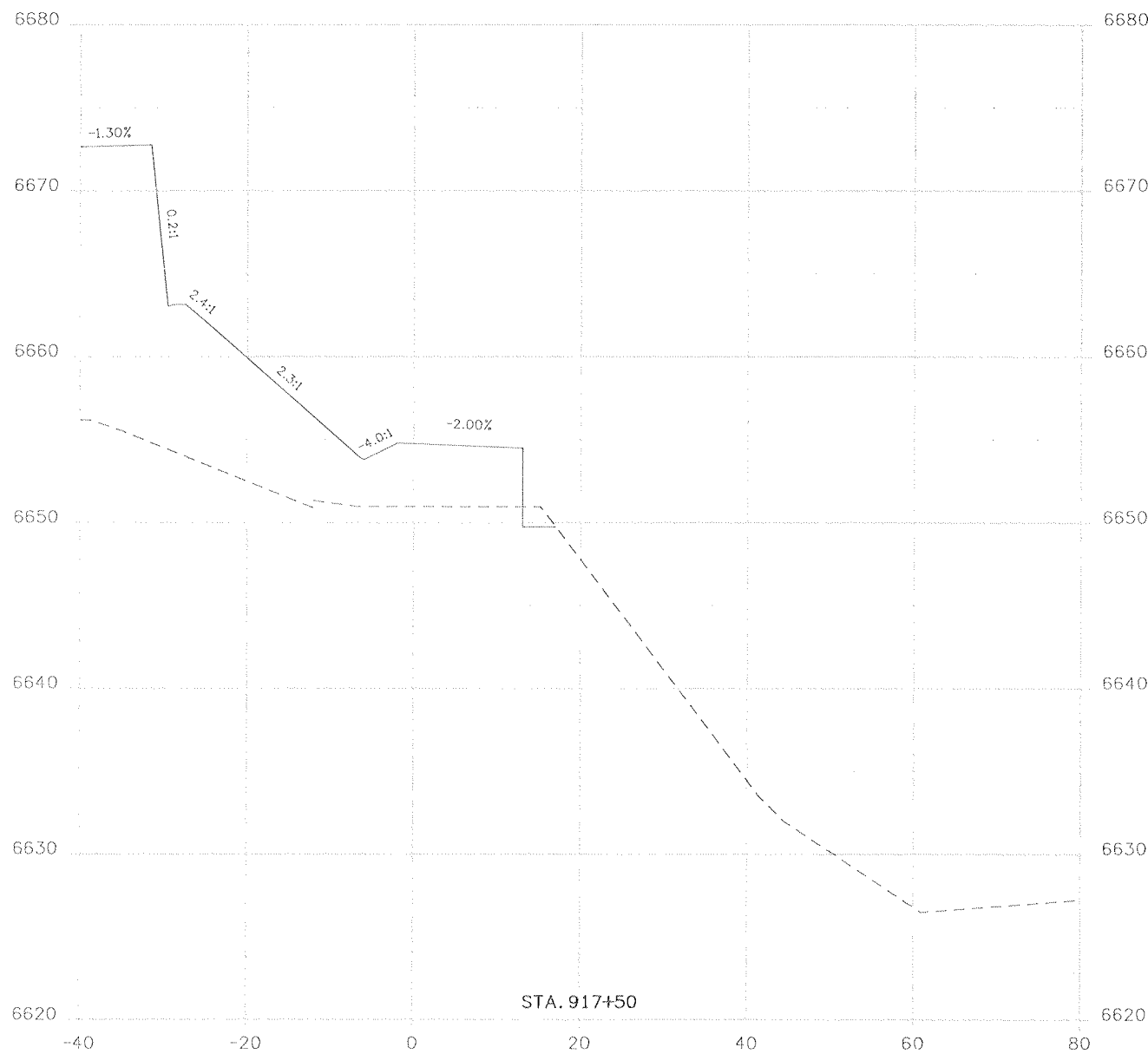
Region 5 **EJA**

As Constructed
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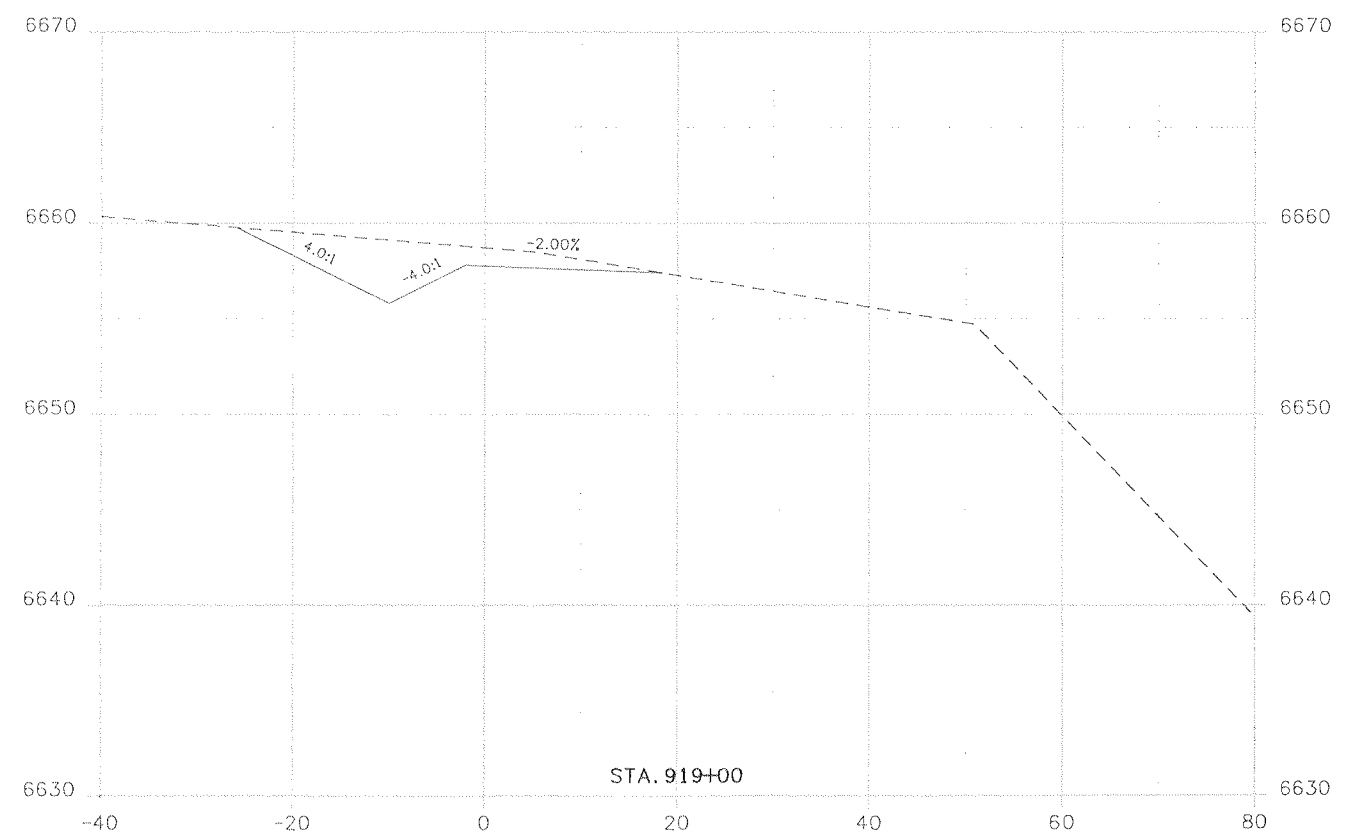
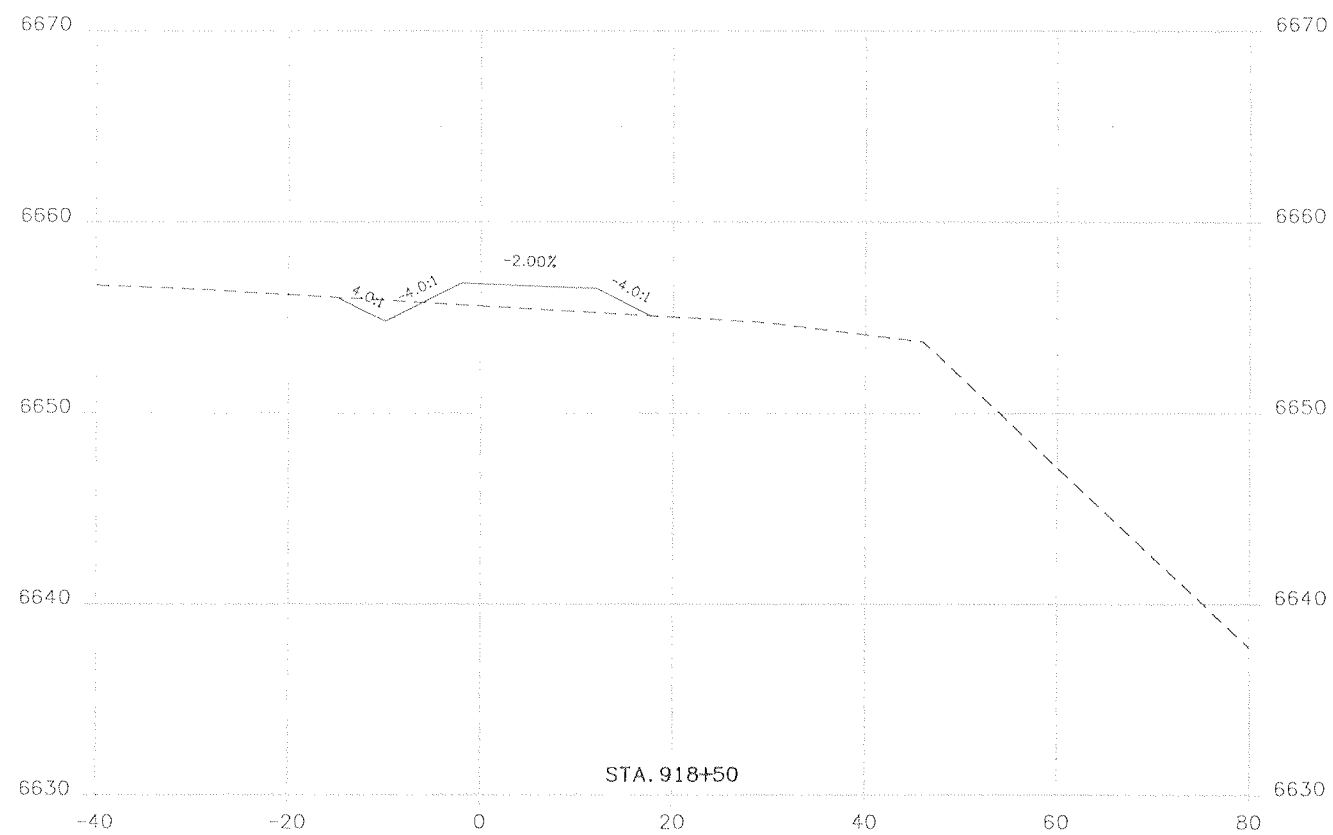
SHARED USE PATH
 CROSS SECTIONS

Designer:
 Detailer:
 Sheet Subset: SUP XS Subset Sheets: XS16 of 20

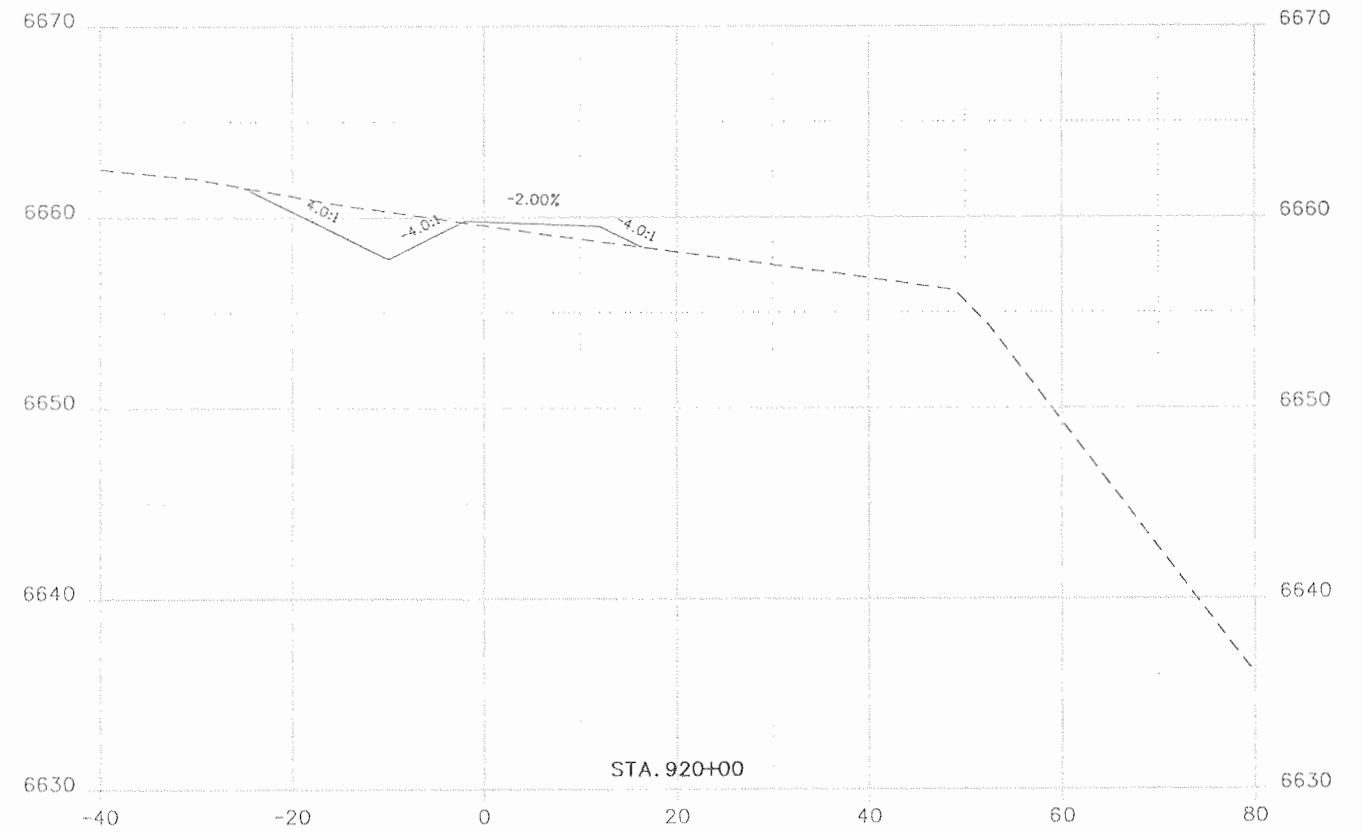
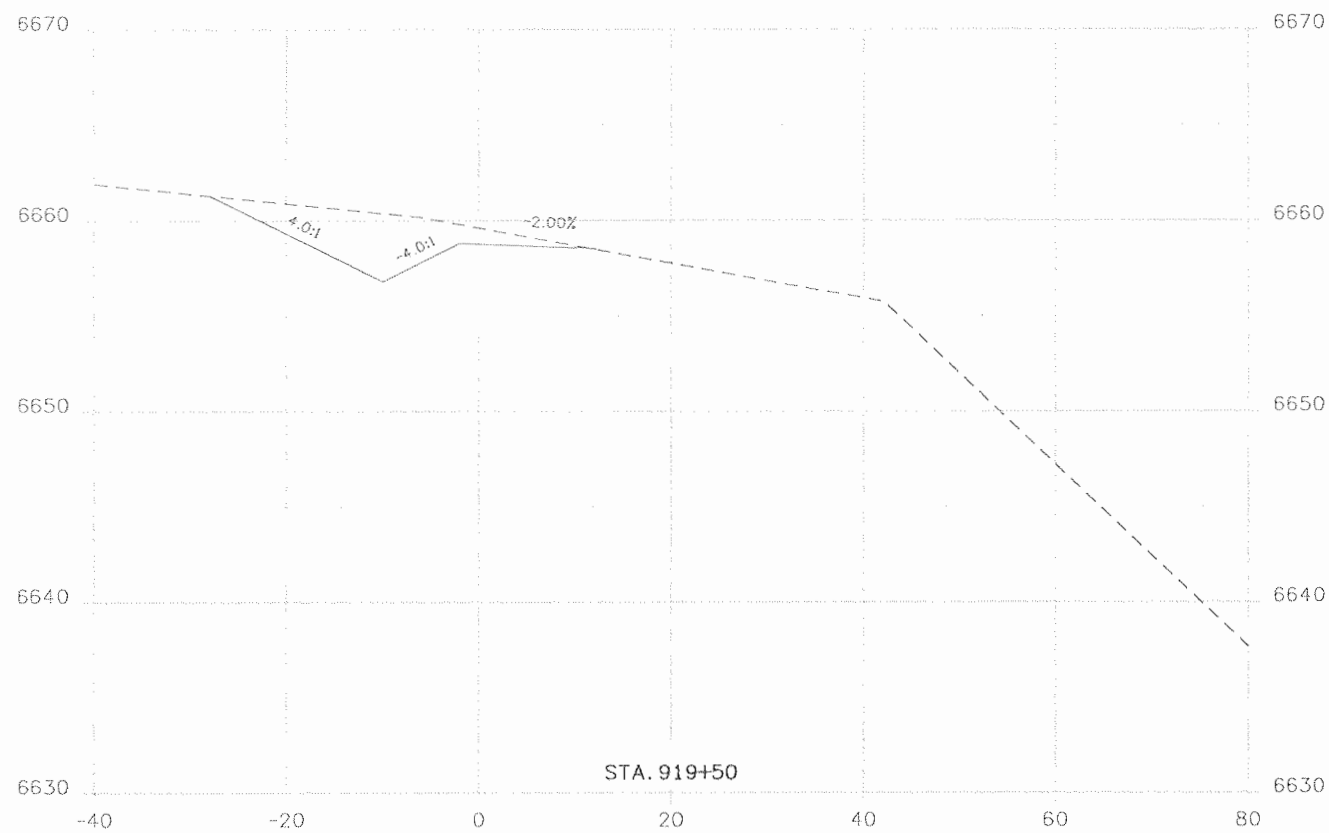
Project No./Code
 NH 1602-114
 16042
 Sheet Number 145



Print Date: 9/23/2010		Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed		SHARED USE PATH CROSS SECTIONS		Project No./Code		
File Name: 16042_SUP_Xsections.dgn		Date:	Comments	Init.		No Revisions: 9/10	Designer:			NH 1602-114		
Horiz. Scale: 1:20 Vert. Scale: As Noted						Revised:	Detailer:		Structure Numbers		16042	
Unit Information Unit Leader Initials						Void:	Sheet Subset: SUP XS		Subset Sheets: XS17 of 20		Sheet Number 146	
 	EJA											



Print Date: 9/23/2010		Sheet Revisions			 Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5 EJA	As Constructed		SHARED USE PATH CROSS SECTIONS		Project No./Code	
File Name: 16042_SUP_Xsections.dgn		Date:	Comments	Init.		No Revisions: 9/10	NH 1602-114				
Horiz. Scale: 1:20 Vert. Scale: As Noted						Revised:	Designer:	Structure Numbers	16042		
Unit Information Unit Leader Initials						Void:	Sheet Subset: SUP XS	Subset Sheets: XS18 of 20	Sheet Number 147		



Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

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Sheet Revisions		
Date:	Comments	Init.

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

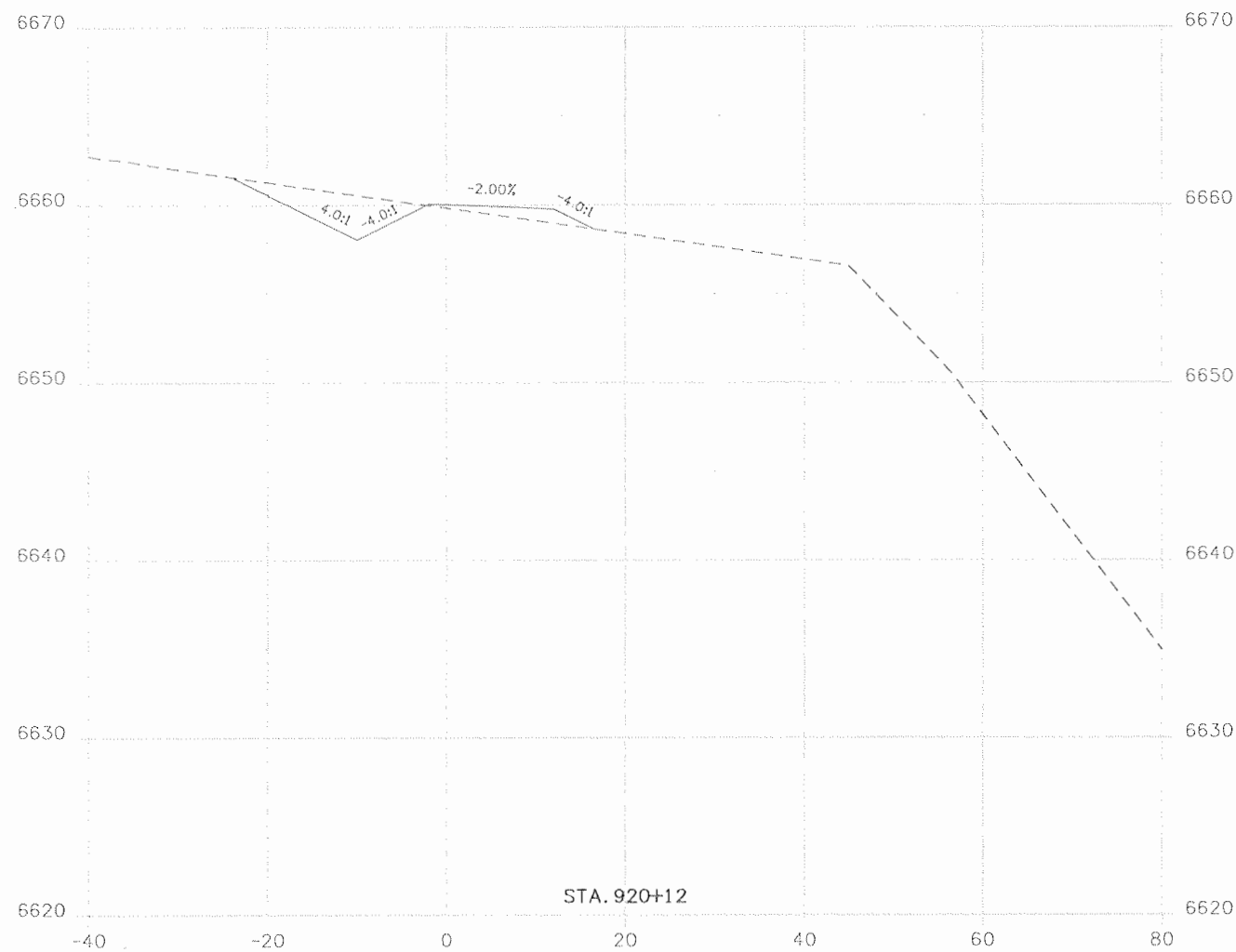
Region 5 **EJA**

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

SHARED USE PATH
 CROSS SECTIONS

Designer:
 Detailer:
 Sheet Subset: SUP XS Subset Sheets: XS19 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 148



Print Date: 9/23/2010
 File Name: 16042_SUP_Xsections.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

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Sheet Revisions		
Date:	Comments	Init.

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 Suite 200
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DEPARTMENT OF TRANSPORTATION

Region 5 EJA

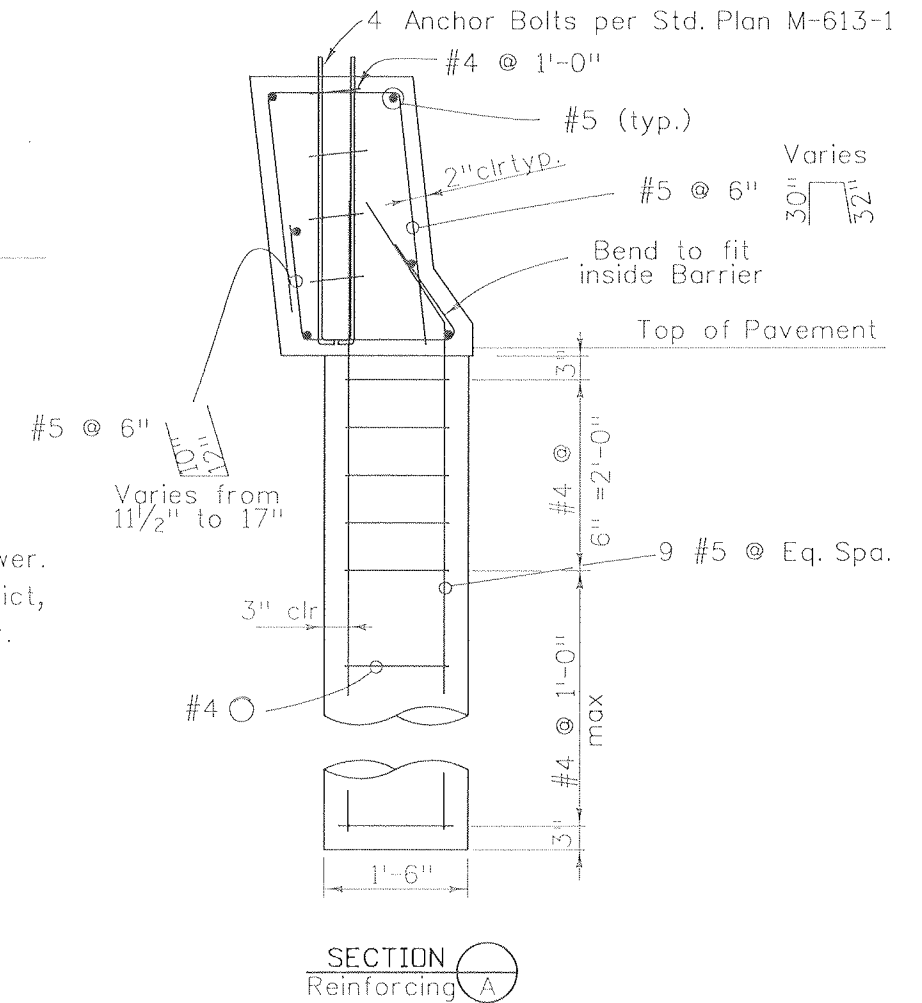
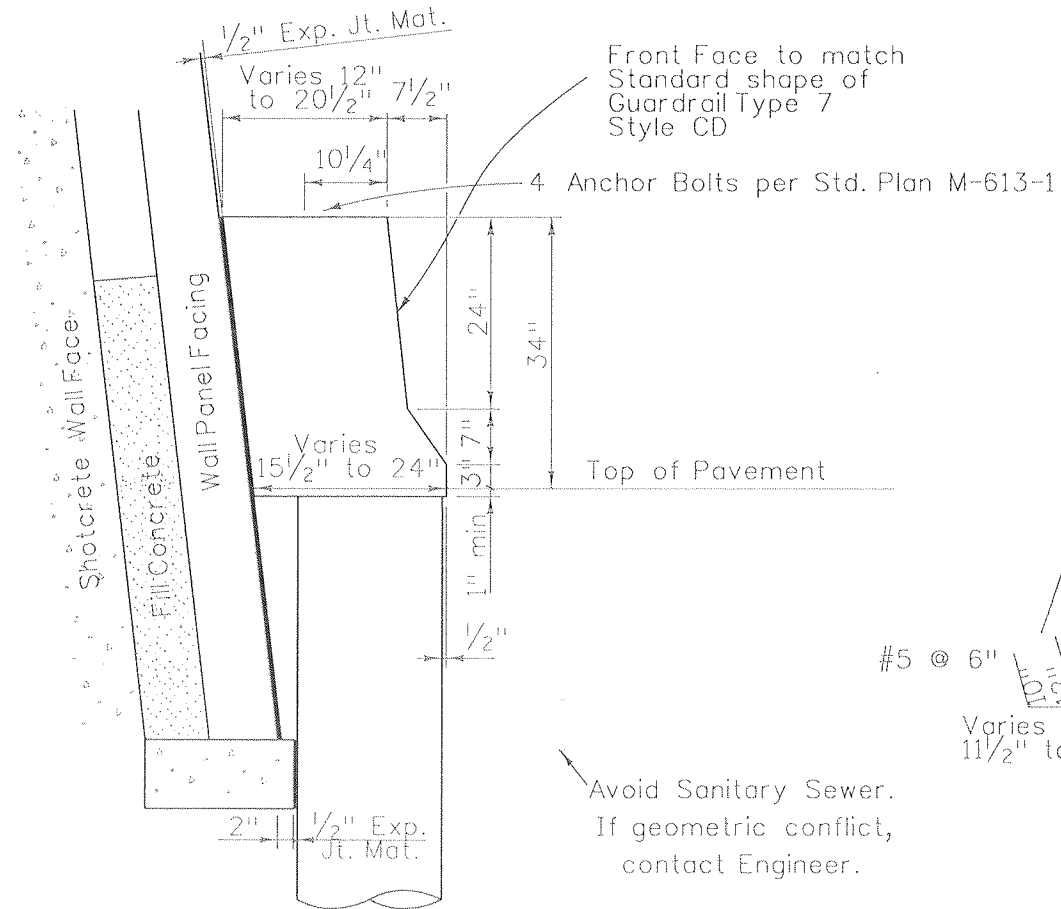
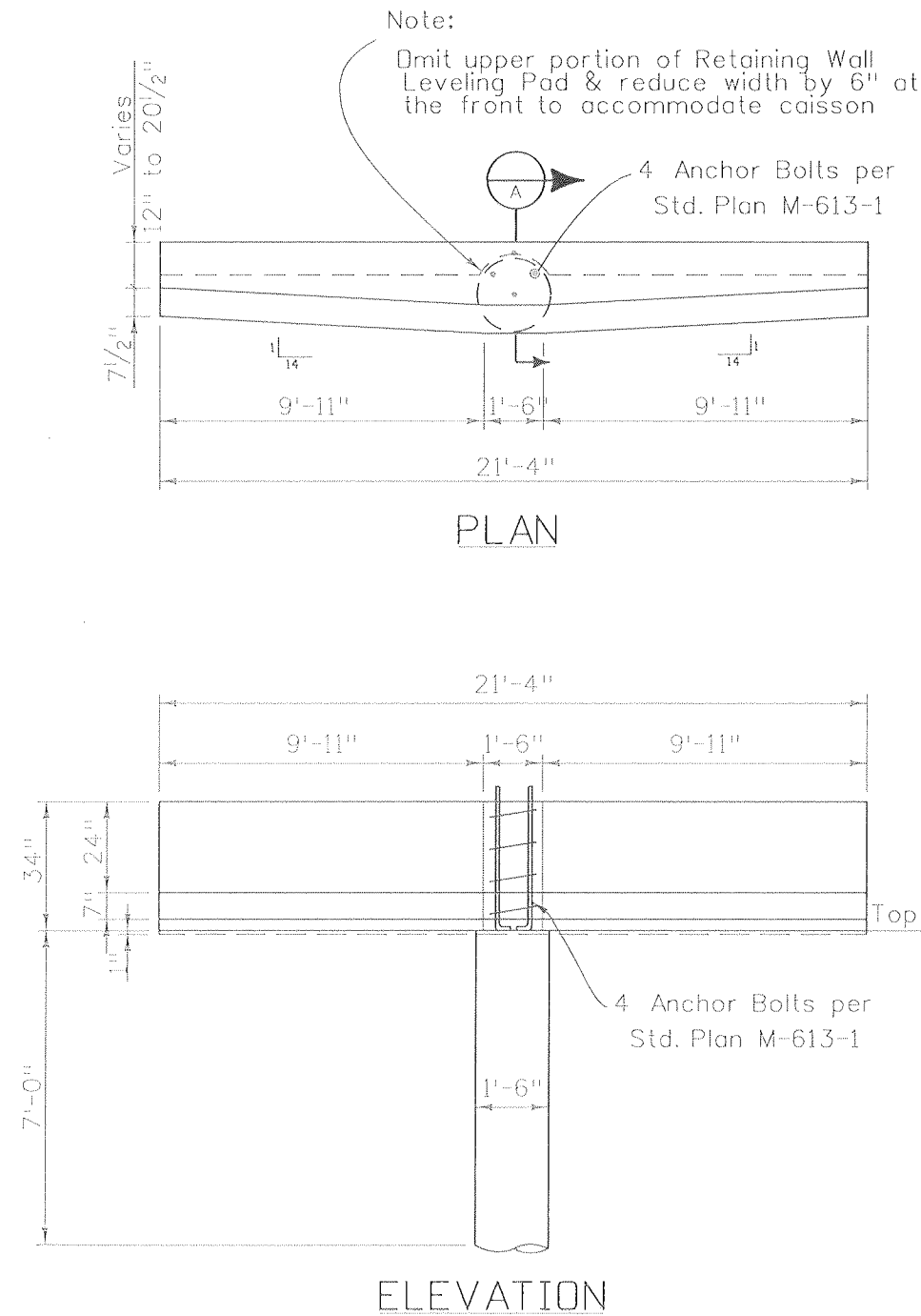
As Constructed
 No Revisions: 9/10
 Revised:
 Void:

SHARED USE PATH
 CROSS SECTIONS

Designer:	Structure Numbers
Detailer:	
Sheet Subset: SUP XS	Subset Sheets: XS20 of 20

Project No./Code
 NH 1602-114
 16042
 Sheet Number 149

Design	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
	SAB	08-08	EJB	08-08	SAB	08-08
Detail	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
	SAB	08-08	EJB	08-08	SAB	08-08
Quantities	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
	SAB	08-08	EJB	08-08	SAB	08-08
Checked By	Checked By	Checked By	Checked By	Checked By	Checked By	Checked By
	MJM	08-08	SAB	08-08	AAR	08-08



Design Data

Strength I Limit State, AASHTO LRFD Fourth Edition
 No Geotechnical design parameters available, except that subsurface conditions are Sandstone bedrock

Notes:

Concrete Class D (Wall)
 Epoxy coated Reinf Steelgrade 60

PILE DATA			
Caisson size	Min. Penetration into Subgrade	Max Factored Load	Measured Penetration into Subgrade
18"	7'-0"	2 Kip	

Item	Item Description	Unit	Quantity
503	Drilled Caisson (18 inch)	LF	7
606	Guardrail Type 7 (Style CD)	LF	21

These Light Foundation details apply to Light locations in front of Ground Nail Walls:
 LS 11 Sta 47+80.00



Print Date: 9/22/2010
 File Name: 16042_LFD_Border2.dgn
 Horiz. Scale: 1:2 Vert. Scale: As Noted
 Unit Information 0221 Unit Leader STW



Sheet Revisions		
Date:	Comments	Init.

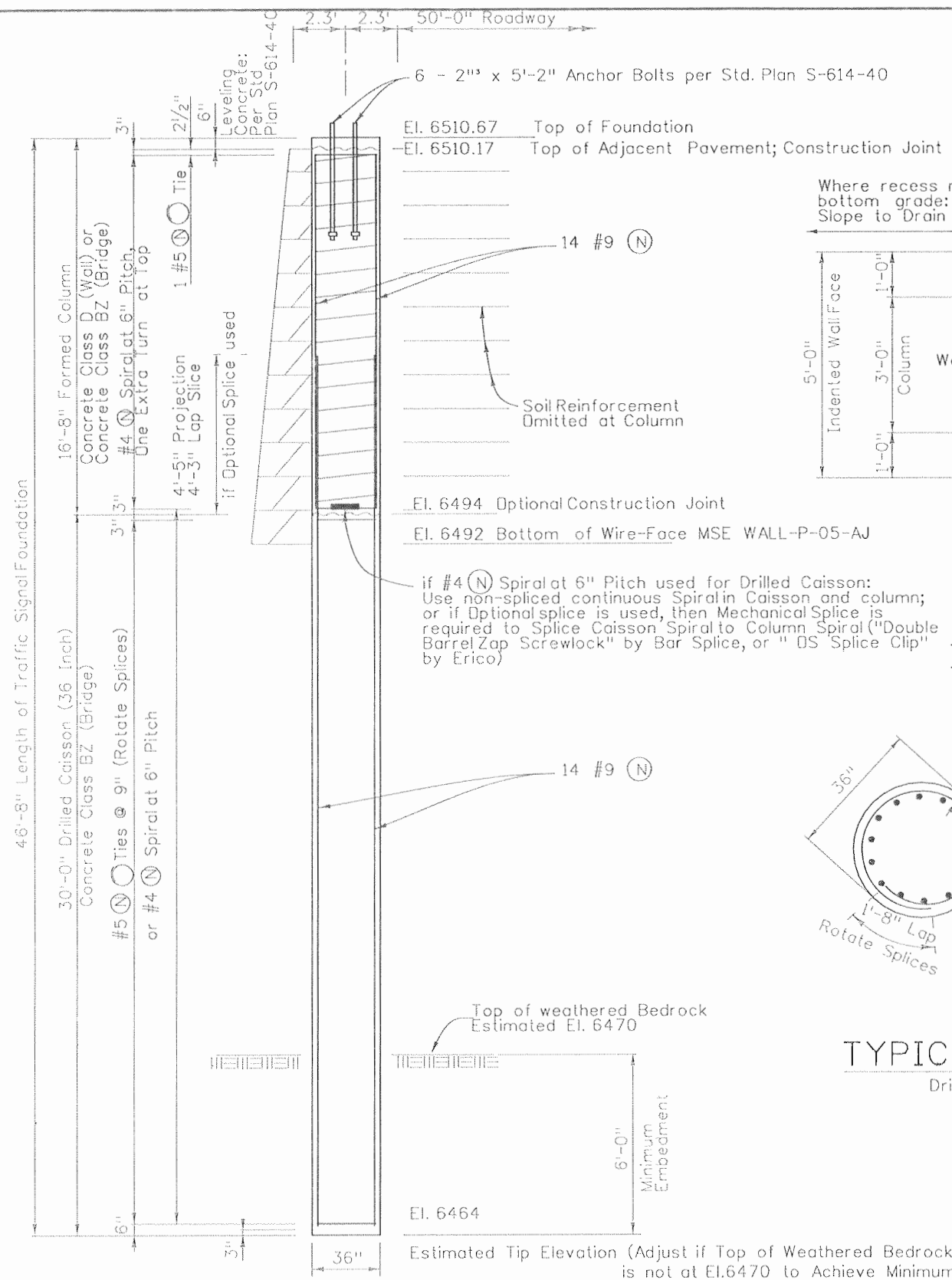
Colorado Department of Transportation
 3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365
 Region 5 EJA

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

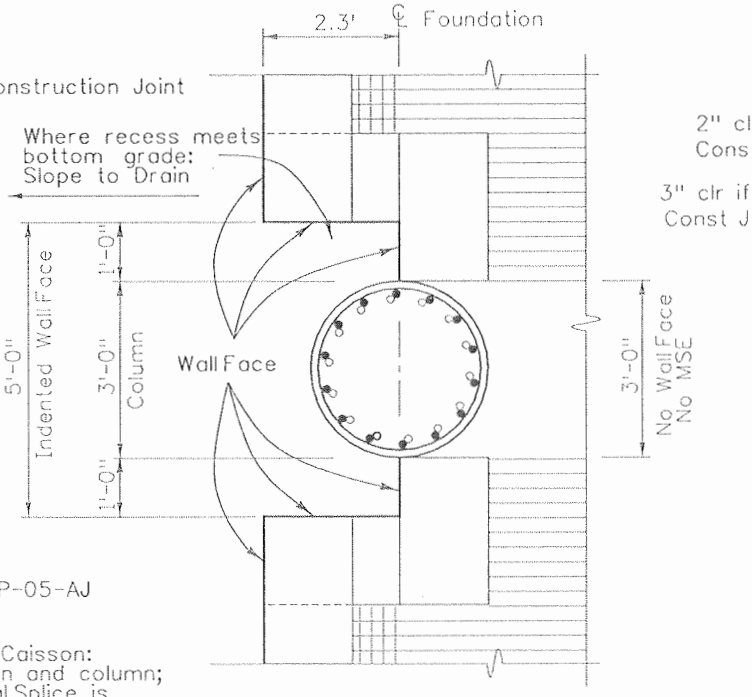
LIGHT FOUNDATION DETAIL			
Designer:	S. Birney	Structure Numbers	
Detailer:	E. Bearden	Structure Numbers	
Sheet Subset:	Lighting	Subset Sheets:	LFD-1 of 2

Project No./Code
 NH 1602-114
 16042
 Sheet Number 150

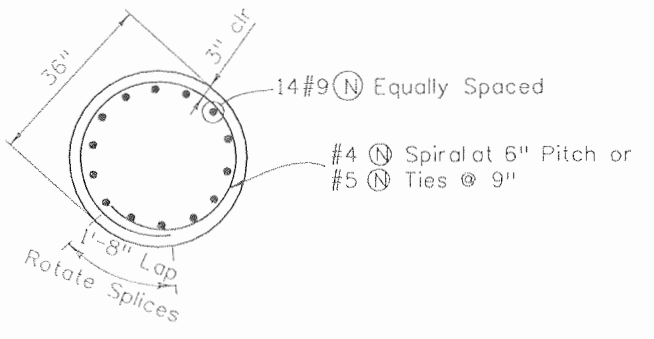
Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
MRM	08-08	EJB	08-08	MRM	08-08
SAB	08-08	MRM	08-08	AAR	08-08
Designed By	Checked By	Designed By	Checked By	Quantities By	Checked By



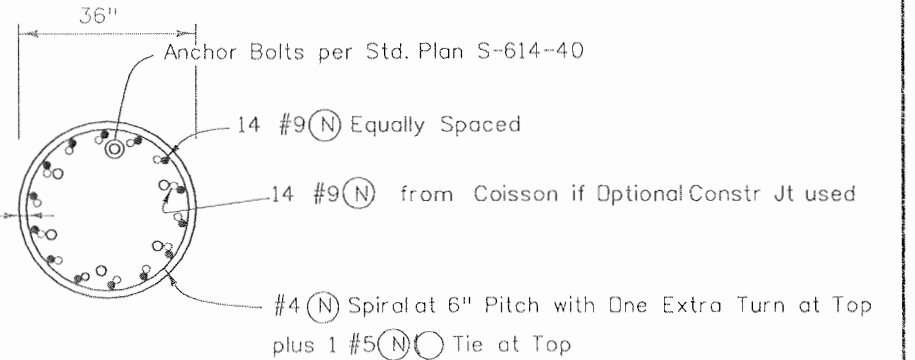
ELEVATION



INSTALLATION SECTION
Formed Column adjacent to MSE Wall



TYPICAL SECTION
Drilled Caisson



TYPICAL SECTION
Formed Reinforced Concrete Column

Design Data

Design Method:
Strength III Limit State, AASHTO LRFD Fourth Edition
Deflection Check per Service Group Load
Combinations, AASHTO Standard Specs for
Structural Supports for Highway Signs,
Luminaires and Traffic Signals, Fourth Edition thru
2006 Interims

Geotechnical Data:
Logs shown on Retaining Wall P-05-AJ Plan &
Elevation, Book 4, Sheet 74
No Geotechnical design parameters available, except
that large boulders and cobbles may be encountered in
overburden soils.
Modeled soil and sandstone in L-Pile using geotechnical
parameters for US 550 bridge geotechnical report.

Notes

- Reinforcing steel is non-epoxy coated (N) and Grade 60.
- Drilled Caisson: Concrete Class BZ (Bridge)
- Formed Column: Concrete Class D (Wall) or Concrete Class BZ (Bridge)
Measured as Drilled Caisson (36 inch)
- Temporary casing may be needed to prevent caving
of soils and/ or to reduce the intrusion of groundwater.
Temporary casing is incidental to Drilled Caisson (36 inch)

Item	Item Description	Unit	Quantity
503	Drilled Caisson (36 inch)	LF	46.7

PILE DATA						
Caisson Size	Top of Caisson Elevation	Estimated Tip Elevation	Min. Penetration into Bedrock	Max. Factored Load	Estimated Bedrock Elevation	Measured Bedrock Elevation
36"	6494.00	6464.00	6'-0"	12.3 kip	6470.0	

Bedrock embedment is not controlled by axial loads, but to provide lateral resistance

Traffic Signal Foundation at US 160 Sta 48+89.45, offset 52.30' Left

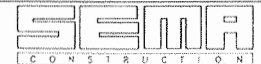


Print Date: 9/22/2010

File Name: 16042_TSF_Border.dgn

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

Unit Information 0221 Unit Leader STW



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No Revisions: 9/10
Revised:
Void:

TRAFFIC SIGNAL FOUNDATION
Designer: M. Merklinger
Detailer: E. Bearden
Sheet Subset: SIGNAL
Subset Sheets: TSF-1 of 1

Project No./Code
NH 1602-114
16042
Sheet Number 152

SHEET NO. INDEX OF SHEETS

D1	US 160 / US 550 DRAINAGE INDEX OF SHEETS
D2	STANDARD PLANS LIST
D3	US 160 / US 550 DRAINAGE QUANTITIES
D4	US 160 / US 550 MEDIAN REMOVAL AND PAVING QUANTITIES
D5	US 160 - DRAINAGE PLAN STA. 35+00 TO STA. 46+00
D6	US 160 - DRAINAGE PLAN STA. 46+00 TO STA. 59+00
D7	US 160 - DRAINAGE PLAN STA. 59+00 TO STA. 72+00
D8	US 160 - DRAINAGE PLAN STA. 72+00 TO STA. 83+00 & SHARED USE PATH
D9	US 160 - DRAINAGE PLAN STA. 83+00 TO STA. 97+00 & SHARED USE PATH
D10	POND #1 SECTION & DETAILS
D11	POND #2 SECTION & DETAILS
D12	POND #3 SECTION & DETAILS
D13	POND #4 SECTION & DETAILS
D14	POND #5 SECTION & DETAILS
D15	MISCELLANEOUS DRAINAGE DETAILS
D16	MISCELLANEOUS DRAINAGE DETAILS
D17	MISCELLANEOUS DRAINAGE DETAILS
D18	MISCELLANEOUS DRAINAGE DETAILS
D19	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D20	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D21	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D22	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D23	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D24	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D25	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D26	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D27	STRUCTURE CROSS SECTIONS, US160 - DRAINAGE
D28	STRUCTURE CROSS SECTIONS, RAMP 'A' - DRAINAGE
D29	STRUCTURE CROSS SECTIONS, RAMP 'A' - DRAINAGE
D30	STRUCTURE CROSS SECTIONS, SHARED USE PATH - DRAINAGE
D31	STRUCTURE CROSS SECTIONS, SHARED USE PATH - DRAINAGE
D32	US 160 / US 550 MEDIAN REMOVAL AND PAVING PLAN


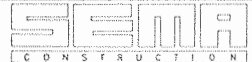

FINAL DESIGN PLANS

Print Date: 9/23/2010	 	Sheet Revisions			 Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed		US 160 / US 550 DRAINAGE INDEX OF SHEETS		Project No./Code	
File Name: 16042_DN001.dgn		Date:	Comments	Init.		No Revisions: 9/10			NH-1602-114		
Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:	Designer: E. VALDEZ	Structure	16042		
Unit Information Unit Leader: VSF						Void:	Detailer: D. COVINGTON	Numbers	Sheet Number 153		

TABULATION OF MEDIAN REMOVAL AND PAVING

LOCATION	SIDE	REMOVAL OF CONCRETE MEDIAN COVER MATERIAL	REMOVAL OF CURB AND GUTTER	REMOVAL OF ASPHALT MAT	HMA PATCHING*	HMA (GRADING SX) (75) (PG 64-28)	HMA (GRADING SX) (75) (PG 58-28)	AGGREGATE BASE COURSE (CL 6)	AGGREGATE BASE COURSE (CL 3)	REMARKS
		SY	LF	SY	TON	TON	TON	TON	TON	
US-160										
49+50 TO 58+80	MEDIAN	323.0	1,867.0	104.0	206.0	57	170	155	463	
PROJECT TOTALS		323	1,867	104	206	57	170	155	463	

* HMA PATCHING IS 11.5 INCHES IN DEPTH

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation		As Constructed	US 160 / US 550 MEDIAN REMOVAL AND PAVING QUANTITIES		Project No./Code
File Name: 16042_MEDIAN_TAB.dgn	Date:	Comments	Init.	 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365		No Revisions: 9/10	Designer: JMB Detailer: JMB Sheet Subset: DRAINAGE		NH-1602-114
Horiz. Scale: 1:1 Vert. Scale: As Noted	11/06/08		JMB			Revised:			Structure Numbers
Unit Information VSF						Void:			Subset Sheets: D4 of 32
 				Region 5	EJA			Sheet Number 156	

STA. 35+46, 58' LT
 REQUIRED: AFTER
 RECONSTRUCTING SEWER
 SERVICE @ STA. 37+56,
 ABANDON EXISTING 8" PVC
 SANITARY SEWER IN PLACE
 BY PLACING A WATER TIGHT
 GROUT PLUG IN END OF LINE
 IN EXISTING MANHOLE.

STA. 36+00 LT TO STA. 37+30 LT
 REQUIRED: RELOCATION OF
 APPROX. 115 LF EXISTING
 GAS LINE, (BY OTHERS).

STA. 36+17, LT
 REQUIRED: CONSTRUCT
 WQ POND #1.
 MODIFY EXISTING DROP INLET
 TO ADD 10 LF 6" PVC PIPE
 WITH .5" HOLES AND WQ DRIFICE
 WITH 1.5" RIVER ROCK PLACED
 AROUND PVC PIPE.
 CONSTRUCT MODIFIED TYPE 2
 GUTTER AND RIPRAP @ POND
 INTLET. SEE POND #1 SHEET D10.

STA. 36+35, 93, LT TO
 STA. 37+82, 93' LT
 REQUIRED: 4" DIA. STORM
 MANHOLE PER M-604-20,
 CONSTRUCTED IN EXISTING
 30" CMP CULVERT,
 132 LF 24" RCP,
 TYPE 'C' INLET.
 SEE CROSS SECTION SHEET D19.

STA. 37+56, 100'± LT
 LOCATE AND RECONSTRUCT
 EXISTING 4" SANITARY SEWER
 SERVICE TO EXTEND TO EXISTING
 15" SANITARY MAIN LINE
 ADJACENT TO US-160 AT MIN.
 1% SLOPE AND ADEQUATE
 CLEARANCE FROM PROPOSED
 24" RCP STORM SEWER AND
 OTHER EXISTING UTILITIES.
 PROVIDE NEW TAP CONNECTION
 TO 15" MAIN LINE.*

STA. 39+48, 62' LT
 REQUIRED: BEGIN 108 LF 18" DIP.
 CONSTRUCT HEADWALL AND
 SLOPE PAVING PER DETAIL
 SHEET D17.
 SEE CROSS SECTION
 SHEET D20.

STA. 40+60, 49' LT
 REQUIRED: 4" DIA. STORM
 MANHOLE PER M-604-20,
 BEGIN 151 LF 18" RCP

STA. 42+15, 49' LT
 REQUIRED: 4" DIA. STORM
 MANHOLE PER M-604-20,
 BEGIN 46 LF 18" RCP

STA. 42+31, 2.5' LT
 REQUIRED: COMBINATION INLET.
 SEE DETAIL SHEET D18.

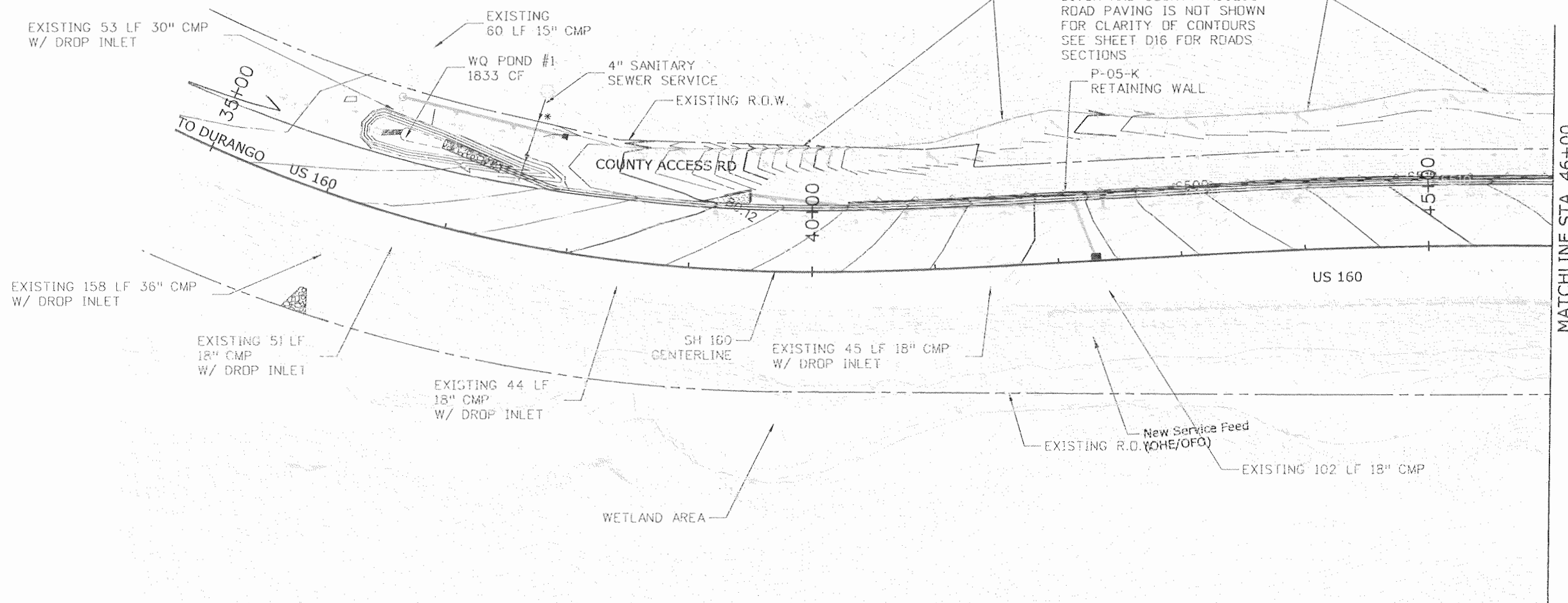
STA. 42+39, 52' LT
 REQUIRED: INSTALL TYPE '13'
 INLET PER M-604-13
 W/ BICYCLE SAFE GRATE
 (HL 93 - LOADING), CENTERED
 IN TYPE II GUTTER.
 CONNECT INLET TO EXISTING
 18" CMP W/10 LF± 18" CMP.
 SEE CROSS SECTION SHEET D21.

STA. 37+84 TO STA. 38+10, LT
 RECONSTRUCT COUNTY ACCESS
 ROAD AND ADJACENT DITCH PER
 SECTION D ON SHEET D16.

STA. 38+10 TO STA. 38+75, LT
 RECONSTRUCT COUNTY ACCESS
 ROAD AND ADJACENT DITCH PER
 SECTION C ON SHEET D16.

STA. 38+75 TO STA. 42+40, LT
 RECONSTRUCT COUNTY ACCESS
 ROAD AND ADJACENT DITCH PER
 SECTION B ON SHEET D16.

STA. 42+40 TO STA. 46+00, LT
 RECONSTRUCT COUNTY ACCESS
 ROAD AND ADJACENT DITCH PER
 SECTION A ON SHEET D16.



LEGEND

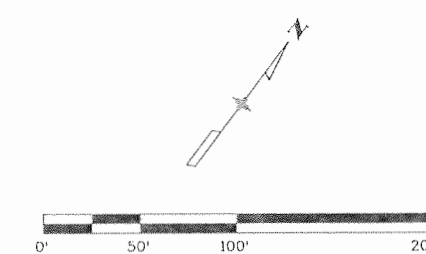
	CONCRETE
	RIPRAP
	1.5" RIVER ROCK

* NOT ALL OF THE UTILITIES SHOWN TO CROSS THE PROPOSED ROUTE OF THE RELOCATED SANITARY SEWER HAVE BEEN VERIFIED BY POTHOLING. THUS, CONFLICTS MAY EXIST ALONG THE ROUTE. THE CONTRACTOR SHOULD EXPOSE UTILITIES CROSSING THE ALIGNMENT AND VERIFY PROPER CLEARANCE PRIOR TO RELOCATION OF THE SERVICE LINE.

NOTE:
 PROTECT WETLAND AREAS WHERE CONSTRUCTION IS NOT ALLOWED AND THAT ARE ADJACENT TO CONSTRUCTION ZONES, WITH ORANGE PLASTIC FENCING AND BMPs AS OUTLINED IN THE STORMWATER MANAGEMENT PLAN FOR THE PROJECT.

STA. 36+17, RT
 REQUIRED: REMOVE 12 LF
 EXISTING CMP. CONSTRUCT
 48 CY D50=24" RIPRAP
 OUTLET PROTECTION.
 SEE SHEET D19.

STA. 36+81, 66.1' LT TO
 STA. 37+33, 58.5' LT
 LINE DITCH WITH 8' WIDE,
 2' THICK D50=12" RIPRAP.
 SEE POND #1 SHEET D10.



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 File Name: 16042_DP201.dgn
 Horiz. Scale: 1:100 Vert. Scale: As Noted
 Unit Information Unit Leader: VSF

Sheet Revisions		
Date:	Comments	Init.

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Region 5 EJA

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

US 160 - DRAINAGE PLAN STA. 35+00 TO STA. 46+00			
Designer:	E. VALDEZ	Structure	
Detailer:	D. COVINGTON	Numbers	
Sheet Subset:	DRAINAGE	Subset Sheets:	D5 of D32

Project No./Code	
NH-1602-114	
16042	
Sheet Number	157

STA. 48+10, 56' LT
REQUIRED: RUNDOWN STRUCTURE,
SEE DETAIL SHEET D17.

STA. 49+59, LT
REQUIRED: REMOVE INLET AND
SHORTEN OUTLET END OF
EXISTING CMP TO ELIMINATE
CONFLICT WITH WALL.
PLUG AND FILL CMP WITH
FLOW FILL.
SEE CROSS SECTION SHEET D21.

STA. 51+28 REQUIRED: REMOVE
36" CMP AND HEADWALL, RT.
PLACE (2) 137 LF ± 36" RCP
W/HEADWALL RT AND
74 CY D₅₀=24" RIPRAP FOR
INLET PROTECTION PROVIDE
WALL PENETRATION LT
W/ 56 CY D₅₀=24" ADDITIONAL
RIPRAP FOR OUTLET
PROTECTION.
SEE DETAIL SHEET D15.
SEE CROSS SECTION SHEET D22.
Q100= 128.9 CFS
DHW= 6526.48
AHW= 6527.00

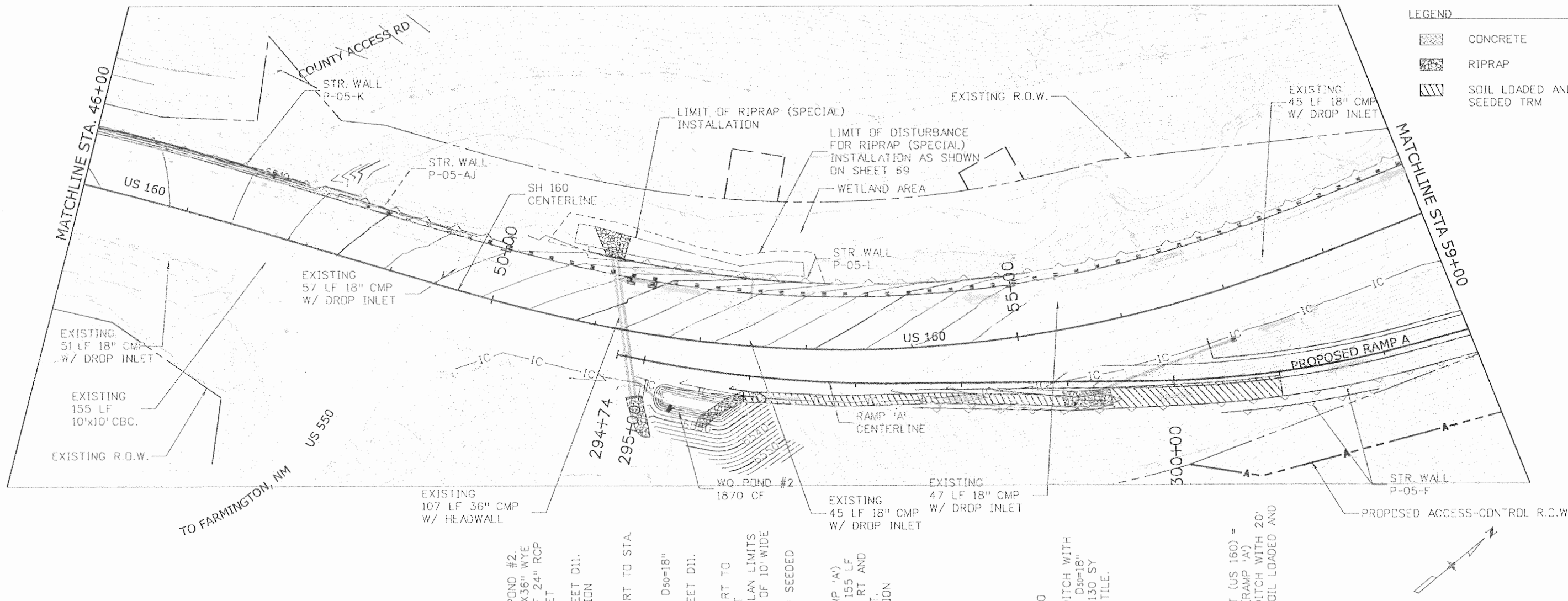
STA. 51+26, 50' LT
CONSTRUCT 3' VANE GRATE
INLET PER M-604-25.
GRATE=6518.20
24" INV OUT=6513.50
AND CONNECT TO PROPOSED
36" RCP W/6 LF OF 24" RCP
AND 36"x24"x36" TEE.
SEE CROSS SECTION
SHEET D22.

STA. 51+47, 50' LT
CONSTRUCT 3' VANE GRATE
INLET PER M-604-25.
GRATE=6519.37
24" INV OUT=6514.53
AND CONNECT TO PROPOSED
VANE GRATE INLET @ STA. 51+26
W/ 18 LF OF 24" RCP. SEE
CROSS SECTION
SHEET D22.

STA. 52+44, LT
REQUIRED: REMOVE INLET AND
PLUG EXISTING 18" CMP
AND FILL WITH FLOWFILL. SEE
CROSS SECTION SHEET D23.

STA. 55+44, LT
REQUIRED: REMOVE INLET AND
PLUG EXISTING 18" CMP
AND FILL WITH FLOWFILL.
SEE CROSS SECTION SHEET
D23.

STA. 57+44, LT
REQUIRED: REMOVE INLET AND
PLUG EXISTING 18" CMP
AND FILL WITH FLOWFILL.
SEE CROSS SECTION SHEET
D23.



LEGEND

- CONCRETE
- RIPRAP
- SOIL LOADED AND SEEDED TRM

NOTE:
PROTECT WETLAND AREAS WHERE CONSTRUCTION IS NOT ALLOWED AND THAT ARE ADJACENT TO CONSTRUCTION ZONES, WITH ORANGE PLASTIC FENCING AND BMPs AS OUTLINED IN THE STORMWATER MANAGEMENT PLAN FOR THE PROJECT.

STA. 51+80, RT
CONSTRUCT WQ POND #2.
INSTALL 36"x24"x36" WYE
D/S, PLACE 58 LF 24" RCP
AND TYPE 'D' INLET
W/ORIFICE U/S.
SEE POND #2 SHEET D11.
SEE CROSS SECTION
SHEET D22.

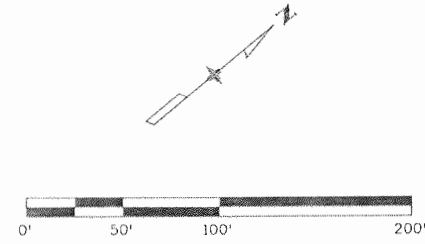
STA. 52+06, 75.3' RT TO STA.
52+45, 48.4' RT
LINE DITCH WITH
10' WIDE, 3' THICK D₅₀=18"
RIPRAP (63 CY)
SEE POND #2 SHEET D11.

STA. 52+45, 48.4' RT TO
STA. 55+33, 68' RT
LINE DITCH TO PLAN LIMITS
WITH A MINIMUM OF 10' WIDE
(-369 SY)
SOIL LOADED AND SEEDED
TRM.

STA. 299+52, (RAMP 'A')
REQUIRED: PLACE 155 LF
24" RCP W/ FES RT AND
TYPE 'C' INLET LT.
SEE CROSS SECTION
SHEET D28.
Q100= 3.30 CFS
DHW= 6545.97
AHW= 6547.00

STA. 55+33, RT TO
STA. 55+75, RT
REQUIRED: LINE DITCH WITH
18' WIDE, 3' THICK D₅₀=18"
RIPRAP (88 CY), 130 SY
CLASS 'A' GEOTEXTILE.

STA. 55+75.00, RT (US 160) =
STA. 299+41, RT (RAMP 'A')
REQUIRED: LINE DITCH WITH 20'
WIDE (353 SY) SOIL LOADED AND
SEEDED TRM.



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Horiz. Scale: 1:100 Vert. Scale: As Noted	
Unit Information Unit Leader: VSF	

Sheet Revisions		
Date:	Comments	Init.

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Region 5 EJA

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Revised:	
Void:	

US 160 - DRAINAGE PLAN STA. 46+00 TO STA. 59+00	
Designer: E. VALDEZ	Structure Numbers
Detailer: D. COVINGTON	
Sheet Subset: DRAINAGE	Subset Sheets: D6 of D32

Project No./Code	NH-1602-114
	16042
Sheet Number	158

STA. 60+12, LT
 REQUIRED: EXTEND 24" CMP
 CULVERT 5 LF AND PROVIDE
 WALL PENETRATION. INSTALL
 11 CY D₉₀=18" RIPRAP FOR
 OUTLET PROTECTION LT.
 REMOVE EXISTING INLET RT.
 EXTEND EXISTING 24" CMP
 17 LF BUILD TYPE 'C' INLET
 W/WO 3" ORIFICE.
 SEE CROSS SECTION SHEET D24.
 CONSTRUCT WQ POND #3.
 SEE POND #3 SHEET D12.

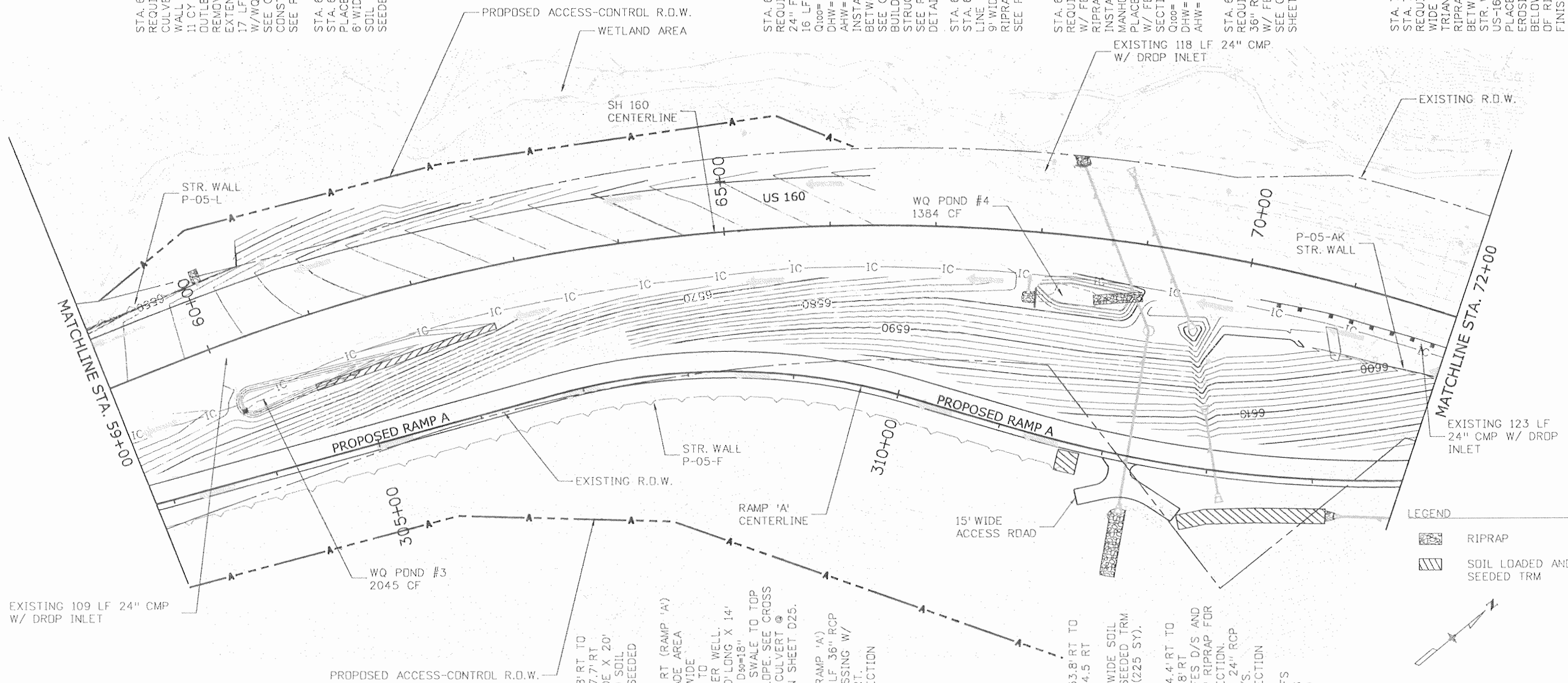
STA. 60+85, 68.1' RT TO
 STA. 62+70, 56.5' RT
 PLACE 180' LONG X
 6' WIDE (120 SY) OF
 SOIL LOADED AND
 SEEDED TRM.

STA. 67+95, RT
 REQUIRED: REMOVE EXISTING
 24" FES AND EXTEND 24" CMP
 16 LF AND INSTALL NEW FES RT.
 Q₁₀₀= 9.50 CFS
 DHW= 6578.30
 AHW= 6578.50
 INSTALL 9 CY D₅₀=12" RIPRAP
 BETWEEN WEIR AND 24" FES.
 SEE CROSS SECTION SHEET D24.
 BUILD CONCRETE WEIR
 STRUCTURE AND WQ POND #4.
 SEE POND #4 SHEET D13 AND
 DETAIL SHEET D18.

STA. 68+68
 REQUIRED: PLACE 165 LF 36" RCP
 W/ FES LT, AND 9 CY D₉₀=12"
 RIPRAP FOR OUTLET PROTECTION.
 INSTALL 6' DIA. STORM
 MANHOLE RT PER M-604-24.
 PLACE 166 LF 36" RCP
 W/ FES RT SEE CROSS
 SECTION SHEET D25.
 Q₁₀₀= 52.8 CFS
 DHW= 6611.94
 AHW= 6614.00

STA. 69+13
 REQUIRED: PLACE 147 LF
 36" RCP WILDLIFE CROSSING
 W/ FES LT AND RT.
 SEE CROSS SECTION
 SHEET D26.

STA. 71+01, 71.8 RT TO
 STA. 70+88, 42.0' RT
 REQUIRED: CONSTRUCT 10'
 WIDE X 0.5' DEEP
 TRIANGULAR, 16 CY D₉₀=9"
 RIPRAP LINED CHANNEL
 BETWEEN THE DITCH BEHIND
 STR. WALL P-05-AK AND
 US-160 RT DITCH.
 PLACE (56 SY) CLASS 'A'
 EROSION CONTROL GEOTEXTILE
 BELOW AND AROUND ALL SIDES
 OF RIPRAP TO WITHIN 2" OF
 FINISHED GRADE.

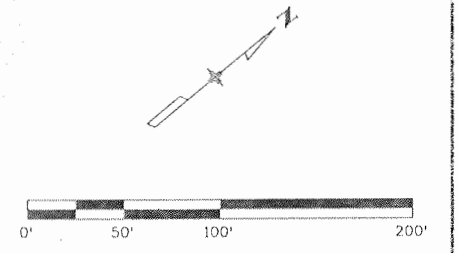
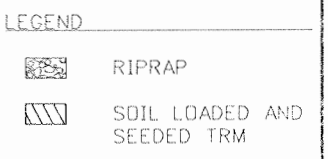


EXISTING 109 LF 24" CMP
 W/ DROP INLET

WQ POND #3
 2045 CF

WQ POND #4
 1384 CF

EXISTING 123 LF
 24" CMP W/ DROP
 INLET



NOTE:
 PROTECT WETLAND AREAS WHERE CONSTRUCTION
 IS NOT ALLOWED AND THAT ARE ADJACENT TO
 CONSTRUCTION ZONES, WITH ORANGE PLASTIC
 FENCING AND BMPs AS OUTLINED IN THE
 STORMWATER MANAGEMENT PLAN FOR THE PROJECT.



STA. 311+60, 18' RT TO
 STA. 311+80, 17.7' RT
 PLACE 20' WIDE X 20'
 LONG (45 SY) SOIL
 LOADED AND SEEDED
 TRM.

STA. 312+15, 6' RT (RAMP 'A')
 REQUIRED: GRADE AREA
 FOR NEW 15' WIDE
 ACCESS ROAD TO
 EXISTING WATER WELL.
 CONSTRUCT 60' LONG X 14'
 WIDE (98 CY) D₉₀=18"
 RIPRAP LINED SWALE TO TOP
 OF GRADED SLOPE. SEE CROSS
 SECTION FOR CULVERT @
 STA. 68+68 ON SHEET D25.


STA. 313+07, (RAMP 'A')
 REQUIRED: 77 LF 36" RCP
 WILDLIFE CROSSING W/
 FES LT AND RT.
 SEE CROSS SECTION
 SHEET D26.

STA. 312+80, 53.8' RT TO
 STA. 314+13, 34.5' RT
 (RAMP 'A')
 REQUIRED: 14' WIDE SOIL
 LOADED AND SEEDED TRM
 LINED DITCH (225 SY).

STA. 314+21, 34.4' RT TO
 STA. 316+00, 48' RT
 INSTALL 24" FES D/S AND
 4.5 CY D₉₀=9" RIPRAP FOR
 OUTLET PROTECTION.
 PLACE 172 LF 24" RCP
 W/24" FES U/S.
 SEE CROSS SECTION
 SHEET D28.
 Q₁₀₀= 10.50 CFS
 DHW= 6625.88
 AHW= 6630.00

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 File Name: 16042_DP203.dgn
 Horiz. Scale: 1:100 Vert. Scale: As Noted
 Unit Information Unit Leader: VSF



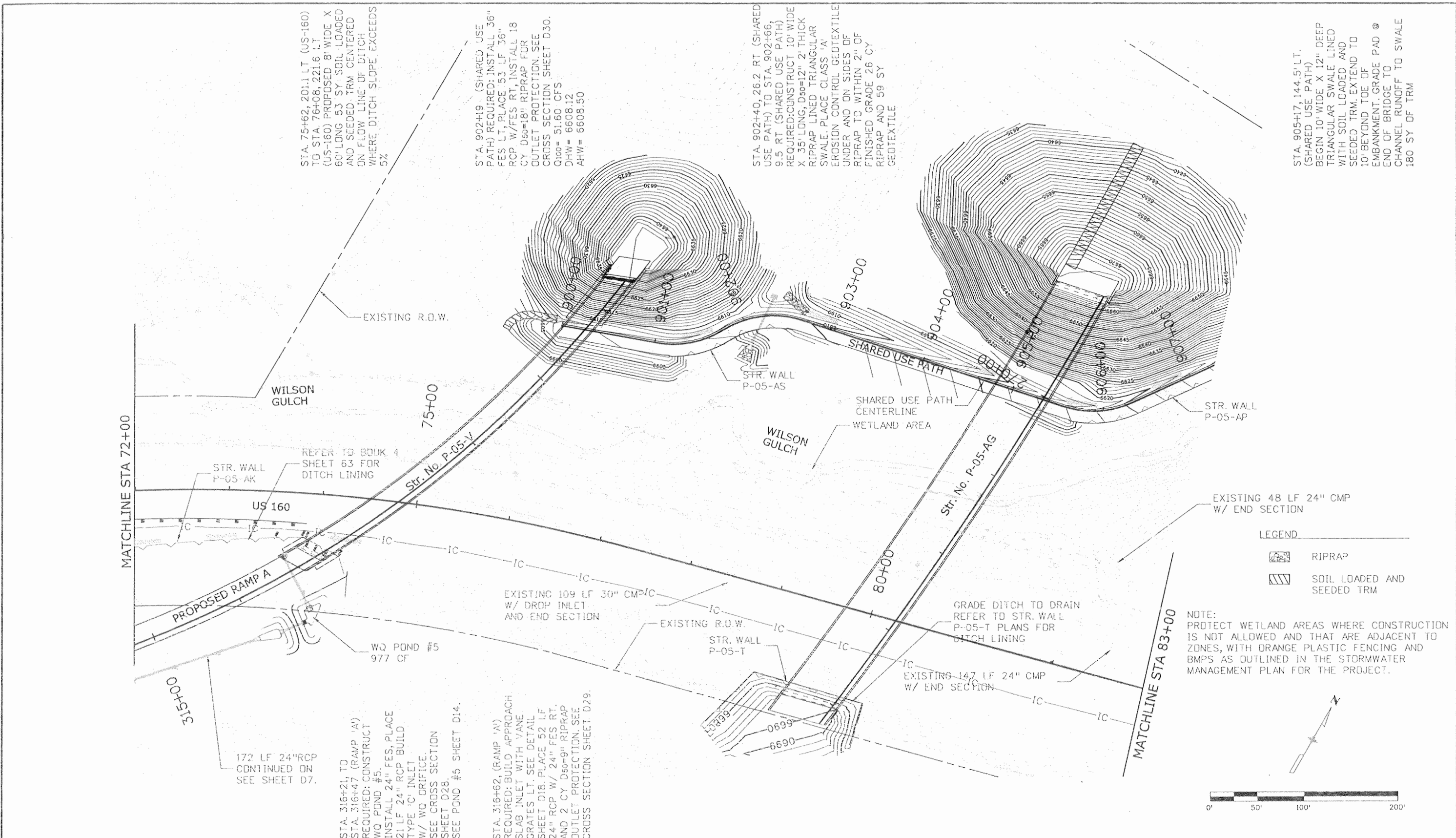
Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

 3803 North Main Avenue
 Suite 200
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 Phone: 970-385-1440 FAX: 970-385-8365
 Region 5 EJA

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

US 160 - DRAINAGE PLAN STA. 59+00 TO STA. 72+00		
Designer:	E. VALDEZ	Structure Numbers
Detailer:	D. COVINGTON	
Sheet Subset:	DRAINAGE	Subset Sheets: D7 of D32

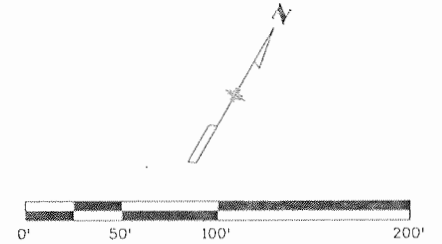
Project No./Code	
NH-1602-114	
16042	
Sheet Number	159



LEGEND

	RIPRAP
	SOIL LOADED AND SEEDED TRM

NOTE: PROTECT WETLAND AREAS WHERE CONSTRUCTION IS NOT ALLOWED AND THAT ARE ADJACENT TO ZONES, WITH ORANGE PLASTIC FENCING AND BMPS AS OUTLINED IN THE STORMWATER MANAGEMENT PLAN FOR THE PROJECT.



Print Date: 9/23/2010
 File Name: 16042_DP204.dgn
 Horiz. Scale: 1:100 Vert. Scale: As Noted
 Unit Information Unit Leader: VSF

SEMA CONSTRUCTION
WILSON & COMPANY

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

DOT
 DEPARTMENT OF TRANSPORTATION

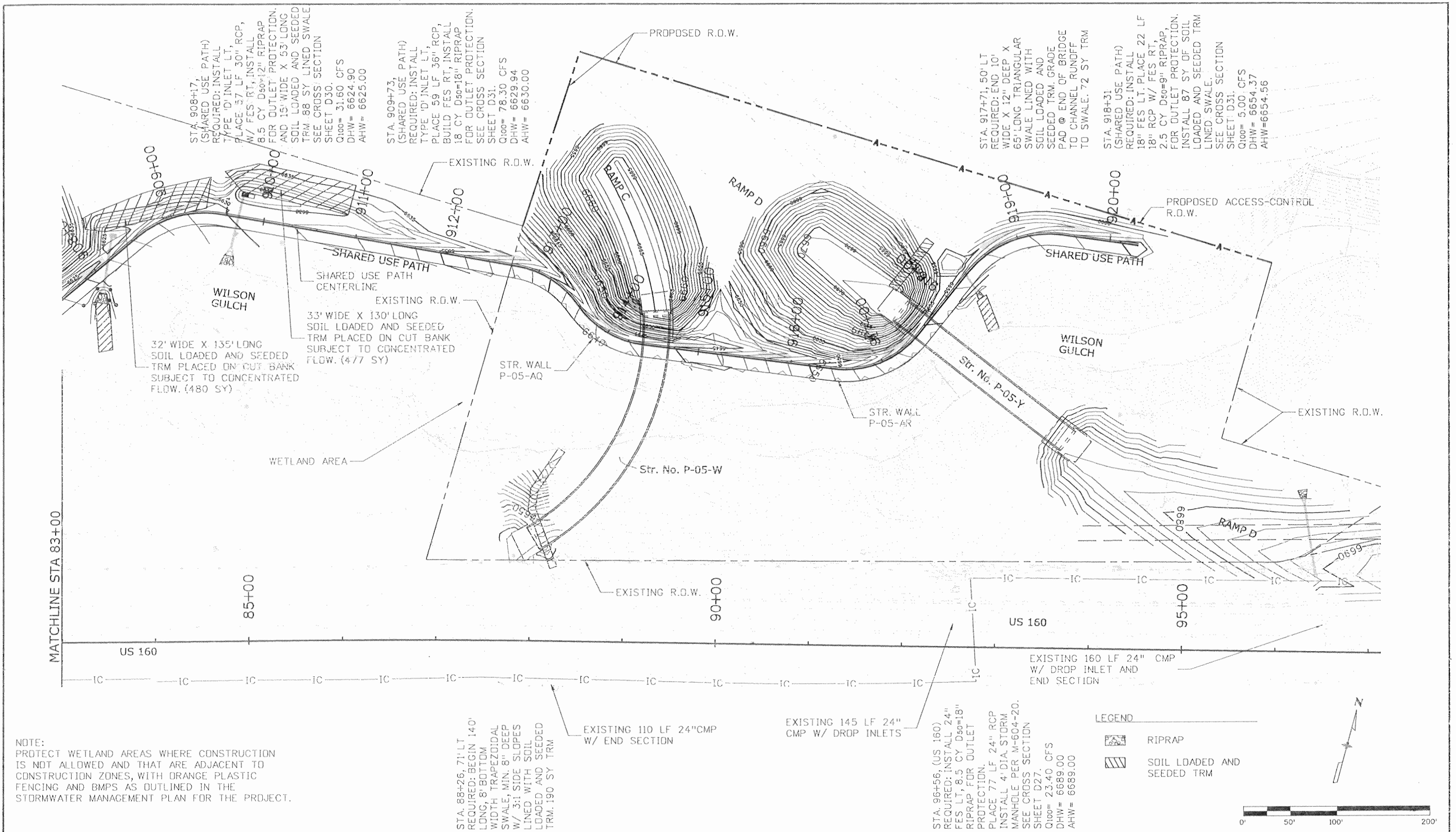
3803 North Main Avenue
 Suite 200
 Durango, CO 81301
 Phone: 970-385-1440 FAX: 970-385-8365

Region 5 EJA

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

US. 160 - DRAINAGE PLAN STA. 72+00 TO STA. 83+00 & SHARED USE PATH			
Designer:	E. VALDEZ	Structure Numbers	
Detailer:	D. COVINGTON		
Sheet Subset:	DRAINAGE	Subset Sheets:	DB of D32

Project No./Code	
NH-1602-114	
	16042
Sheet Number	160



STA. 908+17,
(SHARED USE PATH)
REQUIRED: INSTALL
TYPE 'D' INLET LT,
PLACE 57 LF 30" RCP,
W/ FES RT, INSTALL
8.5 CY D50=12" RIPRAP
FOR OUTLET PROTECTION.
AND 15'-WIDE X 53'-LONG
SOIL LOADED AND SEEDED
TRM. 88 SY LINED SWALE
SEE CROSS SECTION
SHEET D30.
Q100= 31.60 CFS
DHW= 6624.90
AHW= 6625.00

STA. 909+73,
(SHARED USE PATH)
REQUIRED: INSTALL
TYPE 'D' INLET LT,
PLACE 59 LF 36" RCP,
BUILD FES RT, INSTALL
18 CY D50=18" RIPRAP
FOR OUTLET PROTECTION.
SEE CROSS SECTION
SHEET D31.
Q100= 78.30 CFS
DHW= 6629.94
AHW= 6630.00

STA. 917+71, 50' LT
REQUIRED: END 10'
WIDE X 12" DEEP X
65' LONG TRIANGULAR
SWALE LINED WITH
SOIL LOADED AND
SEEDED TRM. GRADE
PAD @ END OF BRIDGE
TO CHANNEL RUNOFF
TO SWALE. 72 SY TRM

STA. 918+31
(SHARED USE PATH)
REQUIRED: INSTALL
18" FES LT, PLACE 22 LF
18" RCP W/ FES RT,
2.5 CY D50=9" RIPRAP,
FOR OUTLET PROTECTION.
INSTALL 87 SY OF SOIL
LOADED AND SEEDED TRM
LINED SWALE.
SEE CROSS SECTION
SHEET D31.
Q100= 5.00 CFS
DHW= 6654.37
AHW= 6654.56

32' WIDE X 135' LONG
SOIL LOADED AND SEEDED
TRM PLACED ON CUT BANK
SUBJECT TO CONCENTRATED
FLOW. (480 SY)

33' WIDE X 130' LONG
SOIL LOADED AND SEEDED
TRM PLACED ON CUT BANK
SUBJECT TO CONCENTRATED
FLOW. (477 SY)



NOTE:
PROTECT WETLAND AREAS WHERE CONSTRUCTION
IS NOT ALLOWED AND THAT ARE ADJACENT TO
CONSTRUCTION ZONES, WITH ORANGE PLASTIC
FENCING AND BMPs AS OUTLINED IN THE
STORMWATER MANAGEMENT PLAN FOR THE PROJECT.

STA. 88+26, 71' LT
REQUIRED: BEGIN 140'
LONG, 8' BOTTOM
WIDTH TRAPEZOIDAL
SWALE, MIN. 8" DEEP
W/ 3:1 SIDE SLOPES
LINED WITH SOIL
LOADED AND SEEDED
TRM. 190 SY TRM

EXISTING 110 LF 24" CMP
W/ END SECTION

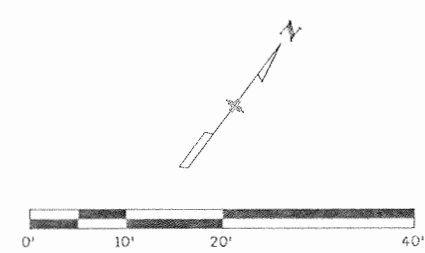
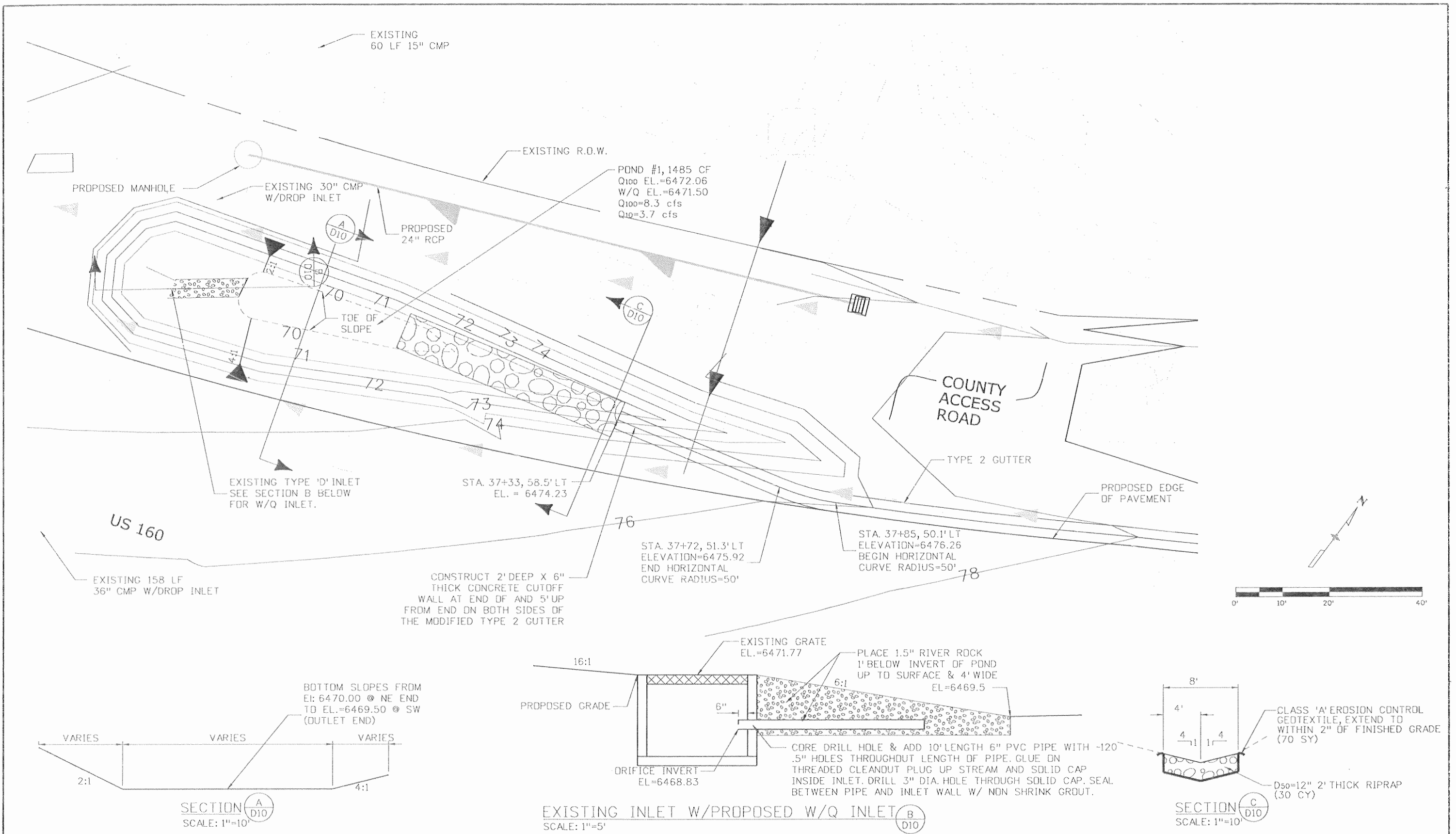
EXISTING 145 LF 24"
CMP W/ DROP INLETS

STA. 96+56, (US 160)
REQUIRED: INSTALL 24"
FES LT, 8.5 CY D50=18"
RIPRAP FOR OUTLET
PROTECTION.
PLACE 77 LF 24" RCP
INSTALL 4' DIA. STORM
MANHOLE PER M-604-20.
SEE CROSS SECTION
SHEET D27.
Q100= 23.40 CFS
DHW= 6689.00
AHW= 6689.00

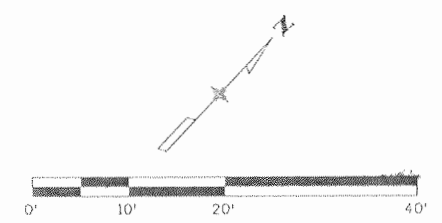
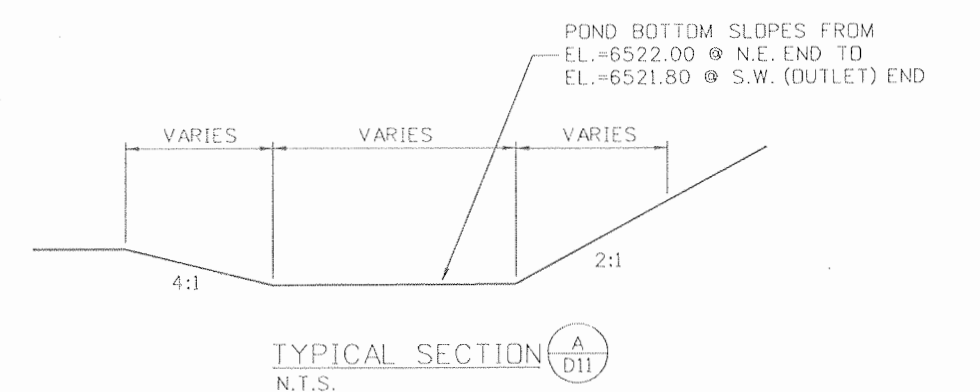
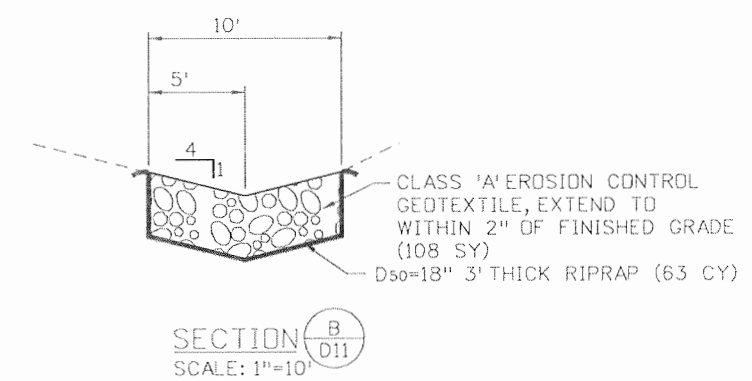
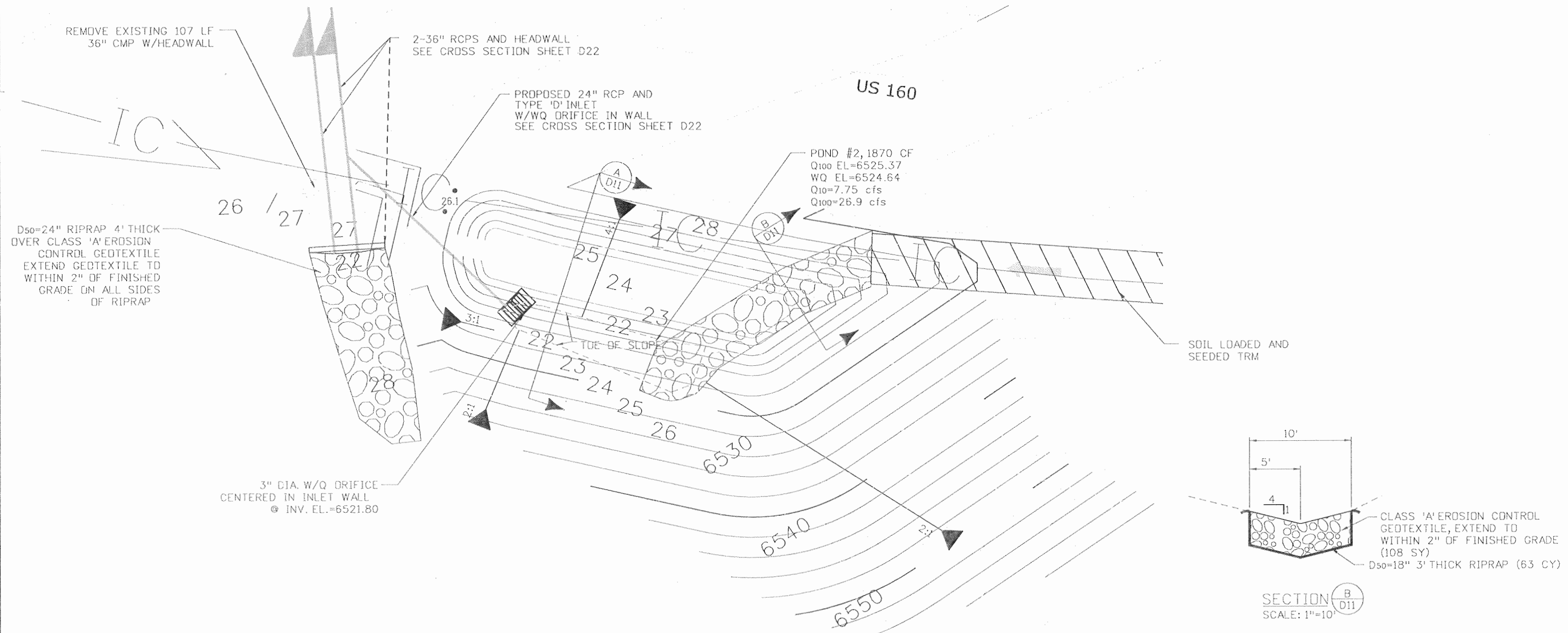
LEGEND
 RIPRAP
 SOIL LOADED AND SEEDED TRM



Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation		As Constructed		US 160 - DRAINAGE PLAN STA. 83+00 TO STA. 97+00 & SHARED USE PATH		Project No./Code			
File Name: 16042_DP205.dgn	Date:	Comments	Init.	3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365		No Revisions: 9/10		Designer: E. VALDEZ		NH-1602-114			
Horiz. Scale: 1:100 Unit Information	Vert. Scale: As Noted Unit Leader: VSF			 Region 5 EJA		Revised:		Detailer: D. COVINGTON		Structure Numbers			
 						Void:		Sheet Subset: DRAINAGE		Subset Sheets: D9 of D32		16042	
												Sheet Number 161	



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File Name: 16042_DD201.dgn	Date:	Comments:	Init.		No Revisions: 9/10	SECTION & DETAILS		
Horiz. Scale: 1:20					Revised:	Designer: E. VALDEZ	Structure	16042
Unit Information					Void:	Detailer: D. COVINGTON	Numbers	
Unit Leader VSF						Sheet Subset: DRAINAGE	Subset Sheets: D10 of D32	



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File Name: 16042_DD202.dgn	Date:	Comments	Init.			No Revisions: 9/10	SECTION & DETAILS	
Horiz. Scale: 1:20					Revised:	Designer: E. VALDEZ	Structure	16042
Unit Information					Region 5	EJA	Detailer: D. COVINGTON	Numbers
Unit Leader VSF					Void:	Sheet Subset: DRAINAGE	Subset Sheets: D11 of D32	



US 160

US 160

17 LF 24" CMP AND TYPE 'C' INLET WITH W/Q DRIFICE SEE CROSS SECTION SHEET D24

REMOVE EXISTING DROP INLET

3" DIA. WQ DRIFICE CENTERED IN INLET WALL @ INV. EL.=6550.4

Q10=5.6 cfs
Q100=11.3 cfs

STA. 60+12, 66.6' RT.
CL TYPE 'C' INLET

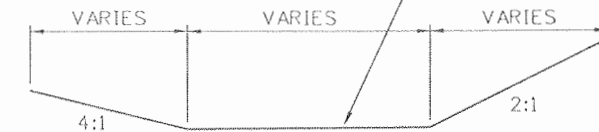
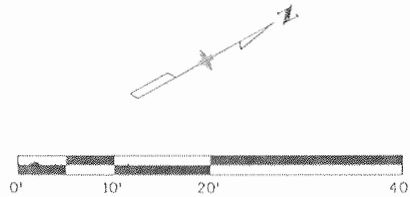
POND #3
2045 CF
Q100 EL=6553.00
WQ EL=6552.43

TOE OF SLOPE

SOIL LOADED AND SEEDED TRM

PROPOSED RAMP 'A'

POND BOTTOM SLOPES FROM EL.=6551.0 @ N.E. (UPSTREAM) END TO EL.=6550.4 @ S.W. (OUTLET) END



SECTION A D12
N.T.S.

Print Date: 9/23/2010	
File Name: 16042_DD203.dgn	
Horiz. Scale: 1:20 Vert. Scale: As Noted	
Unit Information Unit Leader VSF	

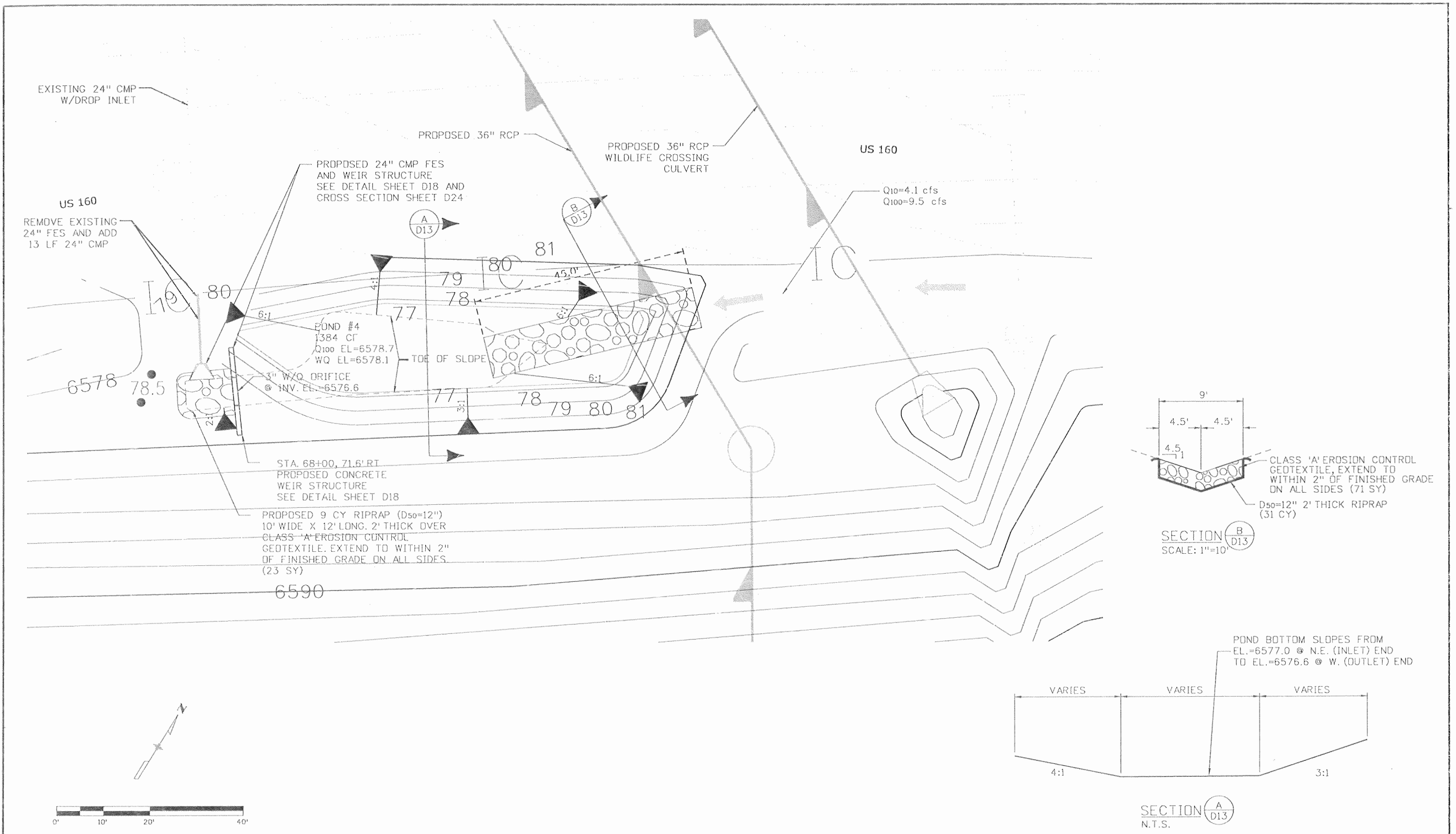
Sheet Revisions		
Date:	Comments	Init.

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 Region 5 EJA

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

POND # 3 SECTION & DETAILS	
Designer: E. VALDEZ	Structure Numbers
Detailer: D. COVINGTON	
Sheet Subset: DRAINAGE	Subset Sheets: D12 of D32

Project No./Code
NH-1602-114
16042
Sheet Number 164



PROPOSED 24" CMP FES AND WEIR STRUCTURE SEE DETAIL SHEET D18 AND CROSS SECTION SHEET D24

POND #4
1384 CF
Q100 EL=6578.7
WQ EL=6578.1

STA. 68+00, 71.6' RT
PROPOSED CONCRETE WEIR STRUCTURE SEE DETAIL SHEET D18

PROPOSED 9 CY RIPRAP (D50=12") 10' WIDE X 12' LONG, 2' THICK OVER CLASS 'A' EROSION CONTROL GEOTEXTILE, EXTEND TO WITHIN 2" OF FINISHED GRADE ON ALL SIDES (23 SY)

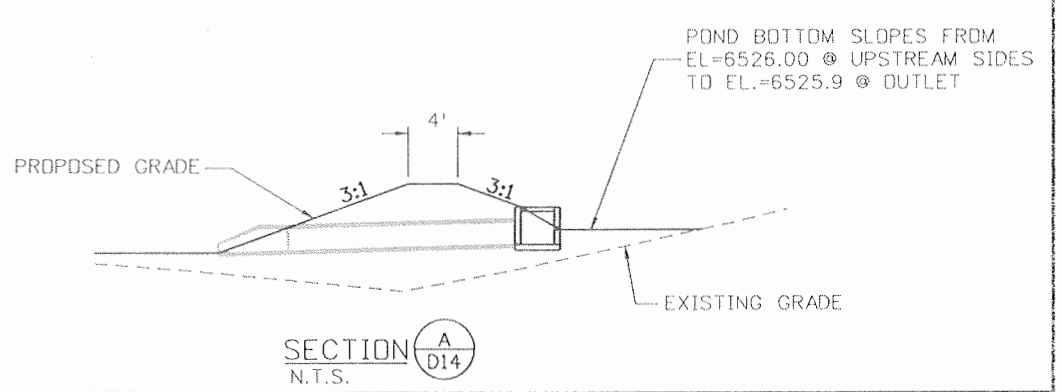
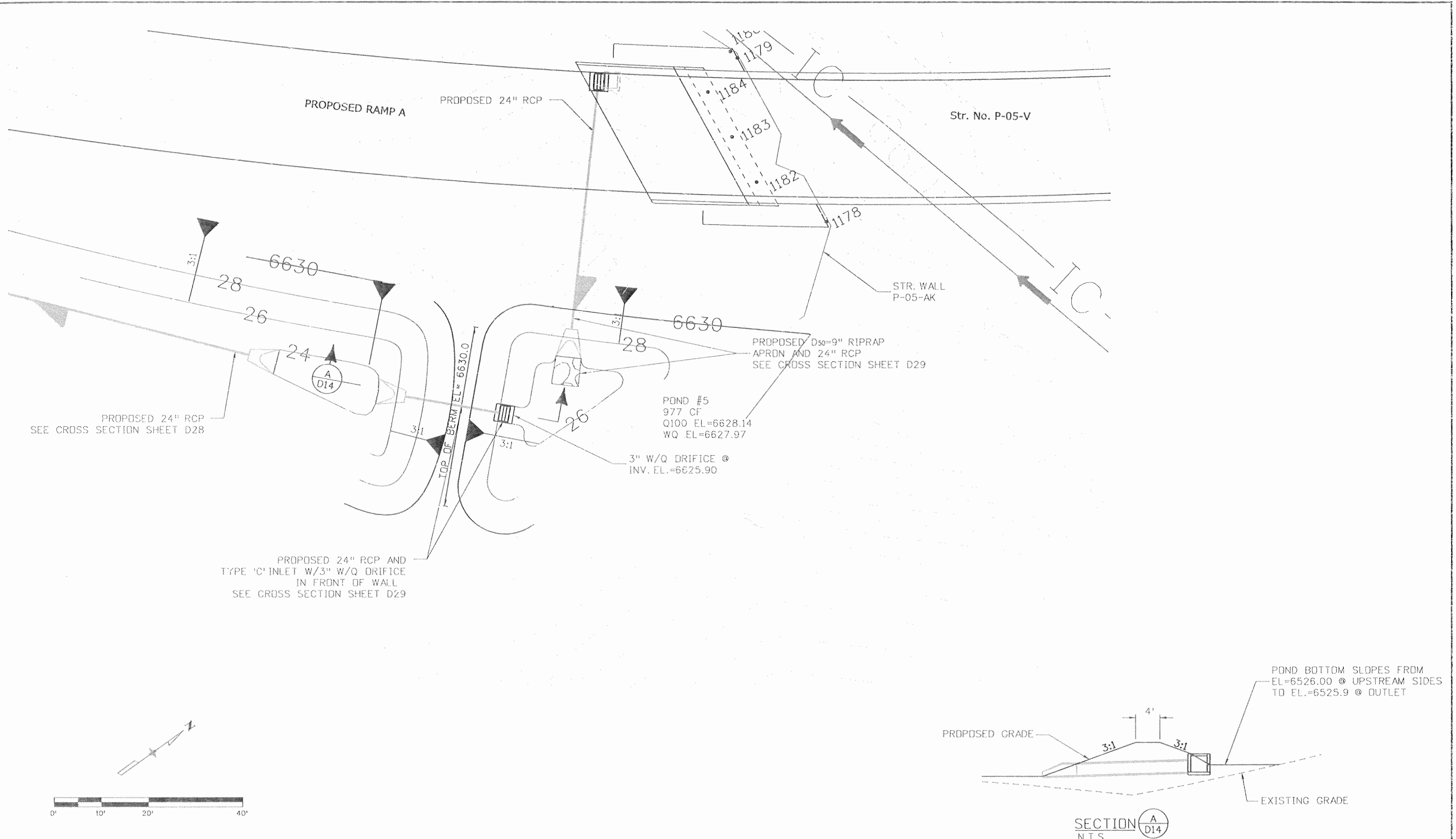
Q10=4.1 cfs
Q100=9.5 cfs

CLASS 'A' EROSION CONTROL GEOTEXTILE, EXTEND TO WITHIN 2" OF FINISHED GRADE ON ALL SIDES (71 SY)
D50=12" 2' THICK RIPRAP (31 CY)

POND BOTTOM SLOPES FROM EL.=6577.0 @ N.E. (INLET) END TO EL.=6576.6 @ W. (OUTLET) END

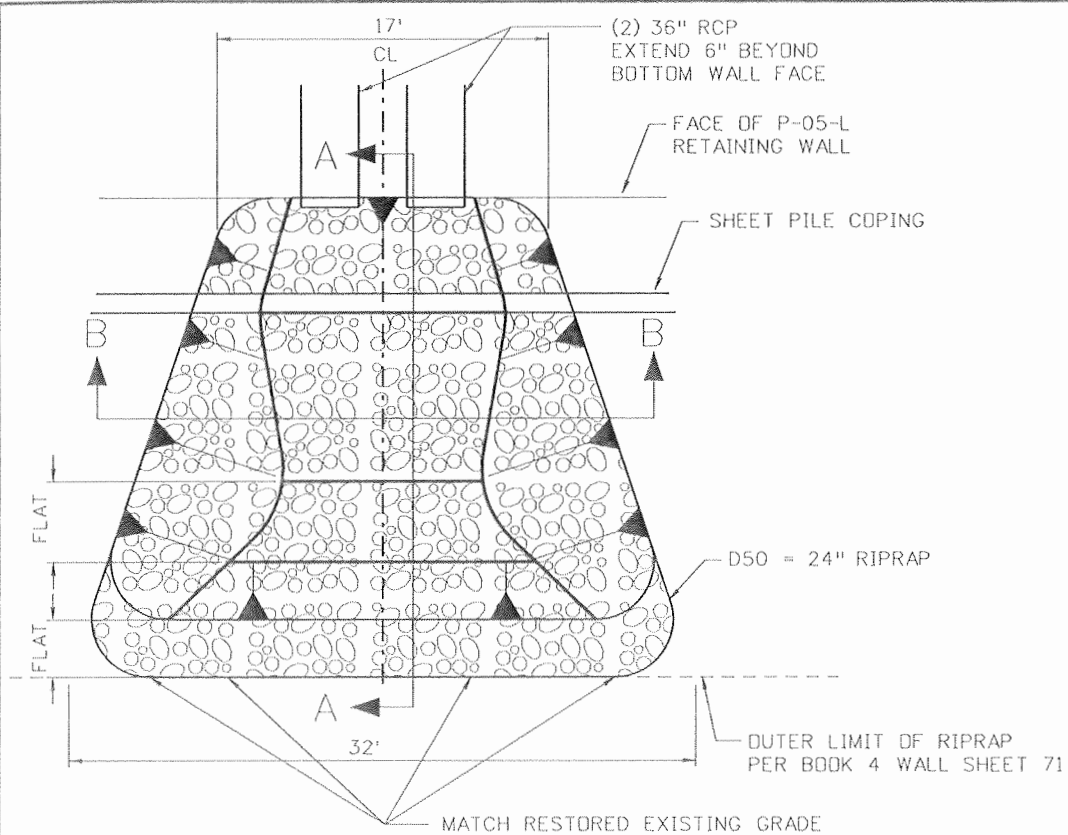
SECTION A/D13
N.T.S.

Print Date: 9/23/2010		Sheet Revisions		Colorado Department of Transportation		As Constructed		POND # 4		Project No./Code	
File Name: 16042_DD204.dgn		Date:	Comments	Init.	3803 North Main Avenue Suite 200 Durango, CD 81301 Phone: 970-385-1440 FAX: 970-385-8365		No Revisions: 9/10		SECTION & DETAILS		NH-1602-114
Horiz. Scale: 1:20					Region 5		Revised:		Designer: E. VALDEZ		16042
Vert. Scale: As Noted					EJA		Void:		Detailer: D. COVINGTON		Sheet Number 165
Unit Information									Structure Numbers		Sheet Subset: DRAINAGE
Unit Leader VSF									Subset Sheets: D13 of D32		165
SEMA CONSTRUCTION									WILSON & COMPANY		

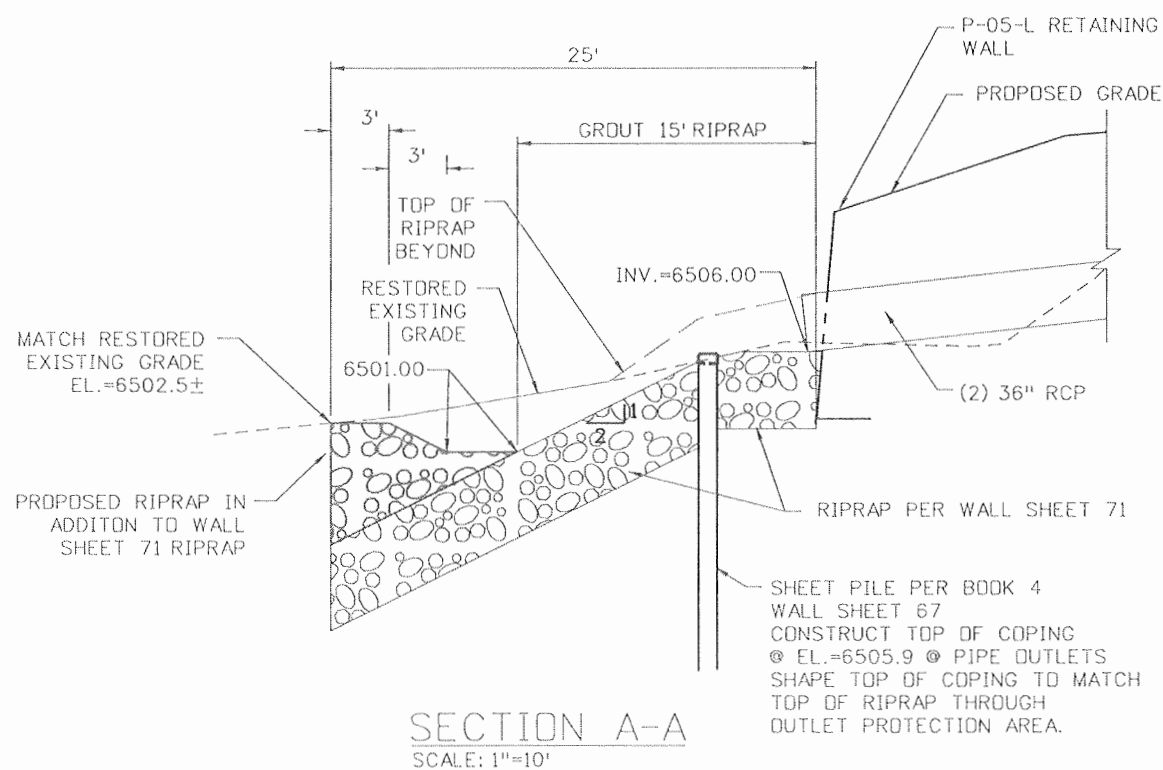


Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	POND # 5 SECTION & DETAILS		Project No./Code
File Name: 16042_DD205.dgn	Date:	Comments:	Init.:		No Revisions: 9/10	Designer: E. VALDEZ	Structure Numbers	NH-1602-114
Horiz. Scale: 1:20	Vert. Scale: As Noted			Revised:	Detailer: D. COVINGTON		16042	
Unit Information	Unit Leader VSF			Void:	Sheet Subset: DRAINAGE	Subset Sheets: D14 of D32	Sheet Number 166	

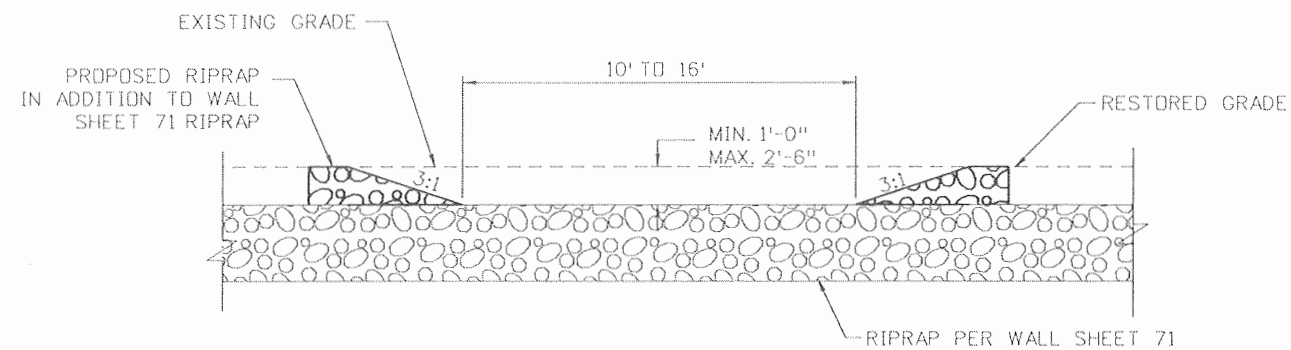




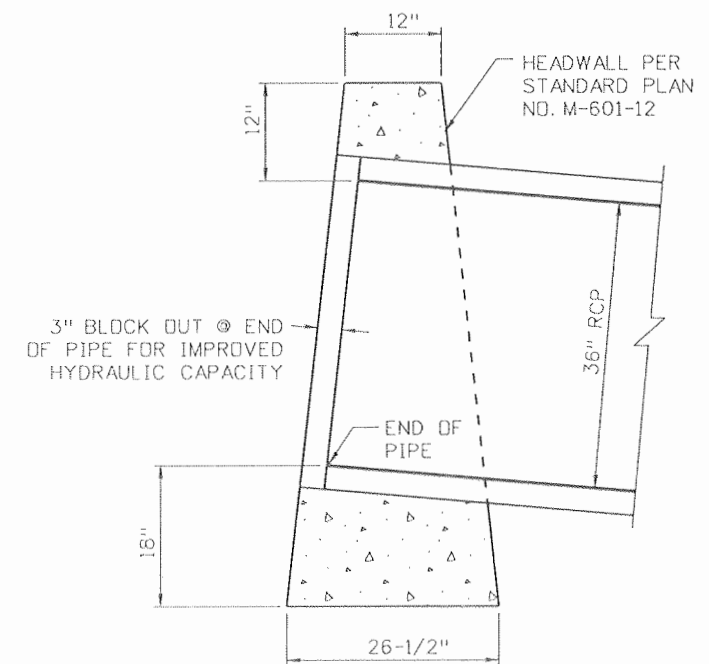
OUTLET @ US 160 STA 51+28
SCALE: 1"=10'



SECTION A-A
SCALE: 1"=10'



SECTION B-B
SCALE: 1"=5'



HEADWALL INLET MODIFICATION
FOR CULVERTS @ US 160 STA. 51+28
SCALE: 1"=2'

Print Date: 9/23/2010	
File Name: 16042_DD101.dgn	
Horiz. Scale: 1:10 Vert. Scale: As Noted	
Unit Information Unit Leader: VSF	

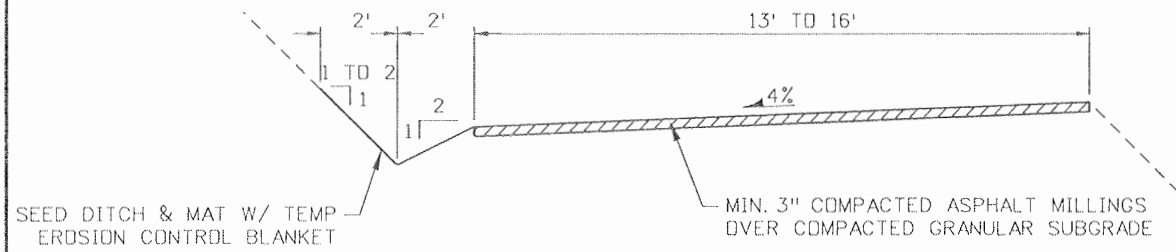
Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
 3803 North Main Avenue
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 Region 5 EJA

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

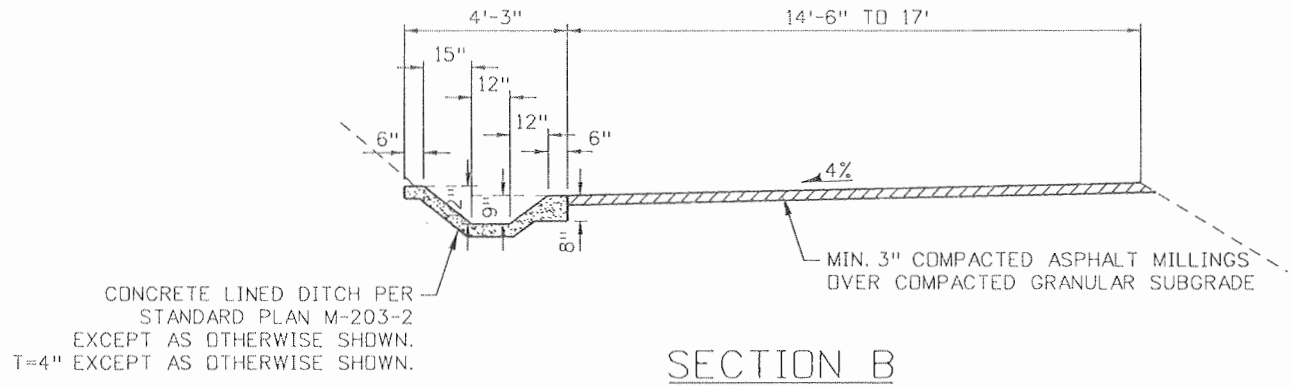
MISCELLANEOUS DRAINAGE DETAILS	
Designer: E. VALDEZ	Structure Numbers
Detailer: D. COVINGTON	
Sheet Subset: DRAINAGE	Subset Sheets: D15 of D32

Project No./Code
NH-1602-114
16042
Sheet Number 167



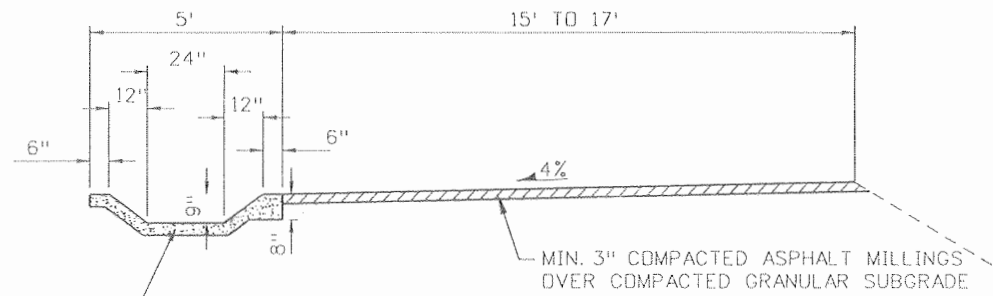
SECTION A

US-160
STA. 42+40 TO STA. 46+00



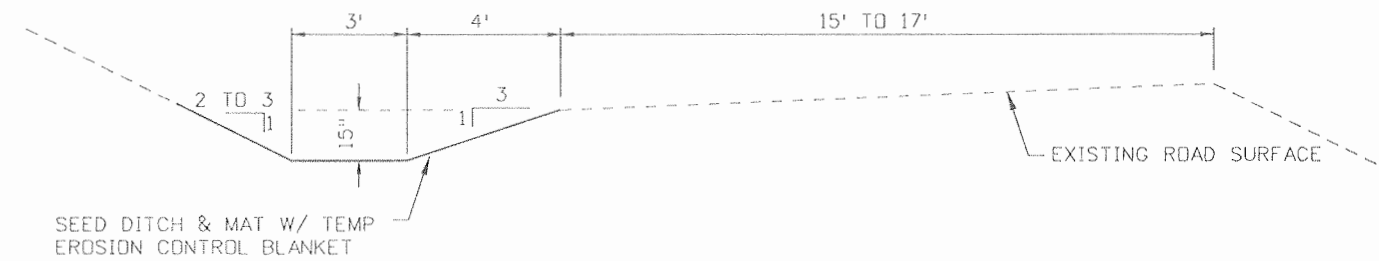
SECTION B

US-160
STA. 38+75 TO STA. 42+40



SECTION C

US-160
STA. 38+10 TO STA. 38+75



SECTION D

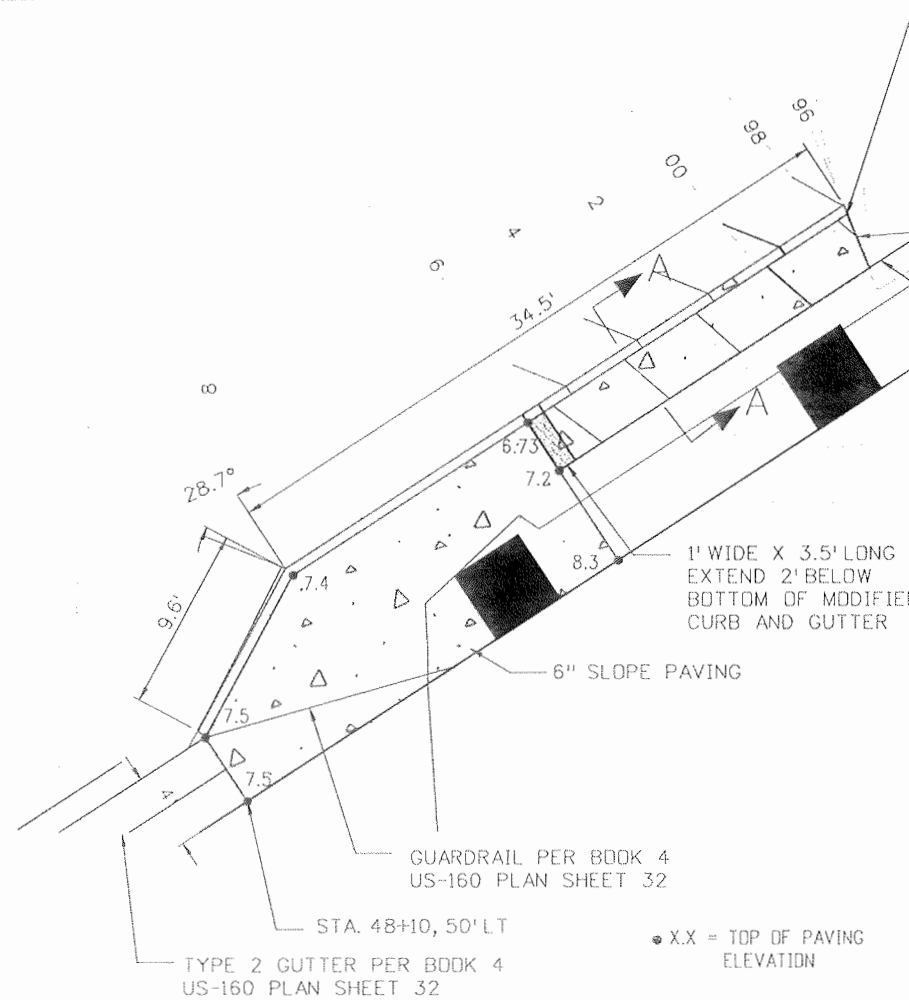
US-160
STA. 37+84 TO STA. 38+10

COUNTY ACCESS ROAD SECTIONS

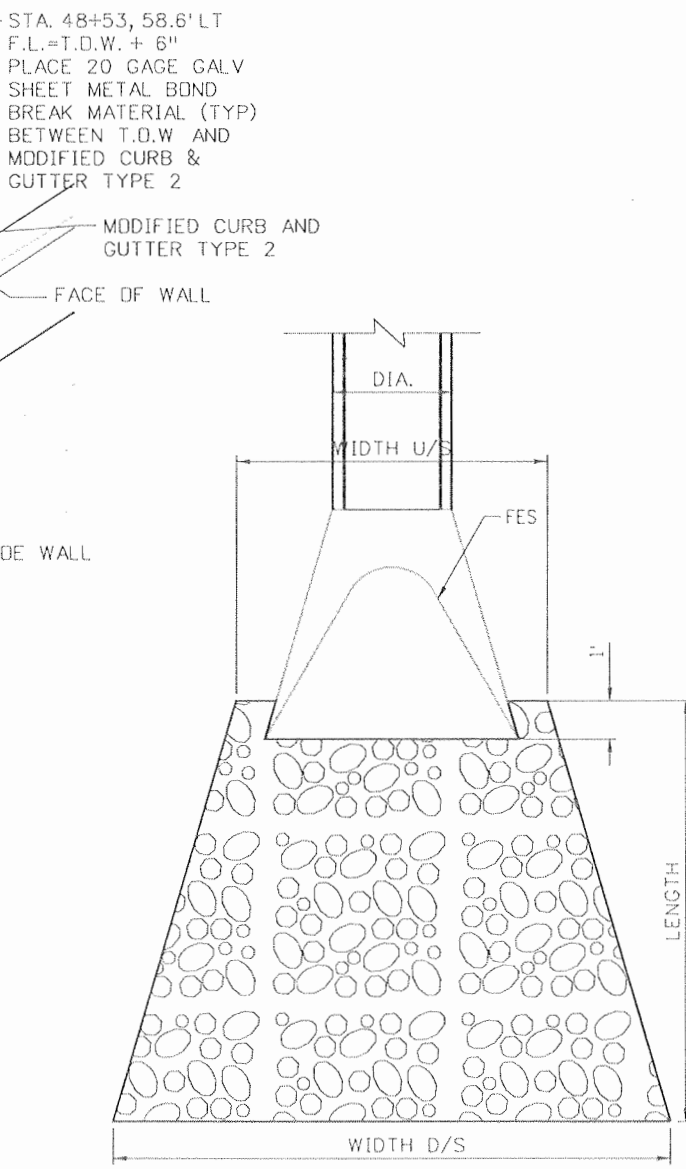
SCALE: 1"=5'

- NOTES:
1. MAKE SMOOTH TRANSITIONS BETWEEN SECTION TYPES OVER A MINIMUM OF 10'.
 2. CONSTRUCT CUTOFF WALLS @ UPSTREAM AND DOWNSTREAM ENDS OF CONCRETE DITCH LINING AND D₅₀=9" RIPRAP, 18" THICK @ DOWNSTREAM END.

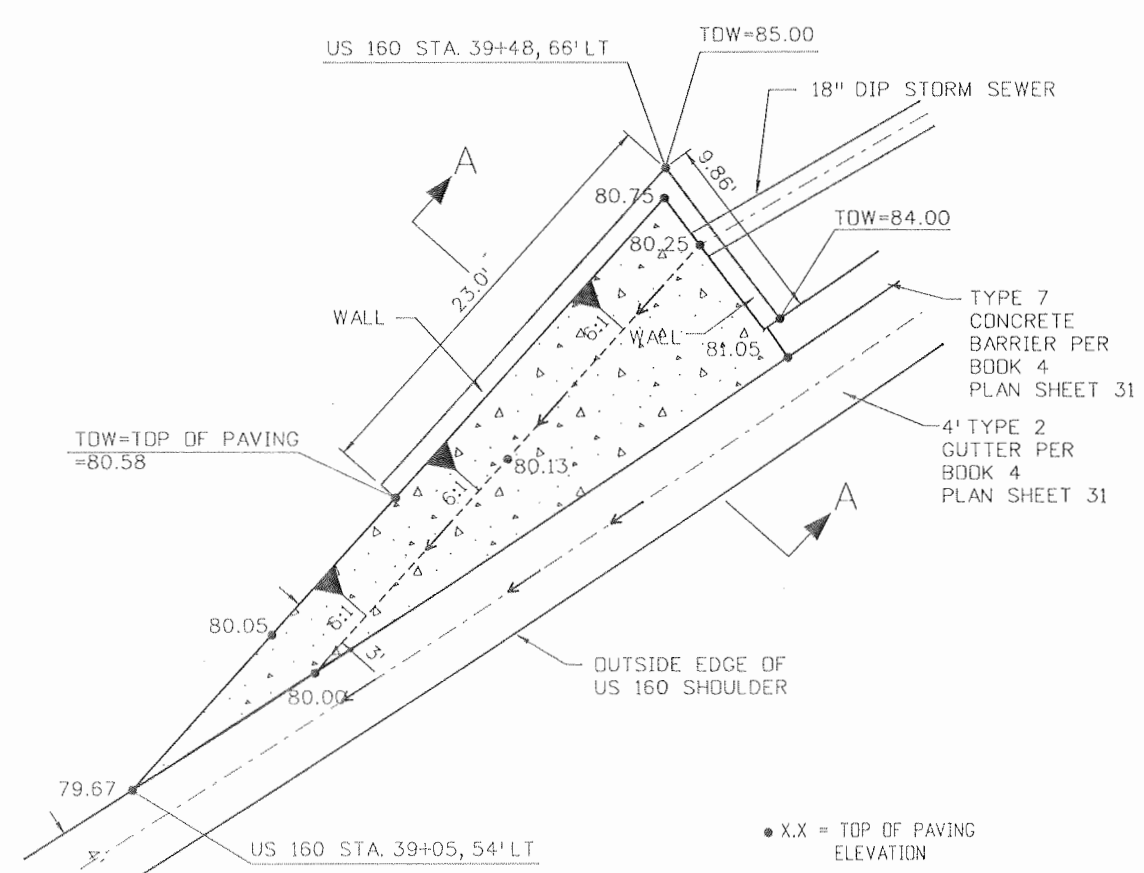
Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation	As Constructed	MISCELLANEOUS DRAINAGE DETAILS		Project No./Code
File Name: 16042_DD102.dgn	Date:	Comments	Init.			No Revisions: 9/10		
Horiz. Scale: 1:10	Vert. Scale: As Noted				Revised:	Designer: E. VALDEZ	Structure Numbers	16042
Unit Information	Unit Leader: VSF				Void:	Detailer: D. COVINGTON	Sheet Subset: DRAINAGE	Subset Sheets: D16 of D32
SEMA CONSTRUCTION	WILSON & COMPANY				Region 5	EJA	Sheet Number 168	



RUNDOWN STRUCTURE
STA. 48+10
 SCALE: 1"=10'

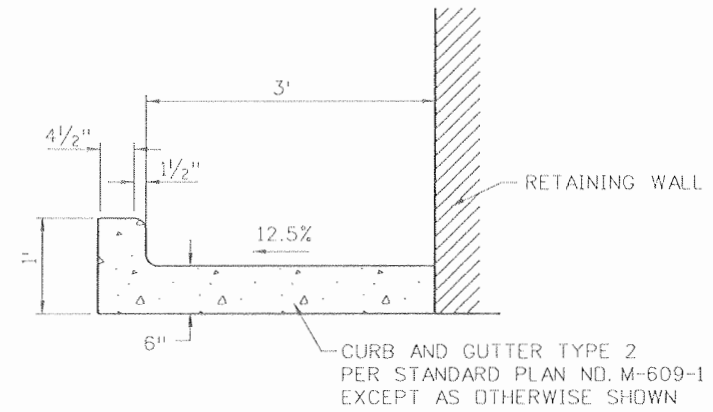


TYPICAL RIPRAP APRON LAYOUT
 SCALE: 1"=5'



HEADWALL/WINGWALL NOTE:
 CONSTRUCT BOTH LEGS OF WALL PER STANDARD PLAN No. M-601-20 WITH DIMENSIONS AND REINFORCING CORRESPONDING TO h=5'. CONSTRUCT TOP OF FOUNDATION AT ELEVATION 6579.50 AND TOP OF WALL PER PLAN. REINFORCE AROUND 18" DIP PENETRATION PER STANDARD PLAN M-601-10. END OF WALL SHALL CONFORM TO THE CONTOURS OF THE TYPE 7 BARRIER AT THE INTERSECTION WITH THE BARRIER.

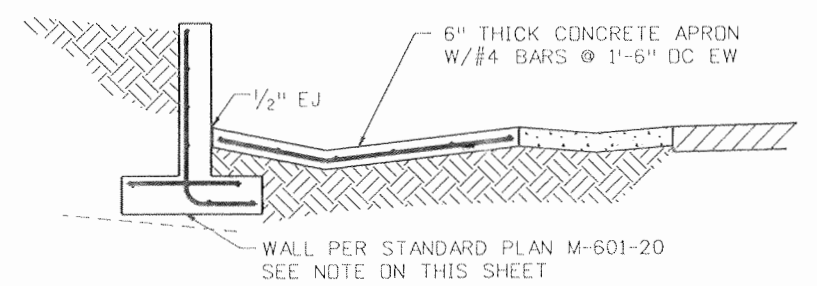
OUTLET TREATMENT FOR
STA. 39+48 18" STORM SEWER PLAN
 SCALE: 1"=10'



SECTION A-A
 SCALE: 1"=2'

Station	Diameter ft	D ₂ in.	Length ft.	Width U/S ft.	Width D/S ft.	Depth ft.	Total Volume yd ³	Geotextile yd ²
96+56	2	18	9	6	10.5	3.00	8.5	20
314+21	2	9	9	6	10.5	1.50	4.5	14
902+19	3	18	13	9	15.5	3.00	18.0	30
909+73	3	18	13	9	15.5	3.00	18.0	30
908+17	2.5	12	11	7.5	13	2.00	8.5	22
918+31	1.5	9	7	4.5	8	1.50	2.5	10
314+21 to Sta 316+00	2	9	9	6	10.5	1.50	4.5	14

RIPRAP APRON DATA

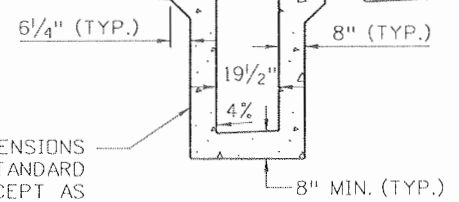


SECTION A-A
 SCALE: 1"=5'

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File Name: 16042_DD103.dgn	Date:	Comments:	Init.		No Revisions: 9/10			NH-1602-114
Horiz. Scale: 1:10 Vert. Scale: As Noted					Revised:	Designer: E. VALDEZ	Structure Numbers	16042
Unit Information Unit Leader: VSF					Void:	Detailer: D. COVINGTON	Subset Sheets: D17 of D32	Sheet Number 169

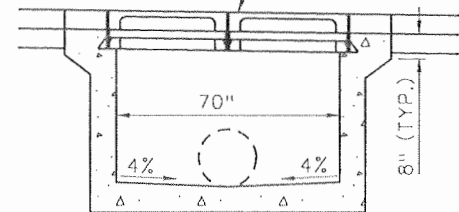


NEENAH R-3295-2 DOUBLE FRAME GRATE AND CURB BOX. CENTER INLET FRAME ON INLET BOX.



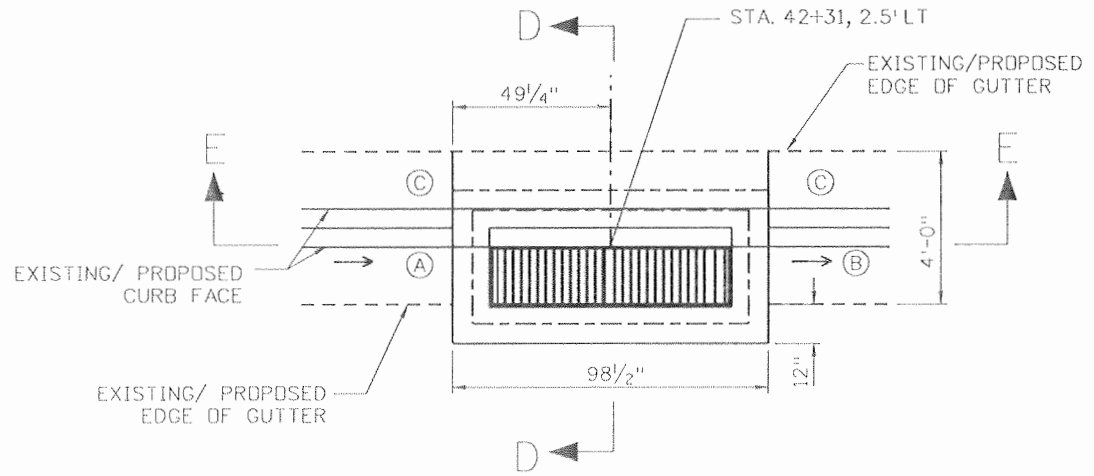
SECTION D-D

NEENAH R-3295-2 DOUBLE FRAME GRATE AND CURB BOX. CENTER BOX ON INLET BOX.



SECTION E-E

CONCRETE INLET BOX DIMENSIONS AND REINFORCEMENT PER STANDARD PLAN NO. M-604-13 EXCEPT AS MODIFIED BY THIS DETAIL.

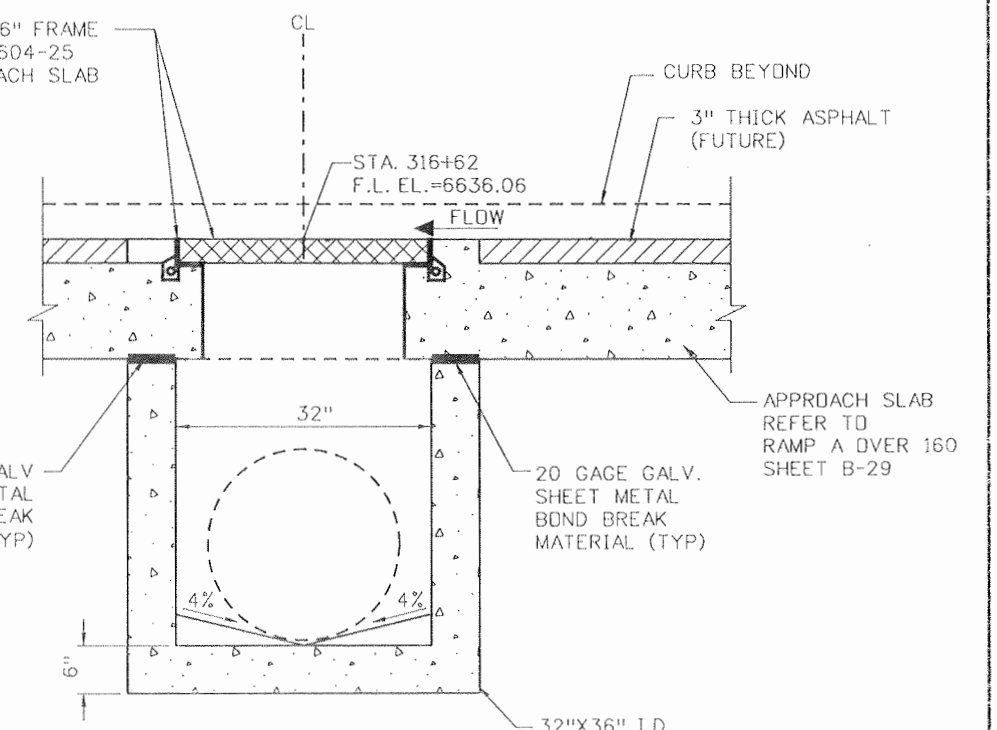


PLAN

COMBINATION INLET STA. 42+31
N.T.S.

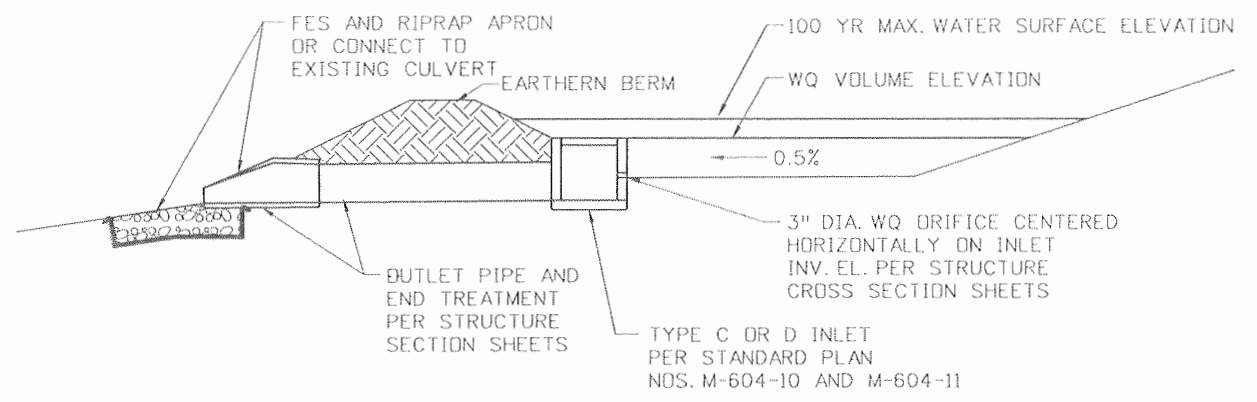
INLET NOTES:
 1. ADD LENGTH AND NUMBER OF REINFORCEMENT BARS AS REQUIRED DUE TO NON-STANDARD LENGTH. BAR SPACING AND SIZE TO BE CONSISTENT WITH STANDARD PLAN NO. M-604-13.
 2. TOP OF INLET BOX AND GRATE SHALL MATCH NORMAL DESIGN GRADE OF PAVEMENT AT AND OUTSIDE OF THE EDGE OF GUTTER.
 3. REMOVE AND REPLACE EXISTING CURB AND GUTTER. MATCH EXISTING HORIZONTAL DIMENSIONS AND ALIGNMENTS. LENGTHS AND VERTICAL TRANSITIONS AS FOLLOWS. MAINTAIN HORIZONTAL AND VERTICAL AT EDGE OF GUTTER.
 A. 16 LF MIN. TRANSITION FROM EXISTING TO 2" DEEP GUTTER @ INLET.
 B. 8 LF MIN. TRANSITION FROM 2" DEEP GUTTER @ INLET TO NORMAL FL.
 C. REPLACE IN KIND AS REQUIRED.

VANE GRATES & 36" FRAME PER STD. PLAN M-604-25 CAST INTO APPROACH SLAB

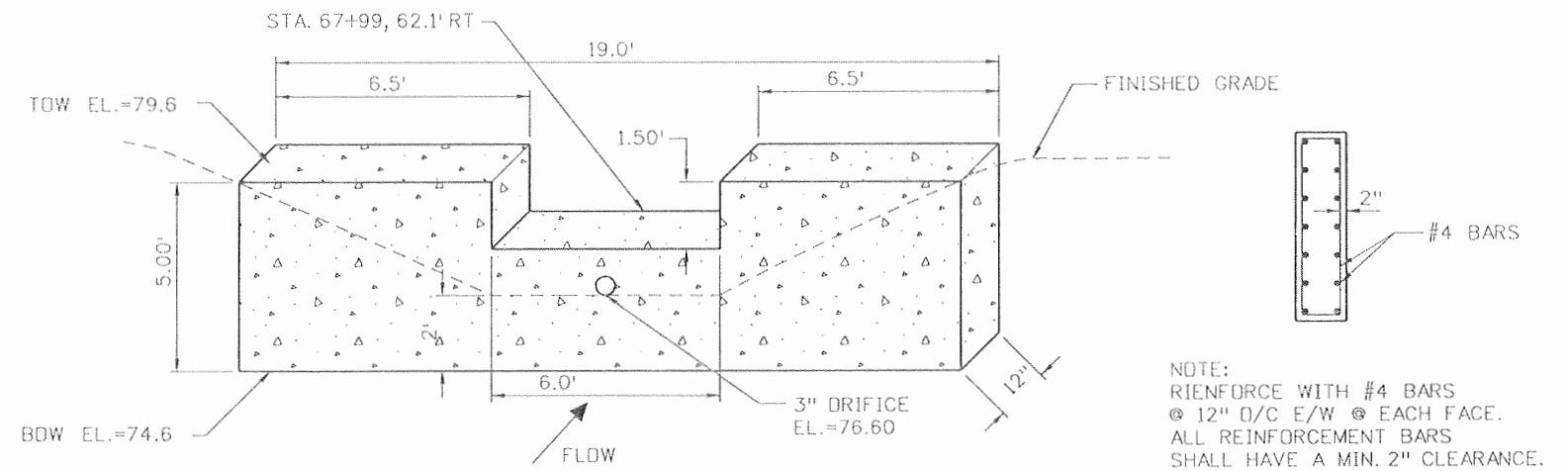


NOTES:
 1. TOP OF GRADE SHALL MATCH NORMAL TOP OF FINISHED PAVEMENT GRADE ON ALL SIDES.
 2. OUTSIDE EDGE OF GRATE SHALL BE PARALLEL TO AND SPACED 1/2" FROM THE BRIDGE CURB FACE. THE GRATE OPENING IN THE APPROACH SLAB SHALL BE CENTERED ON THE INLET BOX.

RAMP A
APPROACH SLAB INLET
SCALE: 1"=2'



TYPICAL WATER QUALITY POND OUTLET STRUCTURE
PONDS #2, #3 AND #5
SCALE: 1"=10'



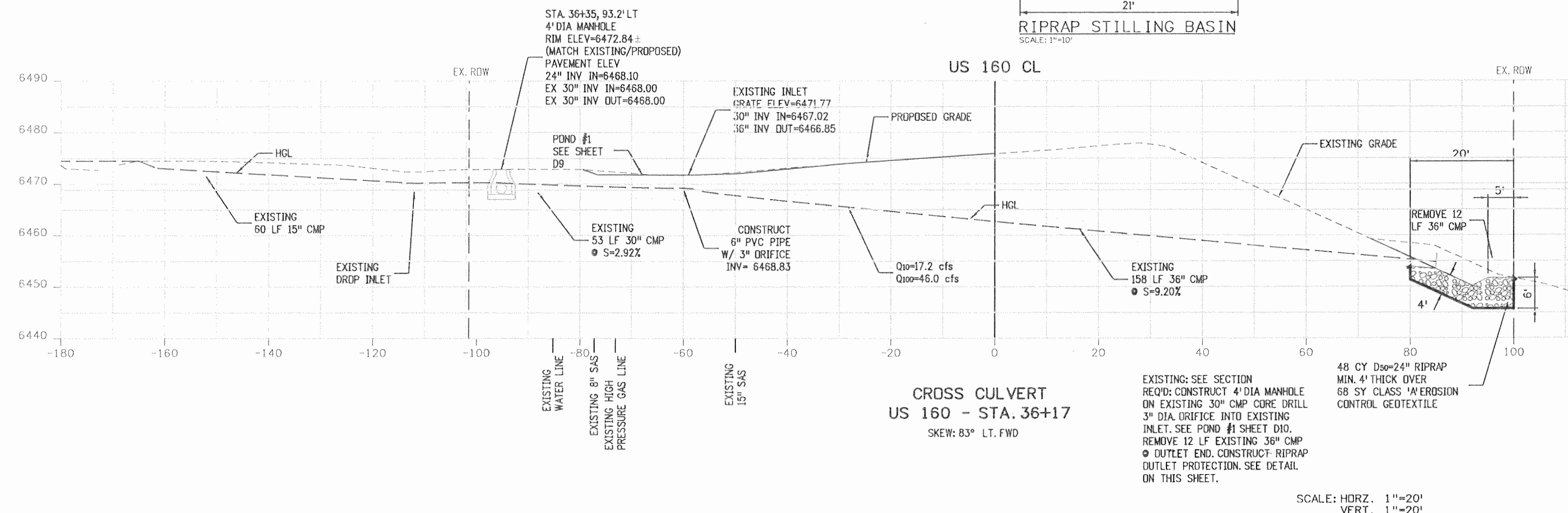
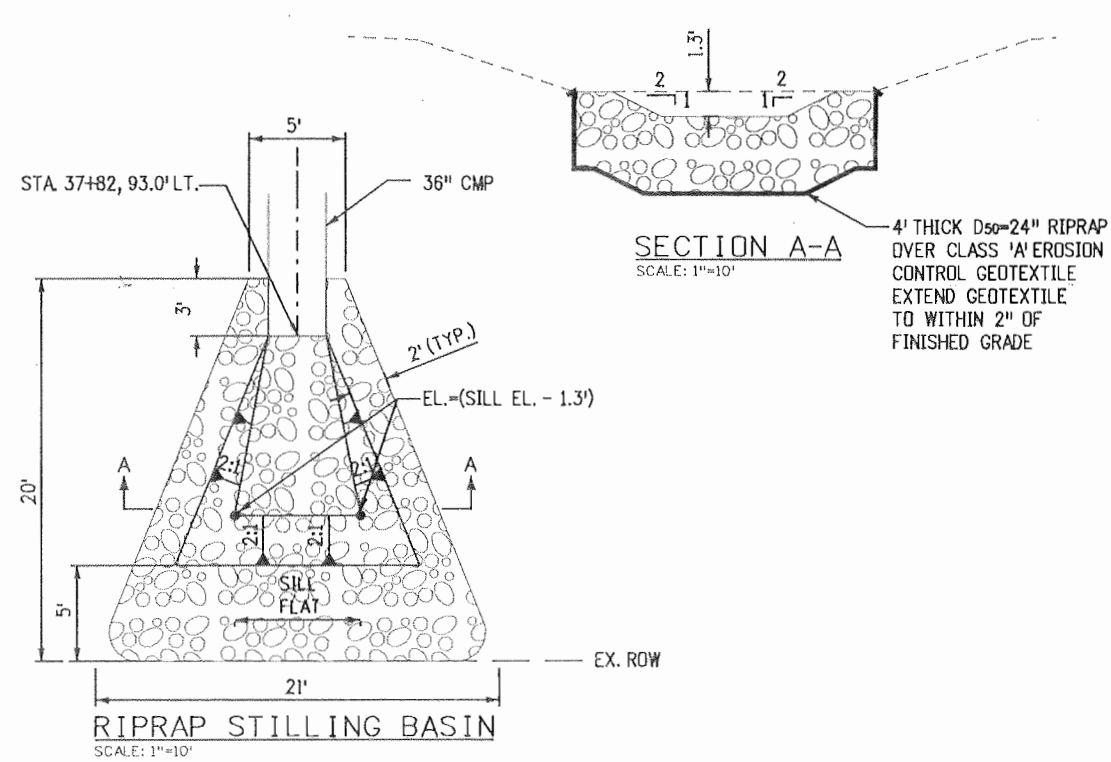
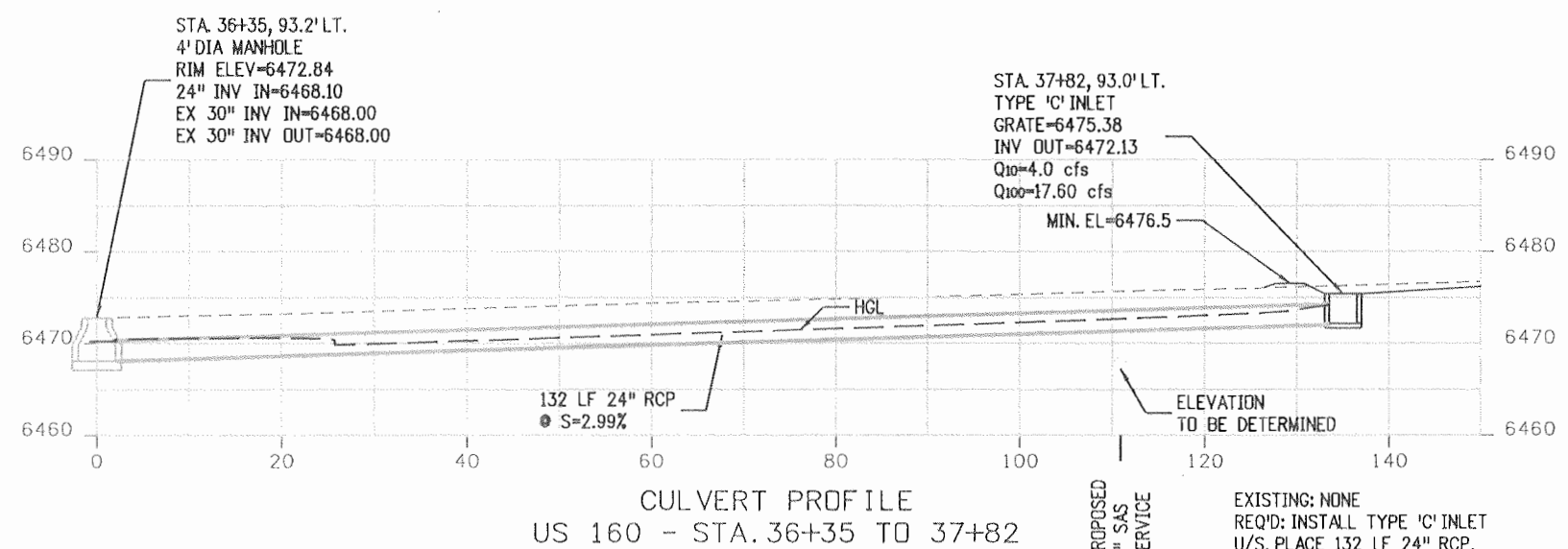
CONCRETE WEIR STRUCTURE STA 67+99
POND #4
SCALE: 1"=5'

NOTE:
 REINFORCE WITH #4 BARS @ 12" O/C E/W @ EACH FACE. ALL REINFORCEMENT BARS SHALL HAVE A MIN. 2" CLEARANCE.

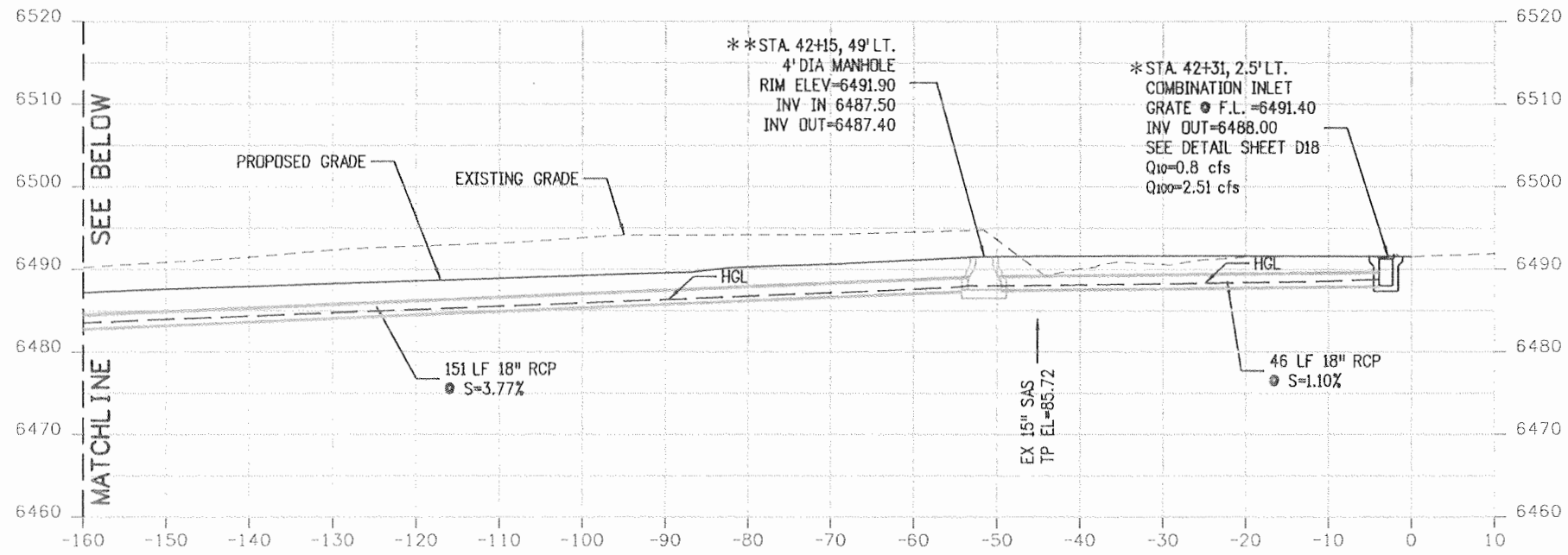
WEIR STRUCTURE SECTION

Print Date: 9/23/2010	<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> </tbody> </table>	Sheet Revisions			Date:	Comments	Init.							Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5 EJA	As Constructed No Revisions: 9/10 Revised: Void:	MISCELLANEOUS DRAINAGE DETAILS Designer: E. VALDEZ Detailer: D. COVINGTON Sheet Subset: DRAINAGE		Project No./Code	
Sheet Revisions																			
Date:		Comments	Init.																
File Name: 16042_DD104.dgn	NH-1602-114																		
Horiz. Scale: 1:10 Unit Information	16042																		
Vert. Scale: As Noted Unit Leader: VSF	Sheet Number 170																		





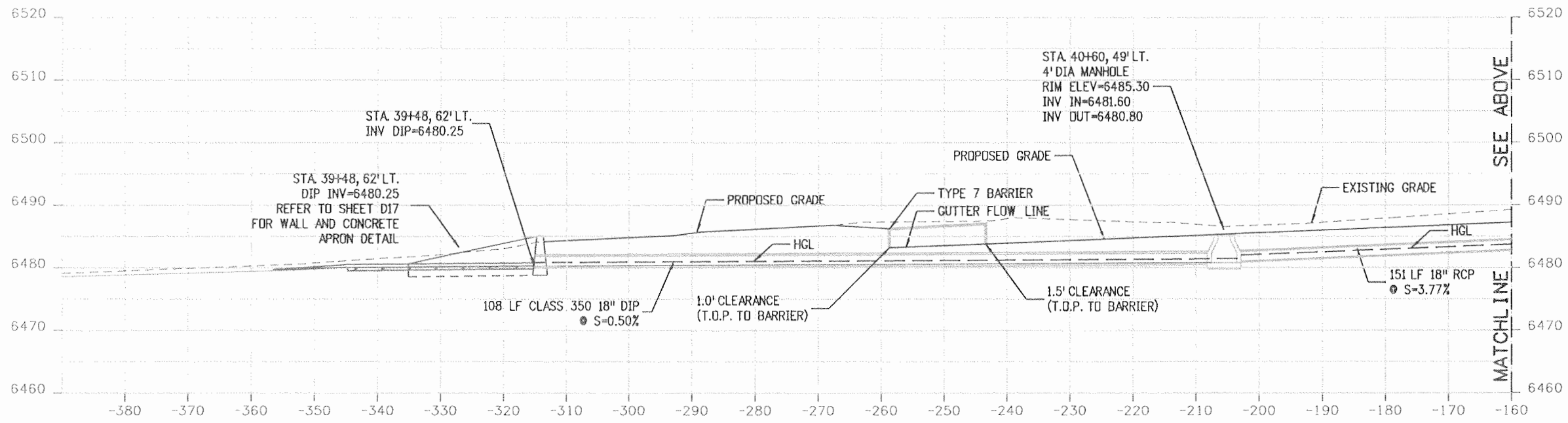
Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	STRUCTURE CROSS SECTIONS		Project No./Code NH-1602-114
File Name: 16042_XD201.dgn	Date:	Comments:	Init.:		No Revisions: 9/10	US 160 - DRAINAGE		
Horiz. Scale: 1:20	Vert. Scale: 1"=20'				Revised:	Designer: E. VALDEZ	Structure Numbers:	16042
Unit Information	Unit Leader VSF				Void:	Detailer: K. HILL	Sheet Subset: DRAINAGE	Subset Sheets: D19 of D32
					EJA		Sheet Number 171	



CULVERT FLOWLINE PROFILE
US 160 - STA. 39+48
CONTINUED

EXISTING: NONE
REQ'D: CONSTRUCT HEADWALL,
WINGWALL AND APRON PAVING,
108 LF 18" DIP, 197 LF 18" RCP,
2-4' DIA MANHOLES AND
1-COMBINATION INLET.

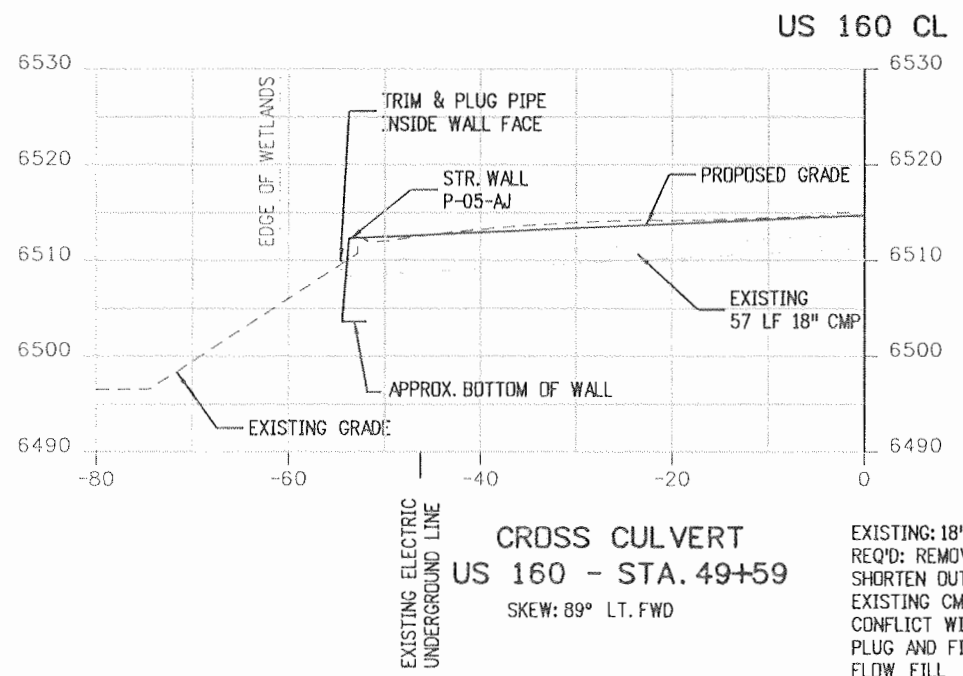
NOTES:
* VERIFY PROPOSED GRATE ELEVATION BASED ON ADJACENT EXISTING/PROPOSED LIP OF GUTTER ELEVATION PRIOR TO INLET CONSTRUCTION. PROPOSED GRATE F.L. SHOULD BE 2" BELOW ADJACENT EXISTING/PROPOSED LIP OF GUTTER.
** ROTATE MANHOLE TOP TO AVOID CONFLICT WITH TYPE 2 GUTTER.



CULVERT FLOWLINE PROFILE
US 160 - STA. 39+48

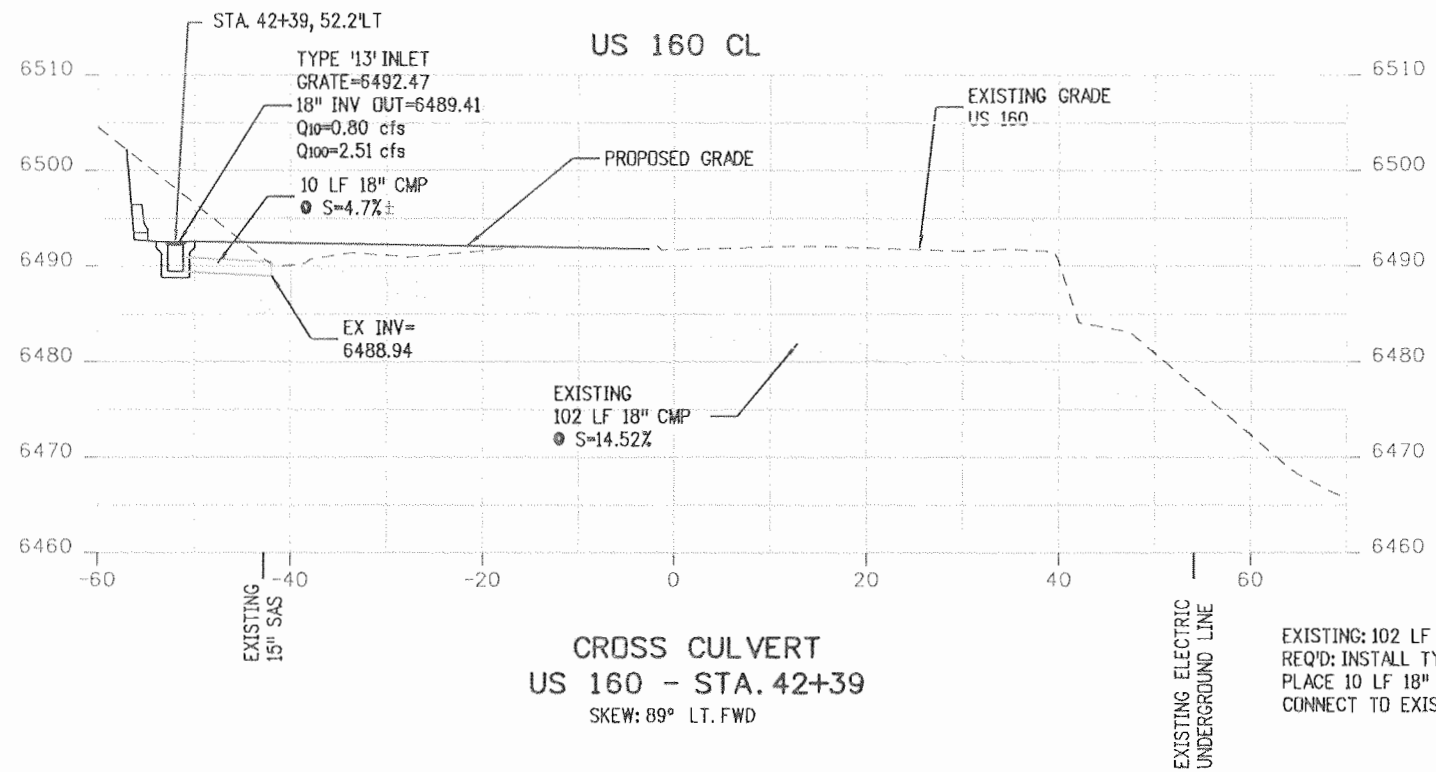
SCALE: HORZ. 1"=20'
VERT. 1"=20'

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	STRUCTURE CROSS SECTIONS		Project No./Code
File Name: 16042_XD202.dgn	Date:	Comments	Init.		No Revisions: 9/10	US 160 - DRAINAGE		NH-1602-114
Horiz. Scale: 1:20	Vert. Scale: 1"=20'				Revised:	Designer: E. VALDEZ	Structure Numbers	16042
Unit Information	Unit Leader VSF				Void:	Detailer: D. COVINGTON	Subset Sheets: D20 of D32	Sheet Number 172



**CROSS CULVERT
US 160 - STA. 49+59**
SKEW: 89° LT. FWD

EXISTING: 18"X57' CMP
REQ'D: REMOVE INLET
SHORTEN OUTLET END OF
EXISTING CMP TO ELIMINATE
CONFLICT WITH WALL, AND
PLUG AND FILL CMP WITH
FLOW FILL

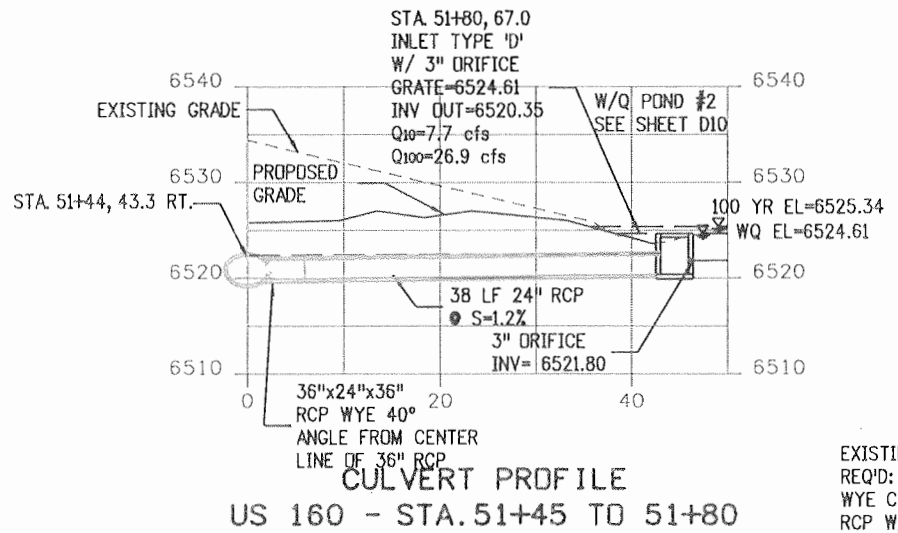


**CROSS CULVERT
US 160 - STA. 42+39**
SKEW: 89° LT. FWD

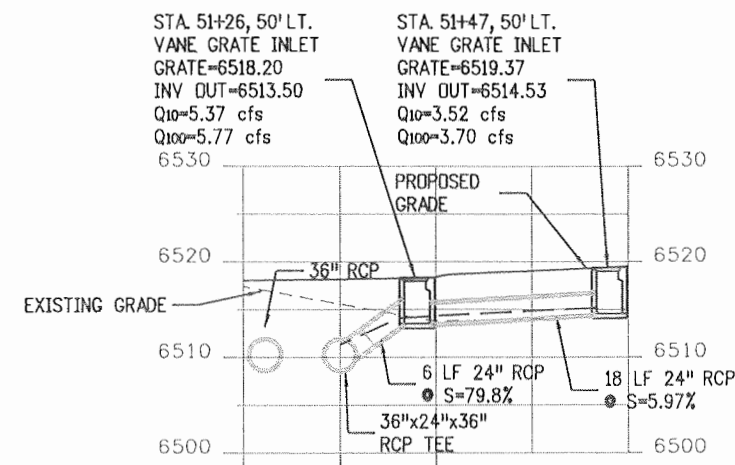
EXISTING: 102 LF 18" CMP
REQ'D: INSTALL TYPE '13' INLET
PLACE 10 LF 18" CMP LT,
CONNECT TO EXISTING PIPE.

SCALE: HORZ. 1"=20'
VERT. 1"=20'

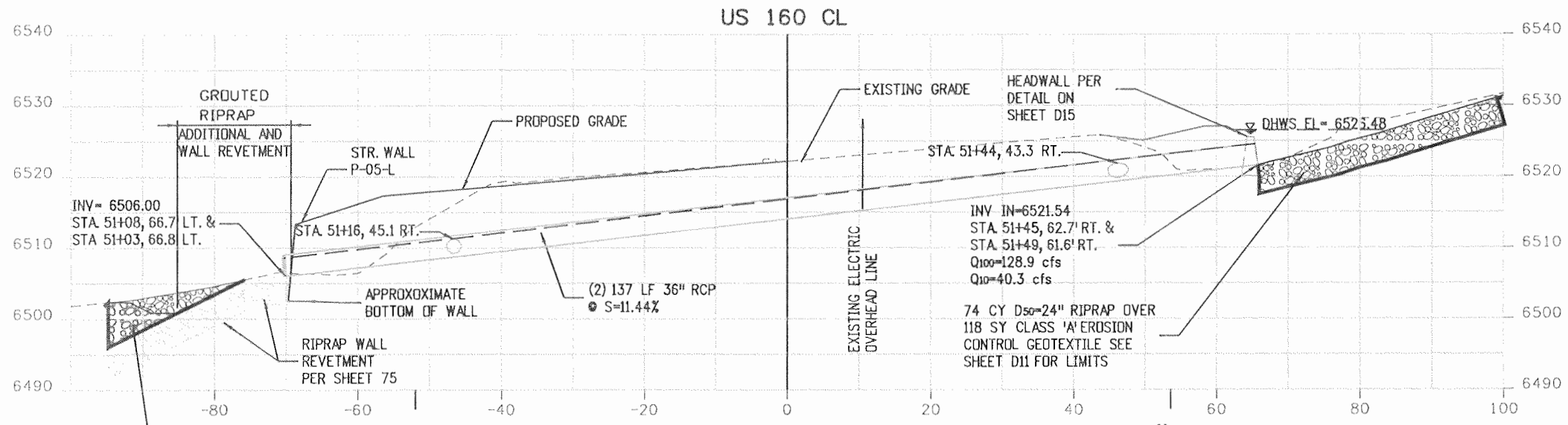
Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed No Revisions: 9/10 Revised: Void:	STRUCTURE CROSS SECTIONS US 160 - DRAINAGE		Project No./Code
File Name: 16042_XD203.dgn	Date:	Comments:	Init.:			Designer: E. VALDEZ Detailer: D. COVINGTON		NH-1602-114
Horiz. Scale: 1:20	Unit Information			EJA	Structure Numbers	16042		Sheet Number 173
Vert. Scale: 1"=20'	Unit Leader VSF					Sheet Subset: DRAINAGE		
SEWA CONSTRUCTION		WILSON & COMPANY						



EXISTING: NONE
 REQ'D: PLACE 36"x24"x36"
 WYE CONNECTION TO 36"
 RCP W/ 43 LF 24" RCP &
 INLET TYPE 'D' W/ 3"
 ORIFICE U/S



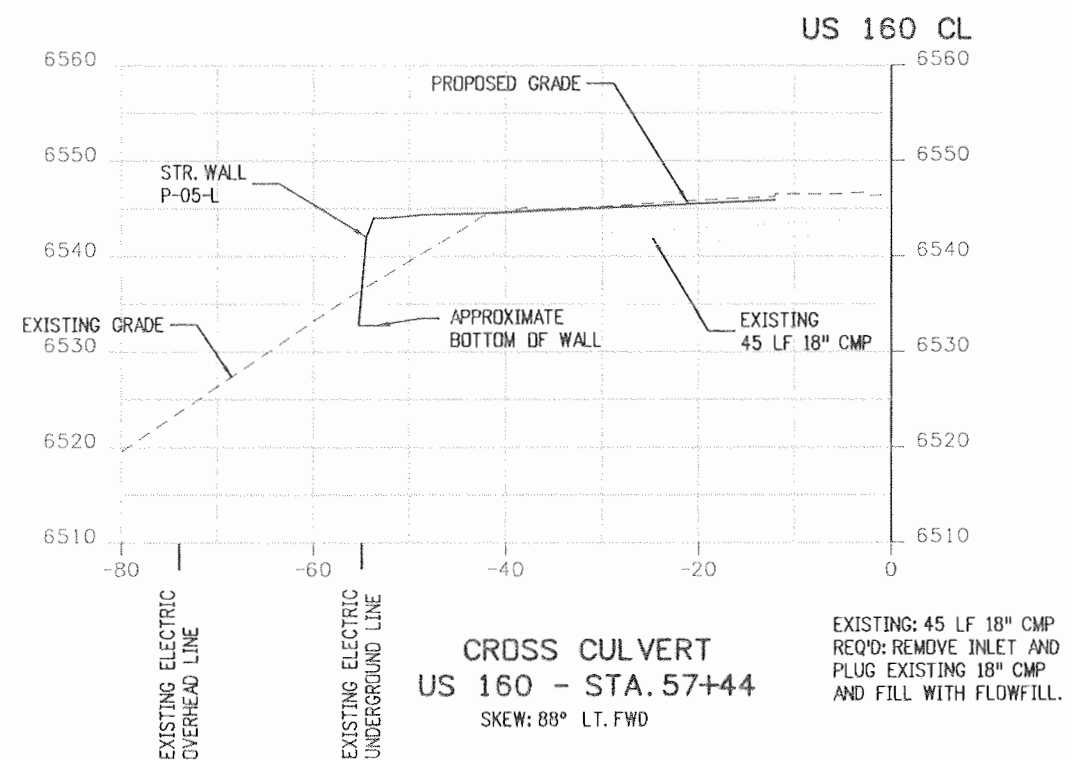
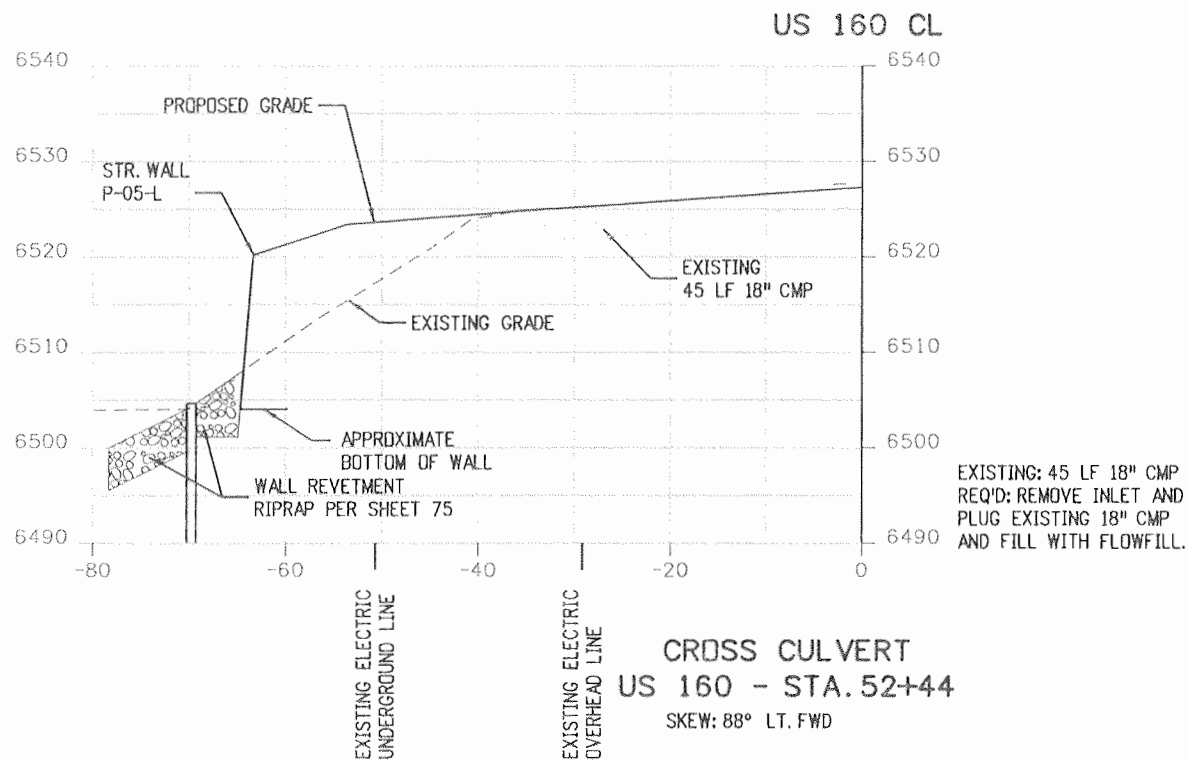
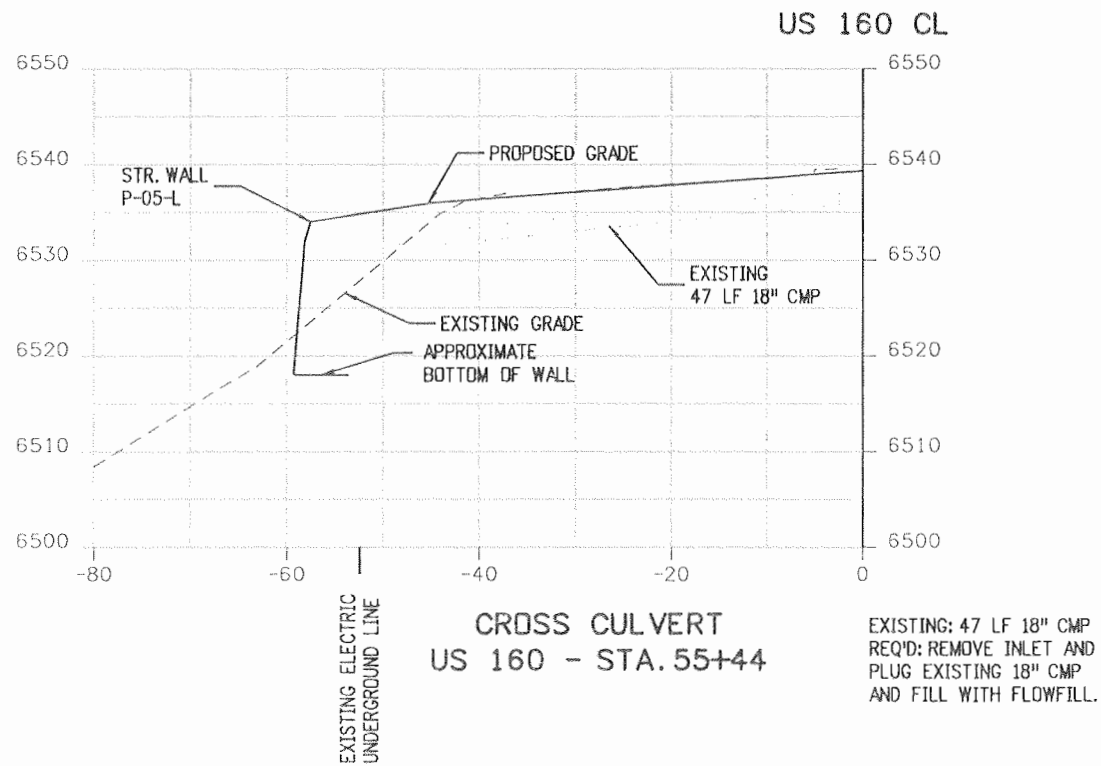
EXISTING: NONE REQ'D: PLACE
 36"x24"x36" TEE CONNECTION TO
 36" RCP W/ 6 LF 24" RCP W/
 VANE GRATE INLET & 18 LF 24"
 RCP W/ VANE GRATE INLET



EXISTING: 36"x107' CMP
 REQ'D: REMOVE EXISTING FES LT,
 107 LF 36" CMP, & HEADWALL RT.
 PLACE (2) 137 LF 36" RCP W/ WALL
 PENETRATION LT. & HEADWALL RT.,
 36"x24"x36" TEE & 36"x24"x36" WYE,
 AND RIPRAP INLET & OUTLET
 PROTECTION

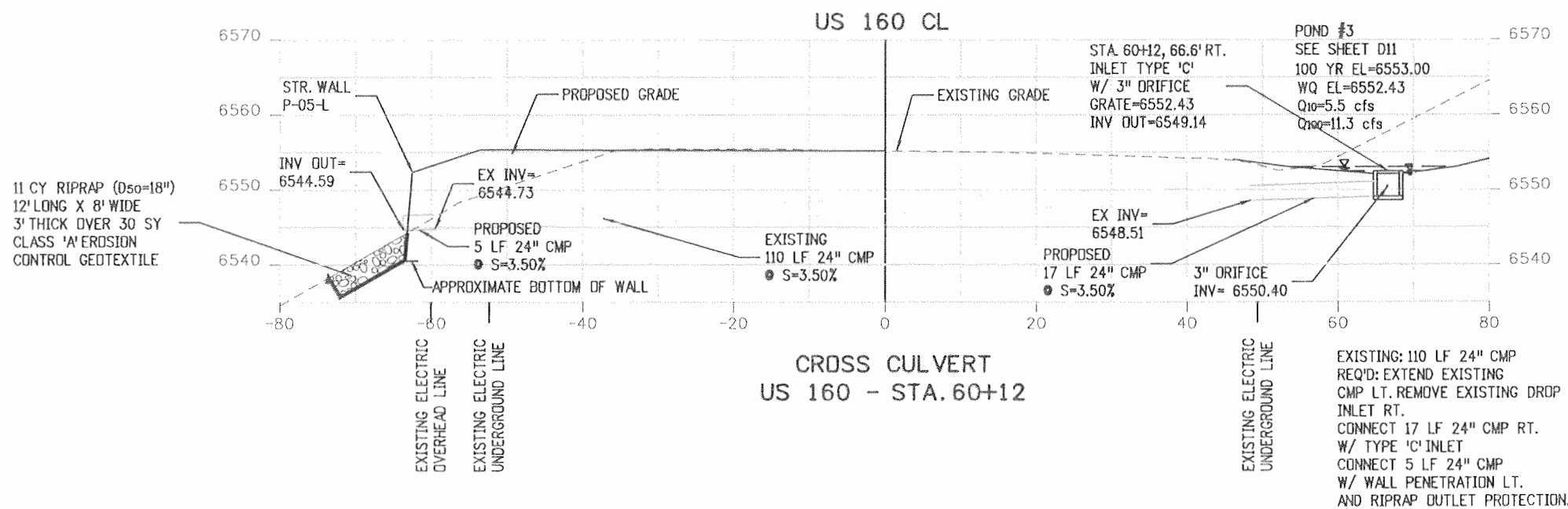
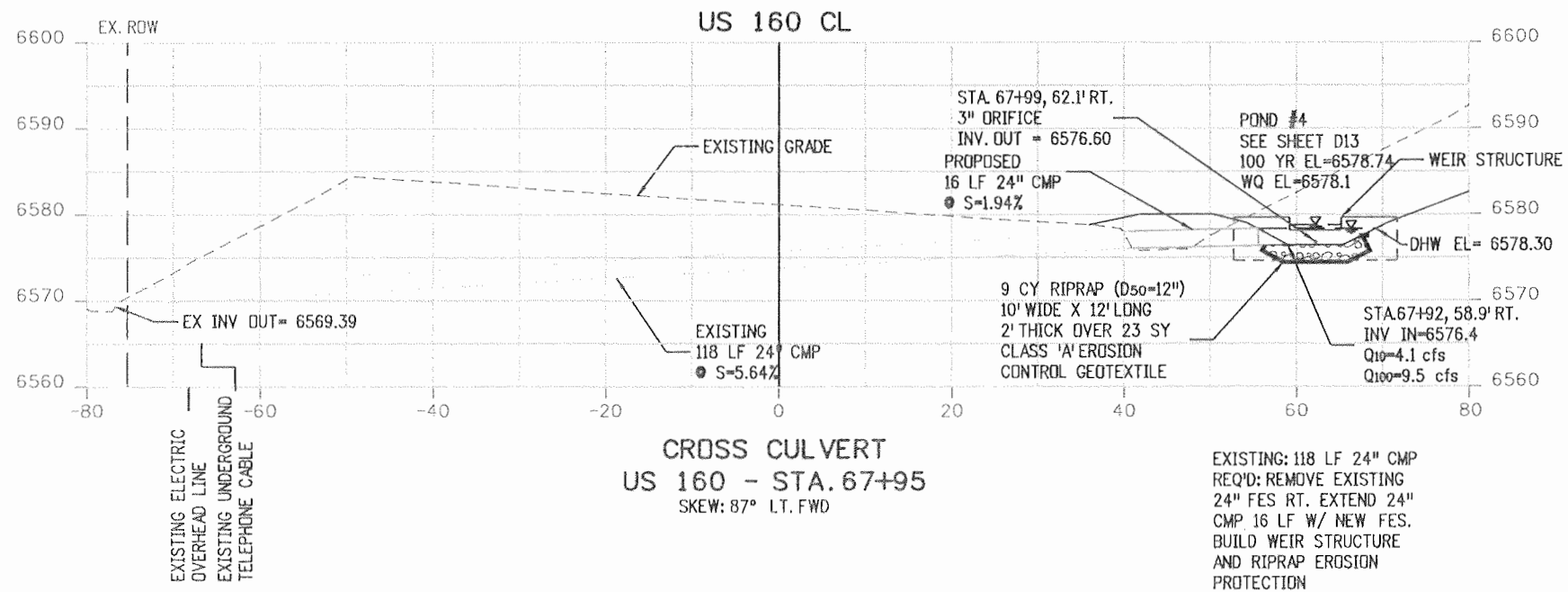
SCALE: HORZ. 1"=20'
 VERT. 1"=20'

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation	As Constructed	STRUCTURE CROSS SECTIONS		Project No./Code
File Name: 16042_XD204.dgn	Date:	Comments	Init.			US 160 - DRAINAGE		
Horiz. Scale: 1:20	Vert. Scale: As Noted				No Revisions: 9/10	Designer: E. VALDEZ	Structure Numbers	16042
Unit Information	Unit Leader VSF				Revised:	Detailer: D. COVINGTON		Sheet Number 174
					3803 North Main Avenue Suite 200 Durango, CD 81301 Phone: 970-385-1440 FAX: 970-385-8365		Sheet Subset: DRAINAGE	Subset Sheets: D22 of D32
				Region 5	EJA			



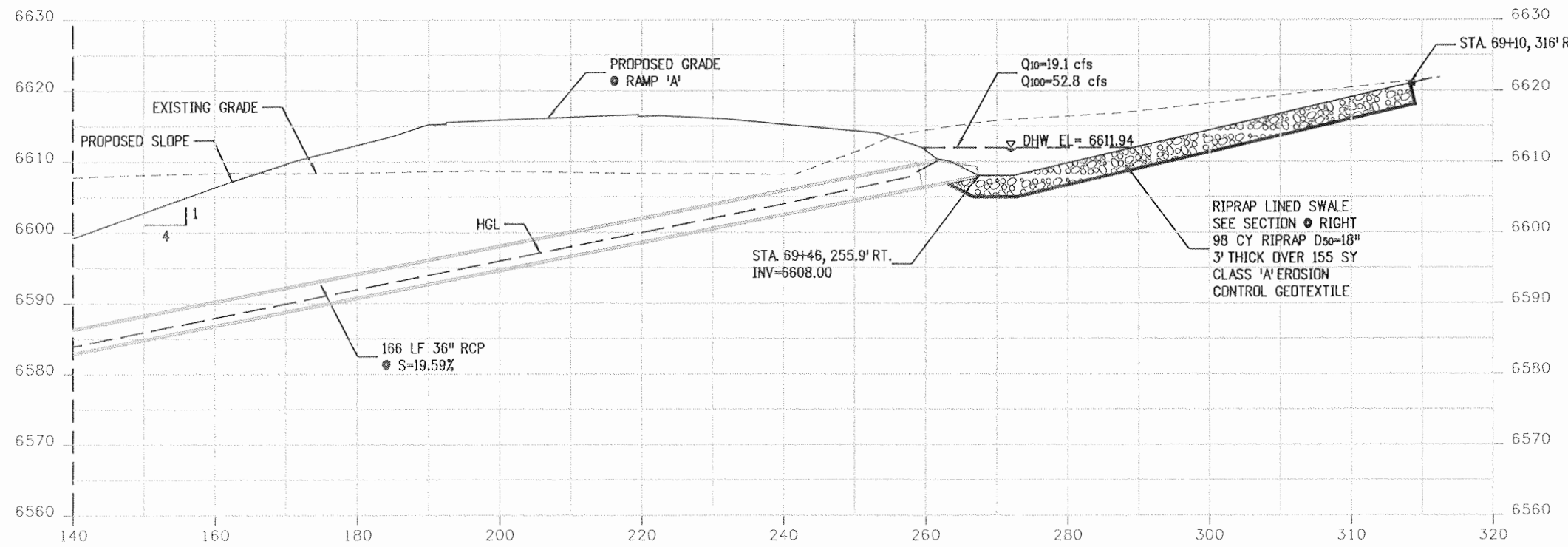
SCALE: HORZ. 1"=20'
VERT. 1"=20'

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	STRUCTURE CROSS SECTIONS		Project No./Code NH-1602-114
File Name: 16042_XD205.dgn	Date:	Comments	Init.		No Revisions: 9/10	US 160 - DRAINAGE		
Horiz. Scale: 1:20	Vert. Scale: As Noted				Revised:	Designer: E. VALDEZ	Structure Numbers	16042
Unit Information	Unit Leader VSF				Void:	Detailer: D. COVINGTON	Subset Sheets: D23 of D32	Sheet Number 175



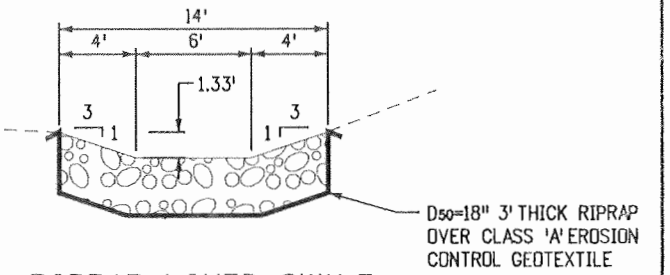
SCALE: HORZ. 1"=20'
VERT. 1"=20'

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365	As Constructed No Revisions: 9/10	STRUCTURE CROSS SECTIONS		Project No./Code NH-1602-114
File Name: 16042_XD206.dgn	Date:	Comments	Init.			US 160 - DRAINAGE		
Horiz. Scale: 1:20 Unit Information	Vert. Scale: As Noted Unit Leader VSF	Region 5			Revised:	Designer: E. VALDEZ	Structure Numbers	16042
SEMA CONSTRUCTION	WILSON & COMPANY	EJA			Void:	Detailer: D. COVINGTON	Sheet Subset: DRAINAGE	Sheet Number 176
					Subset Sheets: D24 of D32			

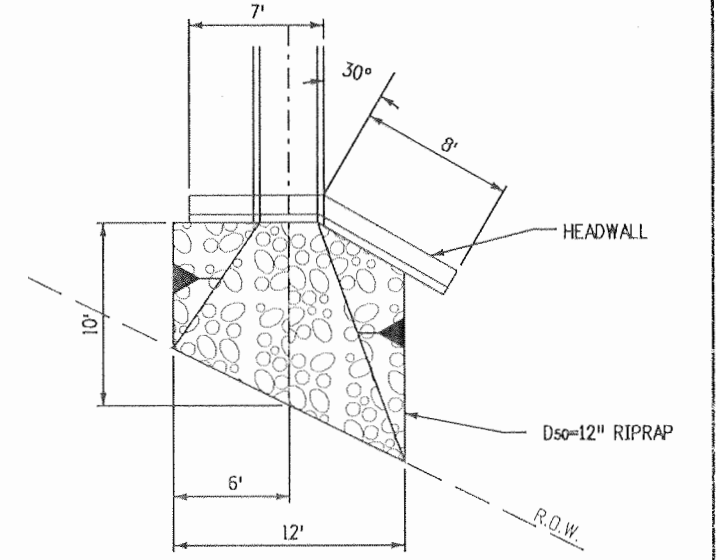


**CROSS CULVERT
US 160 - STA. 68+68
CONTINUED
(RAMP 'A' - STA. 312+46)
SKEW: 78° RT FWD**

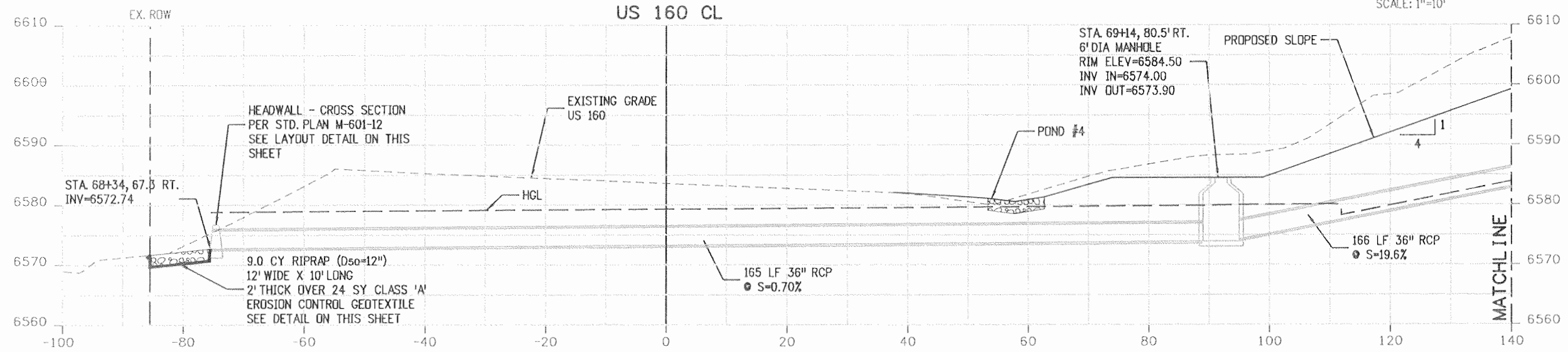
EXISTING: NONE
REQ'D: CONNECT TO 6' MH, PLACE 158 LF 36" RCP
W/ FES RT. FOR CONTINUATION SEE CROSS
SECTION THIS SHEET.



**RIPRAP LINED SWALE
SCALE: 1"=10'**



**STA. 68+68
CULVERT WITH OUTLET TREATMENT
SCALE: 1"=10'**

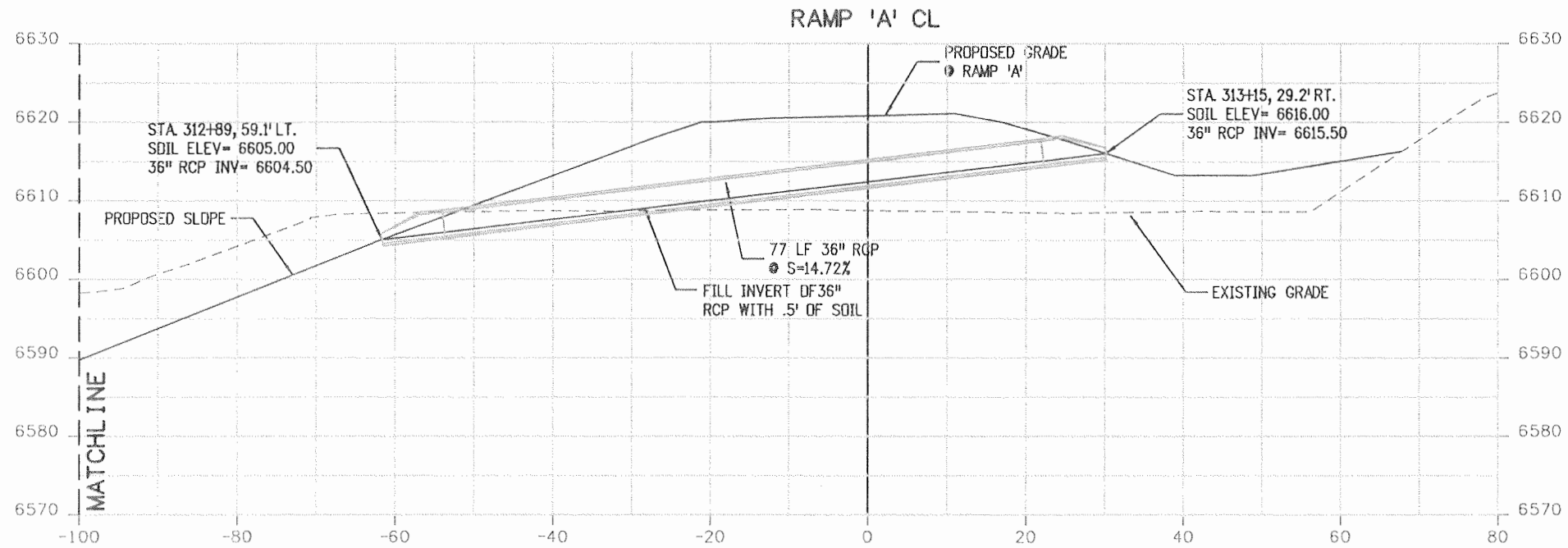


**CROSS CULVERT
US 160 - STA. 68+68
SKEW: 61° RT FWD**

EXISTING: NONE
REQ'D: INSTALL HEADWALL LT, PLACE 165 LF 36" RCP,
BUILD 6' DIA MH. CONNECT 166 LF 36" RCP W/
FES RT. FOR CONTINUATION SEE RAMP 'A' CROSS
SECTION THIS SHEET.

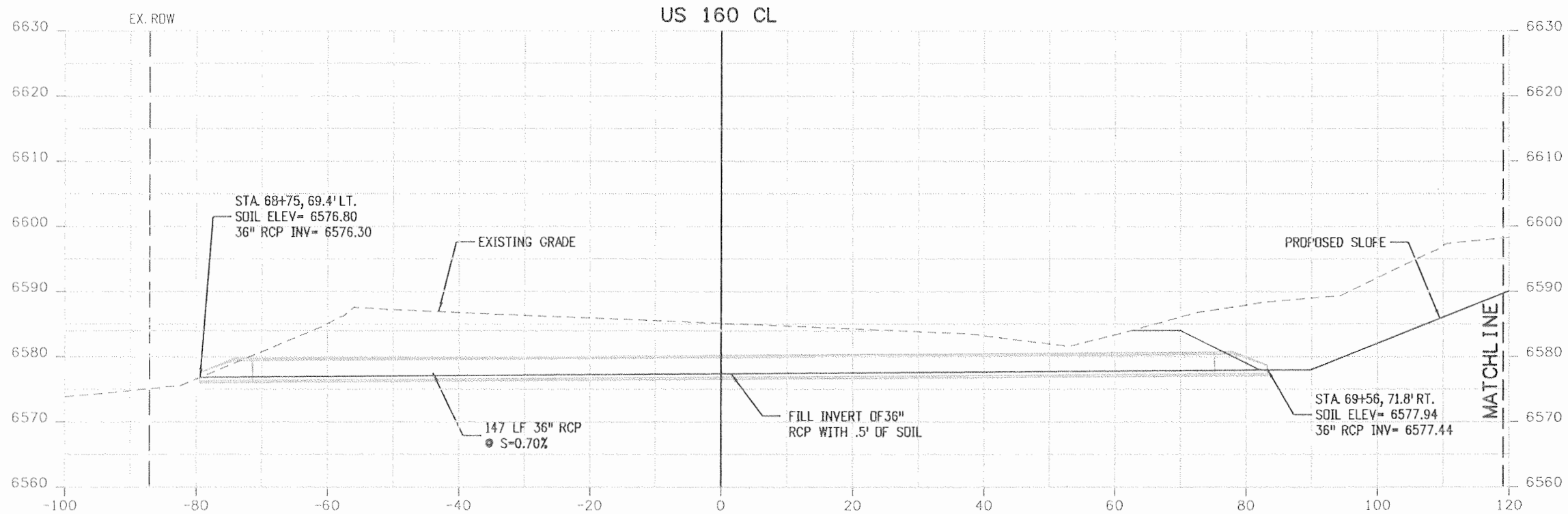
SCALE: HORIZ. 1"=20'
VERT. 1"=20'

Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation	As Constructed	STRUCTURE CROSS SECTIONS		Project No./Code	
File Name: 16042_XD207.dgn	Date:	Comments	Init.			No Revisions: 9/10	US 160 - DRAINAGE		NH-1602-114
Horiz. Scale: 1:20	Vert. Scale: As Noted				3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365	Revised:	Designer: E. VALDEZ	Structure Numbers	16042
Unit Information	Unit Leader VSF					Void:	Detailer: D. COVINGTON		
					Region 5	EJA			Sheet Number 177



WILDLIFE CROSSING
RAMP 'A' - STA. 313+07
SKEW: 73° RT. FWD

REQ'D: WILDLIFE CULVERT 77 LF 36" RCP,
6" DEPTH OF SOIL W/ FES LT. & RT.
FOR CONTINUATION SEE US 160 CROSS
SECTION THIS SHEET.



WILDLIFE CROSSING
US 160 - STA. 69+13
SKEW: 60° RT. FWD

REQ'D: WILDLIFE CULVERT, PLACE
147 LF 36" RCP, 6" DEPTH OF SOIL
W/ FES LT. & RT. FOR CONTINUATION SEE
RAMP 'A' CROSS SECTION THIS SHEET.

SCALE: HORZ. 1"=20'
VERT. 1"=20'

Print Date: 9/23/2010
File Name: 16042_XD208.dgn
Horiz. Scale: 1:20
Unit Information

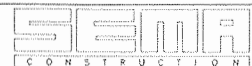
Sheet Revisions		
Date:	Comments	Init.

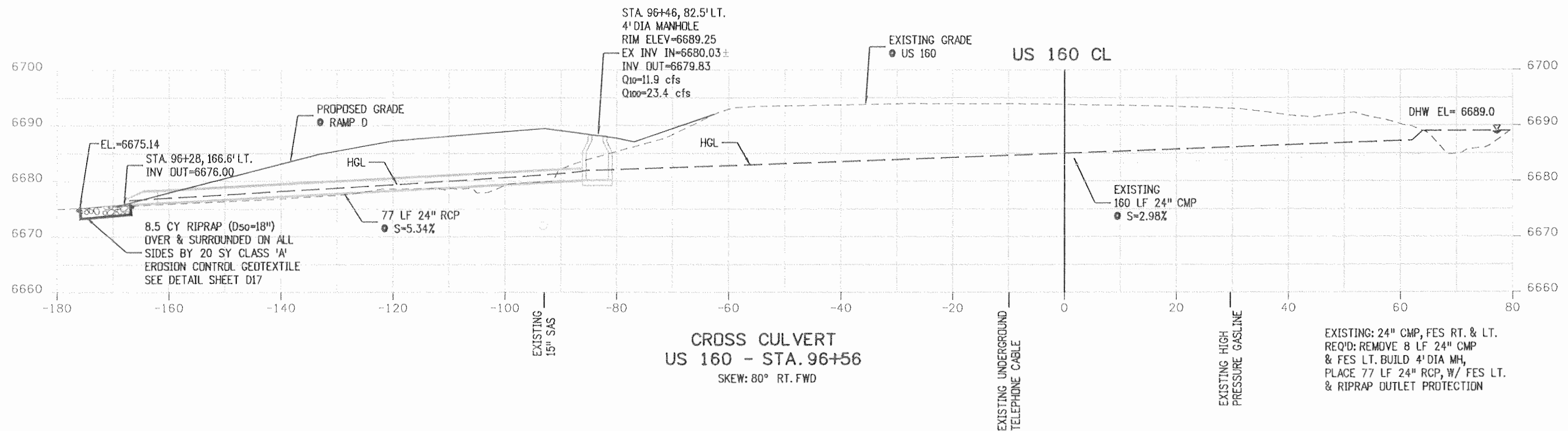
Colorado Department of Transportation
3803 North Main Avenue
Suite 200
Durango, CO 81301
Phone: 970-385-1440 FAX: 970-385-8365
Region 5 EJA

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

STRUCTURE CROSS SECTIONS US 160 - DRAINAGE	
Designer: E. VALDEZ	Structure Numbers
Detailer: D. COVINGTON	
Sheet Subset: DRAINAGE	Subset Sheets: D26 of D32

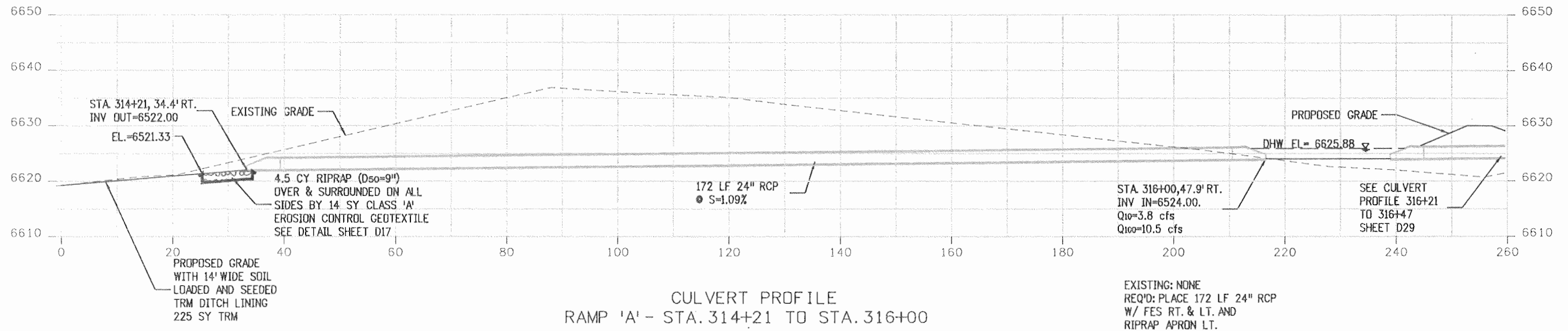
Project No./Code
NH-1602-114
16042
Sheet Number 178





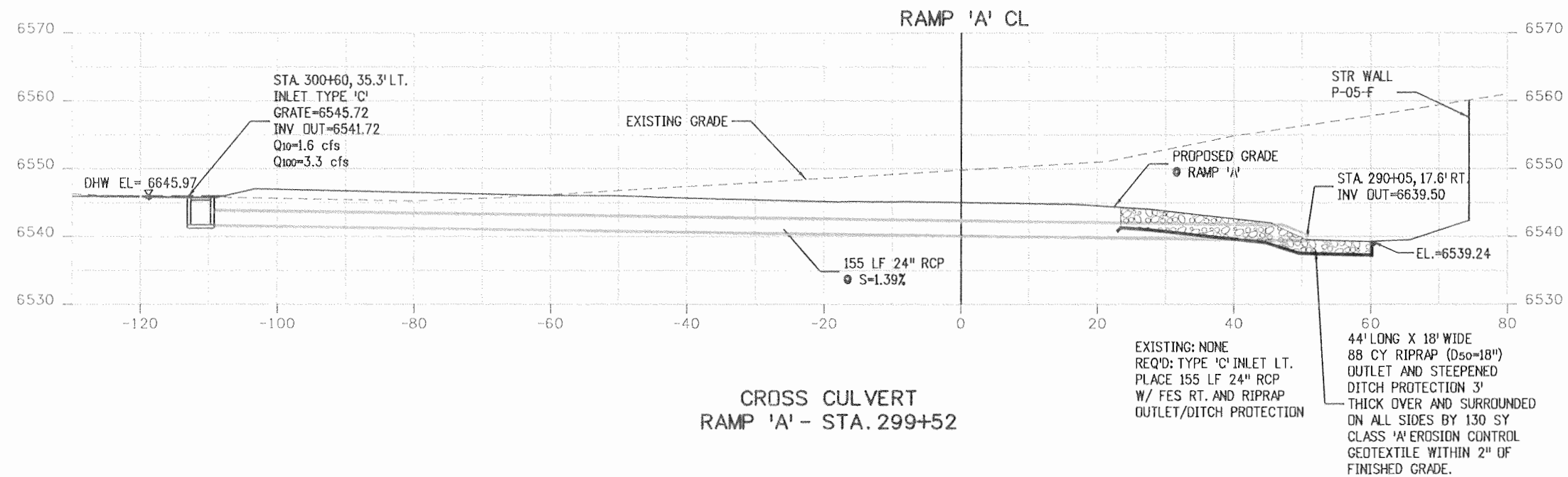
SCALE: HORZ. 1"=20'
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Print Date: 9/23/2010		Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5 EJA	As Constructed		STRUCTURE CROSS SECTIONS		Project No./Code
File Name: 16042_XD209.dgn		Date:	Comments	Init.		No Revisions: 9/10	US 160 - DRAINAGE		NH-1602-114	
Horiz. Scale: 1:20 Vert. Scale: As Noted						Revised:	Designer: E. VALDEZ	Structure Numbers	16042	
Unit Information Unit Leader VSF						Void:	Detailer: D. COVINGTON	Sheet Subset: DRAINAGE	Subst Sheets: D27 of D32	



CULVERT PROFILE
RAMP 'A' - STA. 314+21 TO STA. 316+00

EXISTING: NONE
REQ'D: PLACE 172 LF 24" RCP
W/ FES RT. & LT. AND
RIPRAP APRON LT.



CROSS CULVERT
RAMP 'A' - STA. 299+52

EXISTING: NONE
REQ'D: TYPE 'C' INLET LT.
PLACE 155 LF 24" RCP
W/ FES RT. AND RIPRAP
OUTLET/DITCH PROTECTION

44' LONG X 18' WIDE
88 CY RIPRAP (D50=18")
OUTLET AND STEEPENED
DITCH PROTECTION 3'
THICK OVER AND SURROUNDED
ON ALL SIDES BY 130 SY
CLASS 'A' EROSION CONTROL
GEOTEXTILE WITHIN 2" OF
FINISHED GRADE.

SCALE: HORZ. 1"=20'
VERT. 1"=20'

Print Date: 9/23/2010
File Name: 16042_XD301.dgn
Horiz. Scale: 1:20 Vert. Scale: As Noted
Unit Information Unit Leader VSF

SEMA CONSTRUCTION
WILSON & COMPANY

Sheet Revisions		
Date:	Comments	Init.

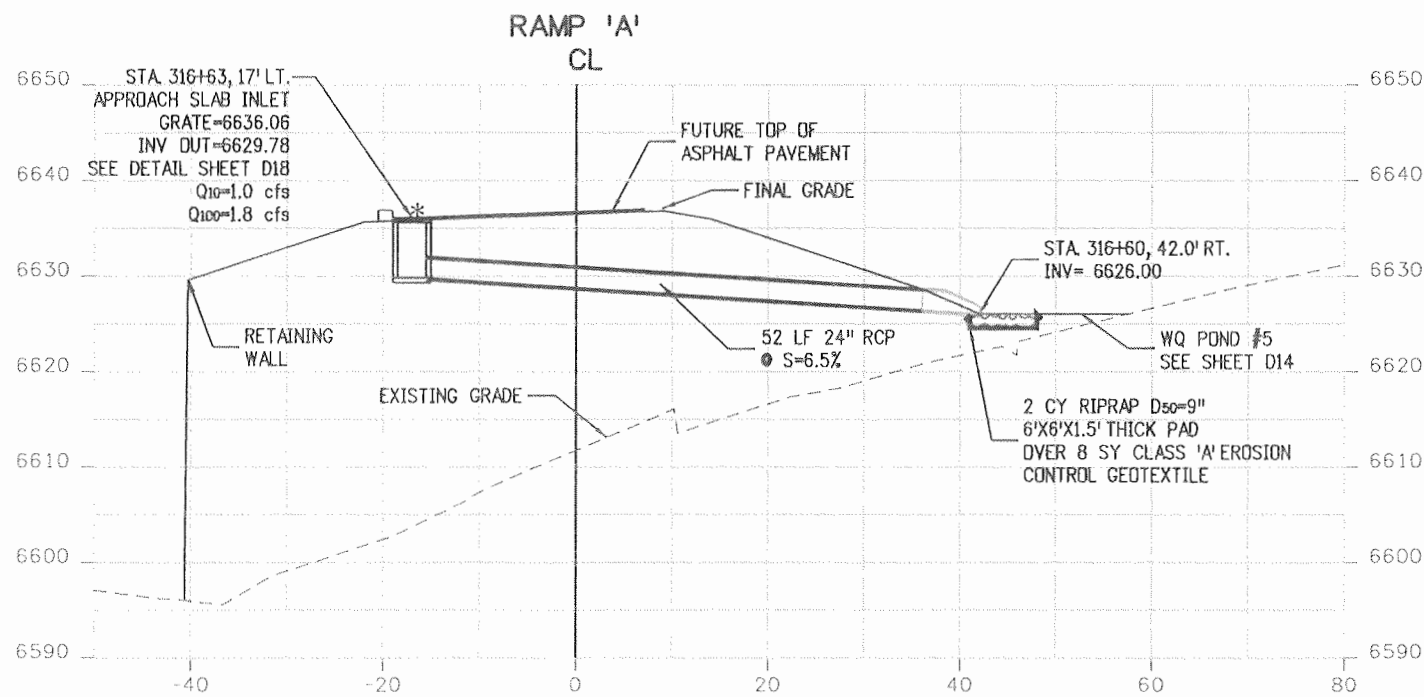
Colorado Department of Transportation
3803 North Main Avenue
Suite 200
Durango, CO 81301
Phone: 970-385-1440 FAX: 970-385-8365
Region 5 EJA

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

STRUCTURE CROSS SECTIONS RAMP 'A' - DRAINAGE	
Designer: E. VALDEZ	Structure Numbers
Detailer: D. COVINGTON	
Sheet Subset: DRAINAGE	Subset Sheets: D28 of D32

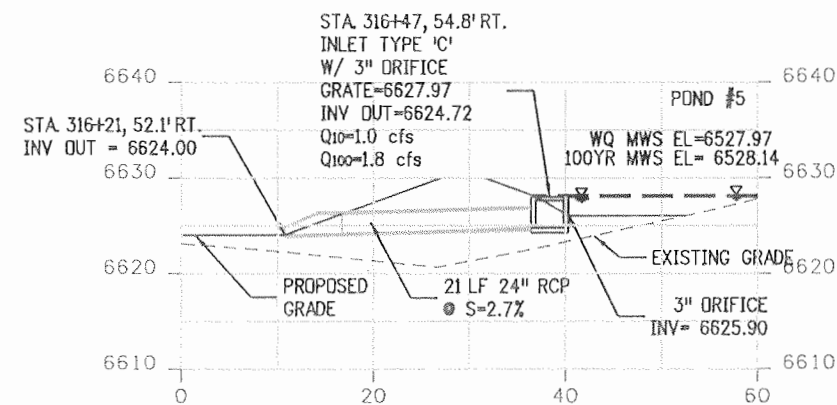
Project No./Code	NH-1602-114
	16042
Sheet Number	180

NOTE:
 * PLACE A TEMPORARY 12" HIGH EARTH BERM
 ACROSS THE APPROACH SLAB DOWNSTREAM
 OF THE PROPOSED INLET TO COLLECT RUNOFF
 FROM THE RAMP 'A' BRIDGE AND DIRECT IT TO
 THE INLET.



CROSS CULVERT
RAMP 'A' - STA. 316+62
 SKEW: 86° LT. FWD

EXISTING: NONE
 REQ'D: APPROACH SLAB INLET LT.
 PLACE 52 LF 24" RCP
 W/ FES RT. AND RIPRAP
 OUTLET PROTECTION



CULVERT PROFILE
RAMP 'A' - STA. 316+21 TO STA. 316+47

EXISTING: NONE
 REQ'D: INLET TYPE 'C'
 W/ 3" ORIFICE
 PLACE 21 LF 24" RCP
 W/ FES D/S

SCALE: HORZ. 1"=20'
 VERT. 1"=20'

Print Date: 9/23/2010	
File Name: 16042_XD302.dgn	
Horiz. Scale: 1:20 Vert. Scale: As Noted	
Unit Information Unit Leader VSF	

Sheet Revisions		
Date:	Comments	Init.

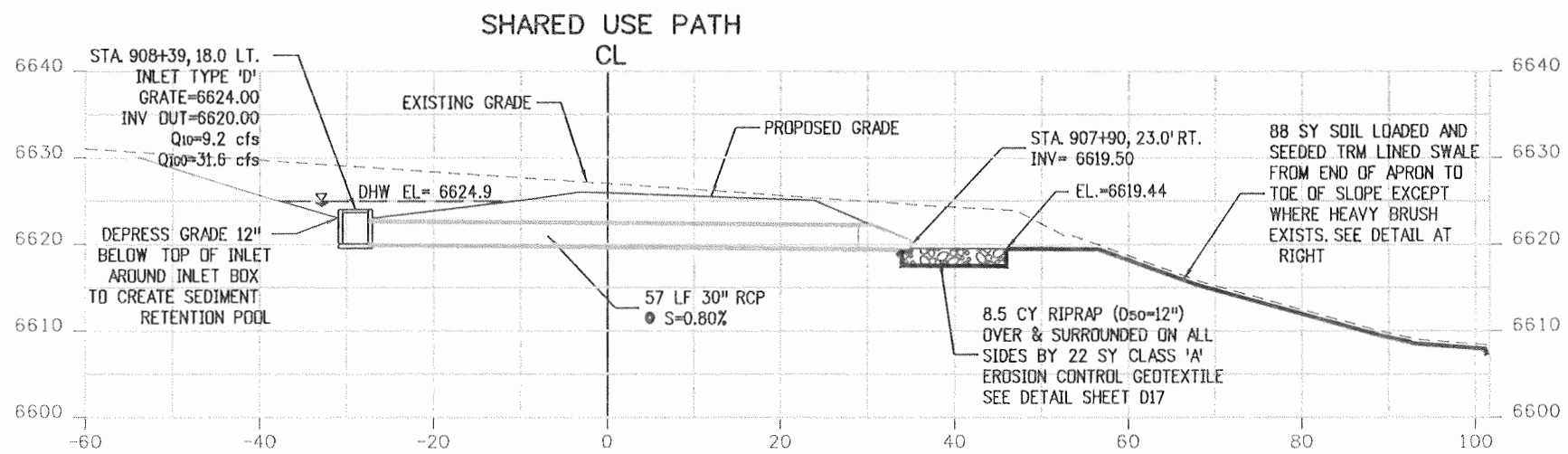
Colorado Department of Transportation

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

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

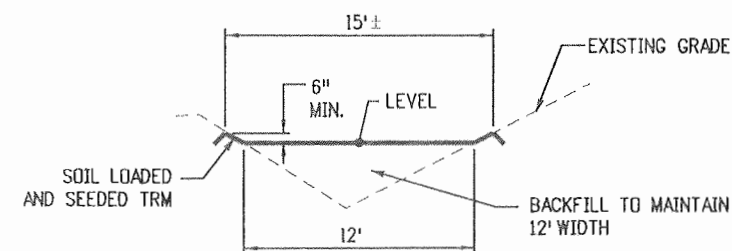
STRUCTURE CROSS SECTIONS	
RAMP 'A' - DRAINAGE	
Designer: E. VALDEZ	Structure Numbers
Detailer: D. COVINGTON	
Sheet Subset: DRAINAGE	Subset Sheets: D29 of D32

Project No./Code
NH-1602-114
16042
Sheet Number 181

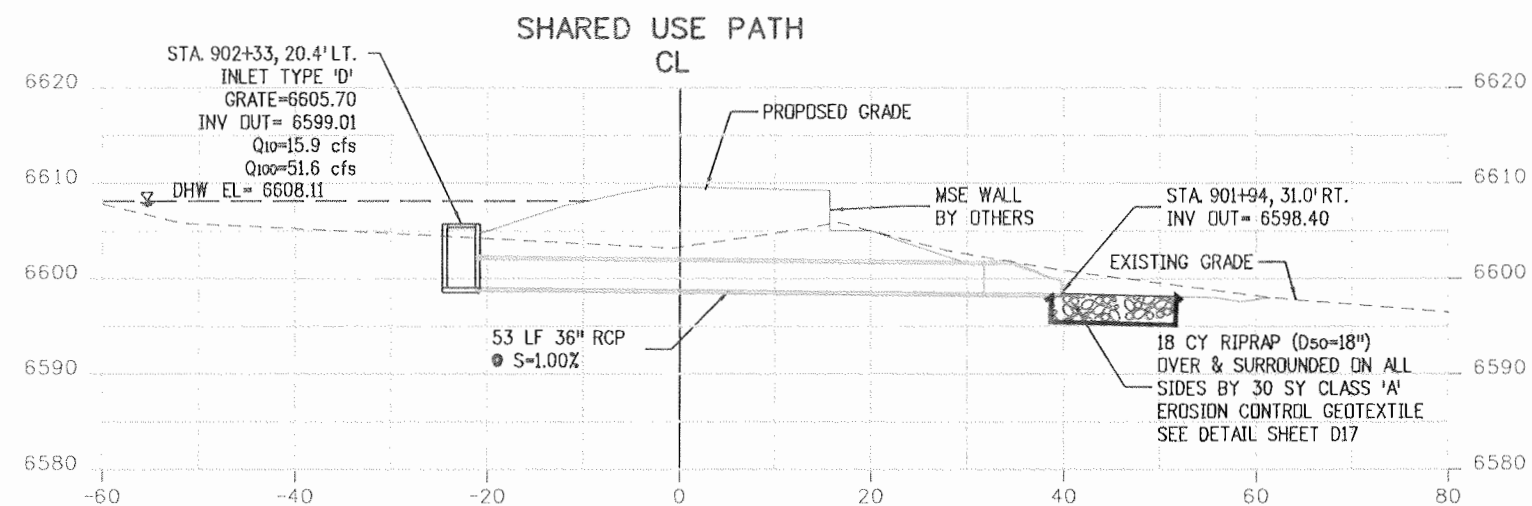


CROSS CULVERT
 SHARED USE PATH - STA. 908+17
 SKEW: 42° LT. FWD

EXISTING: NONE
 REQ'D: INLET TYPE 'D' LT.
 PLACE 57 LF 30" RCP
 W/ FES RT. AND RIPRAP &
 TRM OUTLET PROTECTION



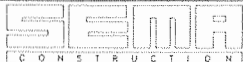

STA. 908+17 TRM LINED SWALE
 SCALE: 1"=10'




CROSS CULVERT
 SHARED USE PATH - STA. 902+24
 SKEW: 59° LT. FWD

EXISTING: NONE
 REQ'D: INLET TYPE 'D' LT.
 PLACE 53 LF 36" RCP
 W/ FES RT. AND RIPRAP
 OUTLET PROTECTION

SCALE: HORZ. 1"=20'
 VERT. 1"=20'

Print Date: 9/23/2010
 File Name: 16042_XD701.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted
 Unit Information Unit Leader VSF
 

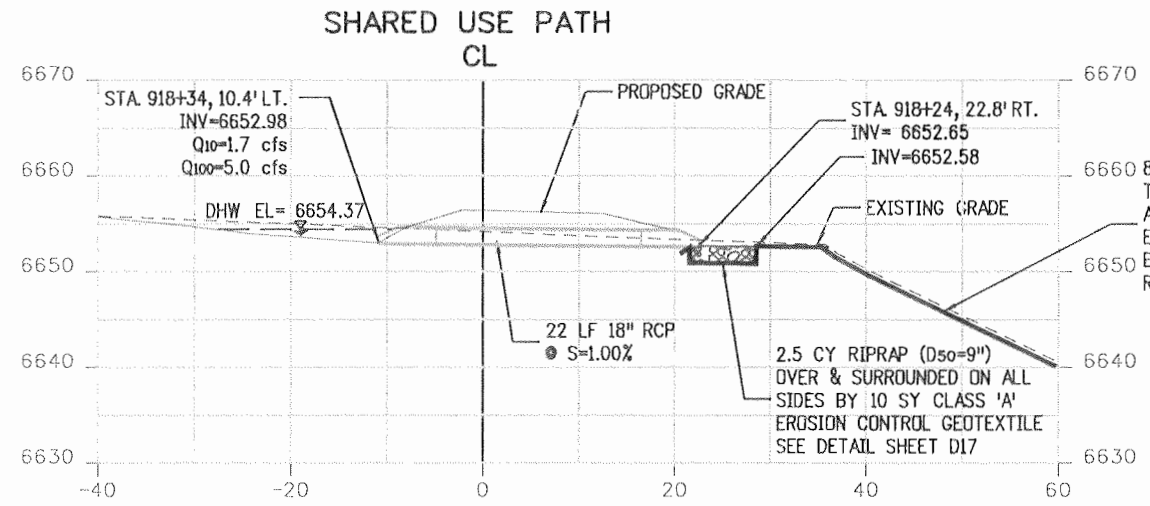
Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

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

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

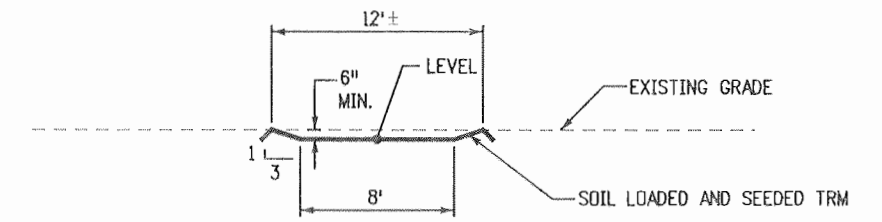
STRUCTURE CROSS SECTIONS SHARED USE PATH - DRAINAGE	
Designer: E. VALDEZ	Structure Numbers
Detailer: D. COVINGTON	
Sheet Subset: DRAINAGE	Subset Sheets: D30 of D32

Project No./Code	NH-1602-114
	16042
Sheet Number	182

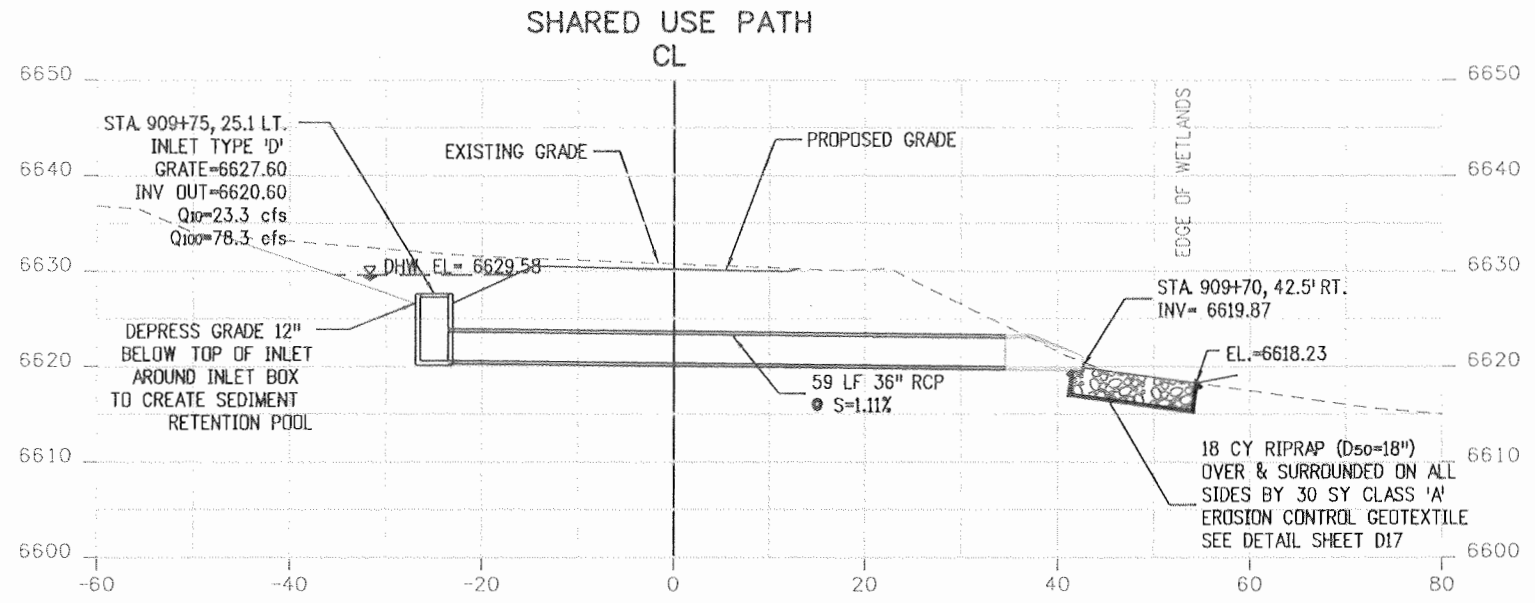


CROSS CULVERT
SHARED USE PATH - STA. 918+31
 SKEW: 73° LT FWD

EXISTING: NONE
 REQ'D: PLACE 22 LF 18" RCP
 W/ FES LT. & RT. AND RIPRAP
 & TRM OUTLET PROTECTION



STA. 918+31 TRM LINED SWALE
 SCALE: 1"=10'

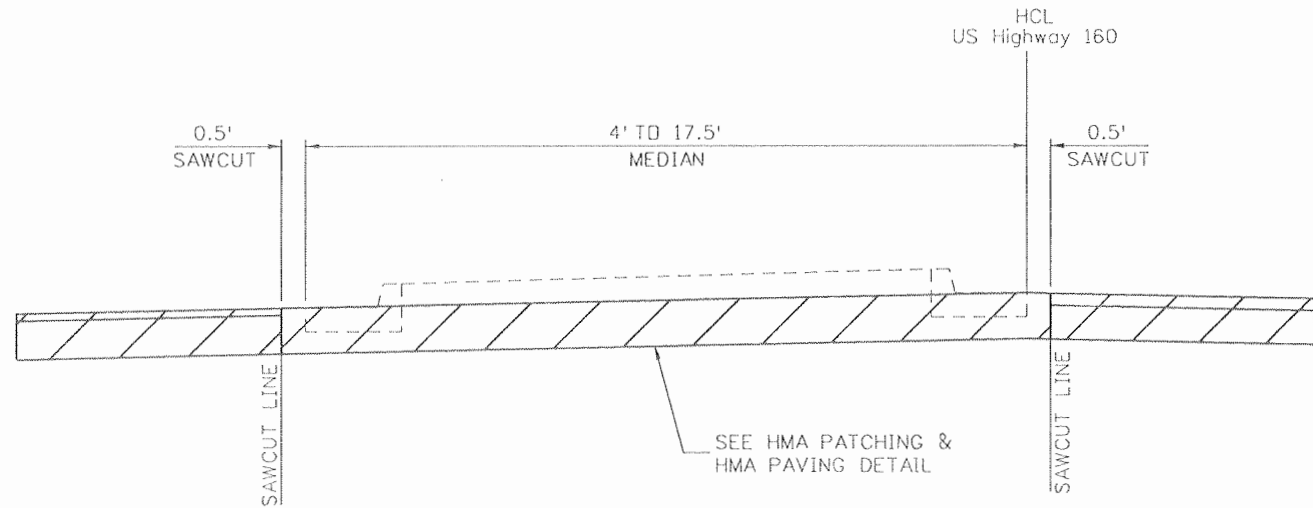


CROSS CULVERT
SHARED USE PATH - STA. 909+73
 SKEW: 86° LT. FWD

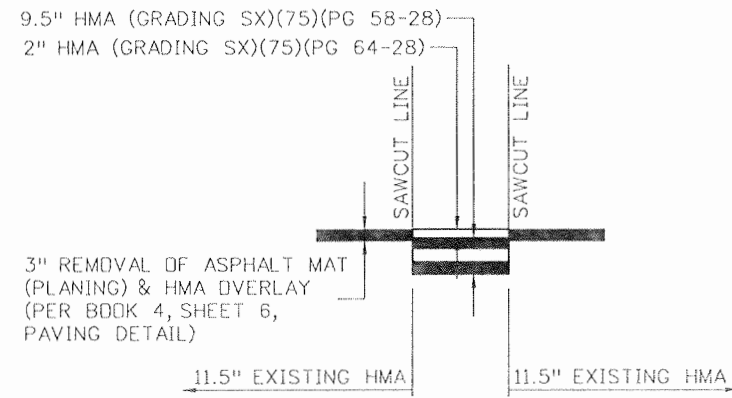
EXISTING: NONE
 REQ'D: INLET TYPE 'D' LT.
 PLACE 59 LF 36" RCP
 W/ FES RT. AND RIPRAP
 OUTLET PROTECTION

SCALE: HORZ. 1"=20'
 VERT. 1"=20'

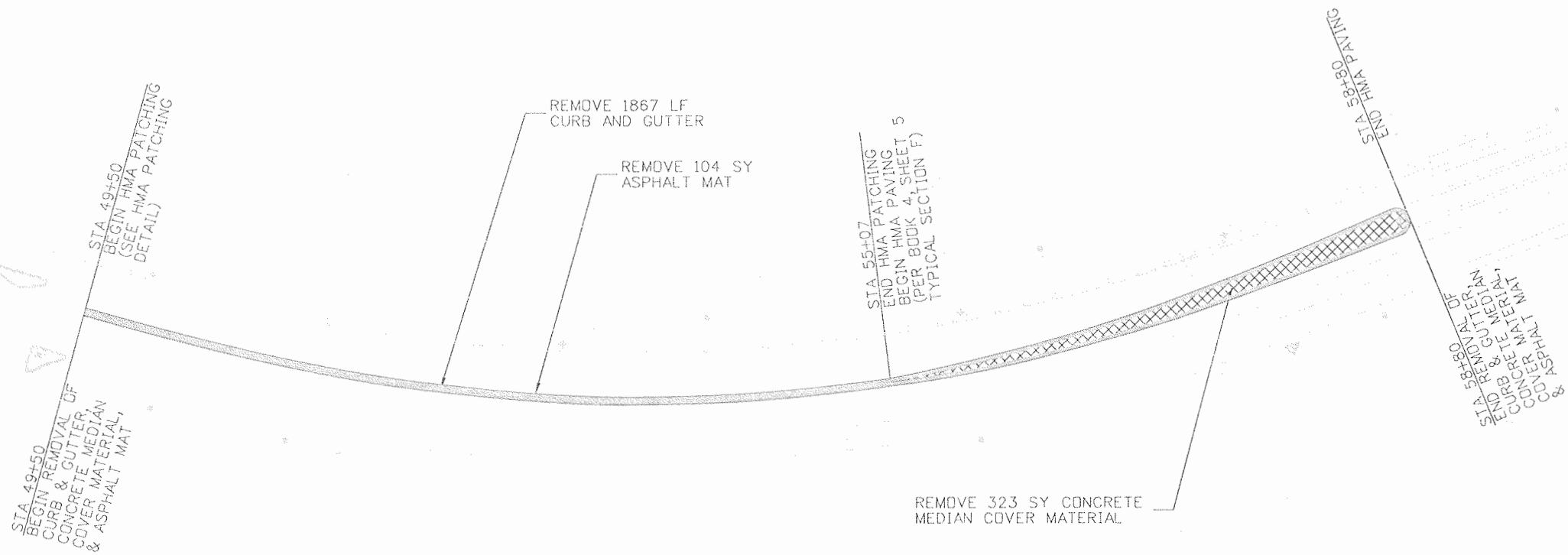
Print Date: 9/23/2010	Sheet Revisions			Colorado Department of Transportation 3803 North Main Avenue Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Region 5	As Constructed	STRUCTURE CROSS SECTIONS		Project No./Code
File Name: 16042.XD702.dgn	Date:	Comments	Init.		No Revisions: 9/10	SHARED USE PATH - DRAINAGE		
Horiz. Scale: 1:20	Vert. Scale: As Noted				Revised:	Designer: E. VALDEZ	Structure Numbers	16042
Unit Information	Unit Leader VSF				Void:	Detailer: D. COVINGTON	Sheet Subset: DRAINAGE	Sheet Number 183
							Subset Sheets: D31 of D32	



REMOVAL DETAIL
49+50 TO 58+80



HMA PATCHING DETAIL
49+50 TO 55+07



Print Date: 9/23/2010
File Name: 16042_GP201.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information VSF

Sheet Revisions		
Date:	Comments	Init.
11/06/08		JMB

Colorado Department of Transportation
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As Constructed
No Revisions: 9/10
Revised:
Void:

US 160 / US 550
MEDIAN REMOVAL AND PAVING PLAN
Designer: JMB Structure
Detailer: JMB Numbers
Sheet Subset: ROADWAY Subset Sheets: D32 of D32

Project No./Code
NH-1602-114
16042
Sheet Number 184

CONSTRUCTION DOCUMENTS - 100% PLANS - 02/19/2009

PUMP CONFIGURATION

THIS IRRIGATION PUMPING SYSTEM HAS BEEN DESIGNED TO OPERATE IN THE FOLLOWING MANNER. THE 500 GALLON WATER STORAGE TANK FILLING IS CONTROLLED BY LEVEL SENSORS MOUNTED INSIDE THE TANK. THE LOW LEVEL SENSOR WILL ACTIVATE THE WELL PUMP AND THE HIGH LEVEL SENSOR WILL TURN THE WELL PUMP OFF WHEN THE TANK IS FULL. THE IRRIGATION PUMP WILL BE ACROSS THE LINE STARTED, FITTED WITH A FLOW SWITCH AND OPERATE BY THE IRRIGATION CONTROLLER. ONCE WATERING REQUIREMENTS HAVE BEEN DETERMINED AND THE CONTROLLER HAS BEEN PROGRAMMED THE SYSTEM WILL BE FULLY AUTOMATIC.

CONSTRUCTION NOTES

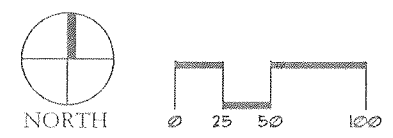
- ① ACCORDING TO CDOT TESTING THE WELL PUMP SUPPLIES APPROXIMATELY 4 GPM. CONTRACTOR SHALL VERIFY THE STARTING MECHANISM FOR THE WELL PUMP AND THE PIPE SIZE COMING OUT OF THE WELL TO INSURE THAT IT WILL BE COMPATIBLE WITH THE NEW EQUIPMENT BEING INSTALLED.
- ② CONTRACTOR SHALL REMOVE EXISTING SPIGOT FROM 1" WELL LINE AND REPLACE WITH A 90 DEGREE ELBOW AND RUN THE PIPE BELOW GRADE TO A SOLENOID CONTROL VALVE (LEVEL SENSING CONTROLLED). FROM ELECTRIC SOLENOID VALVE 1" FILL LINE WILL CONTINUE TO THE EDGE OF THE TANK WHERE IT WILL PENETRATE THE CONCRETE FOUNDATION AND RUN UP THE SIDE OF THE TANK AND FILL FROM THE TOP.

CONCRETE SLAB: 4'6" X 10'
 3-INCH SCH 40 STEEL PIPE
 1-INCH SCH 40 STEEL PIPE

BOOSTER PUMP
 FLOWRATE: 5 GPM
 PRESSURE: 60 PSI
 POWER: 120V/1PH/60Hz

WATER STORAGE TANK
 VOLUME: 500 GAL.
 DIMENSIONS: 4' DIA. X 6' H
 MATERIAL: WELDED STEEL, EPOXY COATED OR PAINTED FOR CORROSION RESISTANCE.

EXISTING WELL ①②
 FLOWRATE: 5 GPM
 PRESSURE: 60 PSI
 POWER: 120V/1PH/60Hz



APPROVED FOR CONSTRUCTION
 Date 2/15/09



Print Date: 02/19/2009		Sheet Revisions			Colorado Department of Transportation			As Constructed		RAMP A BOOSTER PUMP PLAN		Project No./Code	
File Name:								Date:	Comments			Init.	No Revisions:
Horiz. Scale: As Noted		Vert. Scale: As Noted					Revised:	Designer: EWP	Structure Numbers	16042			
Unit Information		Unit Leader Initials					Void:	Detailer: EDB	Sheet Subset: IRRIGATION		Subset Sheets: 1 OF 7		Sheet Number BP-1
		Region 5			EJA						185		