

LATITUDE: 39°48'11" LONGITUDE: 081°53'24"



END ACQUISITION  
 STA. 1306+28.85  
 SLIM 5.30

BEGIN ACQUISITION  
 STA. 1295+00.00  
 SLIM 5.08

# RIGHT OF WAY LEGEND SHEET

## MUS-376-5.09

### MUSKINGUM COUNTY BLUE ROCK TOWNSHIP

### SECTION 20, TOWNSHIP 12, RANGE 12

### CONGRESS LANDS EAST OF SCIOTO RIVER

**INDEX OF RW. SHEETS:**

LEGEND SHEET	RW.1
CENTERLINE PLAT	RW.2
MONUMENTATION TABLE	RW.3
PROPERTY MAP	RW.4
SUMMARY OF ADDITIONAL R/W	RW.5
DETAIL SHEET	RW.6 - RW.7

**OHIO 811.org**  
 Before You Dig

OHIO 811, 8-1-1, or 1-800-362-2764  
 (Non members must be called directly.)

**CONVENTIONAL SYMBOLS**

County Line	-----	Edge of Shoulder (EX)	-----
Township Line	-----	Edge of Shoulder (PR)	-----
Section Line	-----	Ditch / Creek (EX)	-----
Corporation Line	-----	Ditch / Creek (PR)	-----
Fence Line (EX)	-----	Tree Line (EX)	-----
Center Line	-----	Ownership Hook Symbol	-----
Right of Way (EX)	-----	Property Line Symbol	-----
Right of Way (PR)	-----	Break Line Symbol	-----
Standard Highway EASE (EX)	-----	Tree (PR) Tree (EX) Shrub (EX)	-----
Standard Highway EASE (PR)	-----	Tree (Remove) Shrub (Remove)	-----
Temporary Right of Way	-----	Evergreen (EX) Stump	-----
Channel EASE (PR)	-----	Evergreen (Remove) Stump (Remove)	-----
Utility EASE (EX)	-----	Wetland (PR) Grass (PR) Aerial Target	-----
Railroad	-----	Post (EX) Mailbox (EX) Mailbox (PR)	-----
Guardrail (EX)	-----	Light (EX) Telephone Marker (EX) +TEL	-----
Construction Limits	-----	Fire Hydrant (EX) Water Meter (EX)	-----
Edge of Pavement (EX)	-----	Water Valve (EX) Utility Valve Unknown (EX)	-----
Edge of Pavement (PR)	-----	Telephone Pole (EX) Power Pole (EX)	-----
		Light Pole (EX)	-----

**PROJECT DESCRIPTION**  
 REMEDIATION OF ROCK CUT SLOPE  
 THAT IMPROVES SLOPE STABILITY

**STRUCTURE KEY**

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

**TYPES OF TITLE LEGEND:**  
 WD = WARRANTY DEED  
 T = TEMPORARY EASEMENT

**PLANS PREPARED BY:**

FIRM NAME: THOMAS FOK & ASSOCIATES, INC.  
 R/W DESIGNER: JOSEPH P. SLIFKA, JR., PE  
 R/W REVIEWER: FRANKLIN D. SNYDER, JR., PS  
 FIELD REVIEWER: FRANKLIN D. SNYDER, JR., PS  
 PRELIMINARY FIELD REVIEW DATE: 03/29/2023  
 OWNERSHIP UPDATED BY:  
 DATE COMPLETED:  
 FIELD REVIEWER:  
 FINAL FIELD REVIEW DATE:  
 FINAL R/W PLAN DATE:

UTILITY OWNERS	NAME & ADDRESS
NATURAL GAS AND OIL	Aspire Energy (Formerly Gatherco) 300 Tracy Bridge Road Orrrville, Ohio 44667 330-682-7726 ddlgman@aspireenergyco.com
	National Gas and Oil Cooperation 120 O'Neil Drive Hebron, Ohio 43025 Attn: Greg Wilson 740-348-1254 GWilson@theenergycoop.com
	Tennessee Gas (Kinder Morgan-Cumberland) Kinder Morgan 1001 Louisiana St, Suite 1000 Houston, Texas 77002 713-369-9000 TGPContractiv@kindermorgan.com

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

I, FRANKLIN D. SNYDER, JR., P.S. HAVE CONDUCTED A SURVEY OF THE EXISTING CONDITIONS FOR THE OHIO DEPARTMENT OF TRANSPORTATION BEGINNING IN AUGUST 2022. THE RESULTS OF THAT SURVEY ARE CONTAINED HEREIN.

UNDERGROUND UTILITY LOCATIONS ARE SHOWN FOR INFORMATION PURPOSES ONLY. THOUGH THEY ARE BELIEVED TO BE ACCURATE, THE LOCATION AS MARKED ON THE GROUND BY THE UTILITY COMPANY AND SUBSEQUENTLY SURVEYED AS PART OF THIS PROJECT OR AS DEPICTED IN ACCORDANCE WITH PLANS RECEIVED FROM THE UTILITY COMPANY. ALL OF THE MARKINGS OR PLANS WERE IN ACCORDANCE WITH O.U.P.S. TICKETS A223702928-00A AND A224101595-00A.

THE HORIZONTAL COORDINATES EXPRESSED HEREIN ARE BASED ON THE STATE PLANE COORDINATE SYSTEM, OHIO SOUTH ZONE (3402), NAD83(2011) (EPOCH: 2010.0000). THE PROJECT COORDINATES (U.S. SURVEY FEET) ARE RELATIVE TO STATE PLANE GRID COORDINATES (METERS) BY A COMBINED SCALE FACTOR OF 0.999995376 (P.A.F. OF 1.00004624) FROM PROJECT PID# 101004 AND U.S. SURVEY FEET TO METERS CONVERSION OF 3937/1200.

AS A PART OF THIS PROJECT I HAVE REESTABLISHED THE LOCATIONS OF THE EXISTING PROPERTY LINES AND EXISTING RIGHTS OF WAY FOR PROPERTY TAKES CONTAINED HEREIN. ADDITIONALLY, I HAVE ESTABLISHED THE PROPOSED PROPERTY AND EASEMENT LINES, CALCULATED THE GROSS TAKE, PRESENT ROAD OCCUPIED (PROJ), NET TAKE, AND NET RESIDUE AS WELL AS PREPARED THE LEGAL DESCRIPTIONS NECESSARY TO ACQUIRE THE PARCELS SHOWN HEREIN.

ALL OF MY WORK CONTAINED HEREIN WAS CONDUCTED IN ACCORDANCE WITH OHIO ADMINISTRATIVE CODE 4733-37 COMMONLY KNOWN AS "STANDARDS FOR BOUNDARY SURVEYS" UNLESS NOTED. THE WORDS I AND MY AS USED HEREIN ARE TO MEAN EITHER MYSELF OR SOMEONE WORKING UNDER MY DIRECT SUPERVISION.

**SURVEYOR'S SEAL**

FRANKLIN D. SNYDER, JR.  
 5-7468  
 PROFESSIONAL SURVEYOR

THOMAS FOK & ASSOCIATES, INC.

**DESIGN AGENCY**

**TF**

ASSOCIATES

DESIGNER: JPS

REVIEWER: JPS

FDS: 04/13/23

PROJECT ID: 115989

SUBSET: TOTAL

RW.1: 7

NOTE:

THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING MONUMENTS LOCATED AS PART OF THE SURVEY, OCCUPIED ROAD, AND THE FOLLOWING DOCUMENTS:  
 DEEDS: JAMES 02/21/2006; RODGERS (BK2922, PG825); BLINGER (BK2990, PG664);  
 CHEREVAS (BK2965, PG883); BLUE ROCK TOWNSHIP (BK2104, PG 843);  
 VANCONNEY (DV816, PG320) AND OTHERS.  
 SURVEYS: ROBERTS, 09/07/1976; FINLEY 06/16/1997; DINAN, 12/22/2003; PLAT OF GAYSPORT, DV17, PG432.  
 HIGHWAY PLANS: MUS-60-02.56 RW PLAN (I.C.H. 345, SEC. G);  
 PROPOSED RELOCATION COUNTY ROAD NO. 226, MAY 1964,  
 MUSKINGUM COUNTY ENGINEER;

MUS-376 COUNTY PLANS: MUSKINGUM ROAD AND MUS 5000 MILE ADDITION INDEXES, S.H. 789 (S.H. 640) SECTIONS A, B, C DESIGNATED AS 50 FEET WIDE. THIS ROAD IS NOW KNOWN AS STATE ROUTE 376.  
 THE WESTERLY PORTION OF STATE ROUTE 376, PREVIOUSLY COUNTY ROAD 226 PRIOR TO RELOCATION IN 1964 DEPICTED AS 50 FEET WIDE WAS ORIGINALLY DEDICATED AS NORTH STREET, 49.5 FEET WIDE, BY GAYSPORT PLAT IN DEED VOLUME 17, PAGE 432.

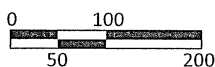
MUSKINGUM COUNTY  
 BLUE ROCK TOWNSHIP  
 SECTION 20, TOWNSHIP 12, RANGE 12  
 CONGRESS LANDS EAST OF SCIOTO RIVER

BASIS FOR BEARINGS:

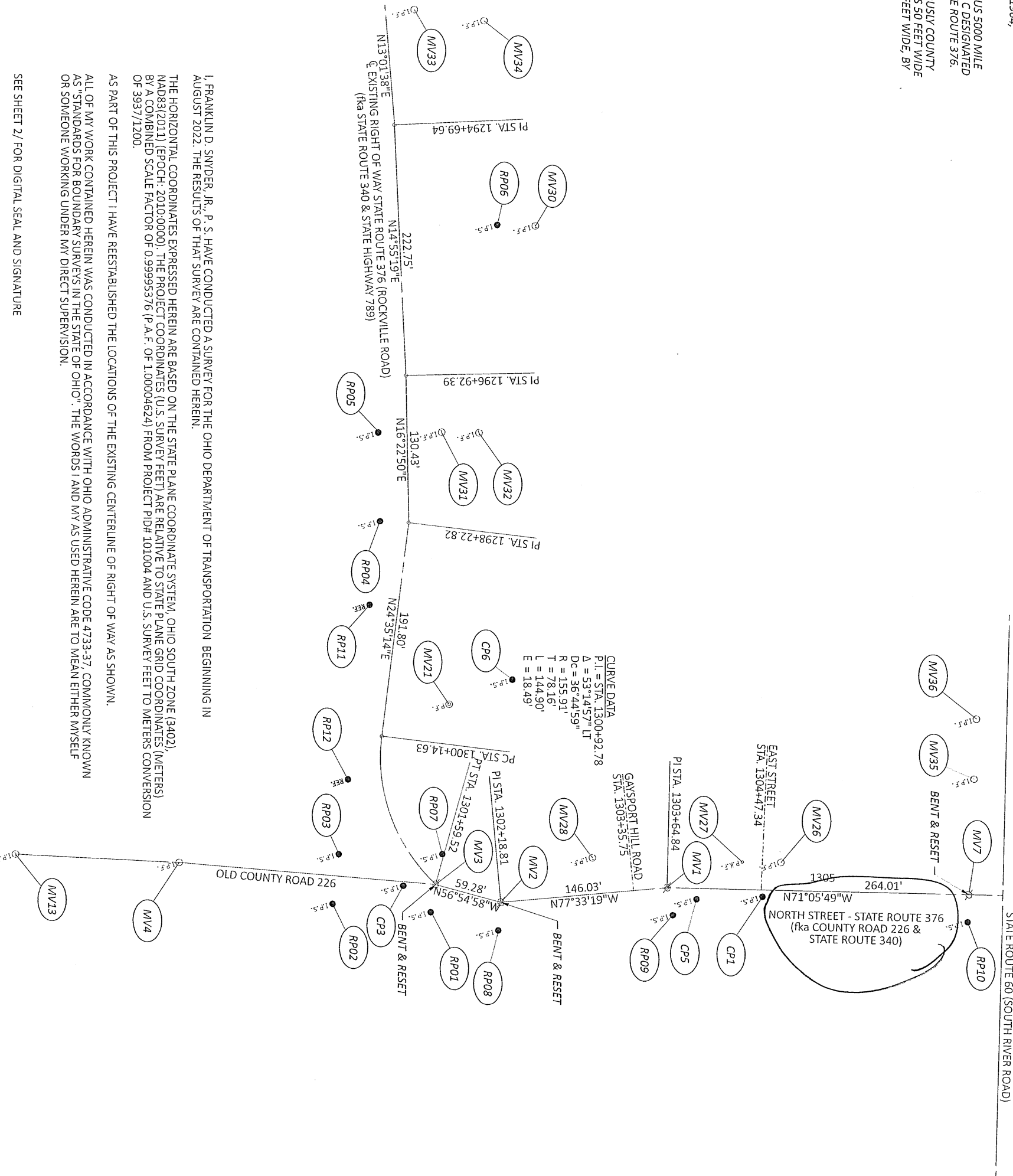
ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. BEARINGS ARE BASED ON GRID NORTH OF THE STATE PLANE COORDINATE SYSTEM, OHIO SOUTH ZONE (3402), NAD83(2011) (EPOCH 2010:0000) BY GNSS MEASUREMENTS REFERENCED TO THE DDOT CORS.



HORIZONTAL SCALE IN FEET



CENTERLINE PLAT



MONUMENT LEGEND

- I.R.K. IRON PIN FOUND
- I.R.K. IRON PIN FOUND W/ ID CAP
- I.R.K. IRON PIPE SET W/ ID CAP
- I.R.K. IRON PIPE FOUND
- I.R.K. P.K. NAIL FOUND
- I.R.K. RAILROAD SPIKE FOUND
- REF. CL REFERENCE MONUMENT

RECORDED \_\_\_\_\_ PAGE \_\_\_\_\_, 20 \_\_\_\_\_  
 COUNTY RECORDER \_\_\_\_\_

I, FRANKLIN D. SNYDER, JR., P. S. HAVE CONDUCTED A SURVEY FOR THE OHIO DEPARTMENT OF TRANSPORTATION BEGINNING IN AUGUST 2022. THE RESULTS OF THAT SURVEY ARE CONTAINED HEREIN.

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AS PART OF THIS PROJECT I HAVE REESTABLISHED THE LOCATIONS OF THE EXISTING CENTERLINE OF RIGHT OF WAY AS SHOWN. ALL OF MY WORK CONTAINED HEREIN WAS CONDUCTED IN ACCORDANCE WITH OHIO ADMINISTRATIVE CODE 4733-37, COMMONLY KNOWN AS "STANDARDS FOR BOUNDARY SURVEYS IN THE STATE OF OHIO". THE WORDS "AND MY" AS USED HEREIN ARE TO MEAN EITHER MYSELF OR SOMEONE WORKING UNDER MY DIRECT SUPERVISION.

SEE SHEET 2/ FOR DIGITAL SEAL AND SIGNATURE

DESIGN AGENCY	<b>TF ASSOCIATES</b>
DESIGNER	JPS
REVIEWER	FDS 04/13/23
PROJECT ID	115989
SUBSET TOTAL	RW.2   7

Import Units:	Ground Coord?	TRJ/E	Unit Conversion Factor (ft>cm):	0.304800610
Output Units:	U.S. Survey FT	ft	Unit Conversion Factor (ft>ft):	1.000000000
Output Units:	Meters	m	Adjustment Factor1:	0.304785516
Output Units:	U.S. Survey FT	ft	Adjustment Factor2:	0.99995376

GROUND COORDINATES - U.S. Survey FT

Unless Ground to Grid Factor: 0.999953760  
 Primary/Project Control: Topcon PG-A1, no Ground Plane, Survey monument used as basis for elevations. CP1

STATE PLANE GRID COORDINATES

Horiz. Datum: NAD83(011) Ohio State Plane, South Zone (5402)  
 Vert. Datum: NAVD83 Geoid 128  
 CP1 defined by GSSS from COGS using NAVD83. All other elevations are established by leveling from CP1.

NAME	Alignment Name	STATION	OFFSET (ft)	RT/LT	NORTH (ft)	EAST (ft)	ELEVATION (ft)	FEATURE	POINT TYPE	DESCRIPTION	NAME	NORTH (m)	EAST (m)	ORTHO HT (m)	NORTH (ft)	EAST (ft)
CP6	CLX RW, S376	1399+50.98	107.22	LT	657165.721	213984.037	-	IPNS	Project Control Points	1/2" IRON PIN, CAPPED PROJECT CONTROL, THOMAS FOK & ASSOC"	CP6	200255.2503	652195.6080	-	657165.3337	213974.5096
CP2	CLX RW, S376	1301+42.24	21.55	RT	657311.197	213990.451	679.09	IPNS	Project Control Points	1/2" IRON PIN, CAPPED PROJECT CONTROL, THOMAS FOK & ASSOC"	CP2	200369.5894	652240.2330	206.987	657280.8029	213989.1790
CP5	CLX RW, S376	1300+90.50	9.74	RT	657399.969	213979.701	678.01	IPNS	Project Control Points	1/2" IRON PIN, CAPPED PROJECT CONTROL, THOMAS FOK & ASSOC"	CP5	200366.6459	652166.8557	206.658	657266.5708	2139650.7596
CP4	CLX RW, S376	1304+48.60	5.88	RT	657415.239	213969.513	679.06	IPNS	Project Control Points	1/2" IRON PIN, CAPPED PROJECT CONTROL, THOMAS FOK & ASSOC"	CP4	200394.3000	652149.2803	206.978	657284.8401	2139594.5736
CP1	CLX RW, S376	1300+76.16	190.17	RT	657231.914	214072.164	674.54	IPNS	Project Control Points	1/2" IRON PIN FOUND (OLD C.R. 226 CENTERLINE)	CP1	200351.4249	652295.6165	205.599	657201.5233	2140073.2019
MW3	CLX RW, S376	1301+59.52	-	-	657218.613	213993.096	-	RSRK	Existing Centerline Control Point	RAILROAD SPINE FOUND: BENT & RESET, 0.80 FEET DEEP	MW3	200341.8488	652323.8957	-	657282.2188	2139864.1445
MW2	CLX RW, S376	1302+18.81	-	-	657250.975	2139913.424	-	RSRK	Existing Centerline Control Point	RAILROAD SPINE FOUND: BENT & RESET, 0.65 FEET DEEP	MW2	200351.7131	652316.9561	-	657282.2188	2139864.1445
MW1	CLX RW, S376	1303+64.84	-	-	657382.444	213970.925	-	RSRK	Existing Centerline Control Point	RAILROAD SPINE FOUND: BENT & RESET, 0.65 FEET DEEP	MW1	200361.3044	652173.2940	-	657382.2188	2139864.1445
MW7	CLX RW, S376	1306+28.85	-	-	657342.444	213972.053	-	RSRK	Existing Centerline Control Point	RAILROAD SPINE FOUND: BENT & RESET, 0.55 FEET DEEP	MW7	200114.2809	652166.0190	-	657487.0746	2139671.8820
MW3	CLX RW, S376	1296+69.17	25.16	LT	657467.975	213971.053	-	IPNS	Existing R/W Points	1/2" IRON PIN, CAPPED FINLEY S.7222"	MW3	200179.6716	652152.7309	-	65756.1392	2139648.0141
MW9	CLX RW, S376	1295+64.48	119.20	LT	657337.610	213973.358	-	IPNS	Existing R/W Points	1/2" IRON PIN, CAPPED FINLEY S.7222"	MW9	200179.6716	652152.7309	-	65756.1392	2139648.0141
MW8	CLX RW, S376	1303+02.73	32.21	LT	657366.509	213973.358	-	IPNS	Existing R/W Points	1/2" IRON PIN, CAPPED FINLEY S.7222"	MW8	200179.6716	652152.7309	-	65756.1392	2139648.0141
MW4	CLX RW, S376	1293+83.56	85.47	LT	656599.573	2139661.438	-	IPNS	Existing Boundary Monuments	1/2" IRON PIN	MW4	200122.6980	652149.0979	-	656589.2118	2139592.4987
MW1	CLX RW, S376	1297+43.33	30.51	LT	656596.891	213965.573	-	IPNS	Existing Boundary Monuments	1/2" IRON PIN, CAPPED JAMES"	MW1	200225.5060	652193.3331	-	656906.5142	2139737.6270
MW2	CLX RW, S376	1297+44.41	63.07	LT	656847.111	213965.540	-	IPNS	Existing Boundary Monuments	1/2" IRON PIN, CAPPED JAMES"	MW2	200226.4783	652213.8051	-	657139.3625	2139706.6954
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MW1	CLX RW, S376	1297+44.41	63.07	LT	656847.111	213965.540	-	IPNS	Existing Boundary Monuments	1/2" IRON PIN, CAPPED JAMES"	MW1	200226.4783	652213.8051	-	657139.3625	21





TOTAL NUMBER OF :  
 4 OWNERSHIPS 1 TOTAL TAKES  
 4 PARCELS 1 OWNERSHIPS W/ STRUCTURES INVOLVED

NET TAKE = GROSS TAKE - PRO IN TAKE  
 NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE  
 ALL AREAS IN ACRES

GRANTEE:  
 ALL RIGHT OF WAY ACQUIRED IN THE NAME OF  
 STATE OF OHIO DEPARTMENT OF TRANSPORTATION  
 UNLESS OTHERWISE SHOWN.

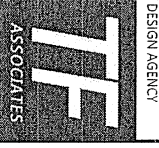
PARCEL NO.	OWNER	RW SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
1-8	NUMBER NOT USED																
9-WD	BOWEN FRANKLIN VANCOONEY, JR. AND LINDA LOU VANCOONEY	7	DV811	156	06-42-01-14-000	5.490	1.140 (c)	0.318	0.318(c)	0.000	NO	0.103	4.350		TRACT III: SEE EASEMENT TABLE SHEET RW 4 TRACT I, LOT 11: NO ADDITIONAL RIGHT OF WAY REQUIRED TRACT I, LOT 12: NO ADDITIONAL RIGHT OF WAY REQUIRED NO ADDITIONAL RIGHT OF WAY REQUIRED		
			DV811	156	06-42-02-06-000	0.103	-	-	-	-		0.149					
			DV816	320	06-42-02-01-000	0.156	-	-	-	-		0.156	4.350				
			TOTAL:			5.898	1.140	0.318	0.318	0.000		0.408					
10-WD	CHARLIE N. RODGERS	6, 7	2922	825	06-42-02-51-000	1.063 (c)	0.000	1.063	0.000	1.063	YES	0.000			TOTAL TAKE AUDITOR'S RECORD AREA = 1.061 AC.		
11-WD	JENNIFER N. BUNGER AND TODD A. BUNGER, SR.	6, 7	2990	664	06-42-02-56-000	3.330	0.549 (c)	0.731	0.438	0.294	NO	2.487		90% FEDERAL, 10% STATE	TAKE WELL		
12-T	PETER CHEREVAS	6	2965	883	06-42-02-58-000	35.190	1.154	0.035	0.000	0.035	NO				GRADING, ACCESS		
13	TOWNSHIP OF BLUE ROCK	6	2104	843	06-42-02-58-001	0.620	0.217	-	-	-	NO				NO ADDITIONAL RIGHT OF WAY REQUIRED		

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.  
 NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

TYPES OF TITLE LEGEND:  
 WD = WARRANTY DEED  
 T = TEMPORARY EASEMENT  
 DV = DEED VOLUME  
 (c) = CALCULATED AREA

\* DENOTES RIGHT OF WAY ENCROACHMENT

DESIGNER	JPS	
REVIEWER		
FDS	04/13/23	
PROJECT ID	115989	
REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY: FRANKLIN D. SVYDER, JR., PS	DATE: 03/29/2023	
OWNERSHIP VERIFIED BY:	DATE:	
DATE COMPLETED		



DESIGN AGENCY

SUMMARY OF ADDITIONAL RIGHT OF WAY

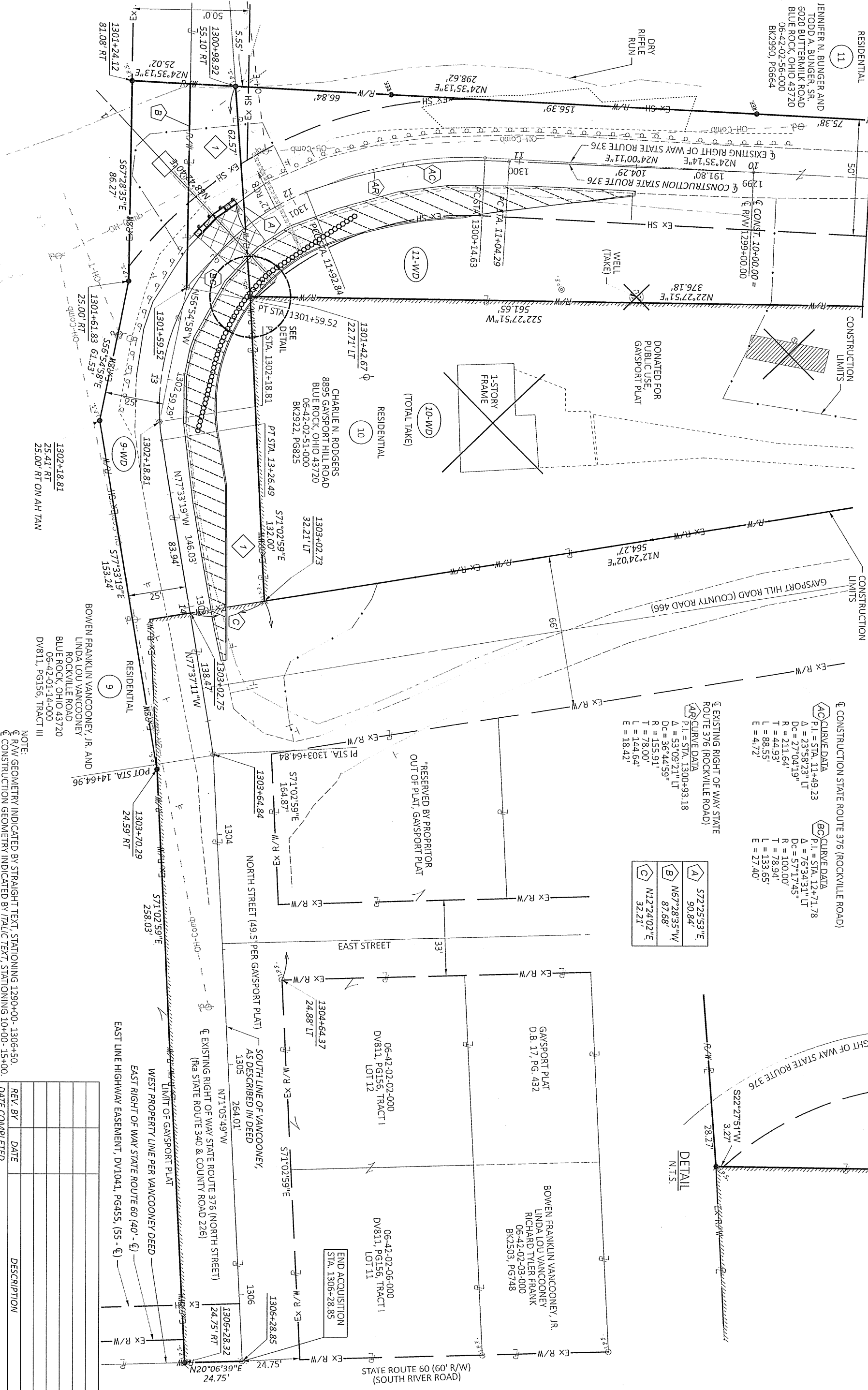
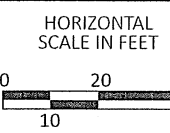


1 THIS AREA WITHIN EXISTING RIGHTS OF WAY NOT DESCRIBED IN RECORD DEEDS.

MUSKINGUM COUNTY  
 BLUE ROCK TOWNSHIP  
 SECTION 20, TOWNSHIP 12, RANGE 12  
 CONGRESS LANDS EAST OF SCIOTO RIVER

JENNIFER N. BUNGER AND  
 TODD A. BUNGER, SR.

CHARLIE N. RODGERS



EXISTING RIGHT OF WAY STATE ROUTE 376 (ROCKVILLE ROAD)

<b>(A)</b> CURVE DATA	<b>(B)</b> CURVE DATA
P.I. = STA. 11+49.23	P.I. = STA. 12+71.78
A = 23°58'23" LT	A = 76°34'31" LT
Dc = 27'04.19'	Dc = 57'17.45'
R = 211.64'	R = 100.00'
T = 78.94'	T = 78.94'
L = 88.55'	L = 133.65'
E = 4.72'	E = 27.40'

EXISTING RIGHT OF WAY STATE ROUTE 376 (ROCKVILLE ROAD)

<b>(AR)</b> CURVE DATA
P.I. = STA. 1300+93.18
A = 53°09'21" LT
Dc = 36'44.59'
R = 155.91'
T = 78.00'
L = 144.64'
E = 18.42'

<b>(A)</b>	572°25'53"E	90.84'
<b>(B)</b>	N67°28'35"W	87.68'
<b>(C)</b>	N12°24'02"E	32.21'

DETAIL  
 N.T.S.

NOTE:  
 EXISTING RIGHT OF WAY STATE ROUTE 376 (ROCKVILLE ROAD)  
 CONSTRUCTION GEOMETRY INDICATED BY STRAIGHT TEXT, STATIONING 1290+00 - 1306+50.  
 CONSTRUCTION GEOMETRY INDICATED BY ITALIC TEXT, STATIONING 10+00 - 15+00.

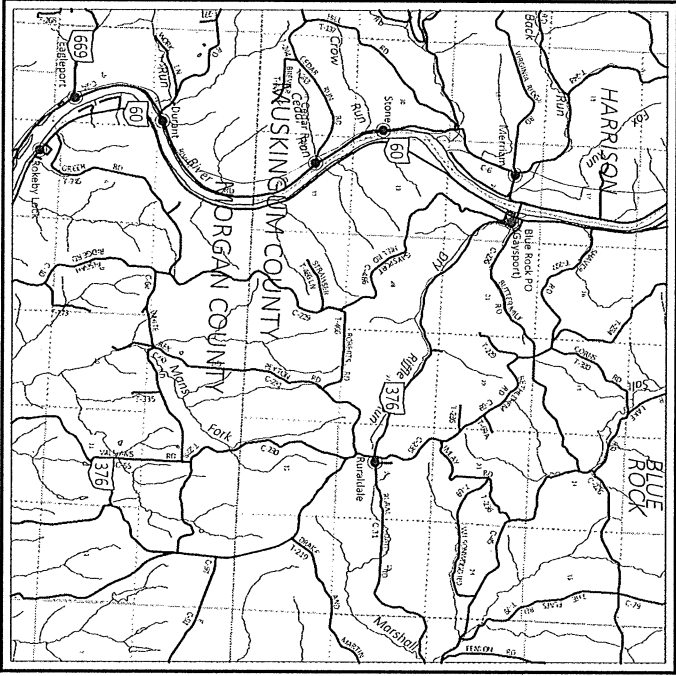
REV. BY	DATE	DESCRIPTION

RIGHT OF WAY DETAIL SHEET  
 STA. 1298+50.00 TO STA. 1304+50.00

DESIGNER	JPS
REVIEWER	FDS
PROJECT ID	115989
SHEET TOTAL	7



DESIGN AGENCY



# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## MUS - 376 - 5.09

### BLUE ROCK TOWNSHIP MUSKINGUM COUNTY

**INDEX OF SHEETS:**

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3-4
PLAN NOTES	5-10
MAINTENANCE OF TRAFFIC	11-12
GENERAL SUMMARY	13
PAVEMENT & PAVEMENT MARKING CALCULATIONS	14
PLAN & PROFILE	15
GRADING CROSS SECTIONS	16-25
CULVERT DETAIL SHEET	26
CULVERT INSTALL CROSS SECTIONS	27-28

FEDERAL PROJECT NUMBER  
N.A.

RAILROAD INVOLVEMENT  
N.A.

PROJECT DESCRIPTION  
REMEDICATION OF ROCK CUT SLOPE THAT IMPROVES SLOPE STABILITY

EARTH DISTURBED AREAS  
PROJECT EARTH DISTURBED AREA: appears small 0.58 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.10 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: 0.68 ACRES

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

Add MOT note- Closure/Detour

DISTRICT DEPUTY DIRECTOR

DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP  
LATITUDE: 39°48'11" LONGITUDE: -81°53'24"

PORTION TO BE IMPROVED -----  
 INTERSTATE HIGHWAY -----  
 FEDERAL ROUTES -----  
 STATE ROUTES -----  
 COUNTY & TOWNSHIP ROADS -----  
 OTHER ROADS -----

**DESIGN DESIGNATION**

CURRENT ADT (2023) ----- 410  
 DESIGN YEAR ADT (2043) ----- 610  
 DESIGN HOURLY VOLUME (2043) ----- 72  
 DIRECTIONAL DISTRIBUTION ----- 55%  
 TRUCKS (24 HOUR B&C) ----- 3%  
 DESIGN SPEED ----- 55  
 LEGAL SPEED ----- 55  
 DESIGN FUNCTIONAL CLASSIFICATION:  
 RURAL - MAJOR COLLECTOR -----  
 NHS PROJECT ----- NO

**DESIGN EXCEPTIONS**

NONE

**ADA DESIGN WAIVERS**

NONE REQUIRED

**UNDERGROUND UTILITIES**

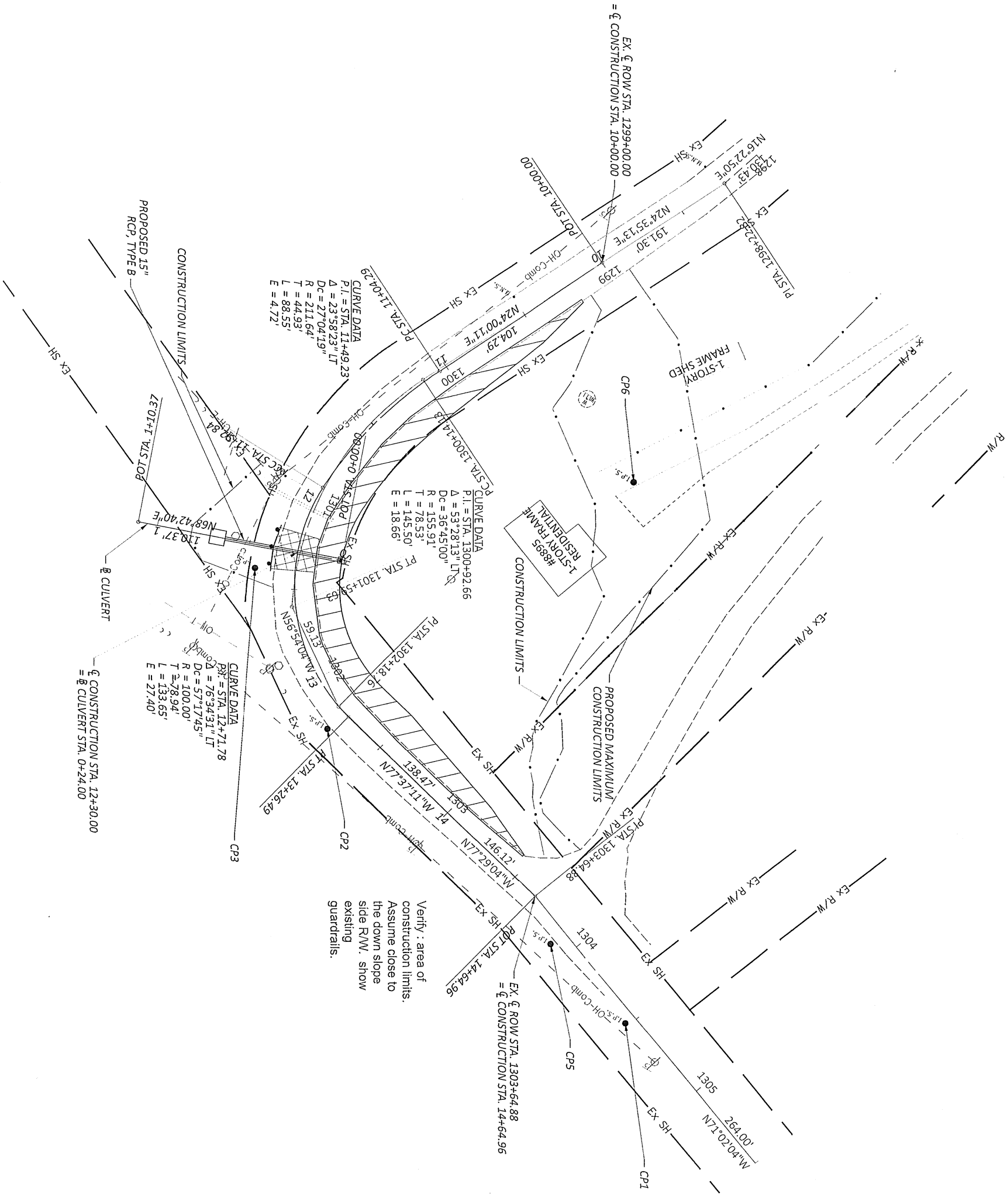
Contact Two Working Days Before You Dig



OHIO811, 8-1-1, or 1-800-362-2764  
 (Non members must be called directly)

PLAN PREPARED BY:  
 OHIO DEPARTMENT OF TRANSPORTATION  
 DISTRICT 5

STANDARD CONSTRUCTION DRAWINGS		we are back to 800-Date based on filling/estimate		SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/21/22			800-2019 - SEE PROVISIONS	
DM-4.1	7/17/20	Add catch basin?		832	
MT-97.10	4/19/19	Add Erosion Control		7/19/19	
MT-101.60	1/17/20				
MT-105.10	1/17/20				
TC-41.20	10/18/13				
TC-65.10	1/17/14				
TC-65.11	7/15/22				

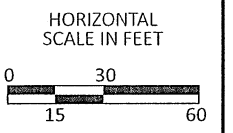


Verify: area of construction limits. Assume close to the down slope side R/W. show existing guardrails.

TABLE OF CONTROL POINTS

POINT ID	NORTHING	EASTING	ELEVATION	CODE
CP1	657384.8401	2139594.5736	679.05	IPINS
CP2	657333.9435	2139812.8115	680.77	IPINS
CP3	657280.8029	2139891.4978	679.09	IPINS
CP5	657369.5708	2139650.7590	678.01	IPINS
CP6	657135.3337	2139745.0906	-	IPINS

SCHMATIC PLAN  
MUS-376-5.09



DESIGN AGENCY:

DESIGNER: GPM

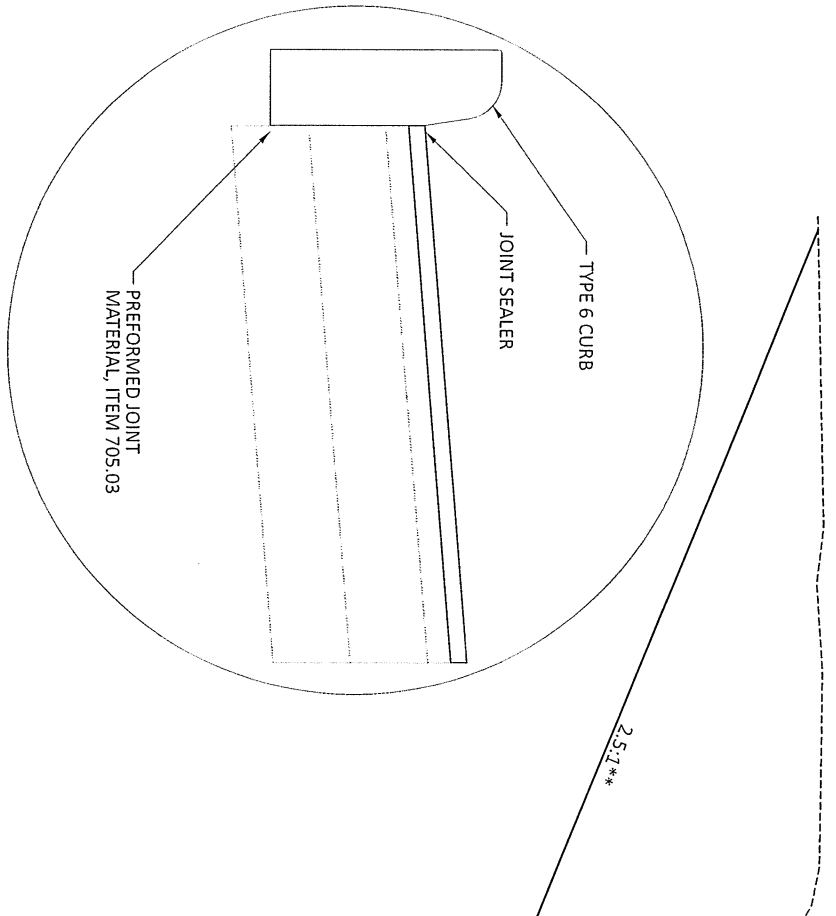
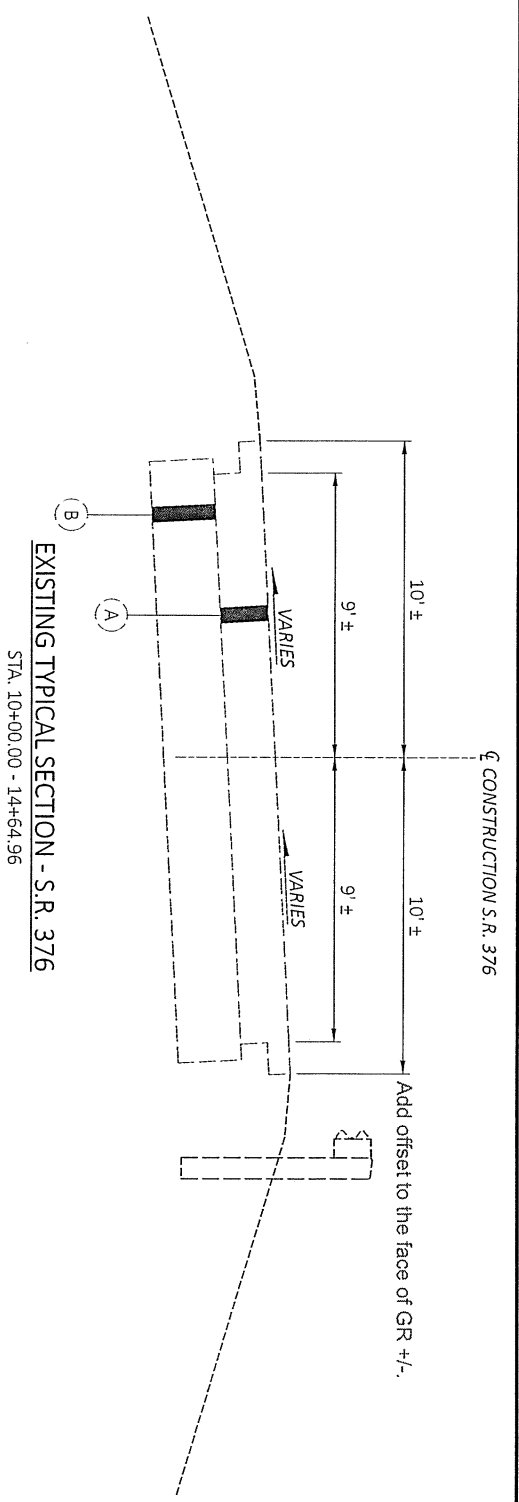
REVIEWER: GPM

PROJECT ID: 115989

SHEET TOTAL: P. 2 / 28

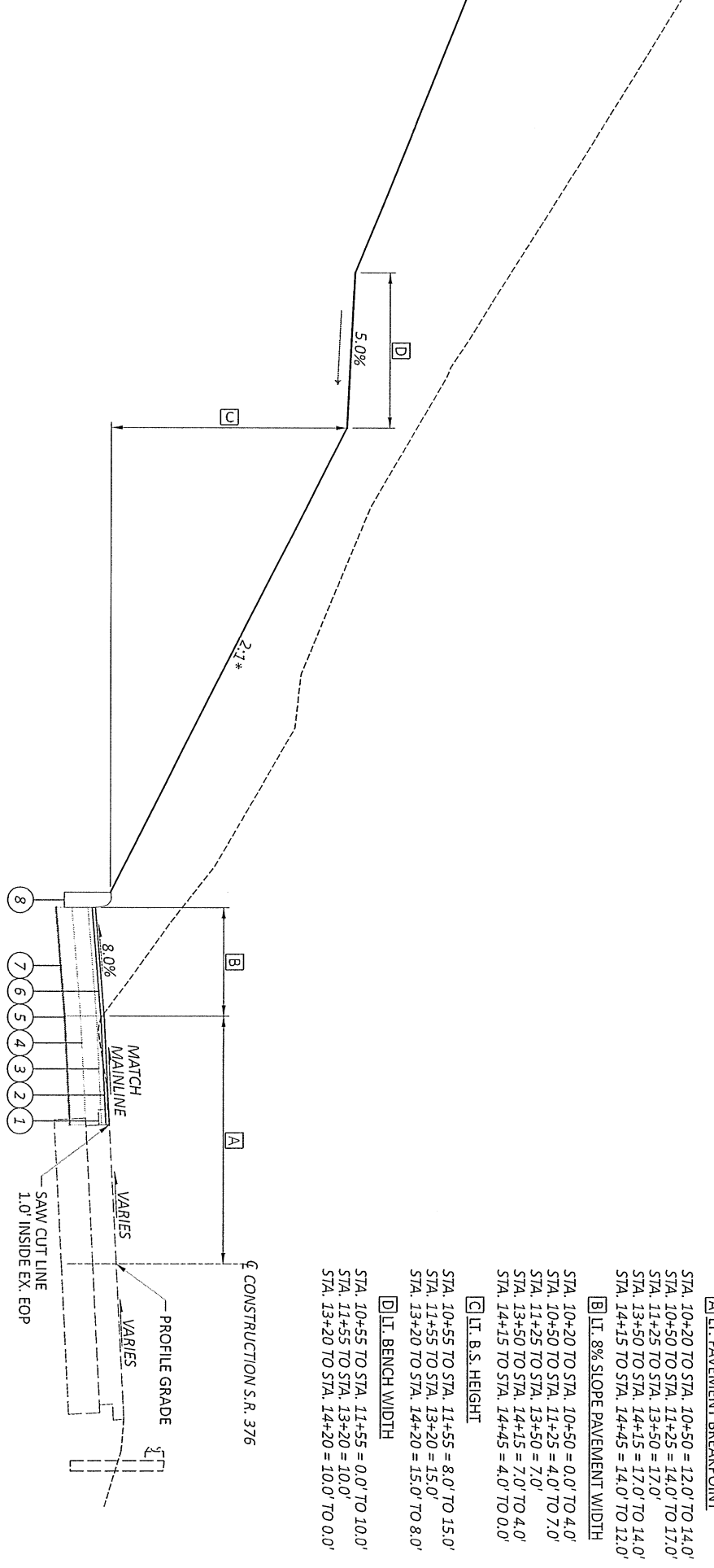


- LEGEND**
- (A) EX. ASPHALT CONCRETE (UNKNOWN DEPTH)
  - (B) EX. AGGREGATE BASE (UNKNOWN DEPTH)



- LEGEND**
- 1 ITEM 202 PAVEMENT REMOVED
  - 2 ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M (1.25")
  - 3 ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (1.75")
  - 4 ITEM 301 ASPHALT CONCRETE BASE, PG64-22, (449) (6")
  - 5 ITEM 304 AGGREGATE BASE (6")
  - 6 ITEM 407 NON-TRACKING TACK COAT
  - 7 ITEM 204 SUBGRADE COMPACTION
  - 8 ITEM 609 CURB, TYPE 6

**PROPOSED SHOULDER WIDENING & GRADING TYPICAL SECTION - S.R. 376**  
 STA. 10+20.00 - 14+45.00 (SHOULDER WIDENING)  
 STA. 10+55.00 - 14+15.00 (GRADING)

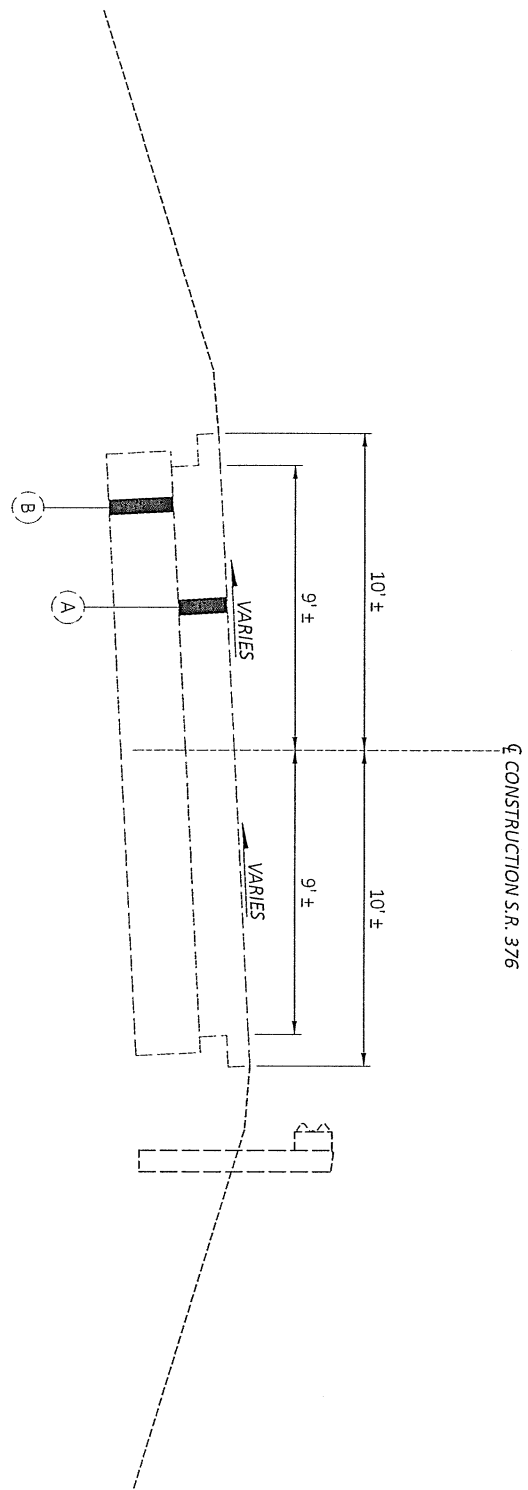


- SLOPES**
- \* LT. BACK SLOPE
  - STA. 10+55 TO STA. 11+55 = 1.5:1 TO 2:1
  - STA. 11+55 TO STA. 13+20 = 2:1
  - STA. 13+20 TO STA. 14+20 = 2:1 TO 1.4:1
  - \* LT. TIE SLOPE
  - STA. 10+55 TO STA. 10+75 = 1.5:1
  - STA. 10+75 TO STA. 11+05 = 1.5:1 TO 2:1
  - STA. 11+05 TO STA. 13+70 = 2:1
  - STA. 13+70 TO STA. 14+20 = 2:1 TO 1.4:1

- WIDTHS & HEIGHTS**
- [A] LT. PAVEMENT BREAKPOINT
  - STA. 10+20 TO STA. 10+50 = 12.0' TO 14.0'
  - STA. 10+50 TO STA. 11+25 = 14.0' TO 17.0'
  - STA. 11+25 TO STA. 13+50 = 17.0'
  - STA. 13+50 TO STA. 14+15 = 17.0' TO 14.0'
  - STA. 14+15 TO STA. 14+45 = 14.0' TO 12.0'
  - [B] LT. 8% SLOPE PAVEMENT WIDTH
  - STA. 10+20 TO STA. 10+50 = 0.0' TO 4.0'
  - STA. 10+50 TO STA. 11+25 = 4.0' TO 7.0'
  - STA. 11+25 TO STA. 13+50 = 7.0'
  - STA. 13+50 TO STA. 14+15 = 7.0' TO 4.0'
  - STA. 14+15 TO STA. 14+45 = 4.0' TO 0.0'
  - [C] LT. B.S. HEIGHT
  - STA. 10+55 TO STA. 11+55 = 8.0' TO 15.0'
  - STA. 11+55 TO STA. 13+20 = 15.0'
  - STA. 13+20 TO STA. 14+20 = 15.0' TO 8.0'
  - [D] LT. BENCH WIDTH
  - STA. 10+55 TO STA. 11+55 = 0.0' TO 10.0'
  - STA. 11+55 TO STA. 13+20 = 10.0'
  - STA. 13+20 TO STA. 14+20 = 10.0' TO 0.0'

EXISTING/PROPOSED TYPICAL GRADING SECTION - S.R. 376

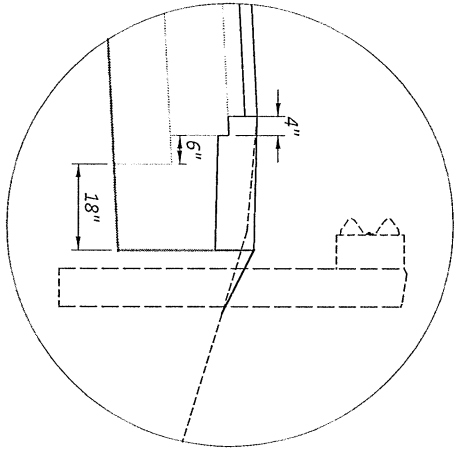
- LEGEND**
- (A) EX. ASPHALT CONCRETE (UNKNOWN DEPTH)
  - (B) EX. AGGREGATE BASE (UNKNOWN DEPTH)



EXISTING TYPICAL SECTION FOR CULVERT INSTALLATION - S.R. 376  
 STA. 12+20.00 - 12+40.00

**PAVEMENT ELEVATION TABLE**

STA.	SAW CUT (LT.)	℄	EOP (RT.)	EOS (RT.)
12+20	679.03	680.03	680.63	680.58
12+30	679.04	679.92	680.63	680.58
12+40	679.10	679.98	680.66	680.61

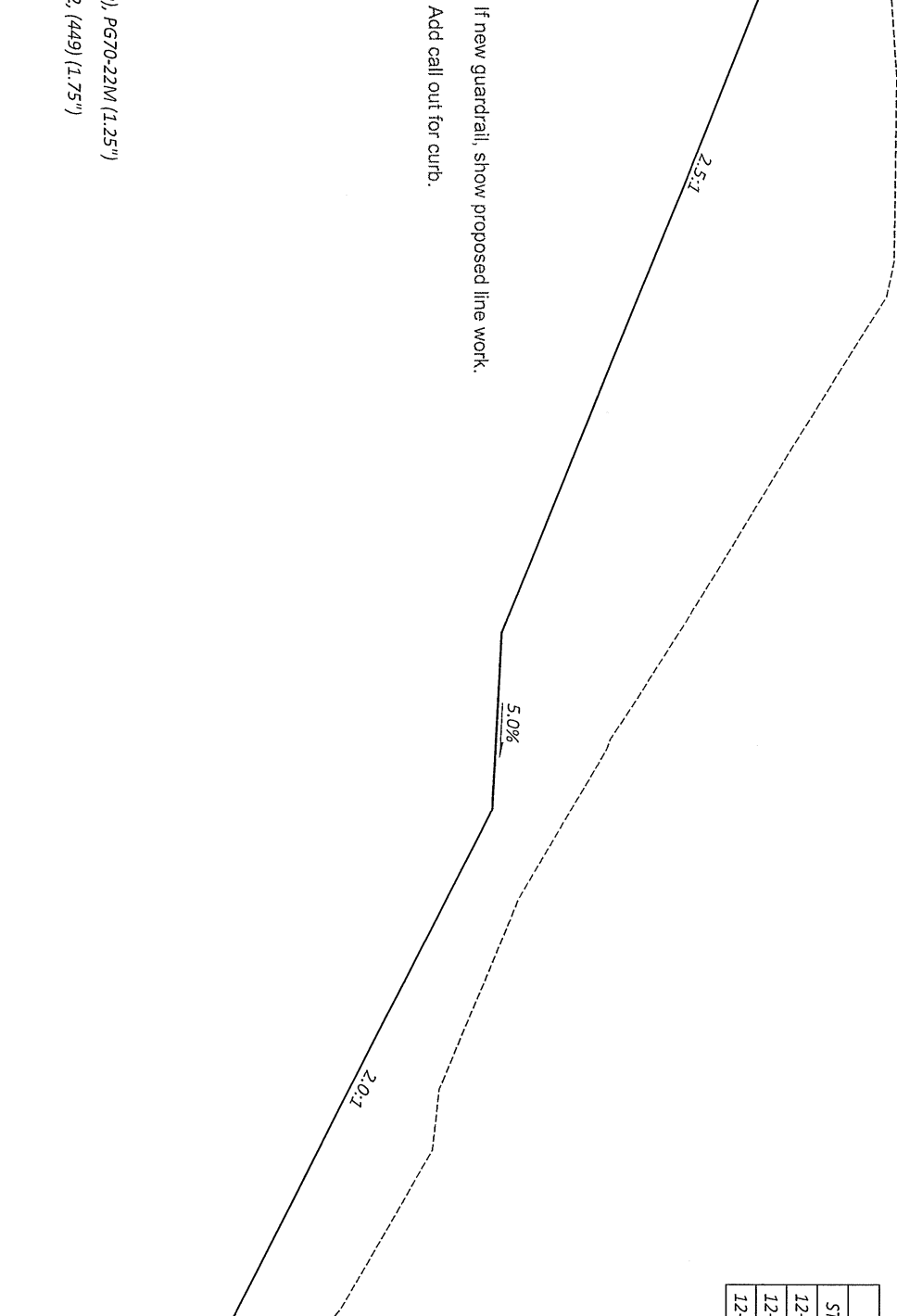


EDGE OF PAVEMENT DETAIL RT. (TYP)

**LEGEND**

- 1 ITEM 202 PAVEMENT REMOVED
- 2 ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M (1.25")
- 3 ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (1.75")
- 4 ITEM 301 ASPHALT CONCRETE BASE, PG64-22, (449) (6")
- 5 ITEM 304 AGGREGATE BASE (6")
- 6 ITEM 407 NON-TRACKING TACK COAT
- 7 ITEM 204 SUBGRADE COMPACTION
- 8 ITEM 617 COMPACTED AGGREGATE, 8"
- 9 ITEM 606 GUARDRAIL, TYPE 5, USING 9 FOOT POSTS

If new guardrail, show proposed line work.  
 Add call out for curb.



PROPOSED TYPICAL SECTION FOR CULVERT INSTALLATION - S.R. 376  
 STA. 12+20.00 - 12+40.00



DESIGN AGENCY

DESIGNER

REVIEWER

PROJECT ID  
115989

SHEET TOTAL  
P. 4 | 28

**ROUNDING**

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS. EVEN THOUGH OTHERWISE SHOWN.

**UNDERGROUND UTILITIES**

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

**UTILITIES**

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AT&T Ohio  
 160 North Sixth Street  
 Zanesville, Ohio 43701  
 Attn: Barret Tarnowski  
 740-454-3552  
 BT12178@att.com

Natural Gas and Oil Cooperative  
 120 O Neil Drive  
 Hebron, Ohio 43025  
 Attn: Will Poling  
 740-641-8751  
 wpoling@theenergycoop.com

Guernsey-Muskingum Electric Cooperative, Inc.  
 17 South Liberty Street  
 New Concord, Ohio 43762  
 Attn: Blake West  
 740-826-7970  
 bwest@gmenergy.com

Spectrum Cable TV  
 737 Howard St.  
 Zanesville, Ohio 43701  
 Attn: Zack Allen  
 614-255-2819  
 Zackary.Allen1@charter.com

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CLEARING AND GRUBBING**

THE DEPARTMENT HAS NOT MARKED INDIVIDUAL TREES AND STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201 CLEARING AND GRUBBING.

**EXISTING STRUCTURE VERIFICATION**

DETAILS AND DIMENSIONS SHOWN ON THE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM THE DESIGN PLANS OF THE EXISTING PIPES ORIGINAL INSTALLATION. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CRMS 102.05 AND 105.02.

**BORROW AND WASTE AREAS**

THE CONTRACTOR SHALL COMPLY WITH CMS SECTION 107.10 FOR ALL BORROW AND WASTE AREAS ASSOCIATED WITH THE PROJECT.

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

**EARTHWORK**

**ITEM 203, EXCAVATION (10203 CY)**  
 10201 CY (SHEET 25) + 2 CY (SHEET 28) = 10203 CY

**SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

**ITEM 659, SEEDING AND MULCHING, CLASS 2 (2210 SY)**  
 3122 SY (SHEET 25) + 88 SY (SHEET 28) = 3210 SY

**ITEM 659, COMMERCIAL FERTILIZER (0.4 TON)**  
 1 TON PER 7,410 SY OF PERMANENT SEEDED AREA

**ITEM 659, LIME ACRES (0.7 ACRE)**  
 3210 / 4840 = 0.7 ACRE

**ITEM 659, WATER (17 M. GAL)**  
 3210 X 0.0054 M. GAL / SY = 17 M. GAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND

**ITEM 617, COMPACTED AGGREGATE, AS PER PLAN**

ALL AGGREGATE SHALL BE 100% CRUSHED LIMESTONE. ALL QUALITY REQUIREMENTS EXCEPT SHALE SHALL BE WAIVED. OTHER GRADATION REQUIREMENTS SHALL BE AS SPECIFIED EXCEPT THE INDEX SHALL BE WAIVED. IF SO PERMITTED, THE CONTRACTOR MAY USE RECYCLED ASPHALT CONCRETE PAVEMENT (RACP) MEETING REQUIREMENTS OF 716.02) IN LIEU OF LIMESTONE.

**REVIEW OF DRAINAGE FACILITIES**

PRIOR TO THE START OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT, CONTRACTOR AND LOCALS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES IS DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION ARE MAINTAINED BY THE DEPARTMENT.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS. **ENDANGERED BAT HABITAT REMOVAL**

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

**ITEM 407, NON-TRACKING TACK COAT**

THE RATE OF APPLICATION OF THE ITEM 407, NON-TRACKING TACK COAT SHALL BE PER CMS TABLE 407.06-1 AND SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.06 GAL/SY FOR TACK COAT UNDER THE SURFACE COURSE AND 0.06 GAL/SY UNDER THE INTERMEDIATE COURSE. (FOR ESTIMATING PURPOSES ONLY).

**ITEM 690, SPECIAL - MISC.: ROADWAY PRESERVATION**

PRESERVE THE EXISTING PAVEMENT AND GUARDRAIL. VIDEO DOCUMENT THE ROADWAY AND GUARDRAIL CONDITIONS PRIOR TO STARTING THE EXCAVATION OF SLOPE AND REMOVAL OF WASTE MATERIALS. SUBMIT PROTECTION PLAN FOR THE PROJECT ENGINEER'S FILES.

REPAIR ANY DAMAGE TO THE ROADWAY AND GUARDRAIL DURING CONSTRUCTION AT NO ADDITIONAL COSTS TO THE STATE. UNLESS ITEMIZED SEPARATELY, INCLUDE ALL LABOR, MATERIALS, AND TOOLS NECESSARY FOR PROTECTION OF EXISTING ROADWAY PAVEMENT.

**ITEM 690 SPECIAL, ROADWAY PRESERVATION, LUMP**  
**ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT**

THIS ITEM CONSISTS OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 12 INCH DIAMETER CONDUIT AND FILLING THE AREA SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER. LOCATE THE BULKHEADS AT THE LIMITS OF THE AREA TO BE FILLED, AS INDICATED ON THE PLANS. THE BULKHEADS CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

PUMP THE FILL MATERIAL INTO PLACE OR BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH IS FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR IS THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED PER 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

**ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION TO THE DEPARTMENT:

THE CONTRACTOR SHALL PROVIDE AS-BUILT DATA FOR THE SPECIFIED COMPLETED CONSTRUCTION ITEMS IN OHIO STATE PLANE COORDINATES (GRID). THE CONSTRUCTION ITEMS SHALL BE LOCATED AS PER THE SURVEY FEATURE CODE LIST FOUND ON THE OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF CADD & MAPPING SERVICES WEBSITE. AFTER ALL INFORMATION HAS BEEN COLLECTED, AN EMAIL CONTAINING A COMMA DELIMITED ASCII FILE AND A SURVEYOR'S CERTIFICATION SHALL BE DELIVERED TO:

Cody.Gierhart@dot.ohio.gov (D5 GIS COORDINATOR) AND  
 Steven.Miller@dot.ohio.gov (D5 CONSTRUCTION AREA ENGINEER)

**ITEM 408, PRIME COAT, AS PER PLAN**

THE CONTRACTOR SHALL APPLY ONE COAT OF MC-70 (AS PER CMS 702) AT A RATE OF 0.40 GAL/SY TO THE COMPLETED AGGREGATE SHOULDER. TO REDUCE AGGREGATE LOSS, THE PRIME COAT SHALL BE APPLIED WITHIN SEVEN (7) DAYS AFTER PLACEMENT OF THE AGGREGATE SHOULDER OR LIQUIDATED DAMAGES PER CMS 108.07 WILL BE ASSESSED. THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID BITUMINOUS MATERIAL ONTO THE EDGE OF PAVEMENT OR EDGE LINE. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

**ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN (CONTINUED)**

THE ASCII FILE SHALL INCLUDE A HEADER CONTAINING:

NAME OF SURVEYOR  
 DATE(S) OF COLLECTION  
 HORIZONTAL DATUM (I.E. NAD83 (2011), OHIO SPCS NORTH OR SOUTH)  
 VERTICAL DATUM (I.E. NAVD 88, GEOID12A)  
 METHOD OF COLLECTION (I.E. OHIO VRS, GPS RTK, TOTAL STATION, ETC.)

THE ASCII FILE SHALL BE IN TABLE FORM AS FOLLOWS:

PT. NO./NORTHING/EASTING/ELEVATION/FEATURE CODE/DESCRIPTION

BELOW IS A LIST OF THE ITEMS THE CONTRACTOR SHALL PROVIDE FOR THIS PROJECT:

-CULVERT INVERT AT INLET AND OUTLET

THE ABOVE ITEMS SHALL BE COLLECTED USING SURVEY GRADE EQUIPMENT MEETING THE REQUIREMENTS OF SECTION 400 IN THE ODOT SURVEY & MAPPING SPECIFICATIONS MANUAL.

ALL COSTS ASSOCIATED WITH OBTAINING THE INFORMATION LISTED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THE WORK DESCRIBED ABOVE:

**ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN (L5)**

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET \_\_\_ OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: \_\_\_\_\_

MONUMENT TYPE: \_\_\_\_\_

VERTICAL POSITIONING

Check with Luke to get this info from Consultant.

ORTHOMETRIC HEIGHT DATUM: \_\_\_\_\_

GEOID: \_\_\_\_\_

HORIZONTAL POSITIONING

REFERENCE FRAME: \_\_\_\_\_

ELLIPSOID: \_\_\_\_\_

MAP PROJECTION: \_\_\_\_\_

COORDINATE SYSTEM: \_\_\_\_\_

COMBINED SCALE FACTOR: \_\_\_\_\_

ORIGIN OF COORDINATE SYSTEM: \_\_\_\_\_

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH

UNITS ARE IN U.S. SURVEY FEET.

CMS 623.

GENERAL NOTES



DESIGN AGENCY

DESIGNER  
 GPM

REVIEWER

PROJECT ID  
 115989

SHEET TOTAL  
 P.5 28

**NOTES**

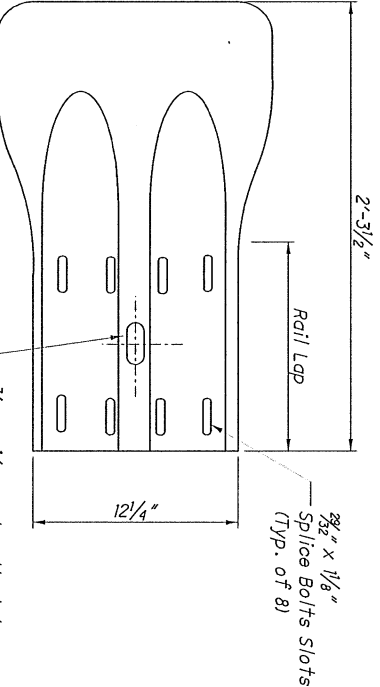
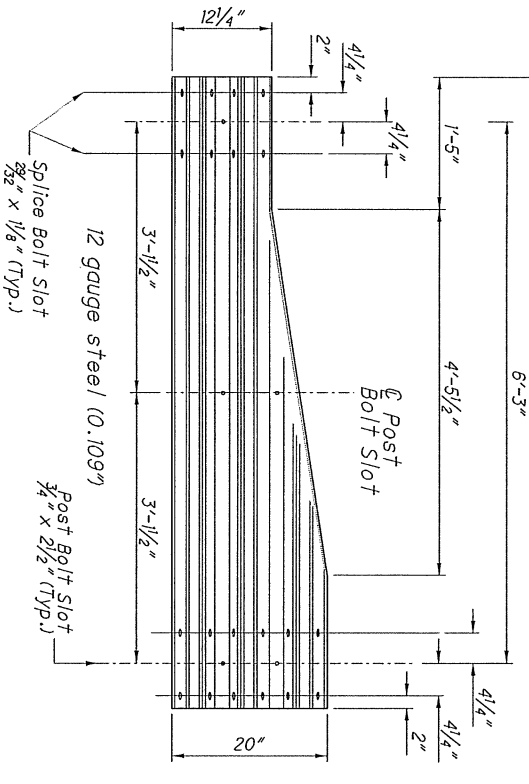
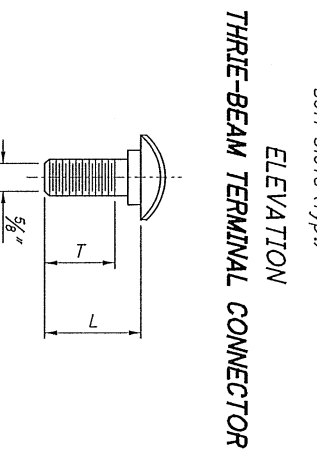
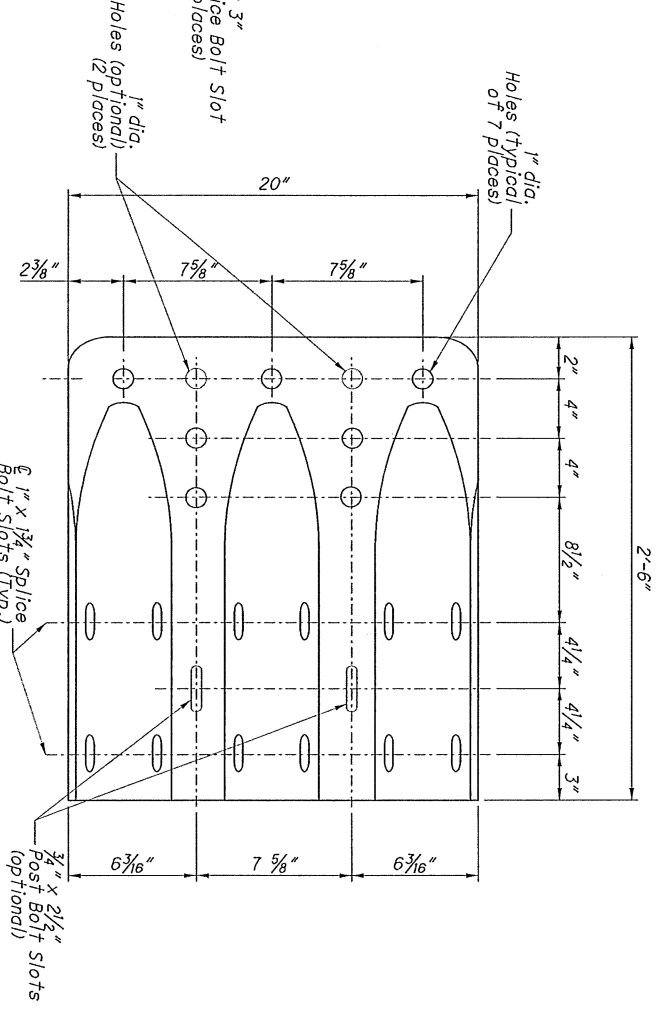
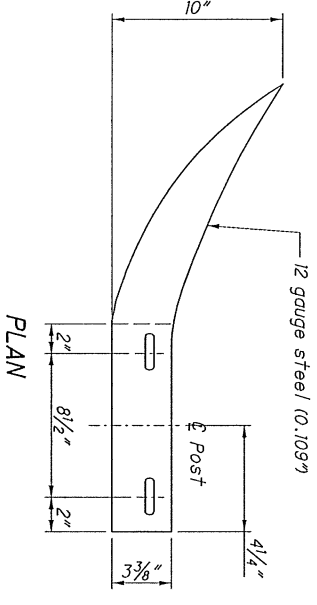
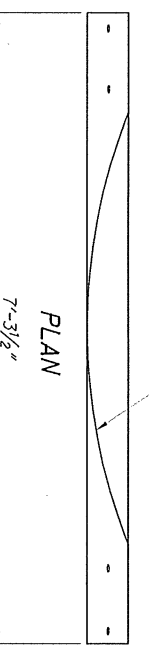
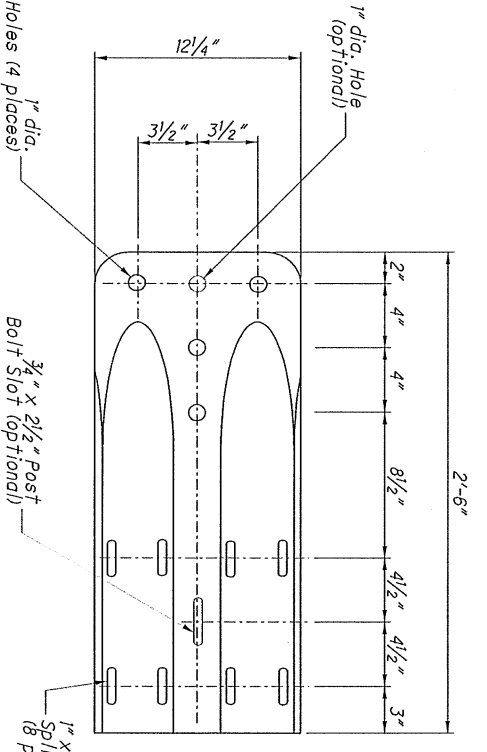
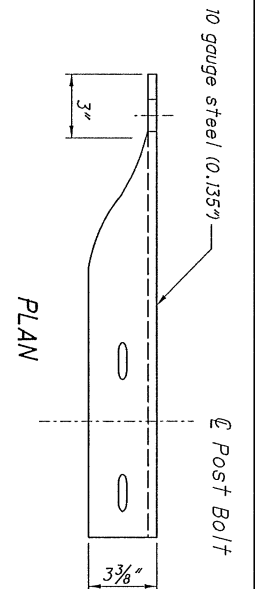
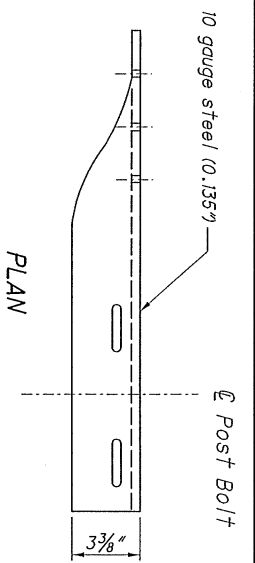
**GENERAL:** Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

See CMS 606 for guardrail specifications not covered on these drawings.

Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, rejected buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

**RAIL ELEMENTS:** W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with  $\frac{3}{4}$ " x  $\frac{21}{2}$ " post bolt slots on 8'-3" centers regardless of T post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.

**RAIL SPLICES:** Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.



**TYPE 2 TRANSITION SECTION**  
 (Asymmetric W to Thrie-Beam)  
 For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.

**W-BEAM FLARED END SECTION**

GUARDRAIL BOLT (For Post and Splice Bolts)		
L	T min.	Bolt Use
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)	4"	Type 5: SP/WB, PB
10"	1 1/8"	Type 5: SP/WB, PB
1 1/4"	1 1/8"	Splice Bolt

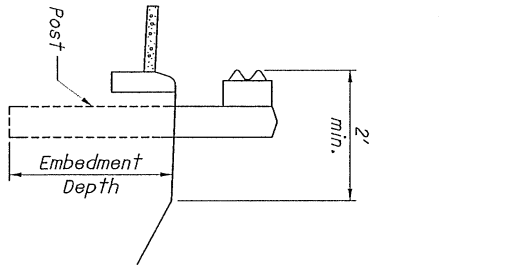
WP = Wood Post  
 SP = Steel Post  
 WB = Wood Blockout  
 PB = Plastic Blockout  
 Longer Bolt may be needed for round Wood Post larger than 8" dia.

PLAN INSERT SHEET  
**GUARDRAIL DETAILS**  
 (Rail Components)

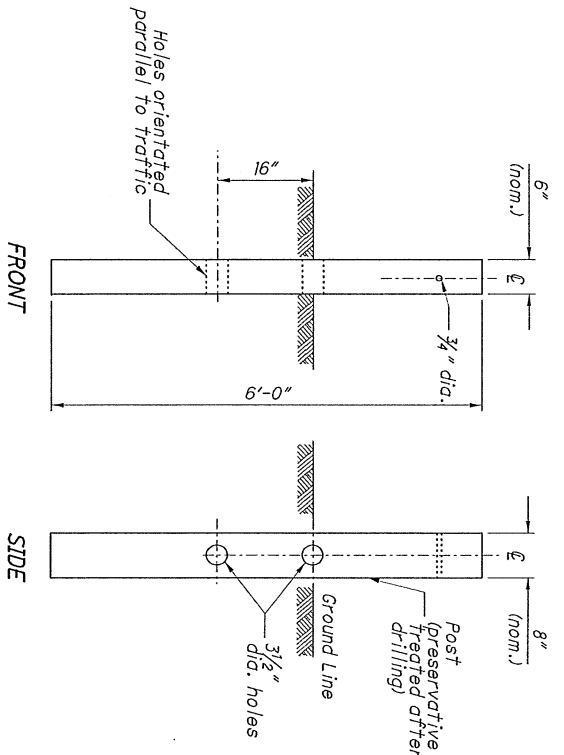
REVISION DATE 1/18/2013	DESIGNED XXX	OFFICE OF ROADWAY ENGINEERING
CHECKED CHECKED	REVIEWED XXX	
CHECKED	CHECKED	

**PIS GR-1.1**

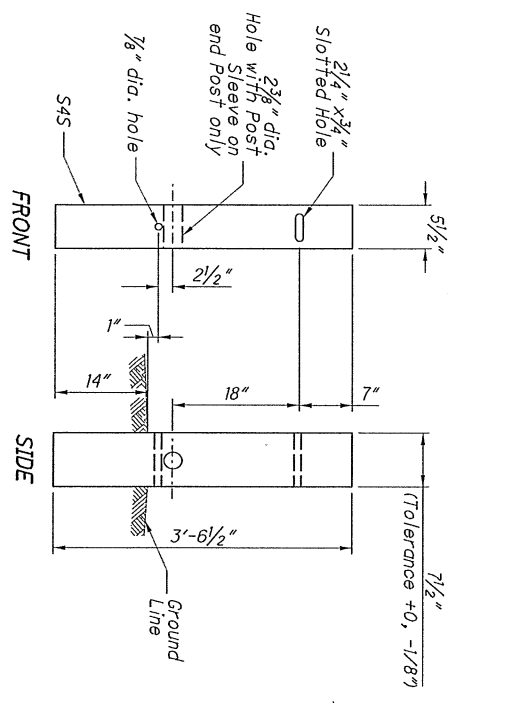




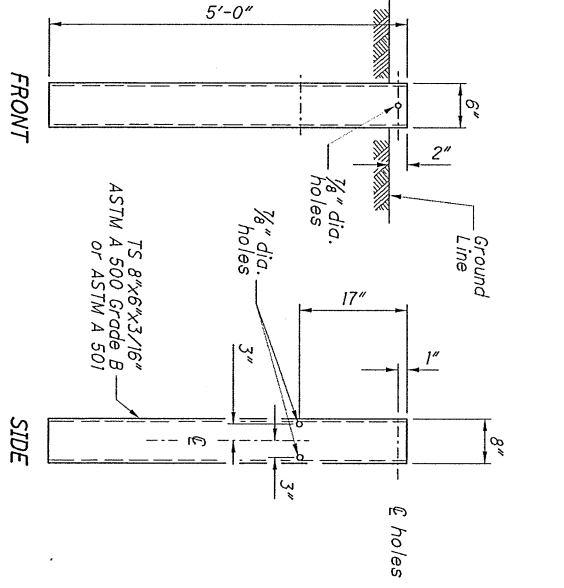
DETAIL A  
See POST EMBEDMENT DEPTH Note



TYPE 1 BREAKAWAY CRT POST



TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE

NOTES

**GUARDRAIL HEIGHT:** For initial installation, construct the guardrail within  $\pm 1"$  of the standard height,  $h$ , or  $29"$  to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)  
 When subsequent projects, such as resurfacing, affect the height of existing guardrail, the finished height is to be within  $\pm 2.5"$  of the standard height.

**POST EMBEDMENT DEPTH:** Standard embedment is 3'-5" min. Where less than 2' of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL 'A'), use longer posts so that a minimum of 5'-5" embedment depth is provided. Payment for the longer posts will be made at the unit price bid for ITEM 606 - GUARDRAIL POST, 9', Each.

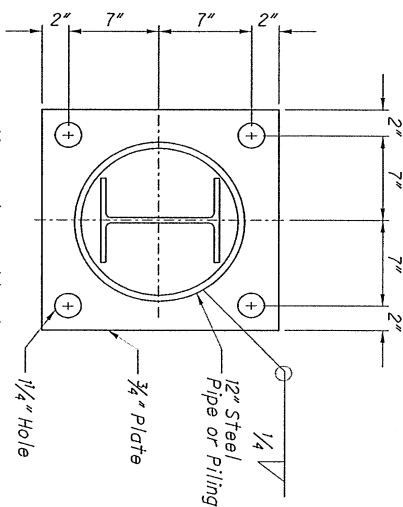
**SPECIAL POST MOUNTINGS:** Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on SCD GR-2.2.

Install posts located over a footing with a cover of less than 2'-6" with a footing anchor as detailed here. (A plate as detailed on SECTION B-B of SCD GR-2.2, may be used as an alternative of rachment method.) Where the cover is between 2'-6" and 3'-5", the footing anchor may be omitted and the post encased instead with 4" (min.) of concrete.

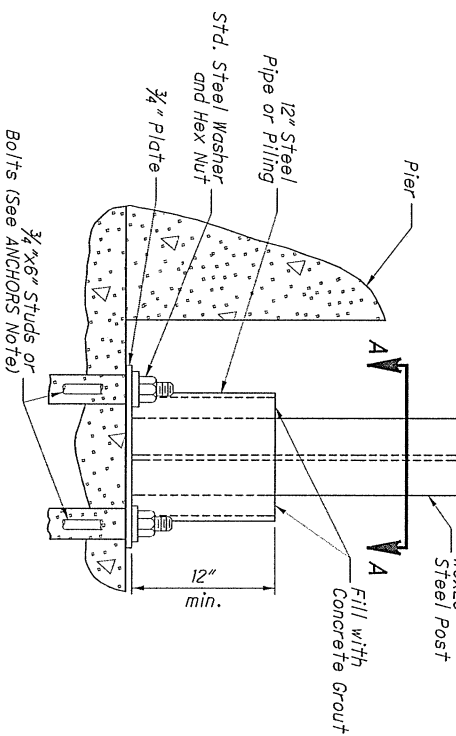
Do not drive posts located over a culvert with less than 4'-3" of cover. Instead set in drilled or dug holes. Where the available post embedment depth is less than 3'-5", encase the post with a minimum of 4" concrete.

All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.  
**ANCHORS:** Holes and grouting shall comply with CMS 510. Use either expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

**PROTECTIVE COATING:** In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or DE of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)

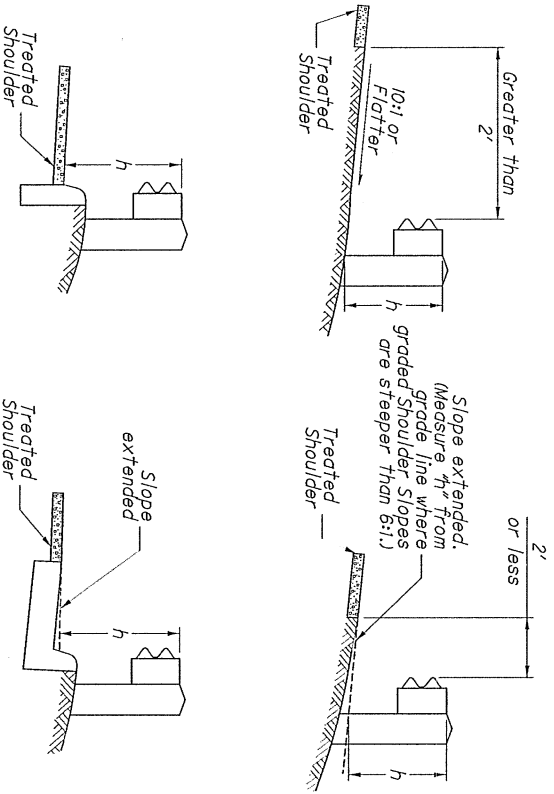


SECTION A-A



ELEVATION FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.



MEASURING GUARDRAIL HEIGHT

$h$  = Standard Height (See GUARDRAIL HEIGHT Note)

REVISION DATE 1/18/2013	DESIGNED XXX	OFFICE OF ROADWAY ENGINEERING
CHECKED XXX	REVIEWED XXX	
CHECKED XXX		

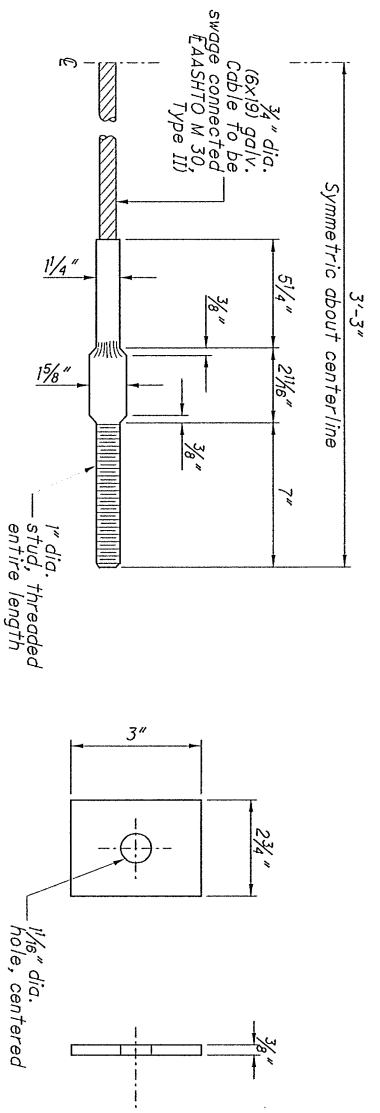
PIS GR-1.1

2 / 3

PLAN INSERT SHEET  
**GUARDRAIL DETAILS**  
 (Rail Components)

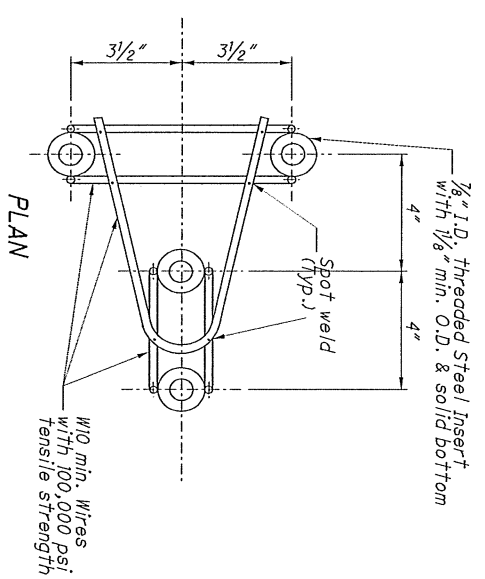




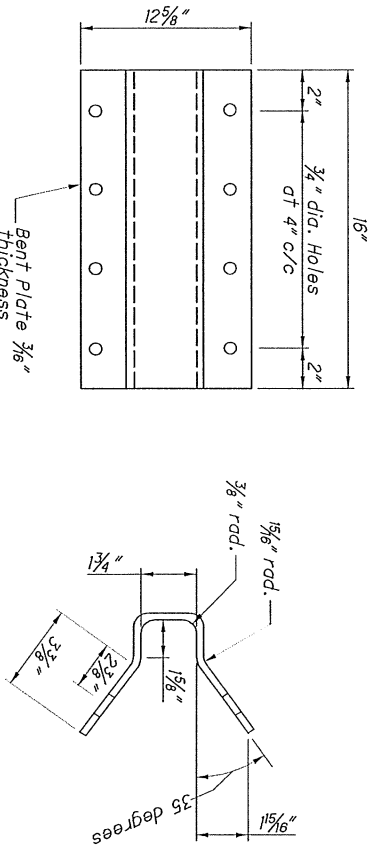


STANDARD SWAGED FITTING AND STUD  
CABLE ANCHOR

END PLATE



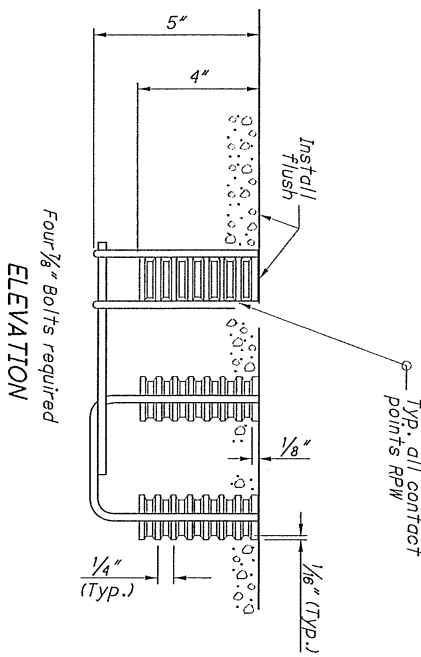
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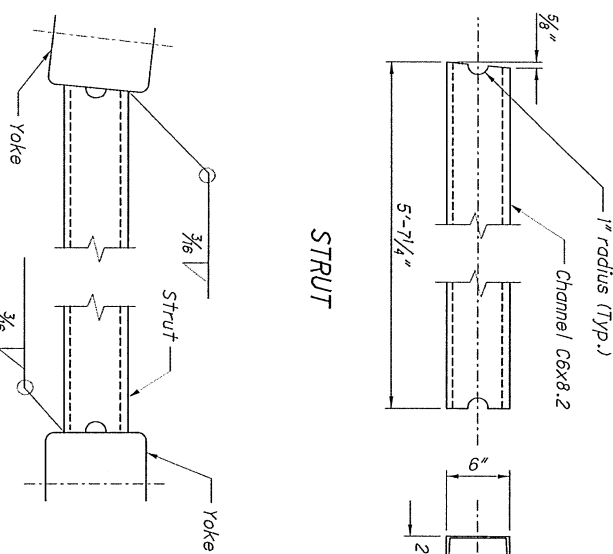
ANCHOR BRACKET

Neutral Axis

CONCRETE INSERT ANCHOR ASSEMBLY  
(W-BEAM ONLY)

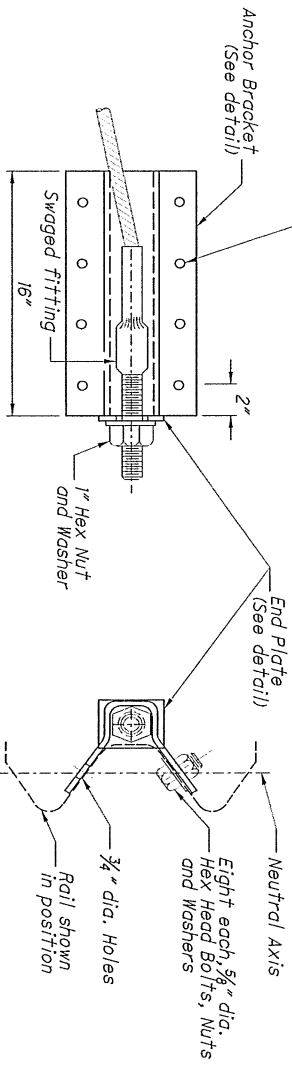


ELEVATION

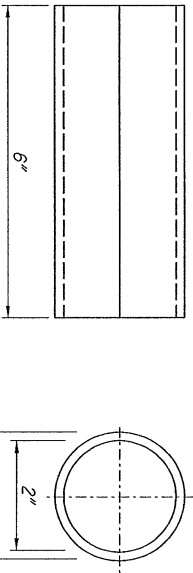


STRUT

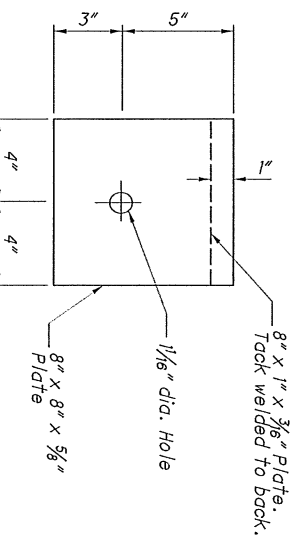
STRUT AND YOKE ASSEMBLY



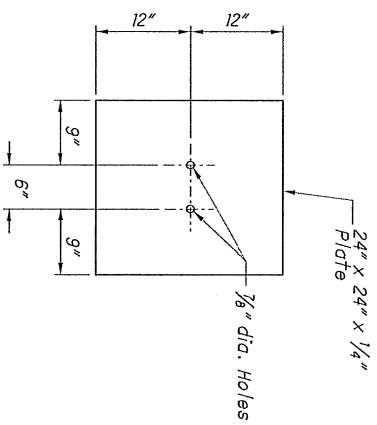
ANCHOR BRACKET ASSEMBLY DETAILS



POST SLEEVE



BEARING PLATE



SOIL PLATE

REVISION DATE 1/18/2013	DESIGNED XXX	OFFICE OF ROADWAY ENGINEERING
CHECKED	REVIEWED XXX	
CHECKED	XXX	

PIS GR-1.1

PLAN INSERT SHEET  
GUARDRAIL DETAILS  
(Rail Components)

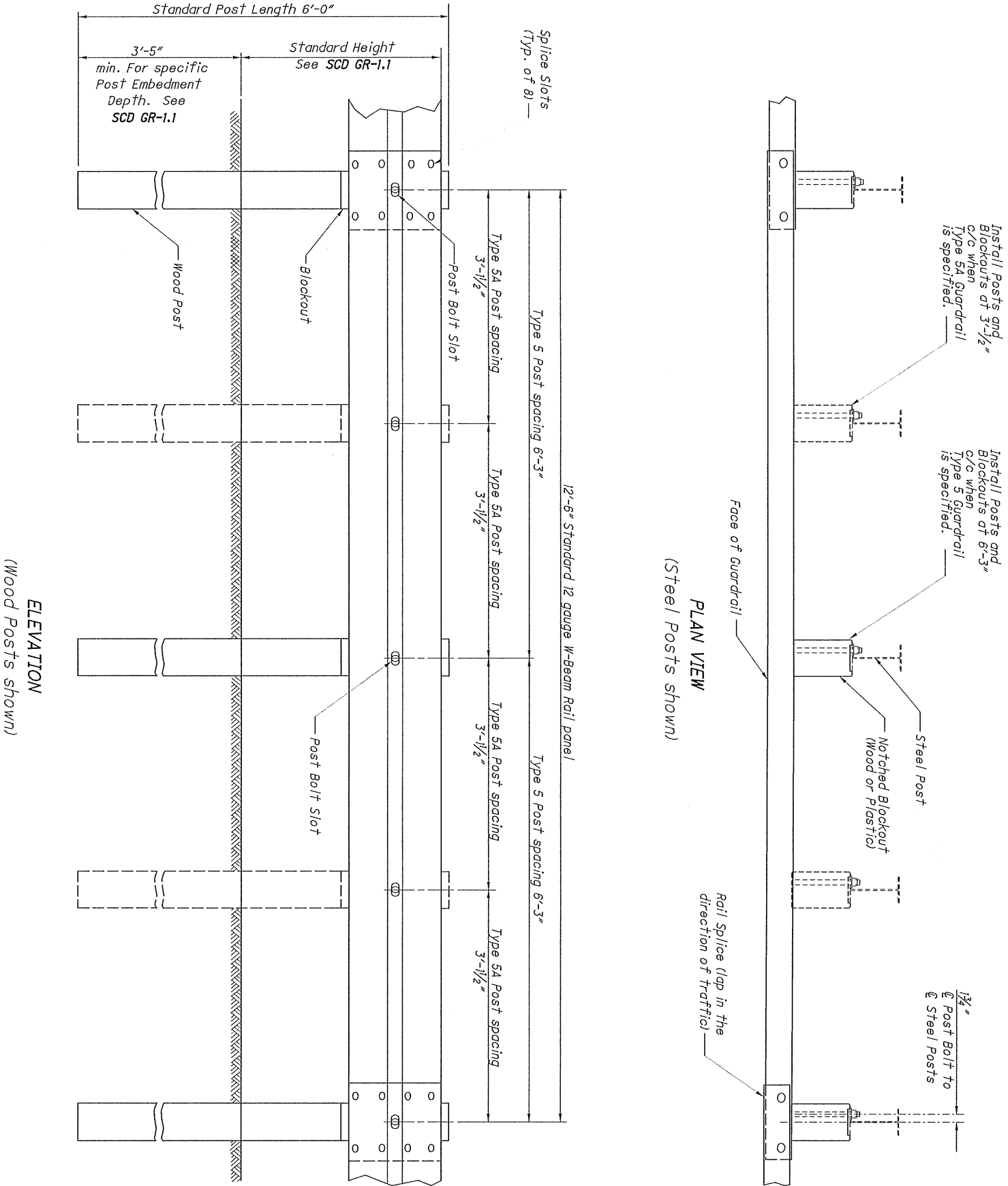


DESIGN AGENCY

DESIGNER  
GPM  
REVIEWER

PROJECT ID  
115988

SHEET TOTAL  
P. 8 / 28



ELEVATION  
(Wood Posts shown)

PLAN VIEW  
(Steel Posts shown)

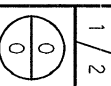
STEEL BEAM POSTS (English)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

- NOTES**
- RAIL:** Use W-beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.
  - POSTS:** Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawn.
  - Use round wood posts on runs of single-sided rail. The round posts shall be 8x4 in diameter at the top and not more than 3" larger at the butt with a uniform taper.
  - Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.
  - Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.
  - All posts are 6'-0" long unless specified otherwise in The Contract Document. Posts may be set in drilled holes or may be driven to grade.
  - WELDED BEAM POSTS:** Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel (250 MPa yield point) with the following exceptions:
    - Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.
    - Sec. 12 Beams that have imperfections required by welding shall not be accepted for use in Item 606.
    - Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.
  - ALTERNATE POSTS:** Engineered guardrail posts having met NCHRP 350 criteria, and listed on the Office of Materials Management's Approved List are permitted as an equal substitute when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.
  - BLOCKOUTS:** Blockout dimensions are dependent on post used. Wood blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes, approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the Office of Roadway Engineering.
  - WASHERS:** Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.
  - DELINEATION:** For barrier reflectors, see CMS 626.
  - MISCELLANEOUS:** For other guardrail details, see SCD GR-1.1.

PLAN INSERT SHEET  
**GUARDRAIL TYPE 5 & 5A**

REVISION DATE	DESIGNED	OFFICE OF ROADWAY ENGINEERING
1/18/2013	XXX	
CHECKED	REVIEWED	XXX

**PIS GR-2.1**

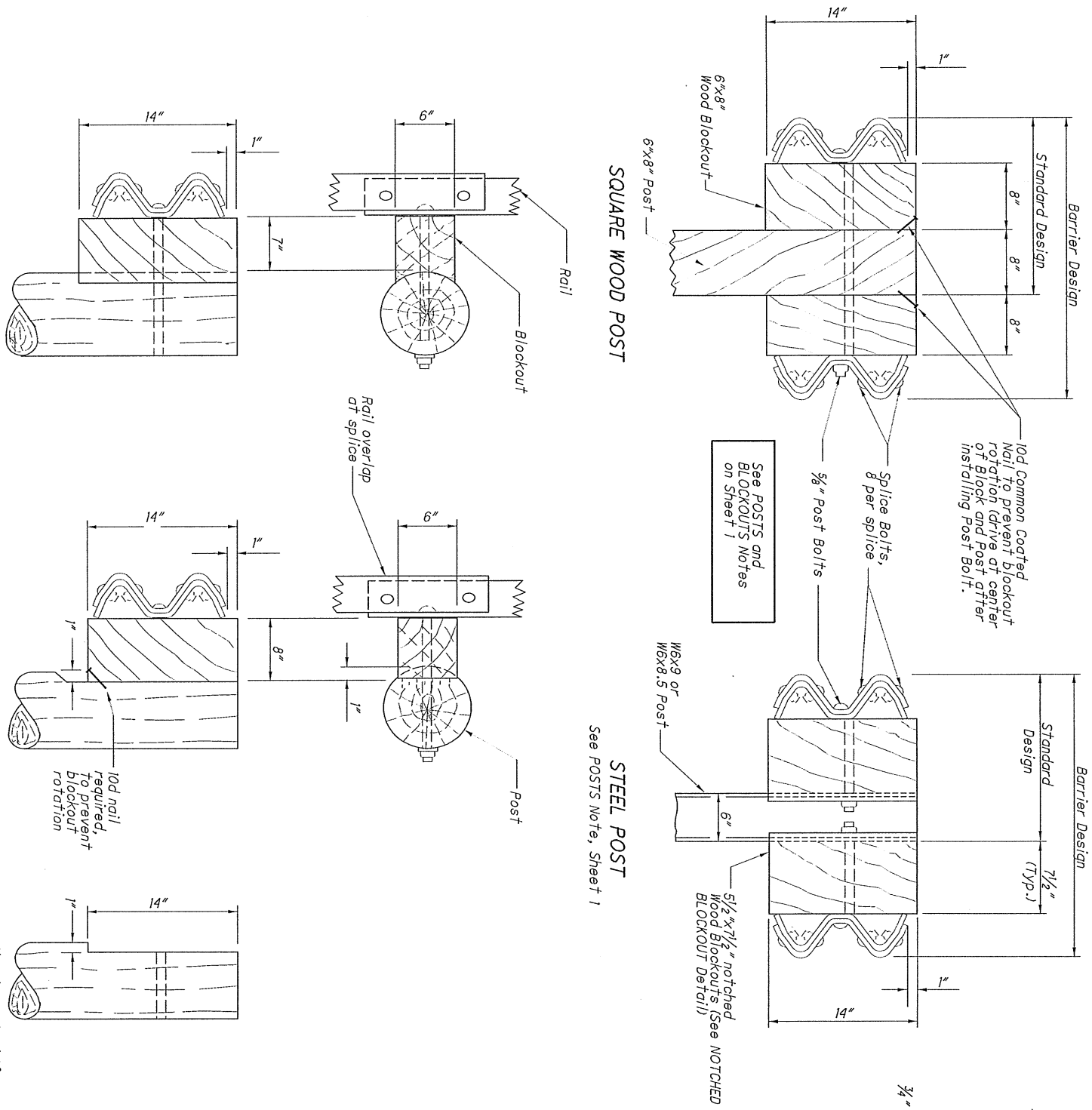


DESIGN AGENCY

DESIGNER  
GPM  
REVIEWER

PROJECT ID  
115989

SHEET TOTAL  
P. 9 | 28

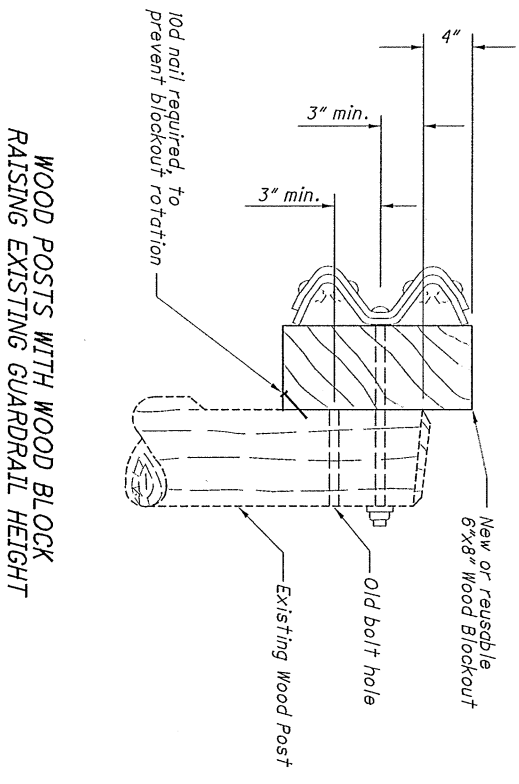


**Method 1**  
Routed Blockout

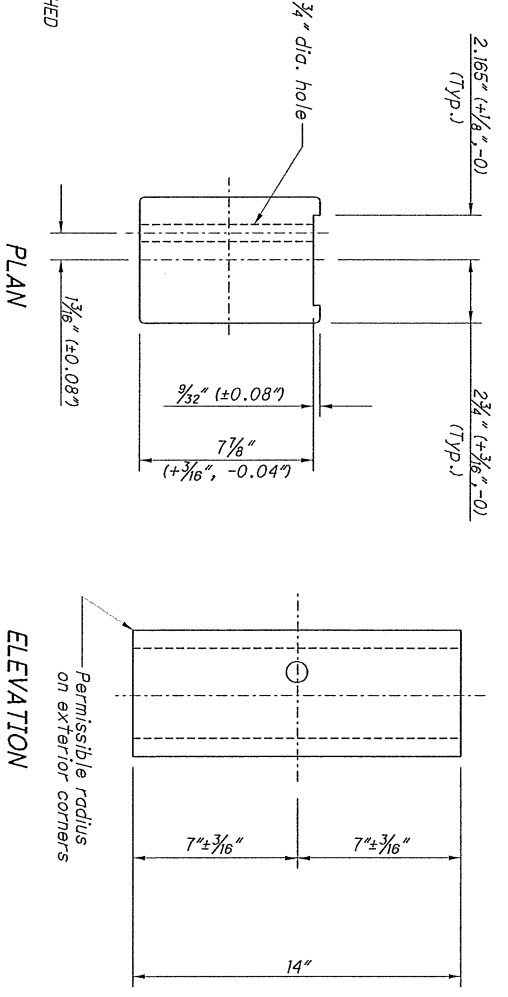
**Method 2**  
Notched Post

Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

**ROUND WOOD POSTS**  
Single Sided runs only (Standard Design)



**WOOD POSTS WITH WOOD BLOCK RAISING EXISTING GUARDRAIL HEIGHT**



**NOTCHED BLOCKOUTS FOR STEEL POSTS**  
See BLOCKOUTS Note on Sheet 1

0	2
0	2

PIS GR-2.1

PLAN INSERT SHEET  
GUARDRAIL TYPE 5 & 5A

REVISION DATE	DESIGNED	OFFICE OF ROADWAY ENGINEERING
1/18/2013	XXX	
CHECKED	REVIEWED	
CHECKED	XXX	

DESIGN AGENCY	
DESIGNER	
GPM	
REVIEWER	
PROJECT ID	115989
SHEET TOTAL	P.10 28

**CONSTRUCTION NOTIFICATION**

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND/OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO)  
 BY FAX: (614) 887-4510 OR  
 BY EMAIL: D05.PIO@DOT.OHIO.GOV

DISTRICT PERMIT SECTION  
 BY FAX: (614) 887-4525 OR  
 BY EMAIL: BRIAN.BOSCH@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION  
 BY FAX: (614) 728-4099 OR  
 BY EMAIL: HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS VIA MEDIA SOURCES.

**ITEM 614, MAINTAINING TRAFFIC**

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAIL SHEETS AND SPECIFICATIONS AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS LATEST REVISION. IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IMMEDIATELY, AS PER 614.03.

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

THIS PROJECT WILL BE CONSIDERED OPEN TO TRAFFIC ONCE ALL EXCAVATION, AGGREGATE SHOULDER, GRADED DITCH, INSTALLATION OF PROPOSED CULVERT, AND PAVEMENT TO INTERMEDIATE COURSE HAS BEEN COMPLETED.

THE PLANS INDICATE THE MINIMUM SIGNAGE WHICH MUST BE INSTALLED AND/OR MAINTAINED DURING CONSTRUCTION.

EXISTING SIGNS OR CONTRACTOR SUPPLIED SIGNS SHALL BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION.

THE ENGINEER SHALL RECORD INSTALLATION AND REMOVAL OF PROPOSED SIGNS, COVERED OR REMOVED, AND UNCOVERED OR REERECTED SIGNS IN THE PROJECT DIARY.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

**ITEM 614, MAINTAINING TRAFFIC (1S)**

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

**NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE**

Item	Duration of Closure	Sign Displayed to Public
Ramp	>= 2 weeks	14 calendar days prior to closure
Road	> 12 hours & < 2 weeks	7 calendar days prior to closure
Closures	< 12 hours	2 business days prior to closure
Lane Closures & Restrictions	>= 2 weeks	14 calendar days prior to closure
	< 2 weeks	5 business days prior to closure

Start of Construction & Traffic Pattern Changes: N/A, 14 calendar days prior to implementation

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

**ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)**

NOTICE OF CLOSURE SIGNS (W20- H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

**NOTICE OF CLOSURE SIGN TIME TABLE**

Item	Duration of Closure	Sign Displayed to Public
Ramp	>= 2 weeks	14 calendar days prior to closure
Road	> 12 hours & < 2 weeks	7 calendar days prior to closure
Closures	< 12 hours	2 business days prior to closure

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM- DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20- H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

**ITEM 614, MAINTAINING TRAFFIC (SIGNS AND BARRICADES)**

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES.

**ITEM 614, MAINTAINING TRAFFIC (ROAD CLOSED SIGN)**

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 DURING PERIODS IN WHICH THE AFFECTED ROAD IS CLOSED TO TRAFFIC.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

**ITEM 616, WATER (1 MGAL)**

**CRITICAL WORK**

IF THE CRITICAL WORK IS NOT COMPLETED WITHIN THE CALENDAR DAYS DESIGNATED THE CONTRACTOR WILL BE SUBJECT TO A DISINCENTIVE OF \$1000.00 PER DAY. ALL OTHER WORK IS TO BE COMPLETED BY THE PROPOSAL COMPLETION DATE.

CRITICAL WORK TABLE: MUS-146-29-42

DESCRIPTION OF CRITICAL WORK	CALENDAR DAYS TO COMPLETE	DIS-INCENTIVE (\$ PER DAY)
EXCAVATION, INSTALLATION OF CULVERT & PAVEMENT TO INTERMEDIATE COURSE	SIXTY (60) CALENDAR DAYS	\$1000 PER DAY

THE FINAL COMPLETION DATE FOR THE PROJECT WILL BE AS LISTED IN THE PROPOSAL.

THE FINAL SURFACE COURSE AND THE STRIPING CAN BE PERFORMED AS A FLAGGING OPERATION.

**DESIGNATED LOCAL DETOUR ROUTE**

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL DETOUR ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE". THIS DETOUR ROUTE IS SHOWN ON SHEET 6. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RIDGES, BUMPS, DUST, AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE FOLLOWING QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

**ITEM 441, ASPHALT CONCRETE, MISC.: SPOT TREATMENT (20 CY)**

**ITEM 407, NON-TRACKING TACK COAT (24 GAL)**

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER- MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON- SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS, PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE- PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE- LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24- HOUR- PER- DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

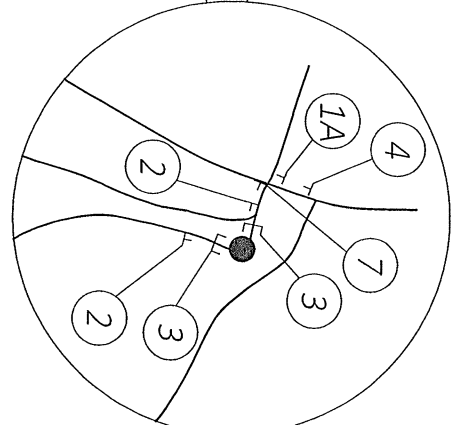
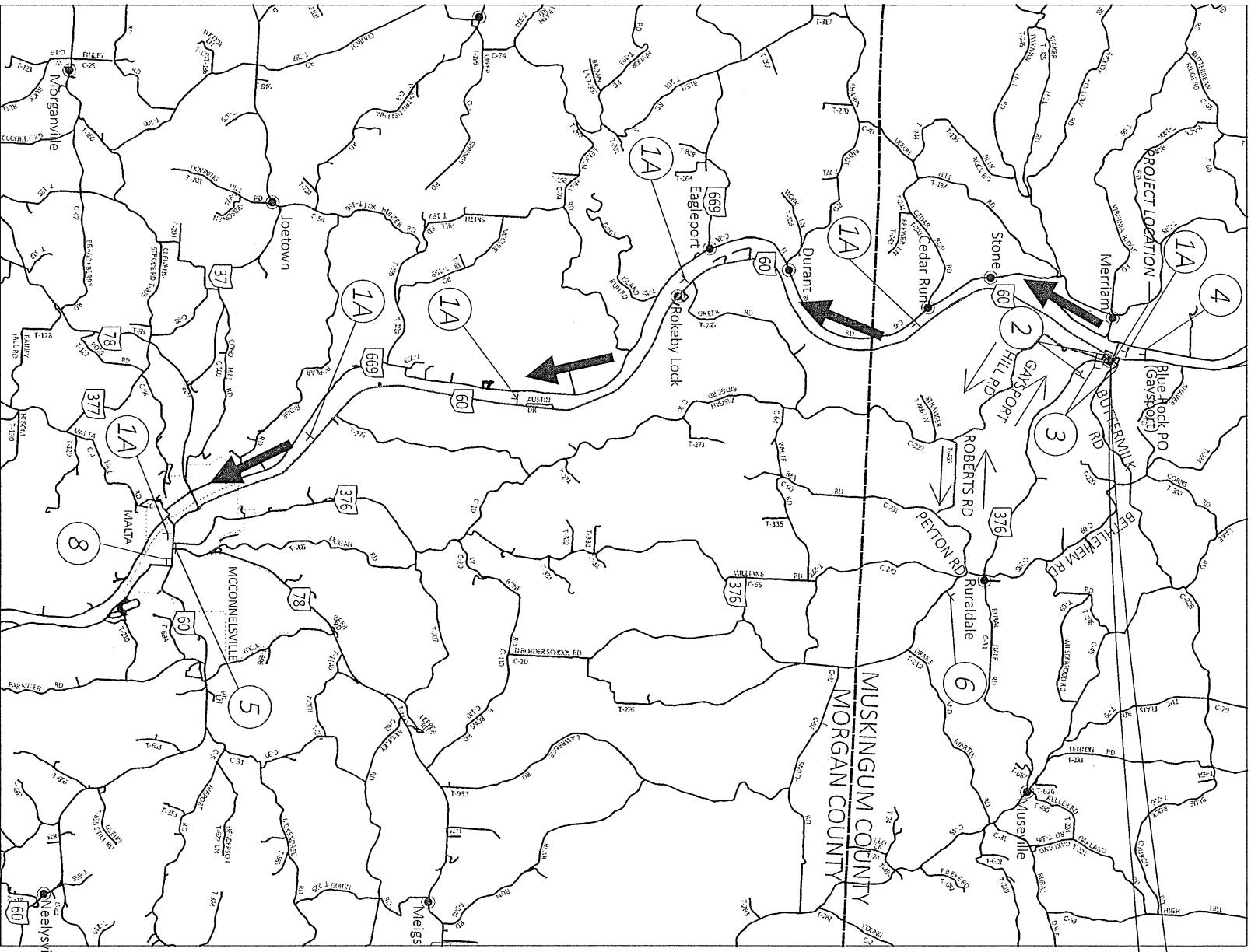
PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (8 SNMT)**  
 (ASSUMING 4 SIGNS FOR 2 MONTHS.)

**MAINTENANCE OF TRAFFIC NOTES**

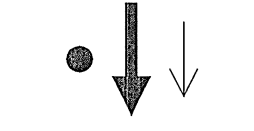
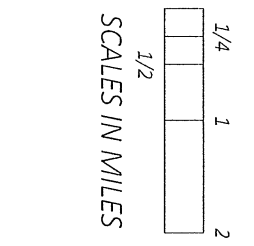


DESIGNER	GPM
REVIEWER	
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**STATE DETOUR ROUTE**  
 NB S.R. 376: NO DETOUR (LOCAL TRAFFIC ONLY)  
 SB S.R. 376: S.R. 60

**LOCAL DETOUR ROUTE**  
 EB: GAYSPORT HILL RD TO ROBERTS RD TO PEYTON RD  
 WB: PEYTON RD TO GAYSPORT HILL RD TO ROBERTS RD



**LEGEND**  
 LOCAL DETOUR ROUTE  
 STATE DETOUR ROUTE  
 PROJECT LOCATION



<p>1                    M4-8-24  <b>DETOUR</b>                  M4-8-24</p>	<p>2                    W20-H13-60</p>	<p>3                    R11-2-48 (ON TYPE III BARRICADES)</p>
<p>4                    W20-2-36</p>	<p>5                    M1-5-24-3</p>	<p>6                    M1-5-24-3</p>
<p>7                    M1-5-24-3                  R11-3a-60 (ON TYPE III BARRICADES)                    M4-10R-48</p>	<p>8                    M4-8A-24</p>	<p>A                    M3-2-24</p>





**FULL DEPTH PAVEMENT CALCULATIONS**

LIMITS:  
 STA. 12+20.00 TO STA. 12+40.00 (= 20.00 FT)  
 STA. 10+20.00 TO STA. 14+45.00 (= 425.00 FT)

ITEM 202, PAVEMENT REMOVED  
 406.4 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 421.6 SF\* (STA. 12+20.00 TO STA. 12+40.00) = 92 SY

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 64-22  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 422.8 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 1.25" = 19 CY

ITEM 407, NON-TRACKING TACK COAT (APPLIED TO NEW INTERMEDIATE COURSE)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 422.8 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 0.06 GAL PER SY = 33 GAL

ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 422.8 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 1.75" = 27 CY

ITEM 407, NON-TRACKING TACK COAT (APPLIED TO NEW ASPHALT BASE COURSE)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 430.2 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 0.06 GAL PER SY = 33 GAL

ITEM 301, ASPHALT CONCRETE BASE, PG64-22 (449)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 430.2 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 6" = 92 CY

ITEM 304, AGGREGATE BASE  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 441.3 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 6" = 92 CY

ITEM 204, SUBGRADE COMPACTION  
 4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 477.9 SF\* (STA. 12+20.00 TO STA. 12+40.00) = 558 SY

ITEM 408, PRIME COAT, AS PER PLAN  
 55.1 SF\* X 0.40 GAL PER SY = 22 GAL

ITEM 617, COMPACTED AGGREGATE, AS PER PLAN  
 55.1 SF\* (LT.) X 4" = 1 CY

ITEM 609, CURB, TYPE 6  
 383 FT

\*CADD-GENERATED AREA

**GUARDRAIL CALCULATIONS**

LIMITS:  
 STA. 12+20.00 TO STA. 12+40.00

ITEM 202, GUARDRAIL REMOVED  
 =25 FT

ITEM 606, GUARDRAIL, TYPE 5, USING 9 FOOT POSTS  
 = 25 FT

**BUILDING DEMOLISHED**

LOCATION:  
 STA. 11+10.00  
 115.5' LT

ITEM 202, BUILDING DEMOLISHED, HOUSE  
 =LUMP SUM

**ESTIMATED ROADWAY QUANTITIES**

ITEM	ITEM EXT	UNIT	TOTAL	ITEM DESCRIPTION
202	23000	SY	92	PAVEMENT REMOVED
202	38000	FT	25	GUARDRAIL REMOVED
202	56000	LS	15	BUILDING DEMOLISHED, HOUSE
204	10000	SY	558	SUBGRADE COMPACTION
301	56000	CY	92	ASPHALT CONCRETE BASE, PG64-22 (449)
304	20000	CY	92	AGGREGATE BASE
407	20000	GAL	66	NON-TRACKING TACK COAT
408	10001	GAL	22	PRIME COAT, AS PER PLAN
441	50000	CY	19	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 64-22
441	50300	CY	27	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
606	13030	FT	25	GUARDRAIL, TYPE 5, USING 9 FOOT POSTS
609	26000	FT	383	CURB, TYPE 6
617	10101	CY	1	COMPACTED AGGREGATE, AS PER PLAN

**QUANTITIES CARRIED TO GENERAL SUMMARY**

**ESTIMATED PAVEMENT MARKING QUANTITIES**

ITEM	ITEM EXT	UNIT	TOTAL	ITEM DESCRIPTION
621	00100	EACH	2	RPM
621	54000	EACH	2	RAISED PAVEMENT MARKER REMOVED
642	00104	MILE	0.09	EDGE LINE, 6", TYPE 1
642	00300	MILE	0.01	CENTER LINE, TYPE 1

**QUANTITIES CARRIED TO GENERAL SUMMARY**



DESIGN AGENCY

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GPM

REVIEWER

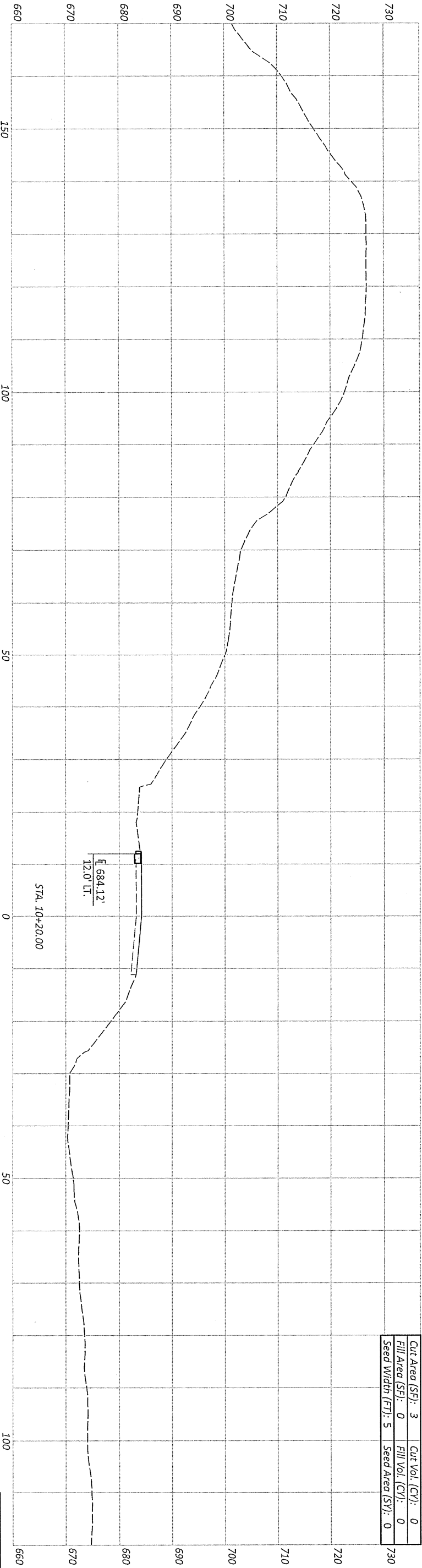
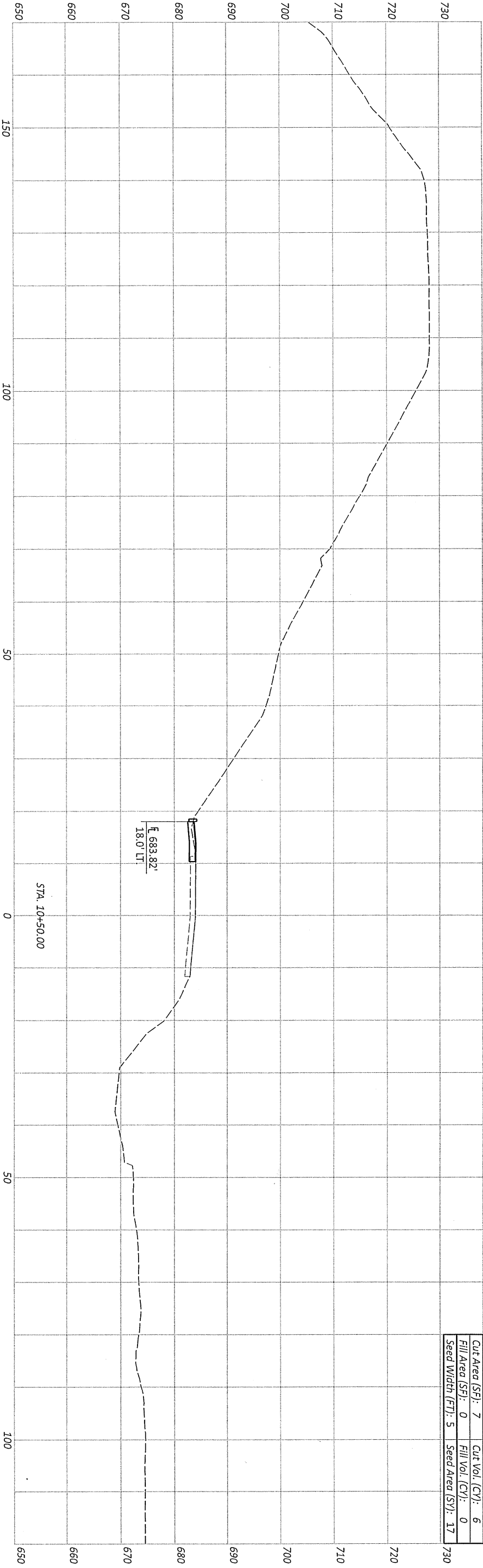
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115989

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CROSS SECTIONS - S.R. 376  
 STA. 10+20 - STA. 10+50



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PROJECT ID

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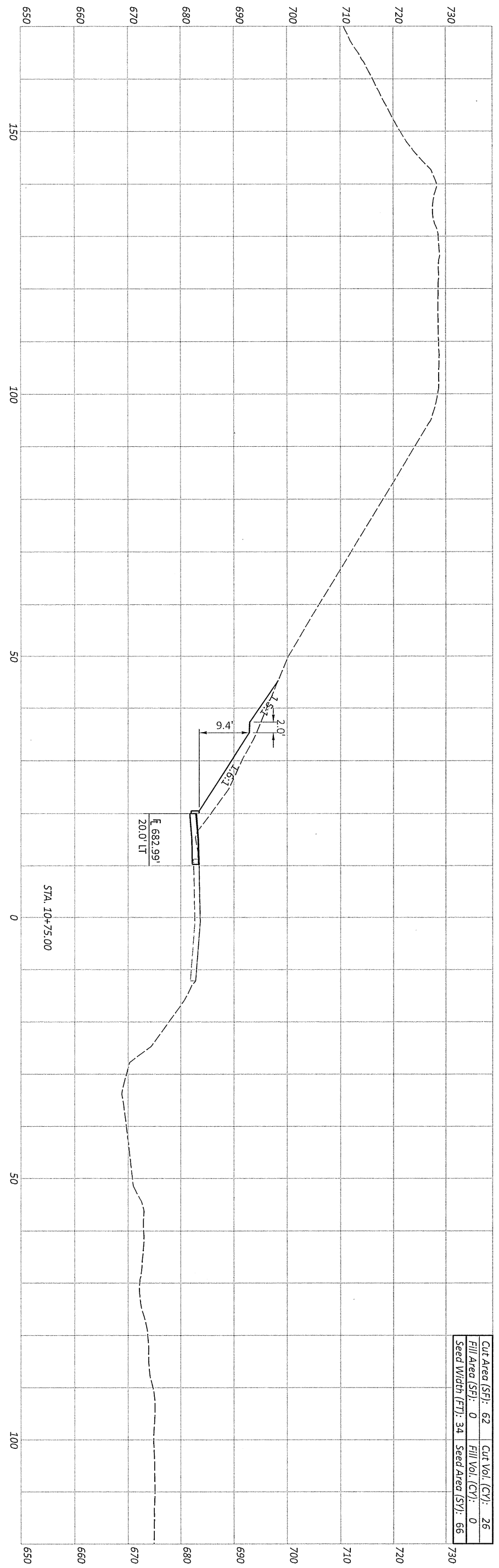
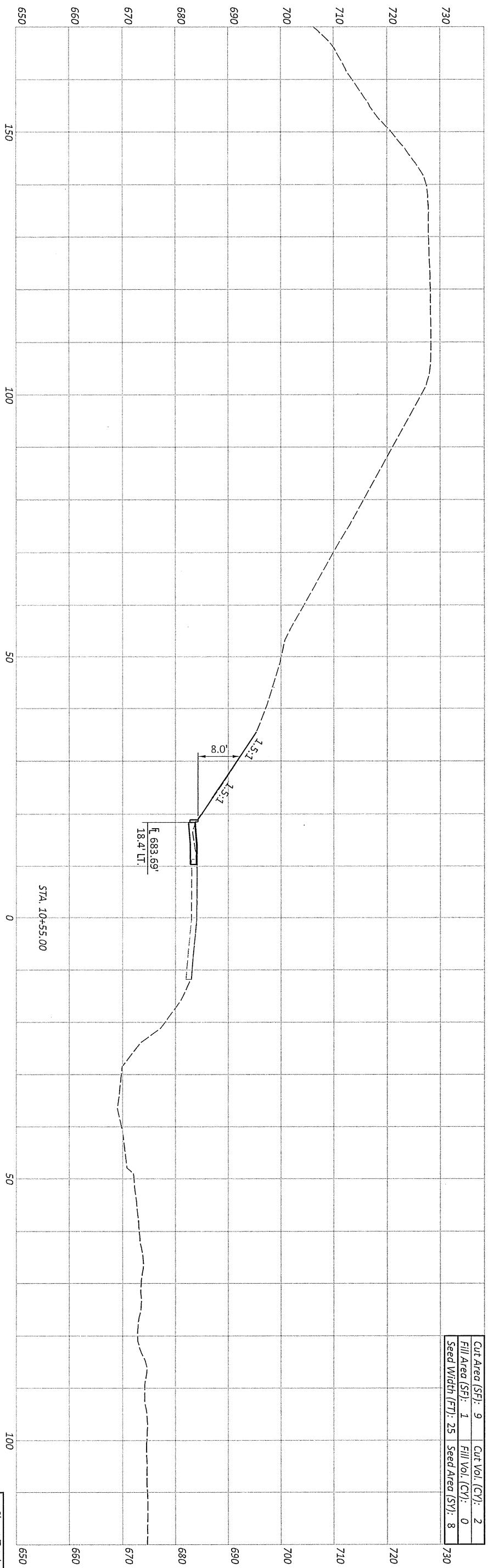
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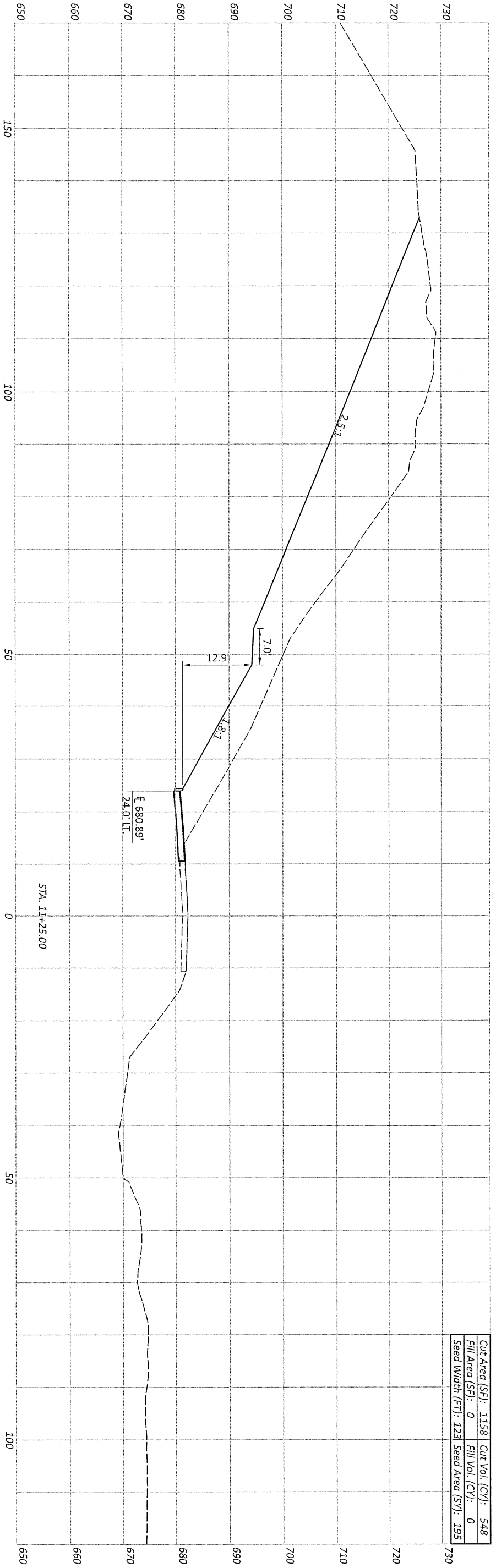
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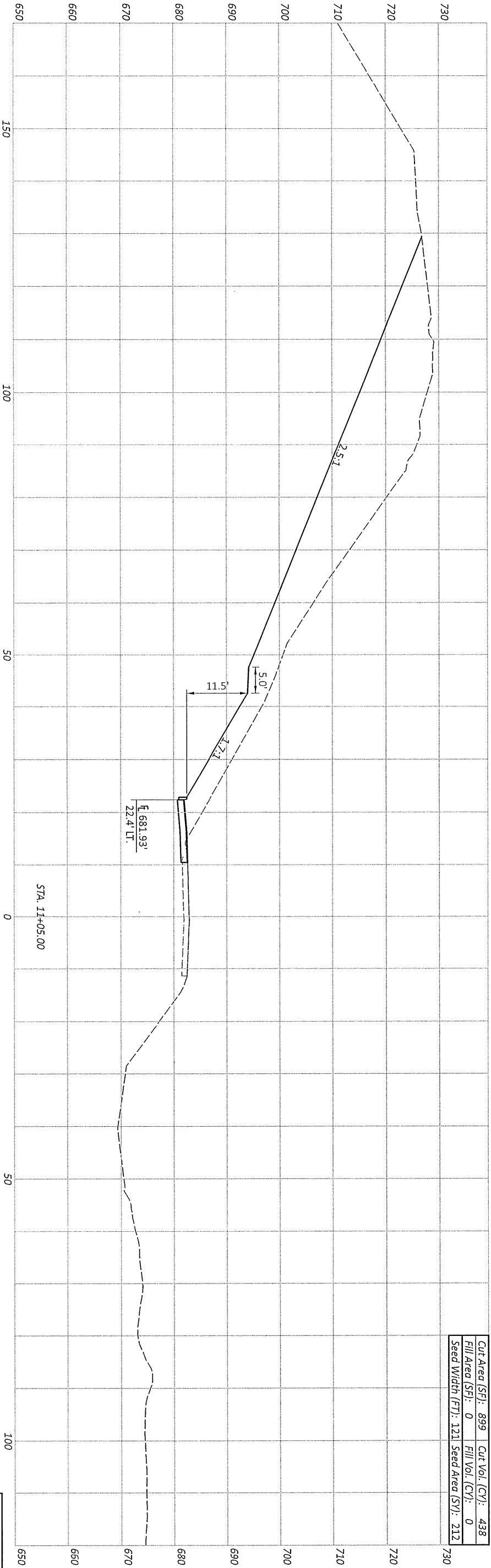


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CROSS SECTIONS - S.R. 376  
 STA. 11+05 - STA. 11+25



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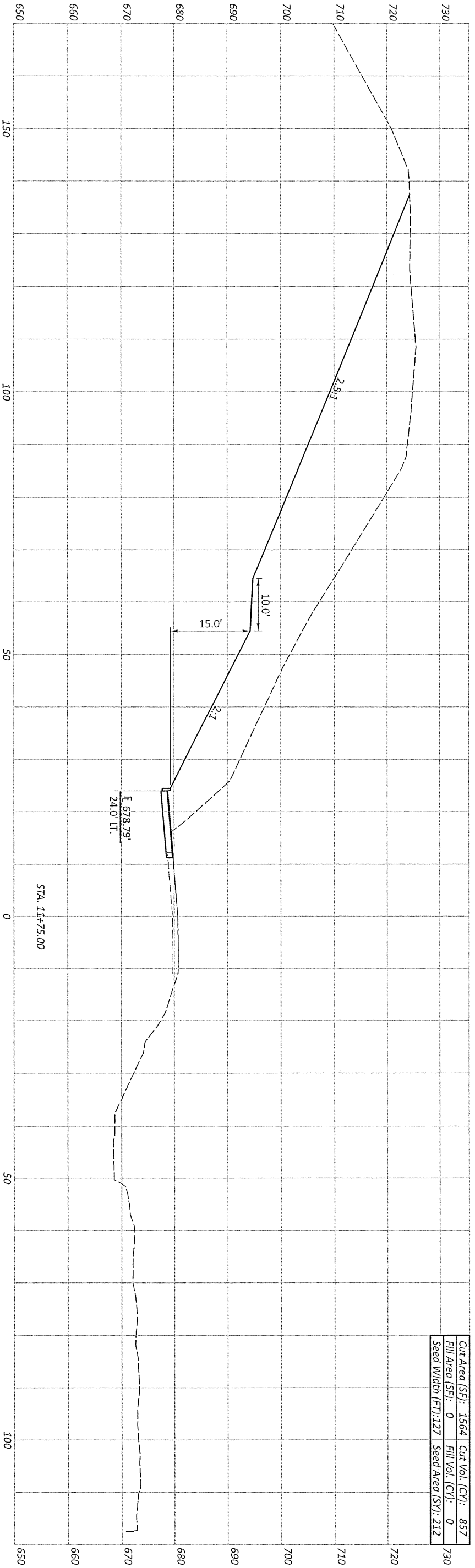
  

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SHEET TOTAL	P.18
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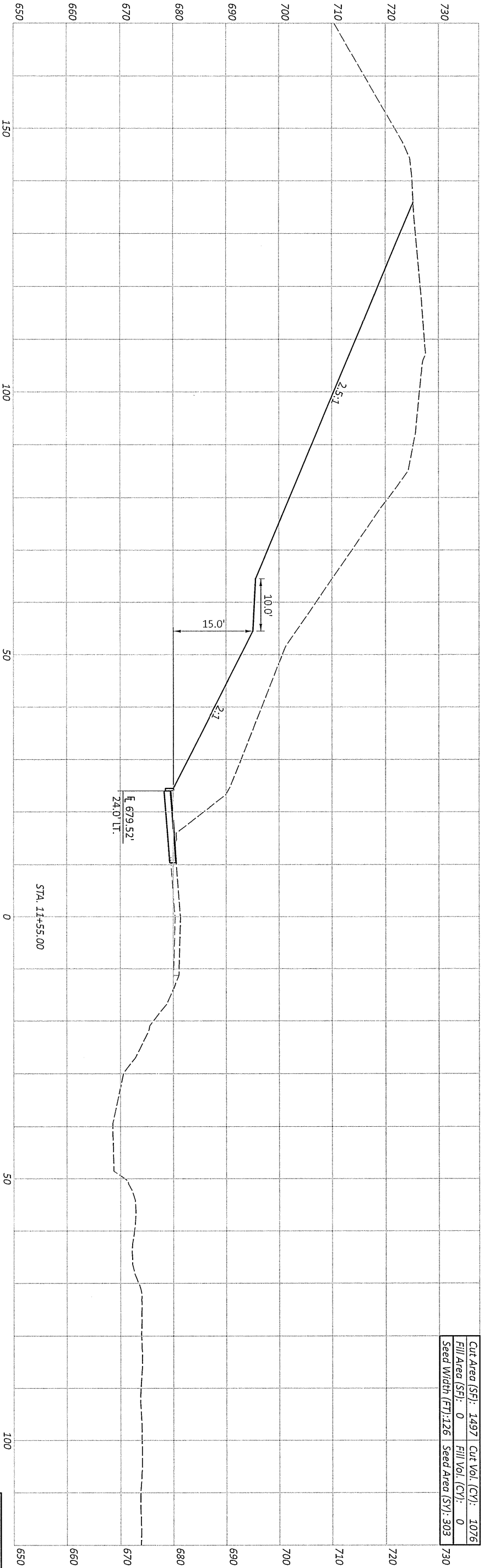


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CROSS SECTIONS - S.R. 376  
 STA. 11+55 - STA. 11+75



DESIGN AGENCY

DESIGNER

GPM

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PROJECT ID

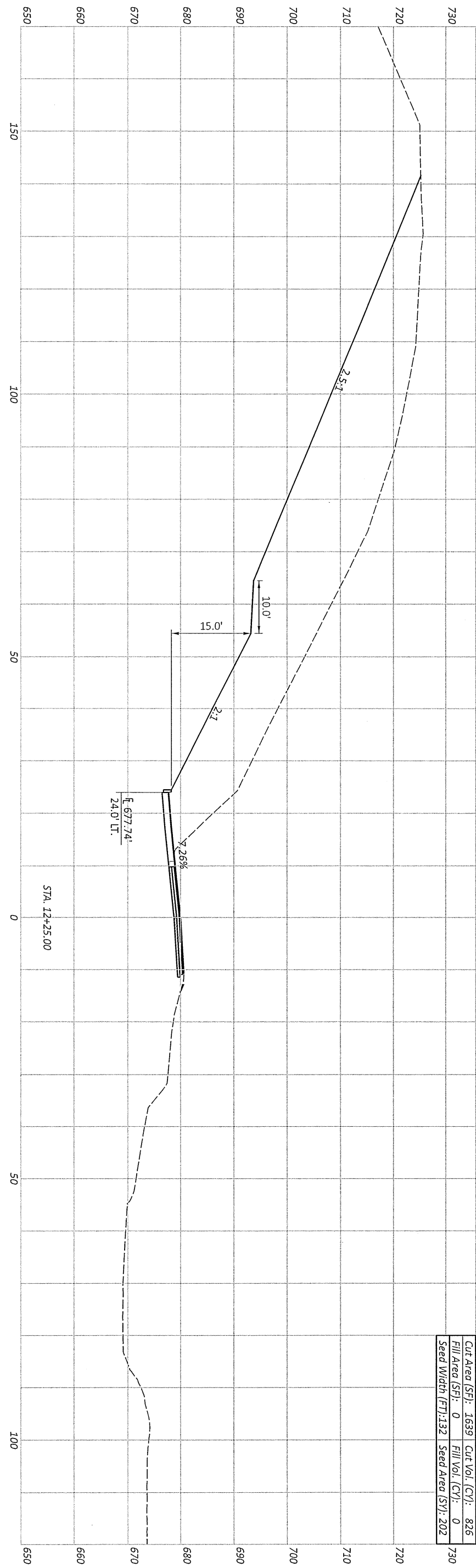
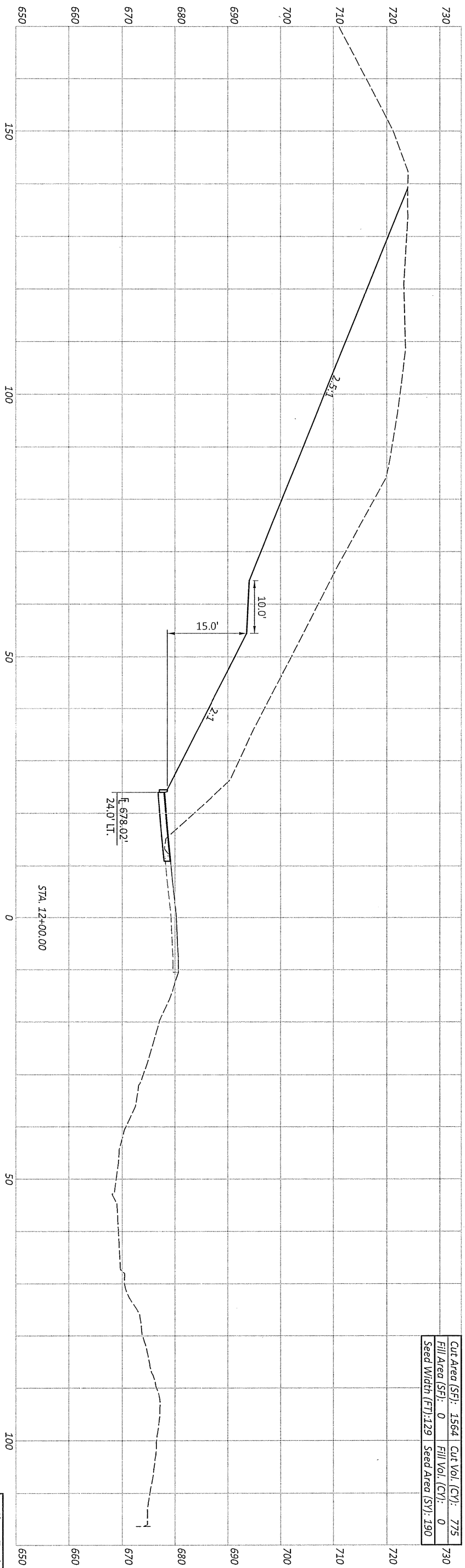
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 STA. 12+00 - STA. 12+25

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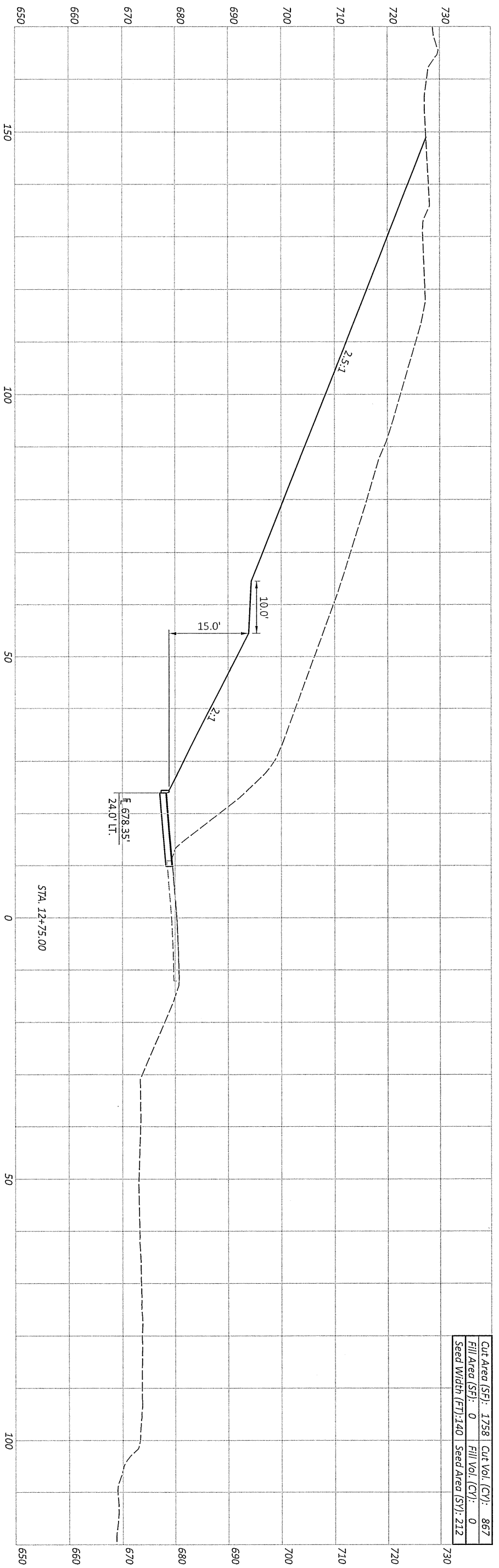
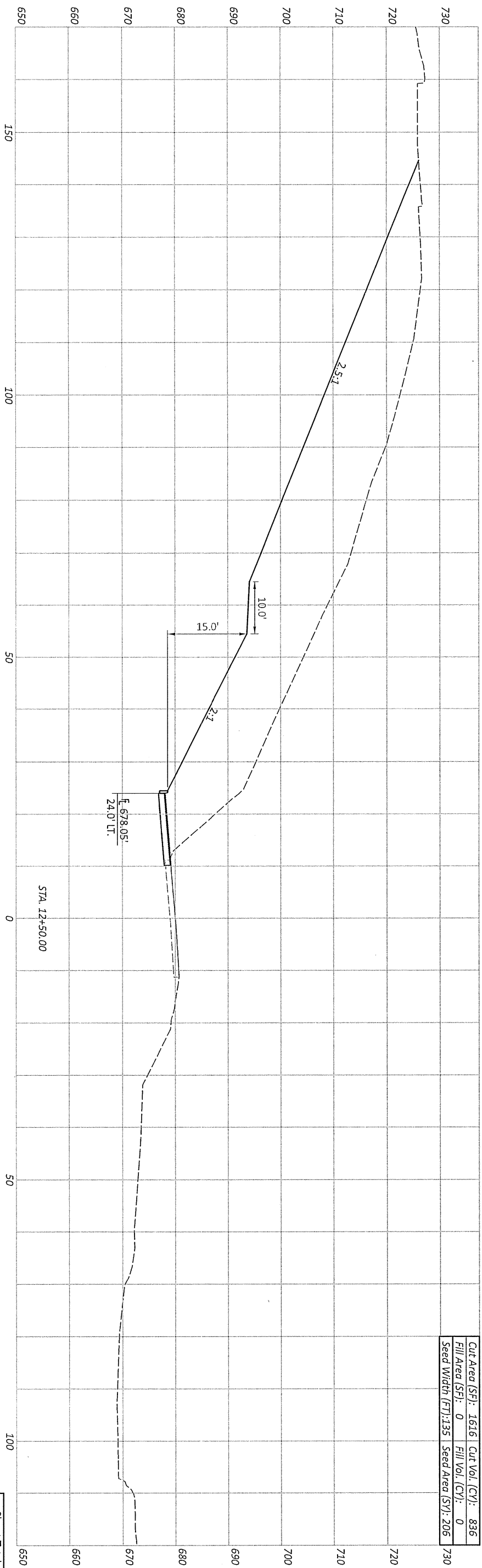
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CROSS SECTIONS - S.R. 376  
 STA. 12+50 - STA. 12+75



DESIGN AGENCY

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GPM

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PROJECT ID

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SHEET TOTAL

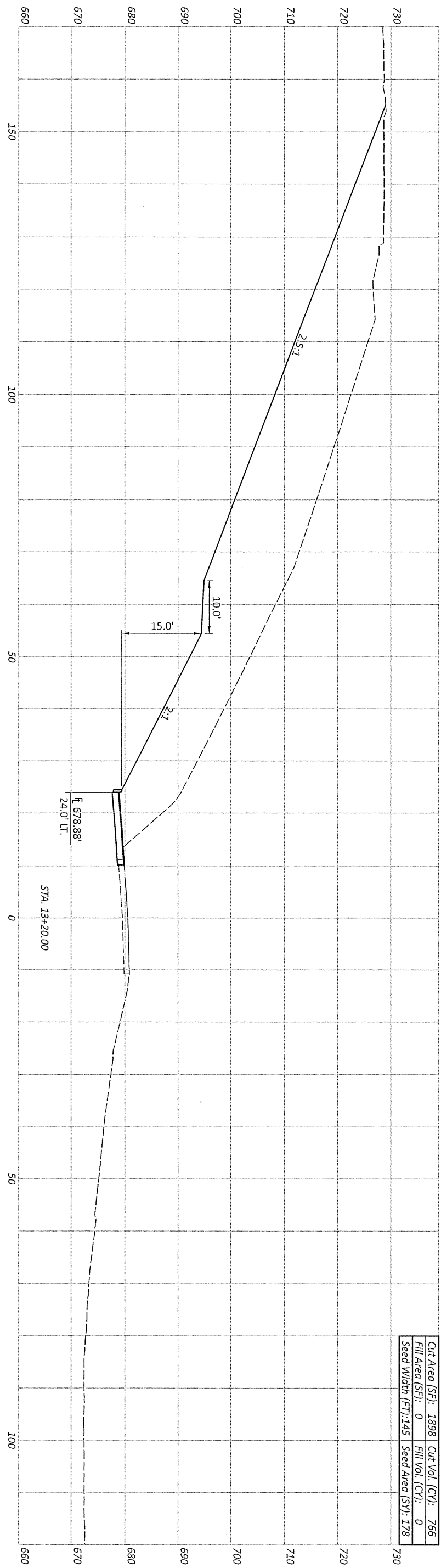
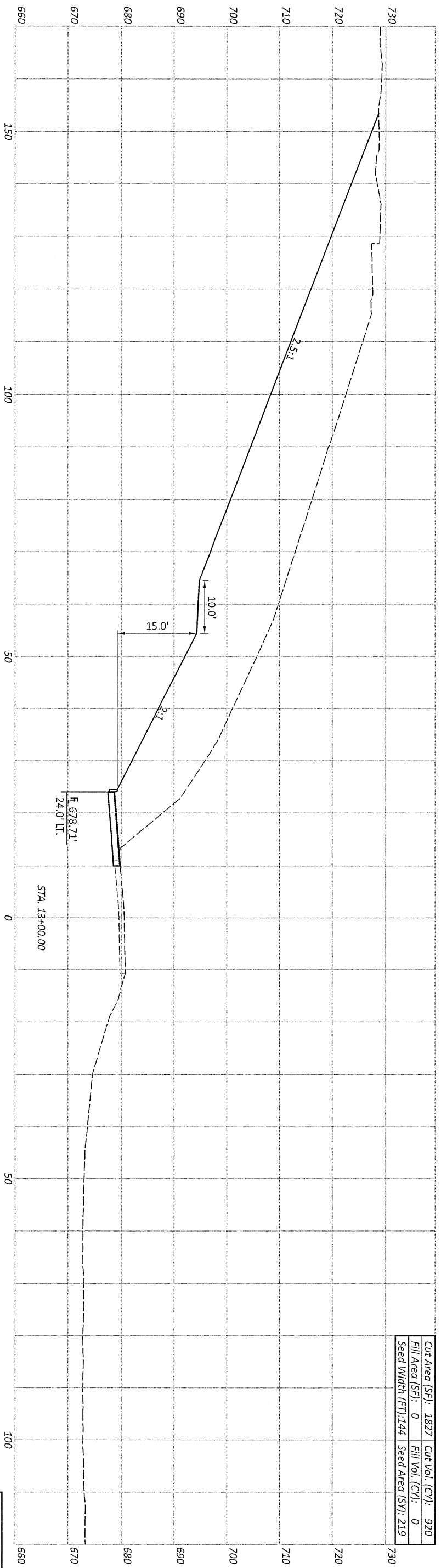
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 STA. 13+00 - STA. 13+20

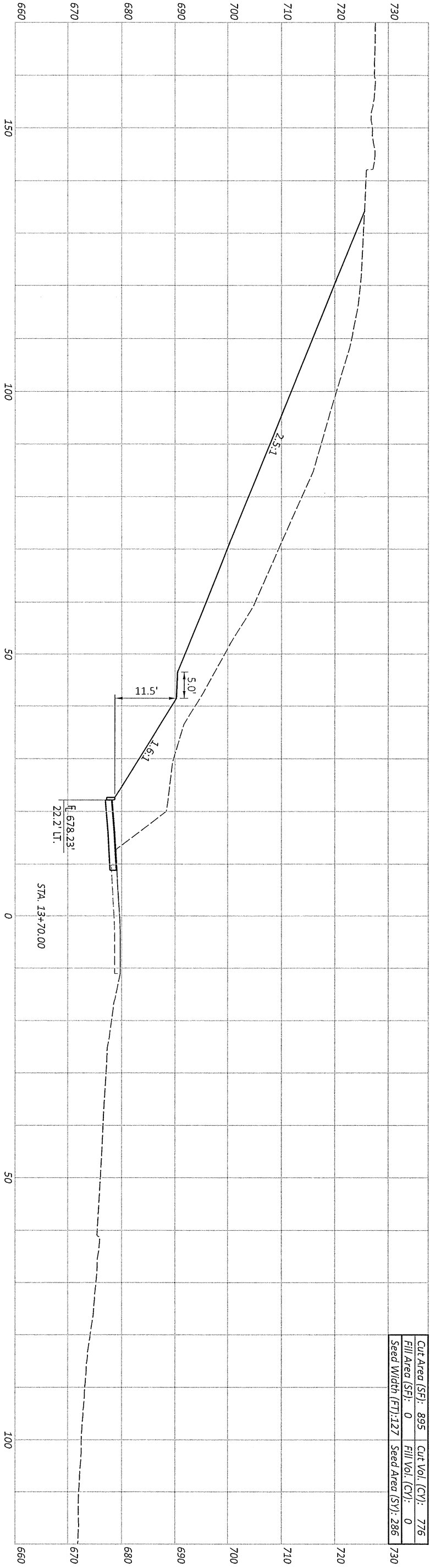
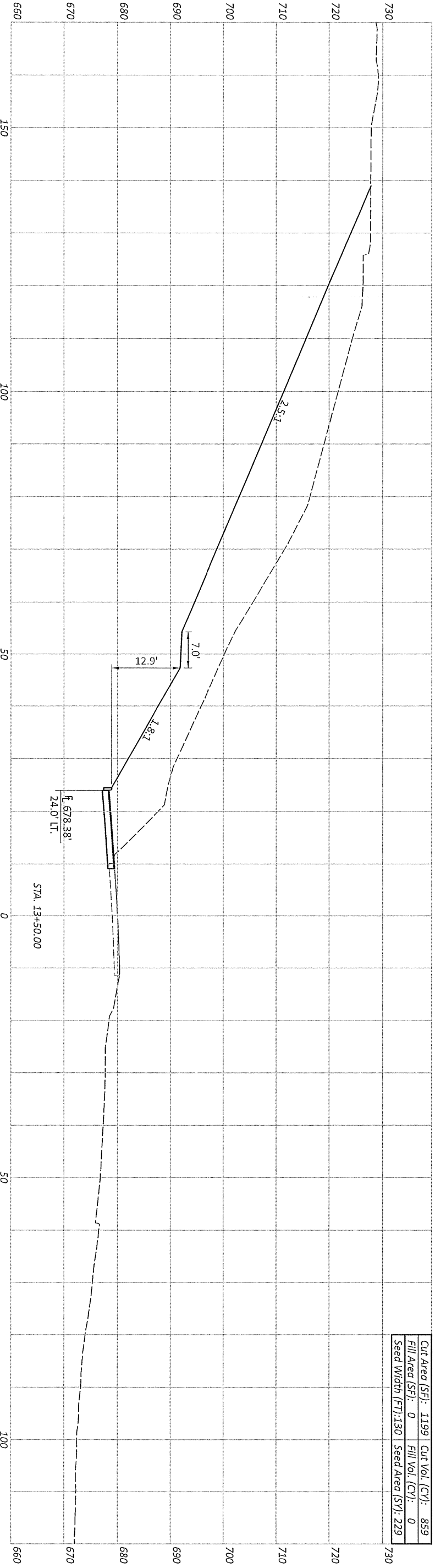
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DESIGN AGENCY



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 STA. 13+50 - STA. 13+70

DESIGN AGENCY

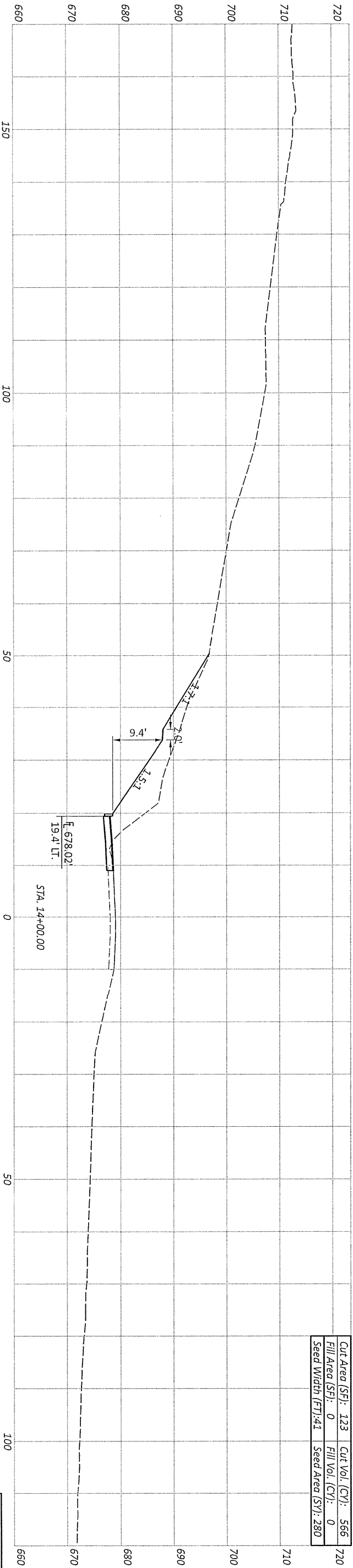
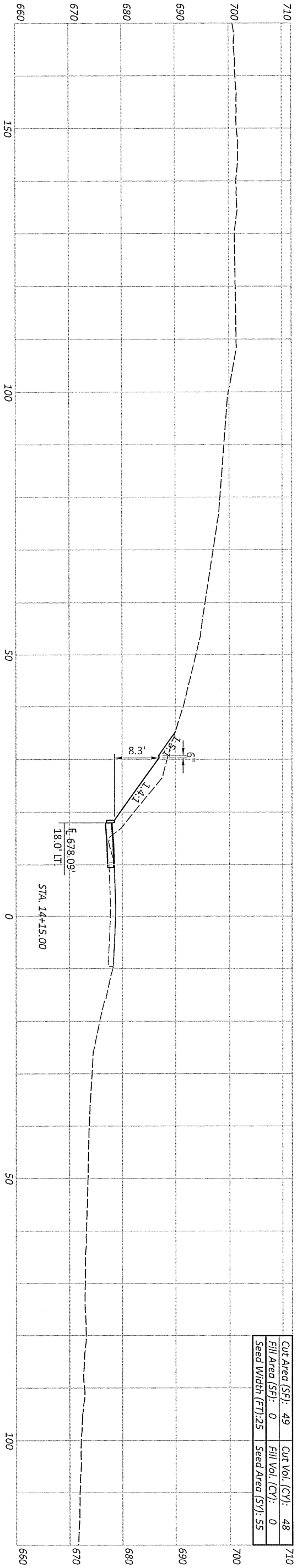
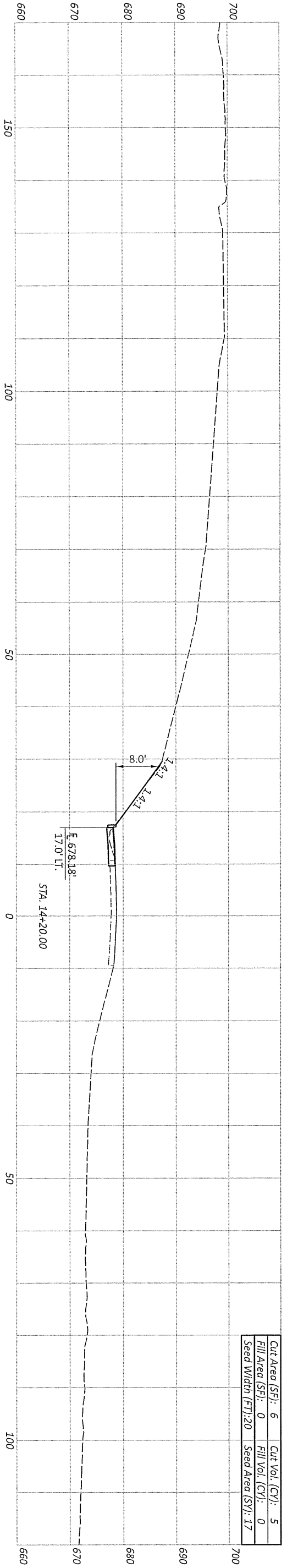


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CROSS SECTIONS - S.R. 376  
 STA. 14+00 - STA. 14+20



DESIGN AGENCY

DESIGNER

GPM

REVIEWER

PROJECT ID

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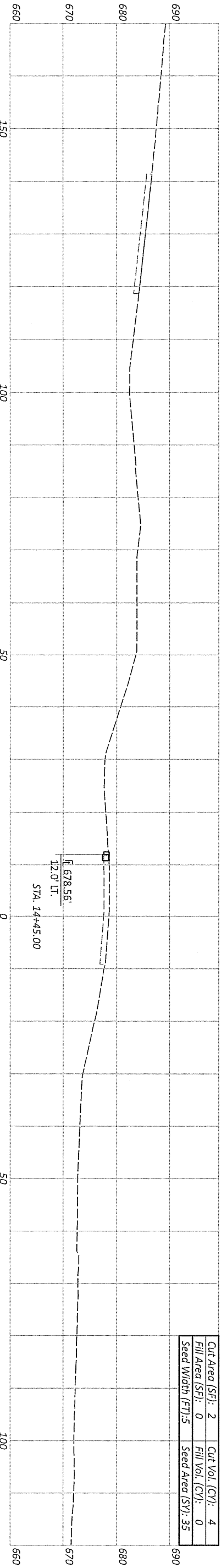
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MODEL: CLP\_5376 - 14+45.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 4/26/2023 TIME: 2:07:54 PM USER: gmotsche  
 pw:\ohiodot-pw.bentley.com\ohiodot-pw-02\Documents\01 Active Projects\District 05\Muskingum\115989\400-Engineering\Roadway\Sheets\115989\_XS001.dgn

EARTHWORK CORRECTIONS DUE TO ROADWAY CURVATURE									
STA.	CENTROID GRADING (FT)	CURVE RADIUS (FT)	CORRECTED RADIUS(FT)	ALIGNMENT FACTOR	CORRECTED ARC LENGTH (FT)	CUT AREA (SF)	SEEDING WIDTH (FT)	CORRECTED CUT VOLUME (CY)	CORRECTED SEED AREA (SY)
10+75	17.0	211.64	-	-	-	62	34	-	-
11+05	58.9	211.64	173.69	0.82069	24.62	899	121	438	212
11+25	59.9	211.64	152.24	0.71933	14.39	1158	123	548	195
11+55	54.5	211.64	154.44	0.72973	21.89	1497	126	1076	303
11+75	48.9	211.64	159.94	0.75572	15.11	1564	127	857	212
12+00	44.0	100.00	53.55	0.53550	13.39	1564	129	775	190
12+25	44.6	100.00	55.70	0.55700	13.93	1639	132	826	202
12+50	44.4	100.00	55.50	0.55500	13.88	1616	135	836	206
12+75	44.6	100.00	55.50	0.55500	13.88	1758	140	867	212
13+00	44.5	100.00	55.45	0.55450	13.86	1827	144	920	219
13+20	44.4	100.00	55.55	0.55550	11.11	1898	145	766	178
13+50	55.8	100.00	49.90	0.49900	14.97	1199	130	859	229

EARTHWORK TOTALS			
SHEET	CUT (CY)	FILL (CY)	SEEDING (SY)
12	6	0	17
13	28	0	74
14	986	0	407
15	1933	0	515
16	1601	0	392
17	1703	0	418
18	1686	0	397
19	1635	0	515
20	619	0	352
21	4	0	35
TOTALS	10201	0	3122

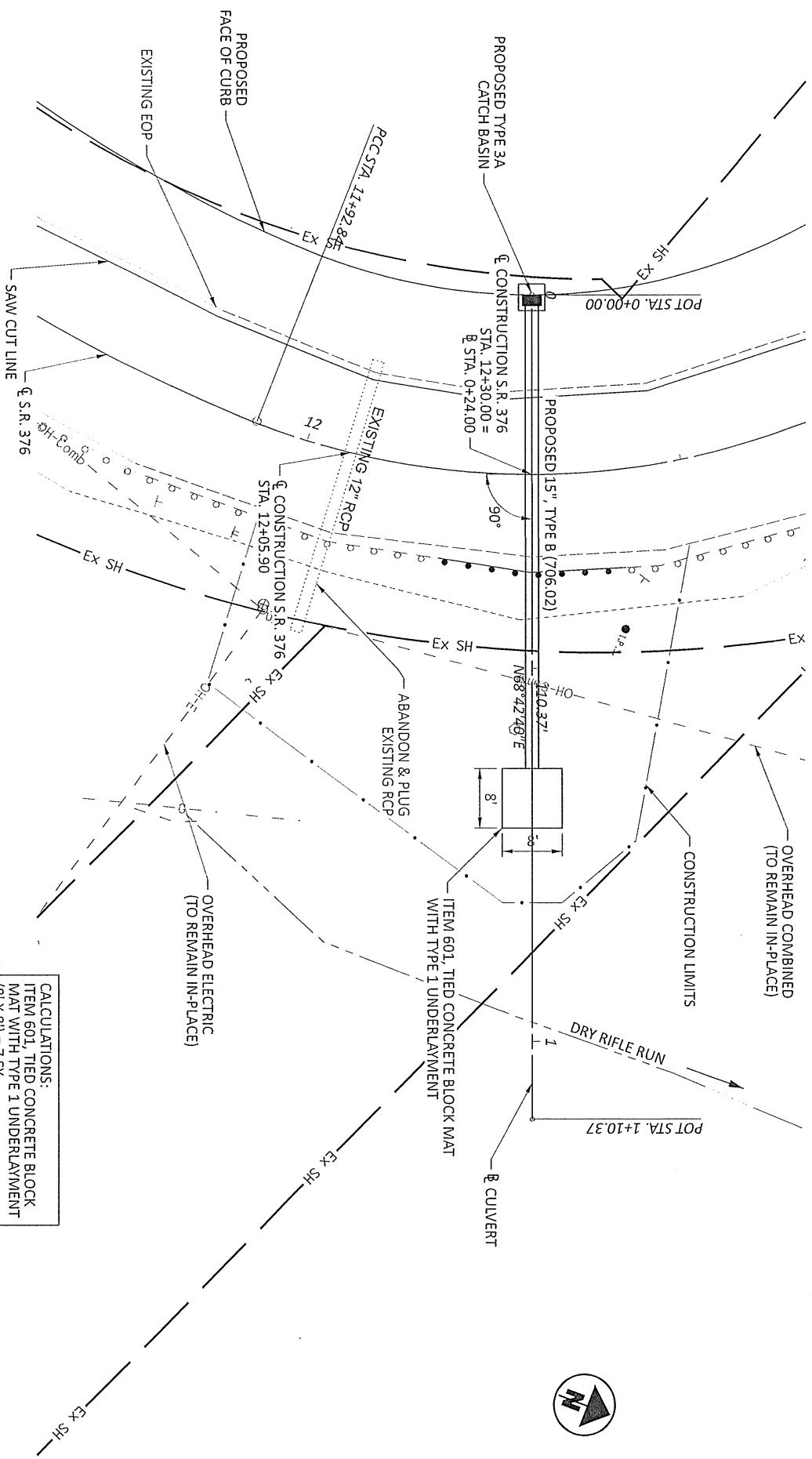
QUANTITIES CARRIED TO SHEET 5



Cut Area (SF): 2	Cut Vol. (CY): 4
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT): 5	Seed Area (SY): 35

DESIGN AGENCY		DESIGNER	GPM
PROJECT ID		115989	REVIEWER
SHEET TOTAL	28	Sheet Totals	Seeding: 35 Cut: 4 Fill: 0

CROSS SECTIONS - S.R. 376  
STA. 14+45



CALCULATIONS:  
 ITEM 601, TIED CONCRETE BLOCK MAT WITH TYPE I UNDERLAYMENT (8' X 8') = 7 SY

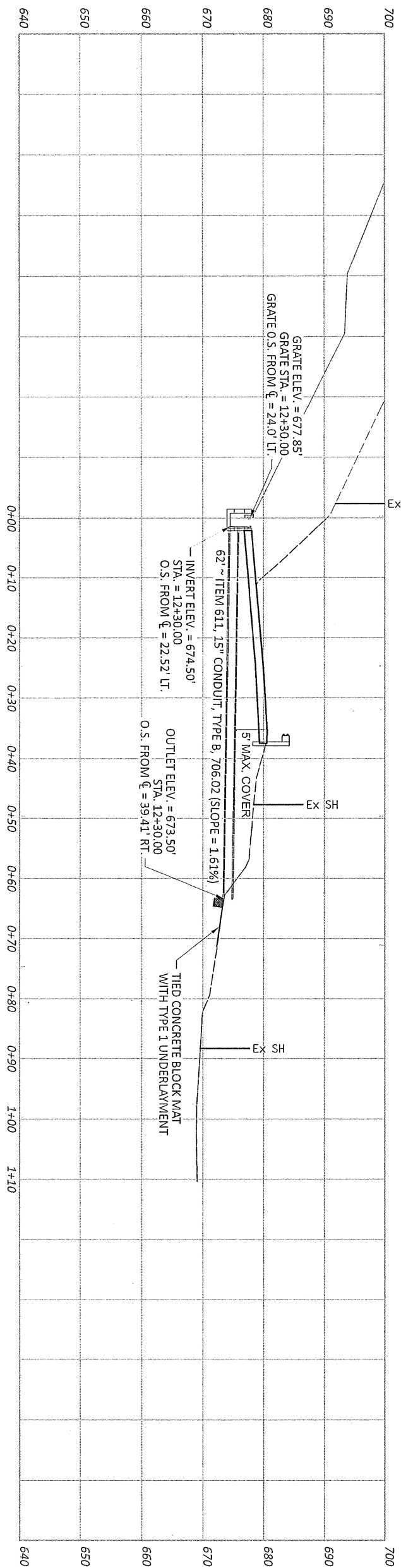
ITEM	QUANTITY	UNIT	DESCRIPTION
202	38	FT	FILL AND PLUG EXISTING CONDUIT - 12"
601	7	SY	TIED CONCRETE BLOCK MAT WITH TYPE I UNDERLAYMENT
611	62	FT	15" CONDUIT, TYPE B-706.02
611	1	EACH	CATCH BASIN, NO. 3A

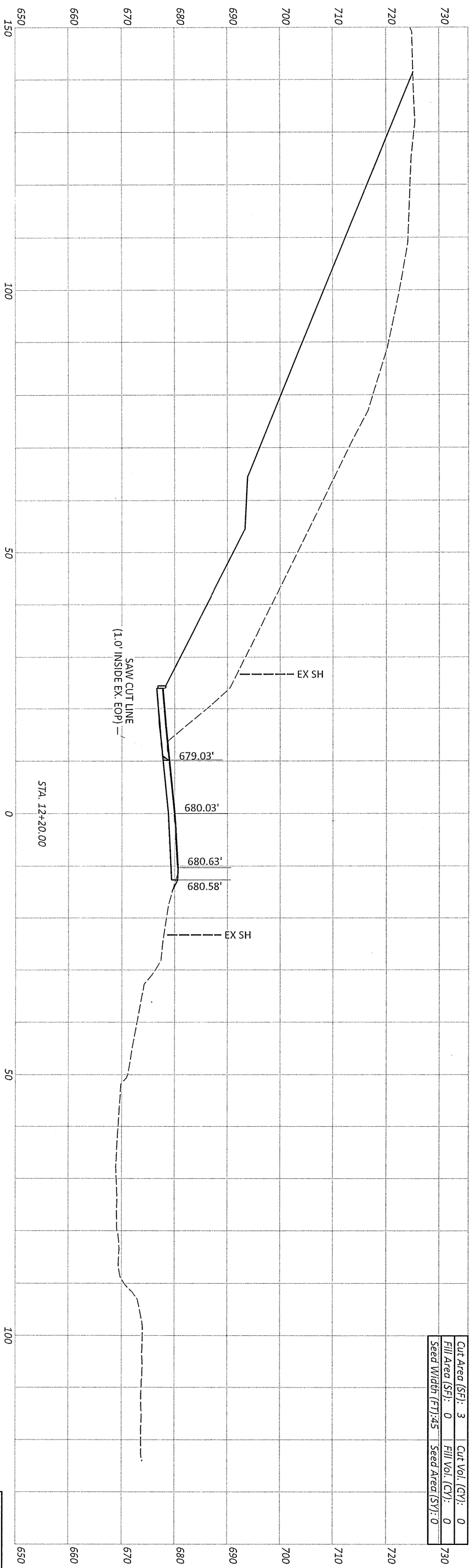
TOTALS CARRIED TO GENERAL SUMMARY

**EXISTING STRUCTURE**  
 CFN: 1804492  
 TYPE: REINFORCED CONCRETE PIPE  
 DIAMETER: 12"  
 LENGTH: 38'  
 SKEW: 90.0°  
 STREAM: 12+30.00  
 LAT: 39.802922  
 LONG: -81.890006

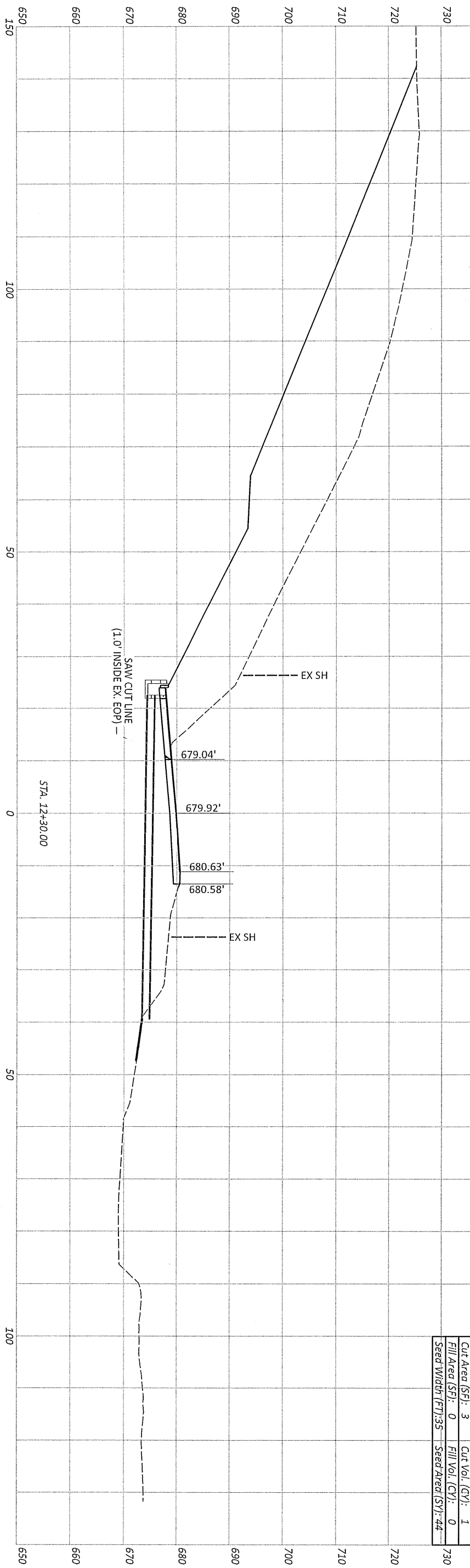
**PROPOSED STRUCTURE**  
 CFN: B  
 TYPE: B  
 DIAMETER: 15"  
 LENGTH: 62'  
 SKEW: 90.0°  
 STREAM: 12+30.00  
 LAT: 39.803000  
 LONG: -81.890036

**HYDRAULIC DATA**  
 DRAINAGE AREA =  
 DESIGN SERVICE LIFE = 75 YEARS  
 ABRASION LEVEL =  
 PH =  
 Q10 =  
 Q100 =  
 V10 =  
 V100 =





Cut Area (SF): 3	Fill Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT): 4.5	Seed Area (SY): 0



Cut Area (SF): 3	Cut Vol. (CY): 1
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT): 3.5	Seed Area (SY): 4.4

CROSS SECTIONS FOR CULVERT INSTALLATION - S.R. 376  
 STA. 12+20 - STA. 12+30

PROJECT ID	115989
DESIGNER	GPM
REVIEWER	

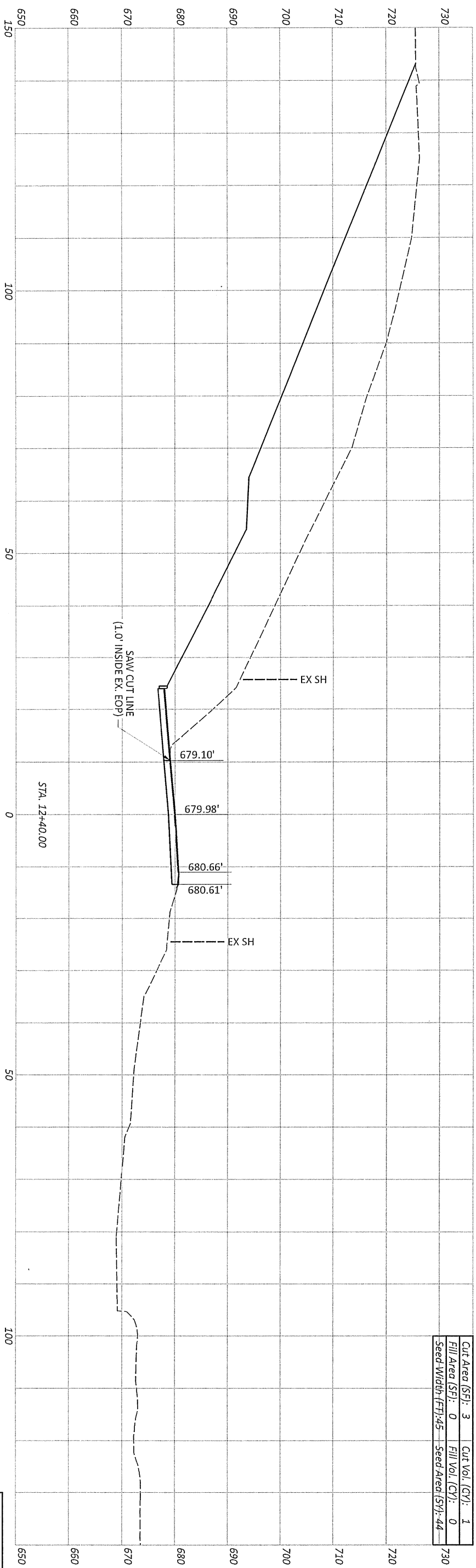
  

DESIGN AGENCY	
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Sheet Totals	Seeding	Cut	Fill	SHEET TOTAL
44	1	0		28





EARTHWORK TOTALS

SHEET	CUT (CY)	FILL (CY)	SEEDING (SY)
27	1	0	44
28	1	0	44
<b>TOTALS</b>	<b>2</b>	<b>0</b>	<b>88</b>

QUANTITIES CARRIED TO SHEET 5

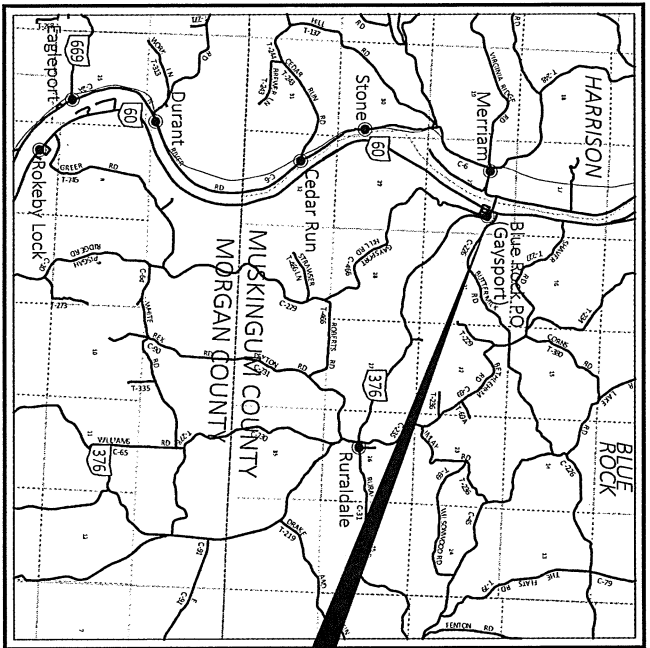
Cut Area (SF): 3	Cut Vol. (CY): 1
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT): 45	Seed Area (SY): 44

Sheet Totals		
Seeding	Cut	Fill
44	1	0

PROJECT ID	115989
DESIGNER	GPM
REVIEWER	
SHEET TOTAL	28
SHEET	P. 28



**CROSS SECTIONS FOR CULVERT INSTALLATION - S.R. 376**  
 STA. 12+40



LATITUDE: 39°48'11" LONGITUDE: -81°53'24"



# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## MUS - 376 - 5.09

### BLUE ROCK TOWNSHIP MUSKINGUM COUNTY

PROJECT AREA  
 SIM 5.02 TO 5.17

**INDEX OF SHEETS:**

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3-4
PLAN NOTES	5-10
MAINTENANCE OF TRAFFIC	11-12
GENERAL SUMMARY	13
PAVEMENT & PAVEMENT MARKING CALCULATIONS	14
PLAN & PROFILE	15
GRADING CROSS SECTIONS	16-25
CULVERT DETAIL SHEET	26
CULVERT INSTALL CROSS SECTIONS	27-28

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 12.

*Jason L. Sturgeon*  
 Jason L. Sturgeon, P.E.  
 District 05 Deputy Director

*Jack Marchbanks*  
 Jack Marchbanks, PhD  
 Director, Department of Transportation

**FEDERAL PROJECT NUMBER**  
 N.A.

**RAILROAD INVOLVEMENT**  
 N.A.

**PROJECT DESCRIPTION**  
 REMEDIATION OF ROCK CUT SLOPE THAT IMPROVES SLOPE STABILITY

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA: 0.58 ACRES  
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.10 ACRES  
 NOTICE OF INTENT EARTH DISTURBED AREA: 0.68 ACRES

**DESIGN EXCEPTIONS**  
 NONE

**ADA DESIGN WAIVERS**  
 NONE REQUIRED

**UNDERGROUND UTILITIES**  
 Contact Two Working Days Before You Dig

**OHIO811.org**  
 Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764  
 (Non members must be called directly)

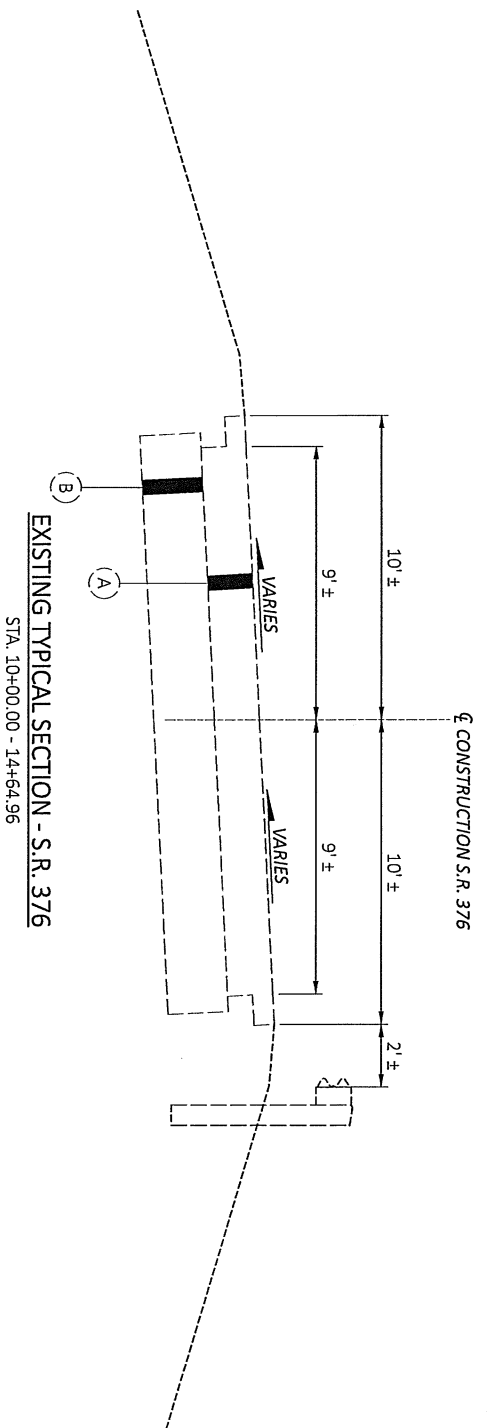
PLAN PREPARED BY:  
 OHIO DEPARTMENT  
 OF TRANSPORTATION  
 DISTRICT 5

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/21/22	800-2019 SEE PROPOSAL	
BP-5.1	7/15/22	832 7/15/22	
CB-3.4	7/15/21	902 7/19/19	
DM-4.1	7/17/20		
DM-4.4	1/15/16		
MT-97.10	4/19/19		
MT-101.60	1/17/20		
MT-105.10	1/17/20		
TC-41.20	10/18/13		
TC-55.10	1/17/14		
TC-55.11	7/15/22		

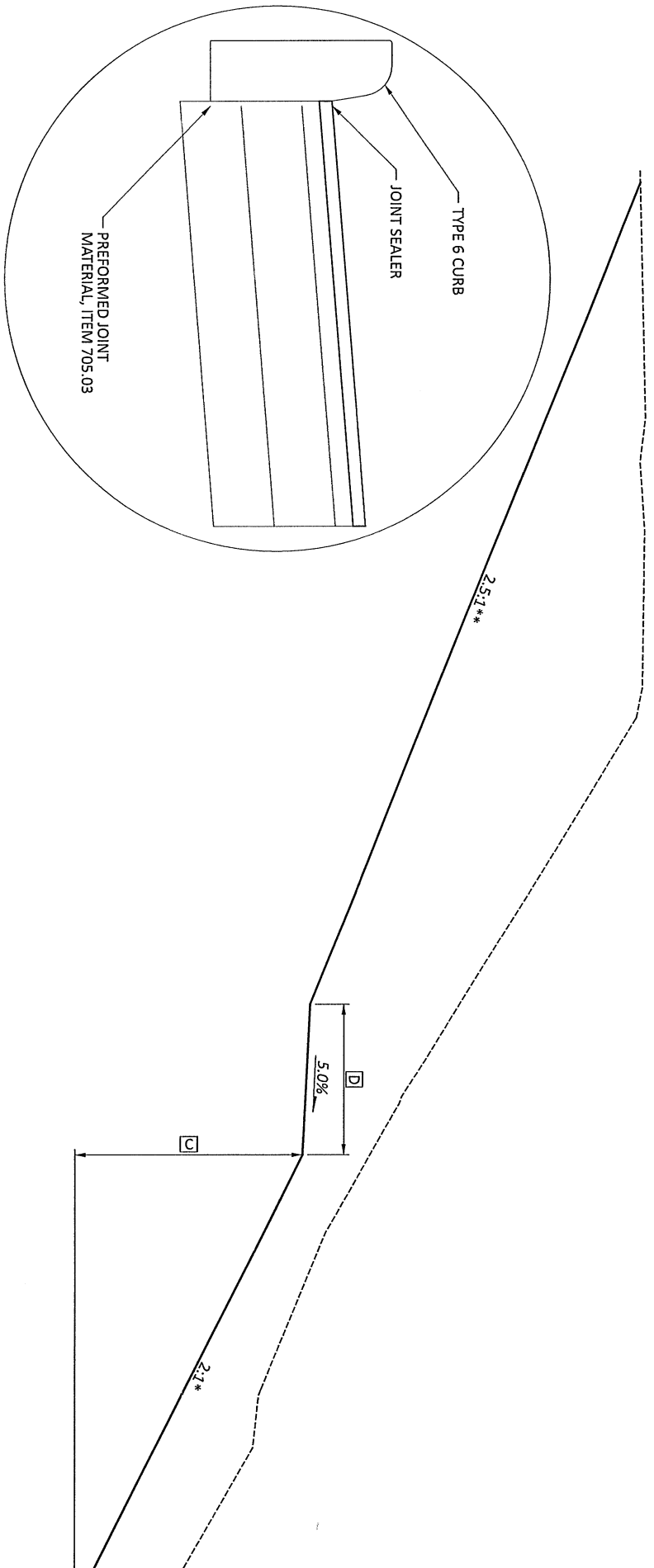




- LEGEND**
- (A) EX. ASPHALT CONCRETE (UNKNOWN DEPTH)
  - (B) EX. AGGREGATE BASE (UNKNOWN DEPTH)



EXISTING TYPICAL SECTION - S.R. 376  
 STA. 10+00.00 - 14+64.96



PROPOSED SHOULDER WIDENING & GRADING TYPICAL SECTION - S.R. 376  
 STA. 10+20.00 - 14+45.00 (SHOULDER WIDENING)  
 STA. 10+55.00 - 14+15.00 (GRADING)

- LEGEND**
- 1 ITEM 202 PAVEMENT REMOVED
  - 2 ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M (1.25")
  - 3 ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (1.75")
  - 4 ITEM 301 ASPHALT CONCRETE BASE, PG64-22, (449) (6")
  - 5 ITEM 304 AGGREGATE BASE (6")
  - 6 ITEM 407 NON-TRACKING TACK COAT
  - 7 ITEM 204 SUBGRADE COMPACTION
  - 8 ITEM 609 CURB, TYPE 6

**WIDTHS & HEIGHTS**

- A** LT. PAVEMENT BREAKPOINT
  - STA. 10+20 TO STA. 10+50 = 12.0' TO 14.0'
  - STA. 10+50 TO STA. 11+25 = 14.0' TO 17.0'
  - STA. 11+25 TO STA. 13+50 = 17.0'
  - STA. 13+50 TO STA. 14+15 = 17.0' TO 14.0'
  - STA. 14+15 TO STA. 14+45 = 14.0' TO 12.0'
- B** LT. 8% SLOPE PAVEMENT WIDTH
  - STA. 10+20 TO STA. 10+50 = 0.0' TO 4.0'
  - STA. 10+50 TO STA. 11+25 = 4.0' TO 7.0'
  - STA. 11+25 TO STA. 13+50 = 7.0'
  - STA. 13+50 TO STA. 14+15 = 7.0' TO 4.0'
  - STA. 14+15 TO STA. 14+45 = 4.0' TO 0.0'
- C** LT. B.S. HEIGHT
  - STA. 10+55 TO STA. 11+55 = 8.0' TO 15.0'
  - STA. 11+55 TO STA. 13+20 = 15.0'
  - STA. 13+20 TO STA. 14+20 = 15.0' TO 8.0'
- D** LT. BENCH WIDTH
  - STA. 10+55 TO STA. 11+55 = 0.0' TO 10.0'
  - STA. 11+55 TO STA. 13+20 = 10.0'
  - STA. 13+20 TO STA. 14+20 = 10.0' TO 0.0'

**SLOPES**

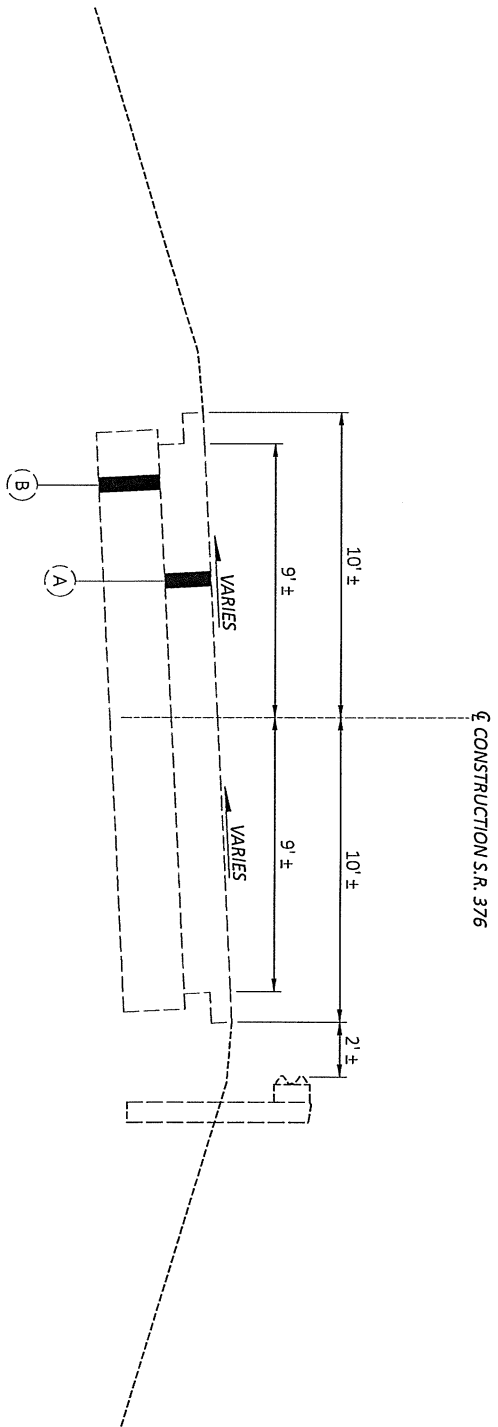
- \* LT. BACK SLOPE
  - STA. 10+55 TO STA. 11+55 = 1.5:1 TO 2:1
  - STA. 11+55 TO STA. 13+20 = 2:1
  - STA. 13+20 TO STA. 14+20 = 2:1 TO 1.4:1
- \* LT. TIE SLOPE
  - STA. 10+55 TO STA. 10+75 = 1.5:1
  - STA. 10+75 TO STA. 11+05 = 1.5:1 TO 2:1
  - STA. 11+05 TO STA. 13+70 = 2:1
  - STA. 13+70 TO STA. 14+20 = 2:1 TO 1.4:1

EXISTING/PROPOSED TYPICAL GRADING SECTION - S.R. 376



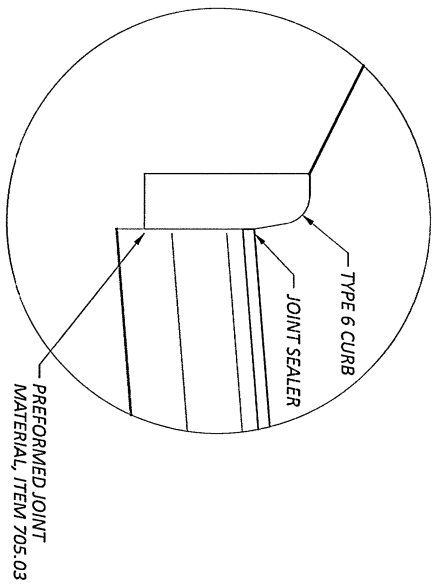
DESIGN AGENCY	
DESIGNER	GPM
REVIEWER	XXX
PROJECT ID	115989
SHEET TOTAL	P.3 / 28

- LEGEND**
- (A) EX. ASPHALT CONCRETE (UNKNOWN DEPTH)
  - (B) EX. AGGREGATE BASE (UNKNOWN DEPTH)

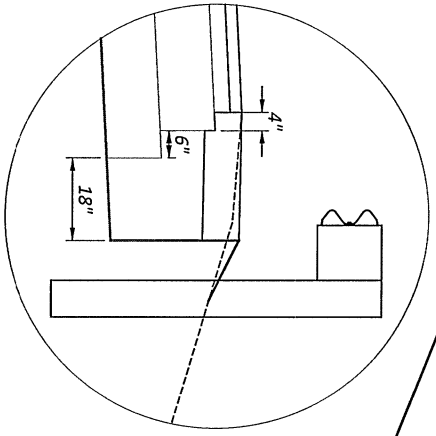


EXISTING TYPICAL SECTION FOR CULVERT INSTALLATION - S.R. 376  
 STA. 12+20.00 - 12+40.00

PAVEMENT ELEVATION TABLE				
STA.	SAW CUT (LT.)	℄	EOP (RT.)	EOS (RT.)
12+20	679.03	680.03	680.53	680.58
12+30	679.04	679.92	680.53	680.58
12+40	679.10	679.98	680.56	680.61



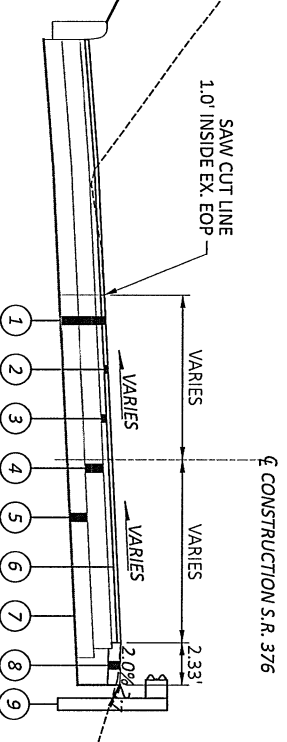
EDGE OF PAVEMENT DETAIL LT. (TYP)



EDGE OF PAVEMENT DETAIL RT. (TYP)

**LEGEND**

- 1 ITEM 202 PAVEMENT REMOVED
- 2 ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M (1.25")
- 3 ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (1.75")
- 4 ITEM 301 ASPHALT CONCRETE BASE, PG64-22 (449) (6")
- 5 ITEM 304 AGGREGATE BASE (6")
- 6 ITEM 407 NON-TRACKING TACK COAT
- 7 ITEM 204 SUBGRADE COMPACTION
- 8 ITEM 617 COMPACTED AGGREGATE, 8"
- 9 ITEM 606 GUARDRAIL, TYPE 5, USING 9 FOOT POSTS



PROPOSED TYPICAL SECTION FOR CULVERT INSTALLATION - S.R. 376  
 STA. 12+20.00 - 12+40.00

EXISTING/PROPOSED CULVERT INSTALLATION TYPICAL SECTION - S.R. 376



DESIGN AGENCY

DESIGNER

GPM

REVIEWER

PROJECT ID

115989

SHEET TOTAL

P.4 28

**ROUNDING**

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

**UNDERGROUND UTILITIES**

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

**UTILITIES**

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AT&T Ohio 160 North Sixth Street Zanesville, Ohio 43701 Attn: Barret Jamosovich 740-454-3552 B712178@att.com	Natural Gas and Oil Cooperative 120 O'Neil Drive Hedron, Ohio 43025 Attn: Will Poling 740-641-8751 wpoling@theenergycoop.com
---	---

Guernsey-Muskingum Electric Cooperative, Inc. 17 South Liberty Street New Concord, Ohio 43762 Attn: Blake West 740-826-7970 bwest@gmenergy.com	Spectrum Cable TV 737 Howard St. Zanesville, Ohio 43701 Attn: Zack Allen 614-255-2819 zackary.allen1@charter.com
---	---

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CLEARING AND GRUBBING**

THE DEPARTMENT HAS NOT MARKED INDIVIDUAL TREES AND STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201 CLEARING AND GRUBBING.

**EXISTING STRUCTURE VERIFICATION**

DETAILS AND DIMENSIONS SHOWN ON THE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM THE DESIGN PLANS OF THE EXISTING PIPE'S ORIGINAL INSTALLATION. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**BORROW AND WASTE AREAS**

THE CONTRACTOR SHALL COMPLY WITH CMS SECTION 107.10 FOR ALL BORROW AND WASTE AREAS ASSOCIATED WITH THE PROJECT.

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

**EARTHWORK**

**ITEM 203. EXCAVATION (10203 CY)**  
10201 CY (SHEET 25) + 2 CY (SHEET 28) = 10203 CY

**SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

**ITEM 659. SEEDING AND MULCHING, CLASS 2 (3220 SY)**  
3122 SY (SHEET 25) + 88 SY (SHEET 28) = 3210 SY

**ITEM 659. COMMERCIAL FERTILIZER (0.4 TON)**  
1 TON PER 7,410 SY OF PERMANENT SEEDED AREA

**ITEM 659. LIME (0.7 ACRE)**  
3210 / 4840 = 0.7 ACRE

**ITEM 659. WATER (17 M. GAL)**  
3210 X 0.0054 M. GAL / SY = 17 M. GAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND

**ITEM 617. COMPACTED AGGREGATE, AS PER PLAN**

ALL AGGREGATE SHALL BE 100% CRUSHED LIMESTONE. ALL QUALITY REQUIREMENTS EXCEPT SHALE SHALL BE WAIVED. OTHER GRADATION REQUIREMENTS SHALL BE AS SPECIFIED EXCEPT THE INDEX SHALL BE WAIVED. IF SO PERMITTED, THE CONTRACTOR MAY USE RECYCLED ASPHALT CONCRETE PAVEMENT (RACP) MEETING REQUIREMENTS OF 716.02) IN LIEU OF LIMESTONE.

**REVIEW OF DRAINAGE FACILITIES**

PRIOR TO THE START OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT, CONTRACTOR AND LOCALS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APURTENANCES IS DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION ARE MAINTAINED BY THE DEPARTMENT.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS. **ENDANGERED BAT HABITAT REMOVAL**

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

**ITEM 407. NON-TRACKING TACK COAT**

THE RATE OF APPLICATION OF THE ITEM 407, NON-TRACKING TACK COAT SHALL BE PER CMS TABLE 407.06-1 AND SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.06 GAL/SY FOR TACK COAT UNDER THE SURFACE COURSE AND 0.06 GAL/SY UNDER THE INTERMEDIATE COURSE. (FOR ESTIMATING PURPOSES ONLY).

**ITEM 690. SPECIAL - MISC. ROADWAY PRESERVATION**

PRESERVE THE EXISTING PAVEMENT AND GUARDRAIL. VIDEO DOCUMENT THE ROADWAY AND GUARDRAIL CONDITIONS PRIOR TO STARTING THE EXCAVATION OF SLOPE AND REMOVAL OF WASTE MATERIALS. SUBMIT PROTECTION PLAN FOR THE PROJECT ENGINEER'S FILES.

REPAIR ANY DAMAGE TO THE ROADWAY AND GUARDRAIL DURING CONSTRUCTION AT NO ADDITIONAL COSTS TO THE STATE. UNLESS ITEMIZED SEPARATELY, INCLUDE ALL LABOR, MATERIALS, AND TOOLS NECESSARY FOR PROTECTION OF EXISTING ROADWAY PAVEMENT.

**ITEM 690 SPECIAL, ROADWAY PRESERVATION, LUMP**  
**ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT**

THIS ITEM CONSISTS OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 12 INCH DIAMETER CONDUIT AND FILLING THE AREA SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER. SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

LOCATE THE BULKHEADS AT THE LIMITS OF THE AREA TO BE FILLED, AS INDICATED ON THE PLANS. THE BULKHEADS CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

PUMP THE FILL MATERIAL INTO PLACE OR BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH IS FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR IS THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED PER 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

**ITEM 623. CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION TO THE DEPARTMENT:

THE CONTRACTOR SHALL PROVIDE AS-BUILT DATA FOR THE SPECIFIED COMPLETED CONSTRUCTION ITEMS IN OHIO STATE PLANE COORDINATES (GRID). THE CONSTRUCTION ITEMS SHALL BE LOCATED AS PER THE SURVEY FEATURE CODE LIST FOUND ON THE OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF CADD & MAPPING SERVICES WEBSITE. AFTER ALL INFORMATION HAS BEEN COLLECTED, AN EMAIL CONTAINING A COMMA DELIMITED ASCII FILE AND A SURVEYOR'S CERTIFICATION SHALL BE DELIVERED TO:

Cody.giehart@dot.ohio.gov (D5 GIS COORDINATOR) AND  
 Steven.Miller@dot.ohio.gov (D5 CONSTRUCTION AREA ENGINEER)

**ITEM 408. PRIME COAT, AS PER PLAN**

THE CONTRACTOR SHALL APPLY ONE COAT OF M/C-70 (AS PER CMS 702) AT A RATE OF 0.40 GAL/SY TO THE COMPLETED AGGREGATE SHOULDER. TO REDUCE AGGREGATE LOSS, THE PRIME COAT SHALL BE APPLIED WITHIN SEVEN (7) DAYS AFTER PLACEMENT OF THE AGGREGATE SHOULDER OR LIQUIDATED DAMAGES PER CMS 108.07 WILL BE ASSESSED. THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID BITUMINOUS MATERIAL ONTO THE EDGE OF PAVEMENT OR EDGE LINE. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

**ITEM 623. CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN (CONTINUED)**

THE ASCII FILE SHALL INCLUDE A HEADER CONTAINING:

NAME OF SURVEYOR  
 DATE(S) OF COLLECTION  
 HORIZONTAL DATUM (I.E. NAD83 (2011), OHIO SPCS NORTH OR SOUTH)  
 VERTICAL DATUM (I.E. NAVD 88, GEOID12A)  
 METHOD OF COLLECTION (I.E. OHIO VNS, GPS RTK, TOTAL STATION, ETC.)  
 THE ASCII FILE SHALL BE IN TABLE FORM AS FOLLOWS:

PT. NO./NORTHING/EASTING/ELEVATION/FEATURE CODE/DESCRIPTION

BELOW IS A LIST OF THE ITEMS THE CONTRACTOR SHALL PROVIDE FOR THIS PROJECT:

-CULVERT INVERT AT INLET AND OUTLET

THE ABOVE ITEMS SHALL BE COLLECTED USING SURVEY GRADE EQUIPMENT MEETING THE REQUIREMENTS OF SECTION 400 IN THE ODOT SURVEY & MAPPING SPECIFICATIONS MANUAL.

ALL COSTS ASSOCIATED WITH OBTAINING THE INFORMATION LISTED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THE WORK DESCRIBED ABOVE:

**ITEM 623. CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN (15)**

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET \_\_\_ OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL	LOCAL RT NETWORK AND STATIC GPS OBSERVATIONS
POSITIONING METHOD:	TYPE B ODOT D5
MONUMENT TYPE:	TYPE B ODOT D5
VERTICAL POSITIONING	
ORTHOMETRIC HEIGHT DATUM:	NAVD88
GEOID:	128
HORIZONTAL POSITIONING	
REFERENCE FRAME:	NAD83 (2011)
ELLIPSOID:	GRS 1980
MAP PROJECTION:	LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM:	OHIO NORTH
COMBINED SCALE FACTOR:	0.99995376
ORIGIN OF COORDINATE SYSTEM:	600,000M, Y=0M

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH

UNITS ARE IN U.S. SURVEY FEET.  
 CMS 623.

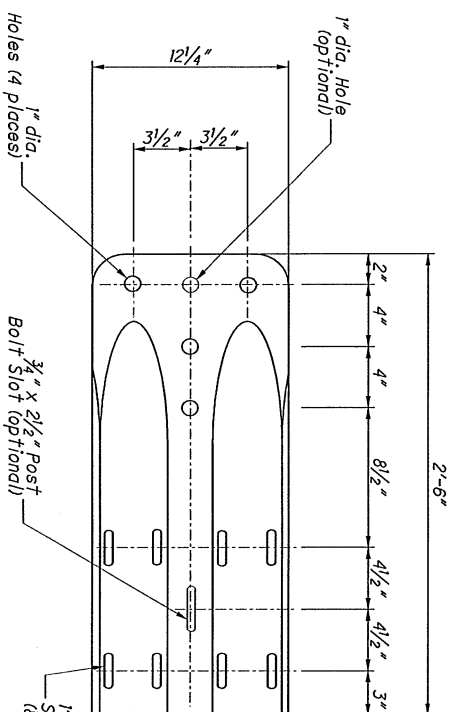
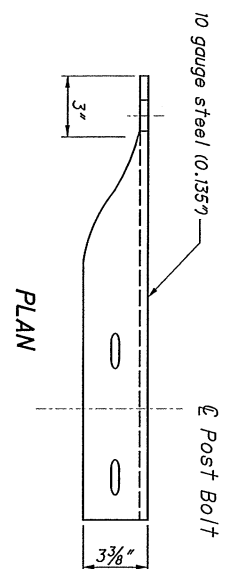
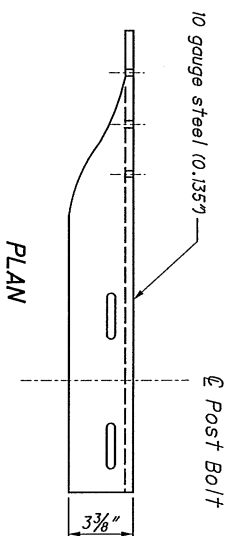
GENERAL NOTES



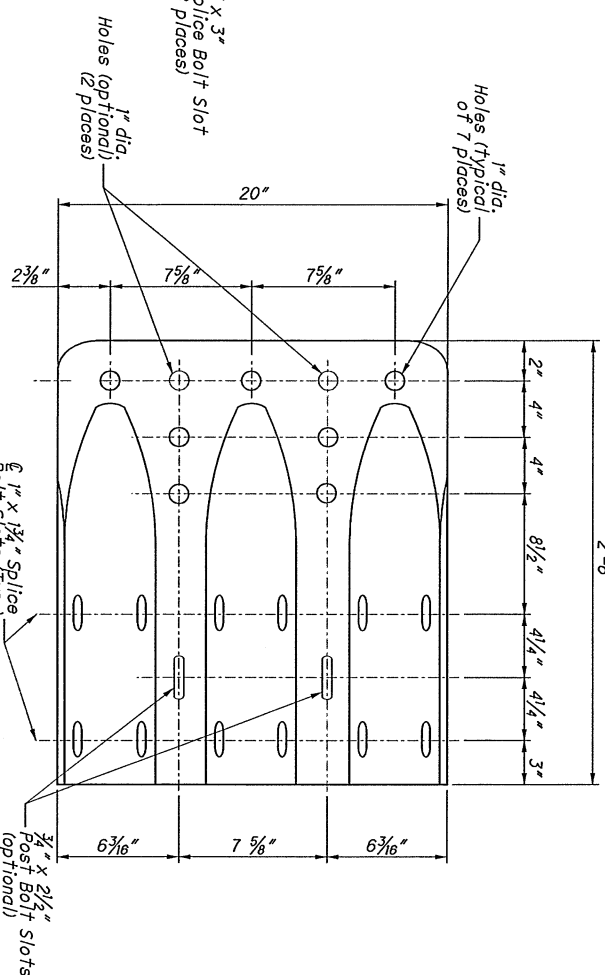
DESIGN AGENCY	GPM
DESIGNER	GPM
REVIEWER	
PROJECT ID	115989
SHEET	P.5
TOTAL	28

**NOTES**

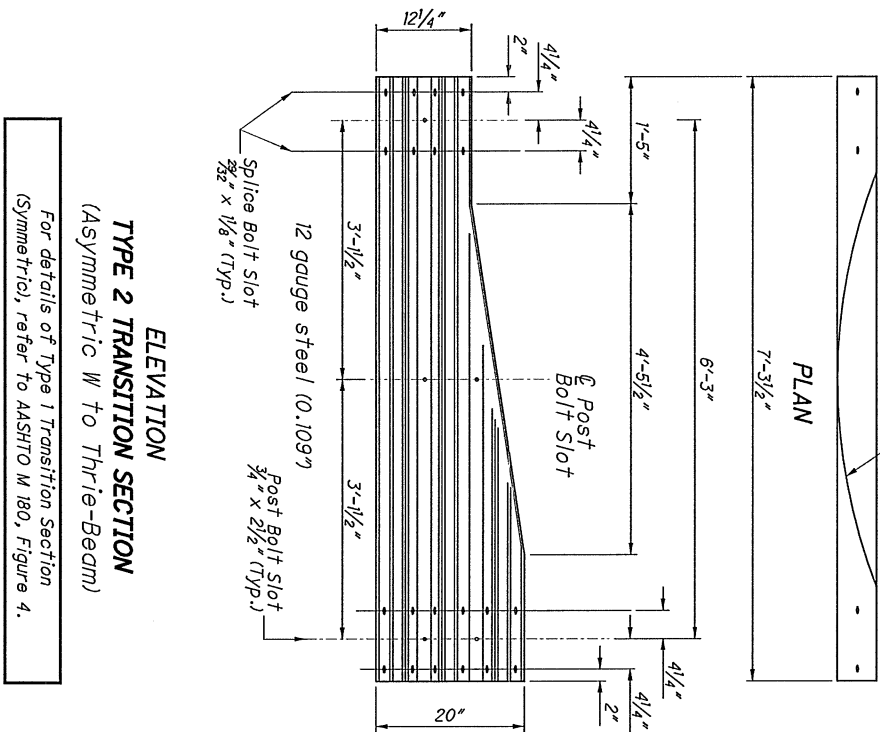
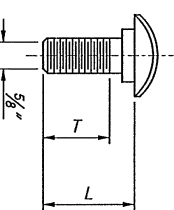
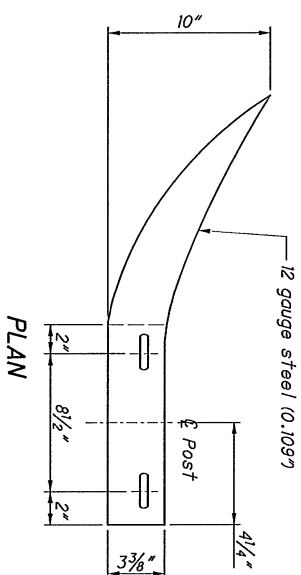
**GENERAL:** Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.  
 See CMS 606 for guardrail specifications not covered on these drawings.  
 Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail, elements, related buffer and end sections, Beam Splices, Post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.  
**RAIL ELEMENTS:** W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with 3/4" x 2 1/2" post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.  
**RAIL SPLICES:** Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.



**ELEVATION**  
**W-BEAM TERMINAL CONNECTOR**

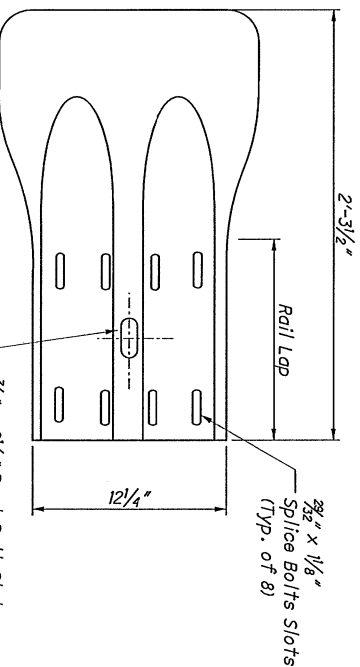


**ELEVATION**  
**THREE-BEAM TERMINAL CONNECTOR**



**ELEVATION**  
**TYPE 2 TRANSITION SECTION**  
 (Asymmetric W to Thrie-Beam)

For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.



**ELEVATION**  
**W-BEAM FLARED END SECTION**

GUARDRAIL BOLT (For Post and Splice Bolts)		Bolt Use	
L	T min.		
18"	4"	Type 5: WP/WB, PB (Standard Rail)	
26"	4"	Type 5: SP/WB, PB (Barrier Rail)	
10"	1 1/8"	Splice Bolt	
1 1/4"	1 1/8"	Splice Bolt	

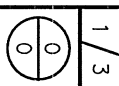
WP = Wood Post  
 SP = Steel Post  
 WB = Wood Blockout  
 PB = Plastic Blockout  
 Longer Bolt may be needed for round Wood Post larger than 8" dia.

PLAN INSERT SHEET  
**GUARDRAIL DETAILS**  
 (Rail Components)

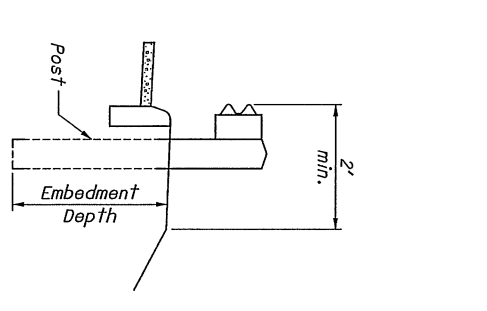
REVISION DATE	DESIGNED
1/18/2013	XXX
CHECKED	REVIEWED
CHECKED	XXX

**OFFICE OF ROADWAY ENGINEERING**

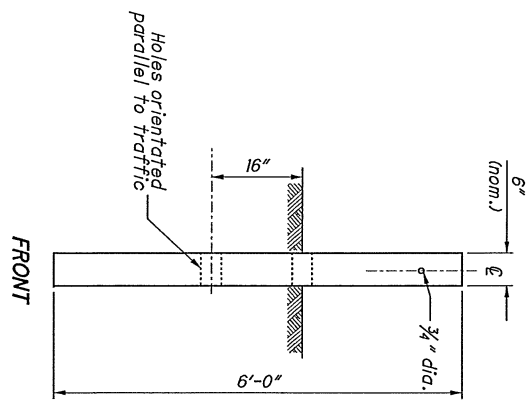
**PIS GR-1.1**



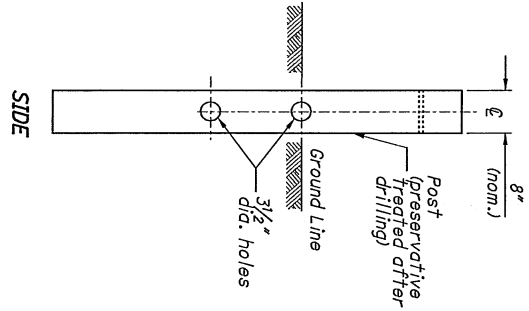




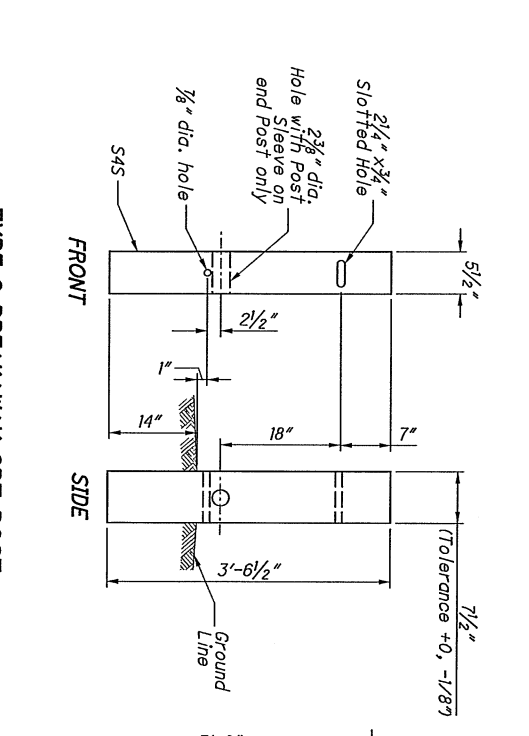
DETAIL A  
See POST EMBEDMENT DEPTH Note



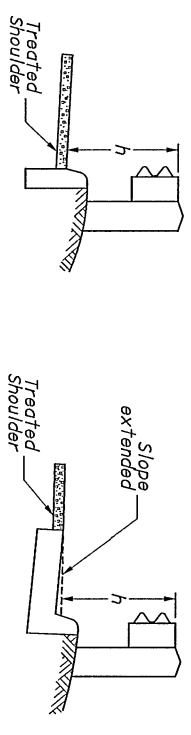
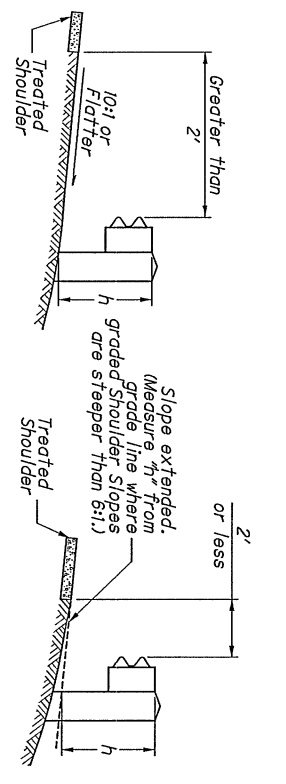
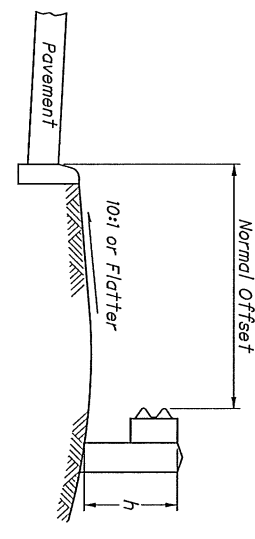
TYPE 1 BREAKAWAY CRT POST



TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE



MEASURING GUARDRAIL HEIGHT  
h = Standard Height (See GUARDRAIL HEIGHT Note)

NOTES

**GUARDRAIL HEIGHT:** For initial installation, construct the guardrail within  $\pm 1/2$ " of the standard height,  $h$ , on  $\pm 20$ " to the top of the W-beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.) When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within  $\pm 2.5$ " of the standard height.

**POST EMBEDMENT DEPTH:** Standard embedment is 3'-5" min. Where less than 2' of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL 47), use longer posts so that a minimum of 5'-5" embedment depth is provided. Payment for the longer posts will be made at the unit price bid for ITEM 806 - GUARDRAIL POST, 9', Each.

**SPECIAL POST MOUNTINGS:** Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on SCD GR-2.2.

Install posts located over a footing with a cover of less than 2'-6" with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of SCD GR-2.2, may be used as an alternative attachment method.) Where the cover is between 2'-6" and 3'-5", the footing anchor may be omitted and the post encased instead with 4" (min.) of concrete.

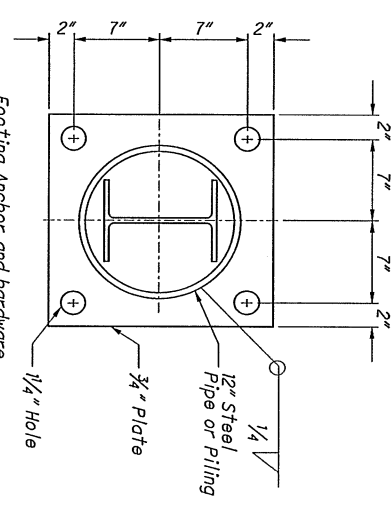
Do not drive posts located over a culvert with less than 4'-3" of cover. Instead set in drilled or dug holes. Where the available post embedment depth is less than 3'-5", encase the post with a minimum of 4" concrete.

All costs associated with special post mountings are included in the unit price bid of Item 806 Guardrail of the type specified in the plans.

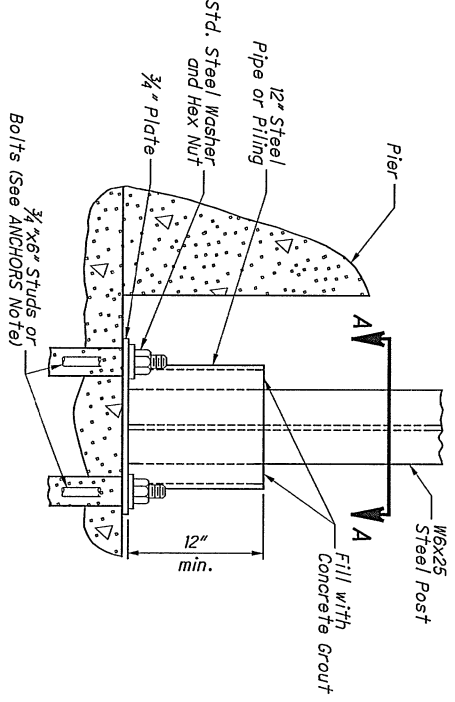
**ANCHORS:** Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.

Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield not by a drill bit and install the shield flush with the concrete surface.

**PROTECTIVE COATING:** In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)



SECTION A-A



ELEVATION FOOTING ANCHOR  
See SPECIAL POST MOUNTINGS Note.

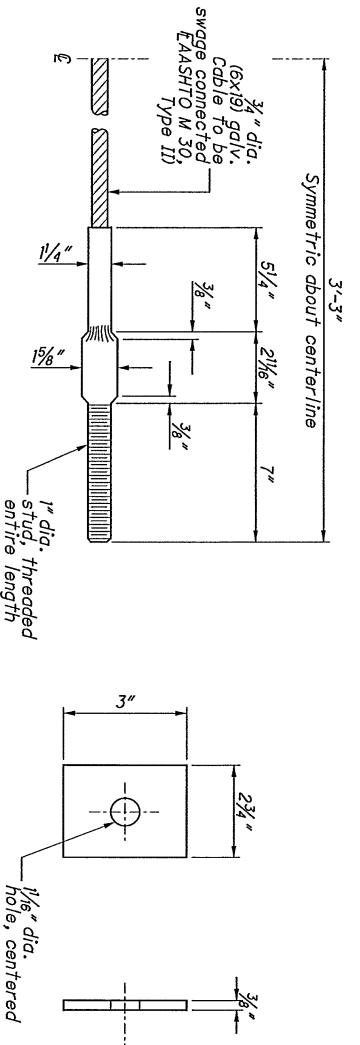
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1/18/2013	XXX	
CHECKED	REVIEWED	
CHECKED	XXX	

PLAN INSERT SHEET  
GUARDRAIL DETAILS  
(Rail Components)

PIS GR-1.1

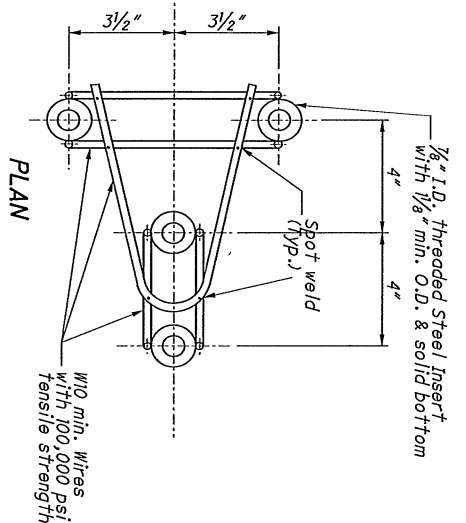
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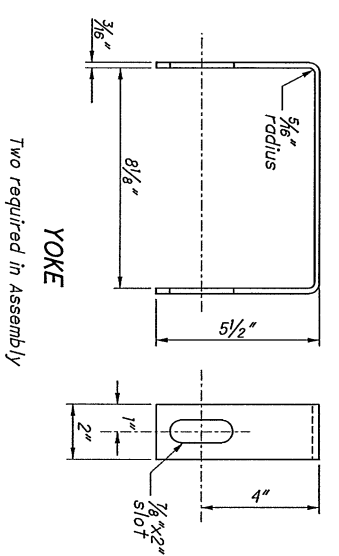


STANDARD SWAGED FITTING AND STUD CABLE ANCHOR

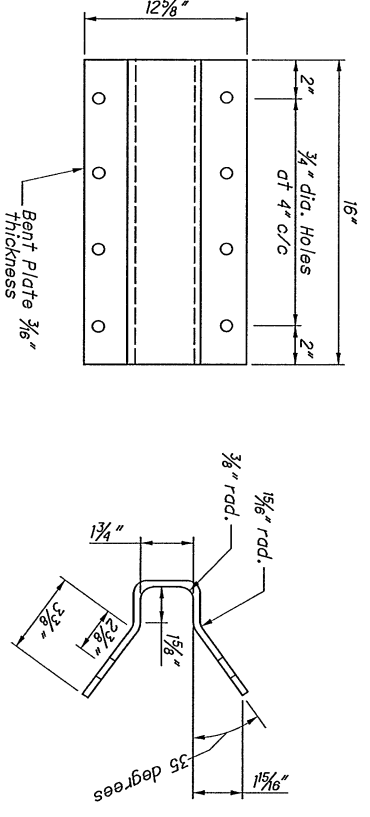
END PLATE



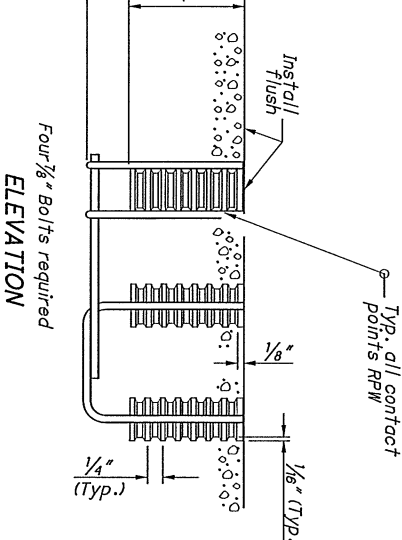
PLAN



YOKE



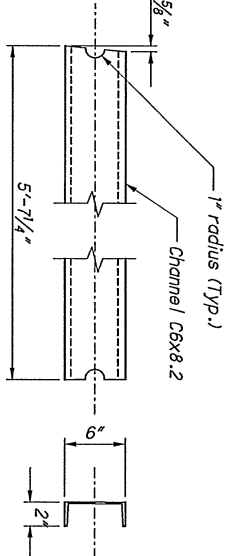
ANCHOR BRACKET



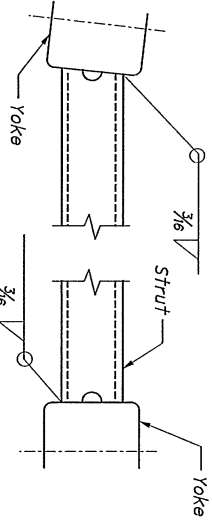
ELEVATION

CONCRETE INSERT ANCHOR ASSEMBLY (W-BEAM ONLY)

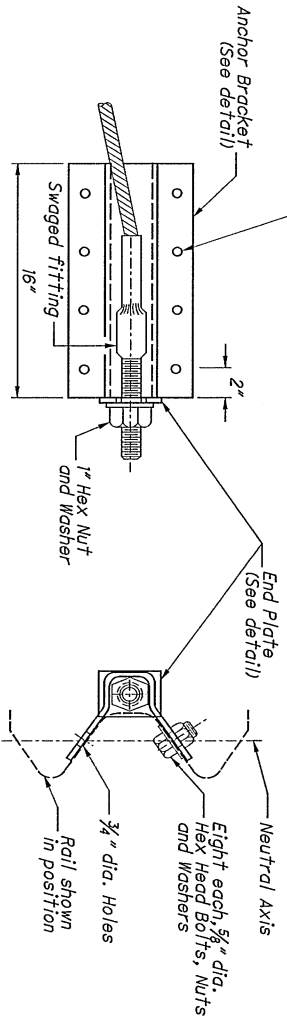
See ANCHORS and PROTECTIVE COATINGS Notes on Sheet 2



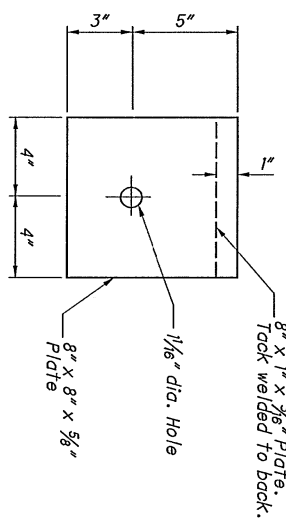
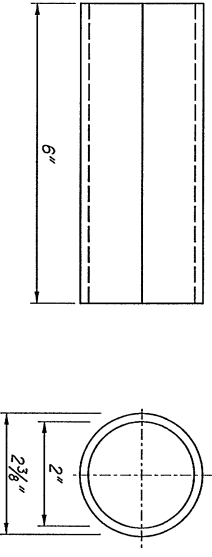
STRUT



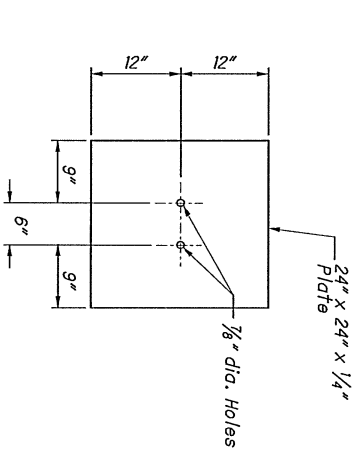
STRUT AND YOKE ASSEMBLY



ANCHOR BRACKET ASSEMBLY DETAILS



BEARING PLATE



SOIL PLATE

3	0	3
0	0	0

PIS GR-1.1

PLAN INSERT SHEET  
 GUARDRAIL DETAILS  
 (Rail Components)

REVISION DATE	DESIGNED	OFFICE OF ROADWAY ENGINEERING
1/18/2013	XXX	
CHECKED	REVIEWED	
CHECKED	XXX	

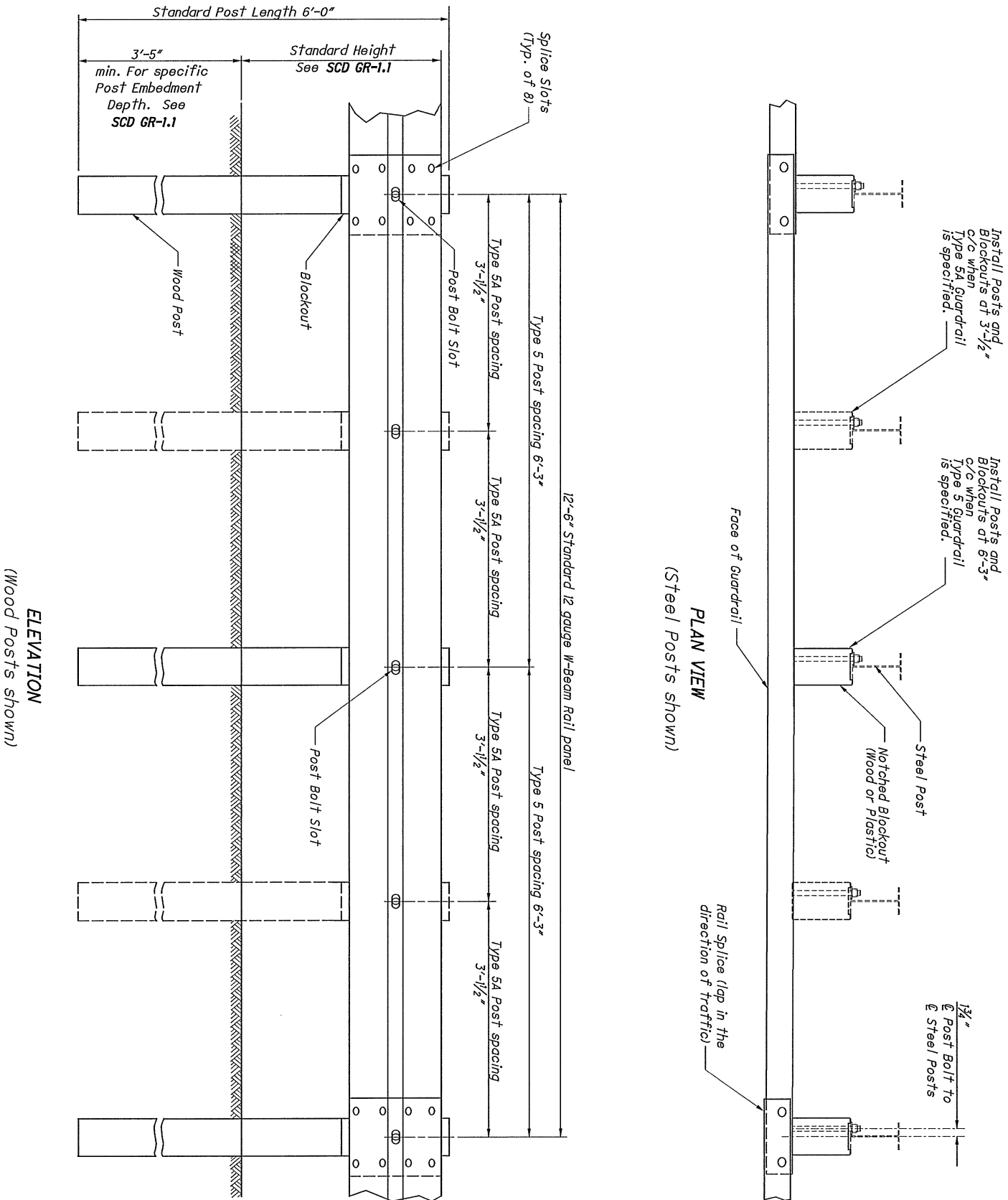
DESIGN AGENCY

DESIGNER  
GPM

REVIEWER

PROJECT ID  
115988

SHEET TOTAL  
P.8 / 28



**NOTES**

- RAIL:** Use W-beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.
- POSTS:** Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawn. Use round wood posts on runs of single-sided rail. The round posts shall be 8 1/2" in diameter at the top and not more than 3" larger at the butt with a uniform taper. Fabricated wood posts with square ends. Posts shall be Pressure-Treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.
- Steel posts are to be 6x9 or 6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.
- All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.
- WELDED BEAM POSTS:** Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 759, Class 1, using Grade 36 Steel (250 MPa yield point) with the following exceptions:
- Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.
- Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.
- Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

**ALTERNATE POSTS:** Engineered guardrail posts having met MCRP 350 criteria, and listed on the **Office of Materials Management's** Approved List are permitted as an equal alternative when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

**BLOCKOUTS:** Blockout dimensions are dependent on post used. Wood blockouts are to be pressure treated as specified in CMS 710.14. Bore-bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the **Office of Roadway Engineering**.

**WASHERS:** Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

**DELIMITATION:** For barrier reflectors, see CMS 626.

**MISCELLANEOUS:** For other guardrail details, see SCD GR-1.1.

STEEL BEAM POSTS (English)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled 6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled 6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

PLAN INSERT SHEET  
**GUARDRAIL TYPE 5 & 5A**

REVISION DATE	DESIGNED	OFFICE OF ROADWAY ENGINEERING
1/18/2013	XXX	
CHECKED	REVIEWED	XXX

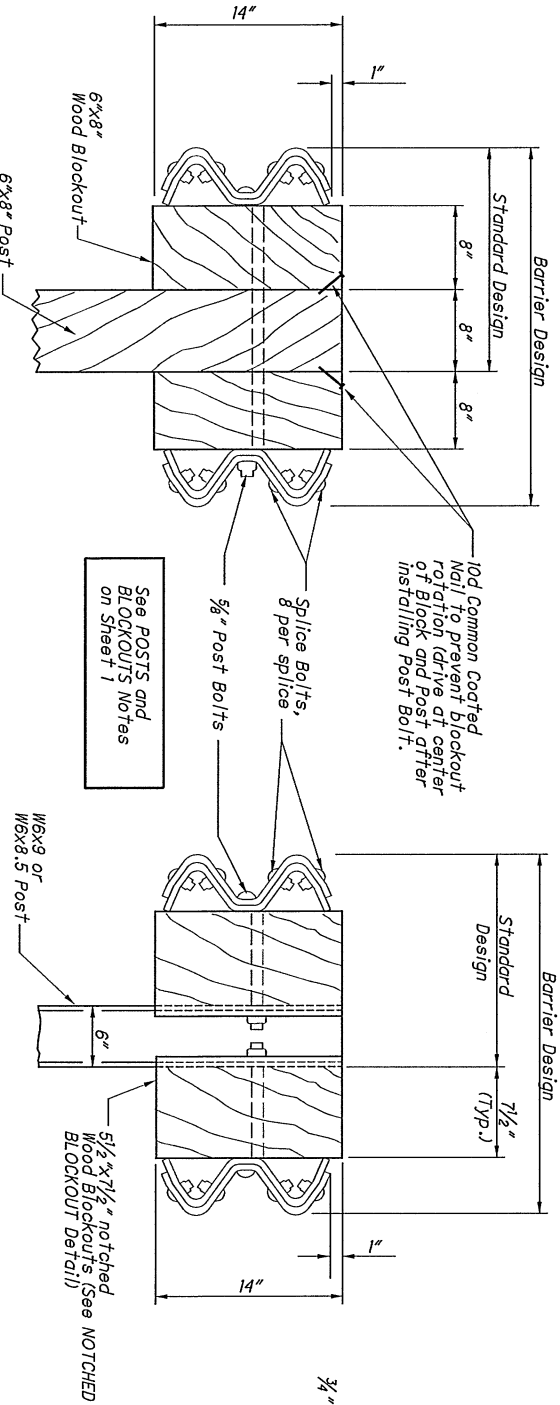
**PIS GR-2.1**



DESIGN AGENCY:

DESIGNER: GPM  
 REVIEWER: GPM

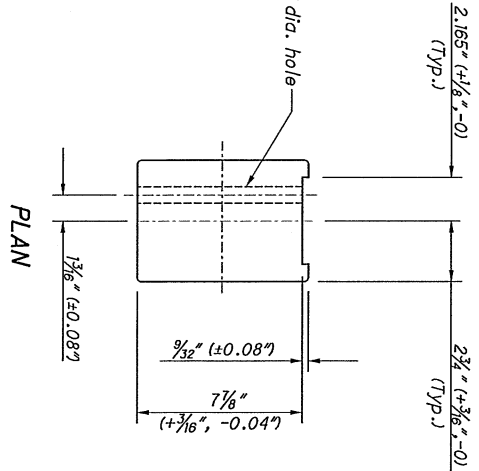
PROJECT ID: 115989  
 SHEET TOTAL: P.9 / 28



**SQUARE WOOD POST**

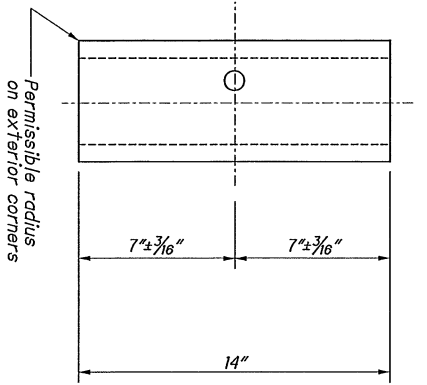
**STEEL POST**

See POSTS Note, Sheet 1

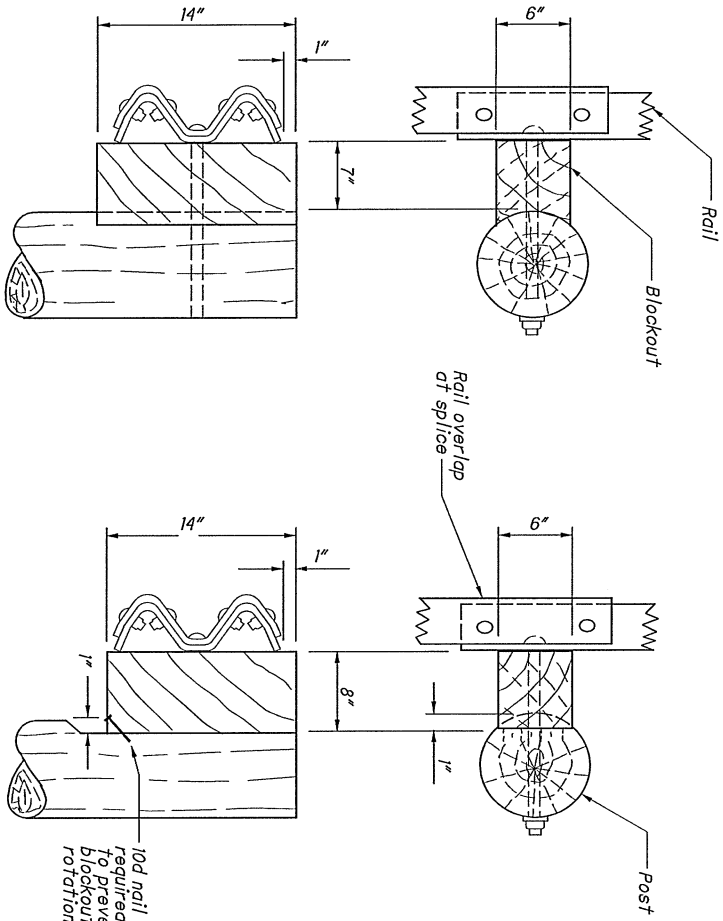


**PLAN**

**ELEVATION**



**NOTCHED BLOCKOUTS FOR STEEL POSTS**  
 See BLOCKOUTS Note on Sheet 1



**Method 1  
Routed Blockout**

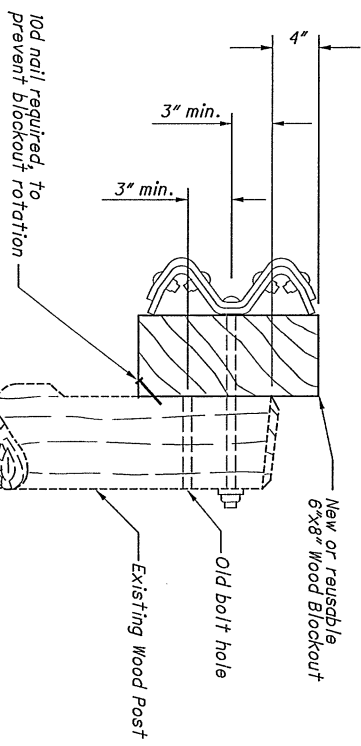
**Method 2  
Notched Post**

Alternate methods of placing the blockouts on round Posts may be submitted for consideration and approved by the Engineer.

**ROUND WOOD POSTS**

Single sided runs only (Standard Design)

**WOOD POSTS WITH WOOD BLOCK RAISING EXISTING GUARDRAIL HEIGHT**



0	2
0	2

**PIS GR-2.1**

PLAN INSERT SHEET  
**GUARDRAIL TYPE 5 & 5A**

REVISION DATE	DESIGNED
1/18/2013	XXX
CHECKED	REVIEWED
CHECKED	XXX

**OFFICE OF ROADWAY ENGINEERING**

DESIGN AGENCY:

DESIGNER: GPM

REVIEWER: GPM

PROJECT ID: 115989

SHEET TOTAL: P.10 / 28

**CONSTRUCTION NOTIFICATION**

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND/OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO)  
 BY FAX: (614) 887-4510 OR  
 BY EMAIL: D05.PIO@DOT.OHIO.GOV

DISTRICT PERMIT SECTION  
 BY FAX: (614) 887-4525 OR  
 BY EMAIL: BRIAN.BOSCH@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION  
 BY FAX: (614) 728-4099 OR  
 BY EMAIL: HAULING.PERMIT@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS VIA MEDIA SOURCES.

**ITEM 614, MAINTAINING TRAFFIC**

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAIL SHEETS AND SPECIFICATIONS AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS LATEST REVISION. IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IMMEDIATELY, AS PER 614.03.

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

THIS PROJECT WILL BE CONSIDERED OPEN TO TRAFFIC ONCE ALL EXCAVATION, AGGREGATE SHOULDER, GRADED DITCH, INSTALLATION OF PROPOSED CULVERT, AND PAVEMENT TO INTERMEDIATE COURSE HAS BEEN COMPLETED.

THE PLANS INDICATE THE MINIMUM SIGNAGE WHICH MUST BE INSTALLED AND/OR MAINTAINED DURING CONSTRUCTION.

EXISTING SIGNS OR CONTRACTOR SUPPLIED SIGNS SHALL BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION.

THE ENGINEER SHALL RECORD INSTALLATION AND REMOVAL OF PROPOSED SIGNS, COVERED OR REMOVED, AND UNCOVERED OR REERECTED SIGNS IN THE PROJECT DIARY.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

**ITEM 614, MAINTAINING TRAFFIC (15)**

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVEABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

**NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE**

Item	Duration of Closure	Sign Deployed to Public
Ramp	>= 2 weeks	14 calendar days prior to closure
& Road	> 12 hours & < 2 weeks	7 calendar days prior to closure
Closures	< 12 hours	2 business days prior to closure
Lane Closures & Restrictions	>= 2 weeks	14 calendar days prior to closure
	< 2 weeks	5 business days prior to closure

Start of Construction & Traffic Pattern Changes: N/A, 14 calendar days prior to implementation

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

**ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)**

NOTICE OF CLOSURE SIGNS (W20- H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

**NOTICE OF CLOSURE SIGN TIME TABLE**

Item	Duration of Closure	Sign Deployed to Public
Ramp	>= 2 weeks	14 calendar days prior to closure
& Road	> 12 hours & < 2 weeks	7 calendar days prior to closure
Closures	< 12 hours	2 business days prior to closure

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MM-W- DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

**ITEM 614, MAINTAINING TRAFFIC (SIGNS AND BARRICADES)**

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES.

**ITEM 614, MAINTAINING TRAFFIC (ROAD CLOSED SIGN)**

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 DURING PERIODS IN WHICH THE AFFECTED ROAD IS CLOSED TO TRAFFIC.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

**ITEM 616, WATER (1 MGAL)**

**CRITICAL WORK**

IF THE CRITICAL WORK IS NOT COMPLETED WITHIN THE CALENDAR DAYS DESIGNATED THE CONTRACTOR WILL BE SUBJECT TO A DISINCENTIVE OF \$1000.00 PER DAY. ALL OTHER WORK IS TO BE COMPLETED BY THE PROPOSAL COMPLETION DATE.

DESCRIPTION OF CRITICAL WORK	CALENDAR DAYS TO COMPLETE	DIS-INCENTIVE (\$ PER DAY)
EXCAVATION, INSTALLATION OF CULVERT & PAVEMENT TO INTERMEDIATE COURSE	SIXTY (60) CALENDAR DAYS	\$1000 PER DAY

THE FINAL COMPLETION DATE FOR THE PROJECT WILL BE AS LISTED IN THE PROPOSAL.

THE FINAL SURFACE COURSE AND THE STRIPING CAN BE PERFORMED AS A FLAGGING OPERATION.

**DESIGNATED LOCAL DETOUR ROUTE**

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL DETOUR ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE". THIS DETOUR ROUTE IS SHOWN ON SHEET 6. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RIDGES, BUMPS, DUST, AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE FOLLOWING QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE:

**ITEM 441, ASPHALT CONCRETE, MISC.: SPOT TREATMENT (20 CY)**

**ITEM 407, NON-TRACKING TACK COAT (24 GAL)**

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS, PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS, WHEN NOT IN USE. THE PCMS SHALL BE TURNED OFF, ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (8 SIGN/TT)**

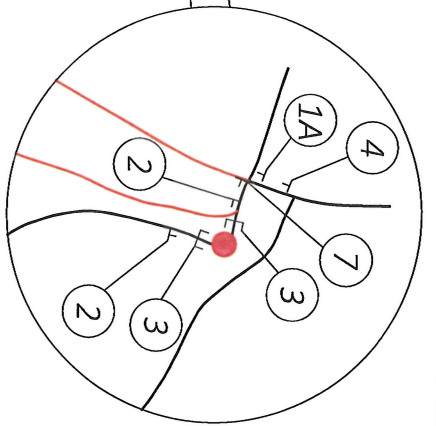
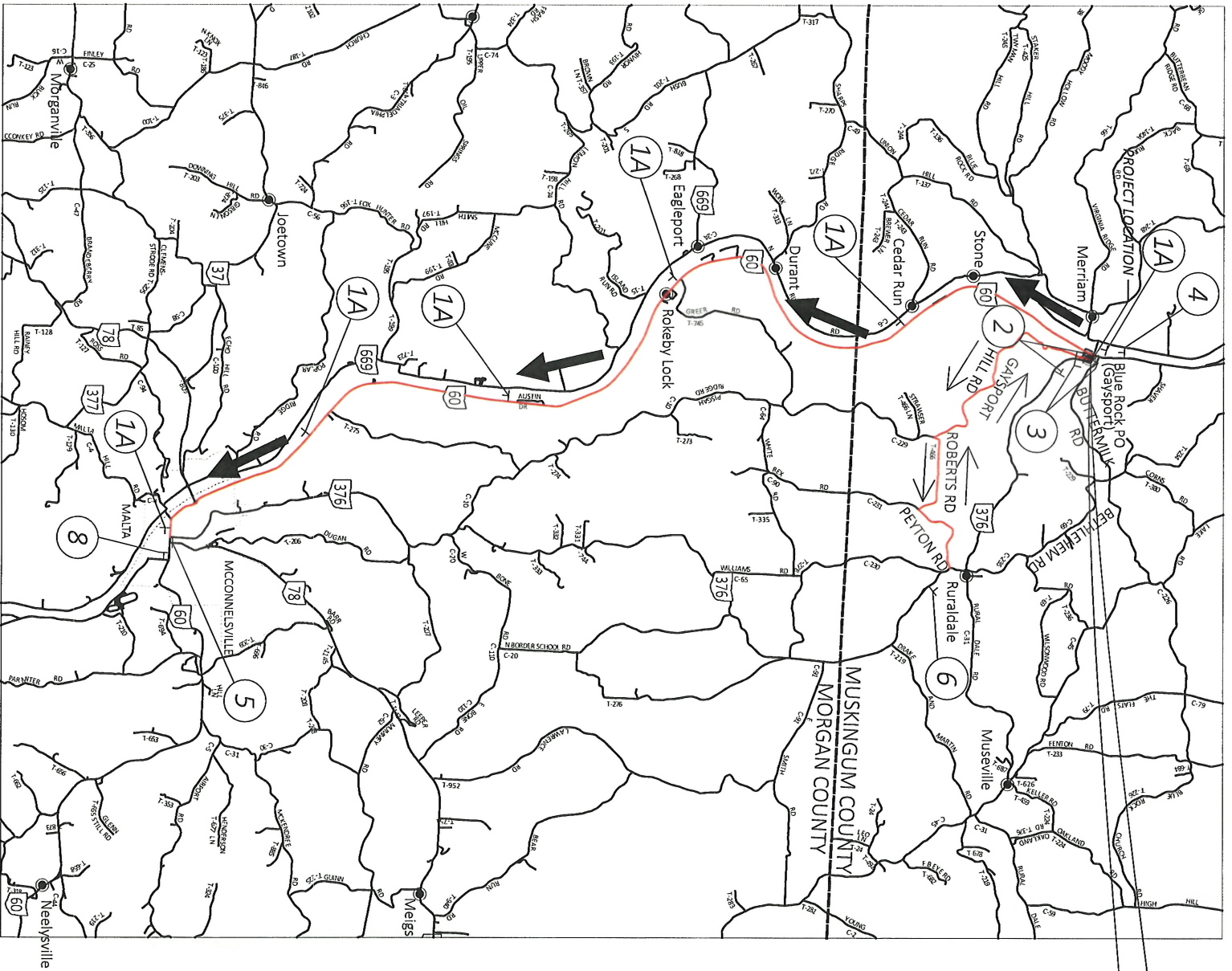
(ASSUMING 4 SIGNS FOR 2 MONTHS.)

**MAINTENANCE OF TRAFFIC NOTES**



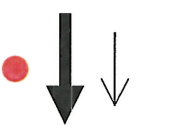
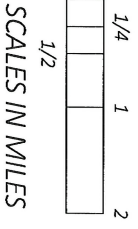
DESIGN AGENCY	
DESIGNER	GPM
REVIEWER	
PROJECT ID	115989
SHEET	P.11
TOTAL	28





**STATE DETOUR ROUTE**  
 NB S.R. 376: NO DETOUR  
 (LOCAL TRAFFIC ONLY)  
 SB S.R. 376: S.R. 60

**LOCAL DETOUR ROUTE**  
 EB: GAYSPORT HILL RD TO  
 ROBERTS RD TO PEYTON RD  
 WB: PEYTON RD TO GAYSPORT  
 HILL RD TO ROBERTS RD



**LEGEND**  
 LOCAL DETOUR ROUTE  
 STATE DETOUR ROUTE  
 PROJECT LOCATION

<p>1                  DETOUR                  M4-8-24  <b>376</b>                  M1-5-24-3                  M6-3-21                  4                  W20-2-36</p>	<p>2                  ROAD WILL BE                  CLOSED MMM/DD                  FOR XX DAYS                  INFO: XXX-XXX-XXXX                  W20-H13-60</p>	<p>3                  ROAD                  CLOSED                  R11-2-48                  (ON TYPE III BARRICADES)</p>
<p>7  <b>376</b>                  M1-5-24-3                  ROAD CLOSED                  0.1 MILES AHEAD                  LOCAL TRAFFIC ONLY                  R11-30-60                  (ON TYPE III BARRICADE)                  DETOUR                  M4-10R-48</p>	<p>5  <b>376</b>                  M1-5-24-3                  ROAD CLOSED                  14.6 MILES AHEAD                  LOCAL TRAFFIC ONLY                  R11-30-60                  (ON TYPE III BARRICADE)                  END                  DETOUR                  M4-8A-24</p>	<p>6  <b>376</b>                  M1-5-24-3                  ROAD CLOSED                  3.6 MILES AHEAD                  LOCAL TRAFFIC ONLY                  R11-30-60                  (ON TYPE III BARRICADE)                  SOUTH                  M3-2-24</p>

MOT DETOUR MAP





**FULL DEPTH PAVEMENT CALCULATIONS**

LIMITS:  
 STA. 12+20.00 TO STA. 12+40.00 (= 20.00 FT)  
 STA. 10+20.00 TO STA. 14+45.00 (= 425.00 FT)

ITEM 202, PAVEMENT REMOVED  
 406.4 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 421.6 SF\* (STA. 12+20.00 TO STA. 12+40.00) = 92 SY

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 64-22  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 422.8 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 1.25" = 19 CY

ITEM 407, NON-TRACKING TACK COAT (APPLIED TO NEW INTERMEDIATE COURSE)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 422.8 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 0.06 GAL PER SY = 33 GAL

ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 422.8 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 1.75" = 27 CY

ITEM 407, NON-TRACKING TACK COAT (APPLIED TO NEW ASPHALT BASE COURSE)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 430.2 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 0.06 GAL PER SY = 33 GAL

ITEM 301, ASPHALT CONCRETE BASE, PG64-22 (449)  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 430.2 SF\* (STA. 12+20.00 TO STA. 12+40.00)]\* X 6" = 92 CY

ITEM 304, AGGREGATE BASE  
 [4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 441.3 SF\* (STA. 12+20.00 TO STA. 12+40.00)] X 6" = 92 CY

ITEM 204, SUBGRADE COMPACTION  
 4541.8 SF\* (STA. 10+20.00 TO STA. 14+45.00) + 477.9 SF\* (STA. 12+20.00 TO STA. 12+40.00) = 558 SY

ITEM 408, PRIME COAT, AS PER PLAN  
 55.1 SF\* X 0.40 GAL PER SY = 22 GAL

ITEM 617, COMPACTED AGGREGATE, AS PER PLAN  
 55.1 SF\* (LT.) X 4" = 1 CY

ITEM 609, CURB, TYPE 6  
 383 FT

\*CADD-GENERATED AREA

**GUARDRAIL CALCULATIONS**

LIMITS:  
 STA. 12+20.00 TO STA. 12+40.00

ITEM 202, GUARDRAIL REMOVED  
 =25 FT

ITEM 606, GUARDRAIL, TYPE 5, USING 9 FOOT POSTS  
 = 25 FT

**BUILDINGS DEMOLISHED & WELL ABANDONED**

LOCATION:  
 STA. 11+10.00  
 115.5' LT (HOUSE)

STA. 9+82.00  
 78.3' LT (SHED)

ITEM 202, BUILDING DEMOLISHED, ONE STORY HOUSE & SHED  
 =LUMP SUM

LOCATION:  
 STA. 10+48.00  
 56.0' LT (WATER WELL)

ITEM 202, SPECIAL - DRILLED WATER WELL ABANDONED  
 = 1 EACH

**ESTIMATED ROADWAY QUANTITIES**

ITEM	ITEM EXT	UNIT	TOTAL	ITEM DESCRIPTION
202	23000	SY	92	PAVEMENT REMOVED
202	38000	FT	25	GUARDRAIL REMOVED
202	56000	LS	15	BUILDING DEMOLISHED, 1 STORY HOUSE & SHED
202	66000	EACH	1	SPECIAL - DRILLED WATER WELL ABANDONED
204	10000	SY	558	SUBGRADE COMPACTION
301	56000	CY	92	ASPHALT CONCRETE BASE, PG64-22 (449)
304	20000	CY	92	AGGREGATE BASE
407	20000	GAL	66	NON-TRACKING TACK COAT
408	10001	GAL	22	PRIME COAT, AS PER PLAN
441	50000	CY	19	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 64-22
441	50300	CY	27	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
606	13030	FT	25	GUARDRAIL, TYPE 5, USING 9 FOOT POSTS
609	26000	FT	383	CURB, TYPE 6
617	10101	CY	1	COMPACTED AGGREGATE, AS PER PLAN

**QUANTITIES CARRIED TO GENERAL SUMMARY**

**ESTIMATED PAVEMENT MARKING QUANTITIES**

ITEM	ITEM EXT	UNIT	TOTAL	ITEM DESCRIPTION
621	00100	EACH	2	RPV
621	54000	EACH	2	RAISED PAVEMENT MARKER REMOVED
642	00104	MILE	0.09	EDGE LINE, 6", TYPE 1
642	00300	MILE	0.01	CENTER LINE, TYPE 1

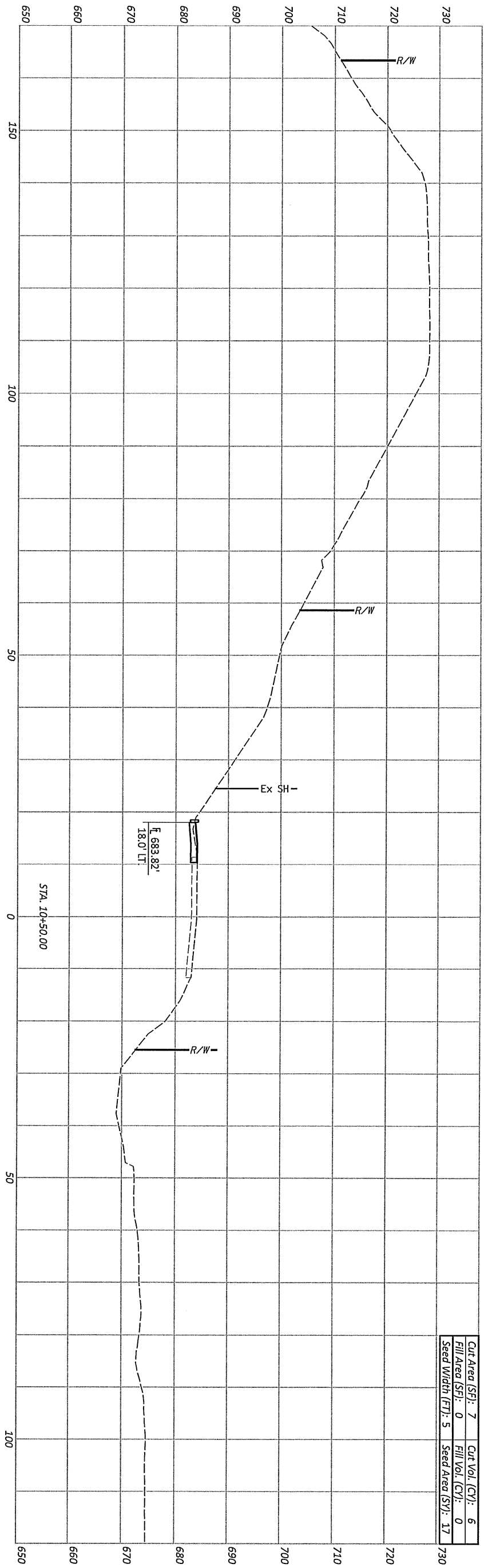
**QUANTITIES CARRIED TO GENERAL SUMMARY**





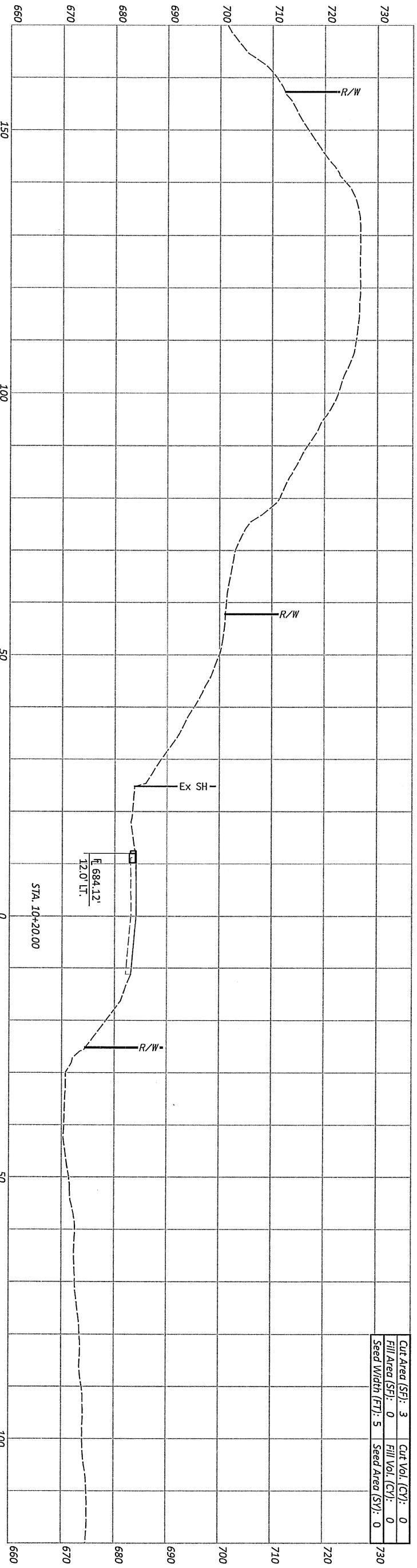
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Cut Area (SF):	7	Fill Vol. (CY):	6
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):	5	Seed Area (SY):	1.7

CROSS SECTIONS - S.R. 376  
 STA. 10+20 - STA. 10+50



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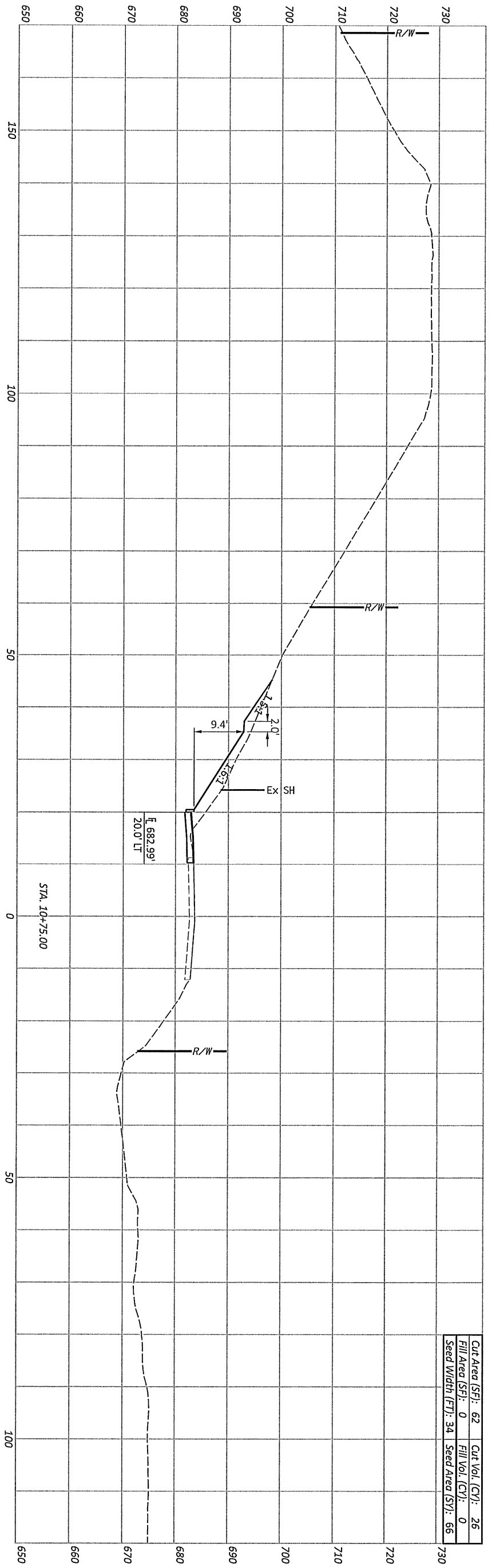
PROJECT ID			
115989			
DESIGNER	GPM		
REVIEWER			
SHEET TOTAL			
Seeding	Cut	Fill	
17	6	0	28



DESIGN AGENCY

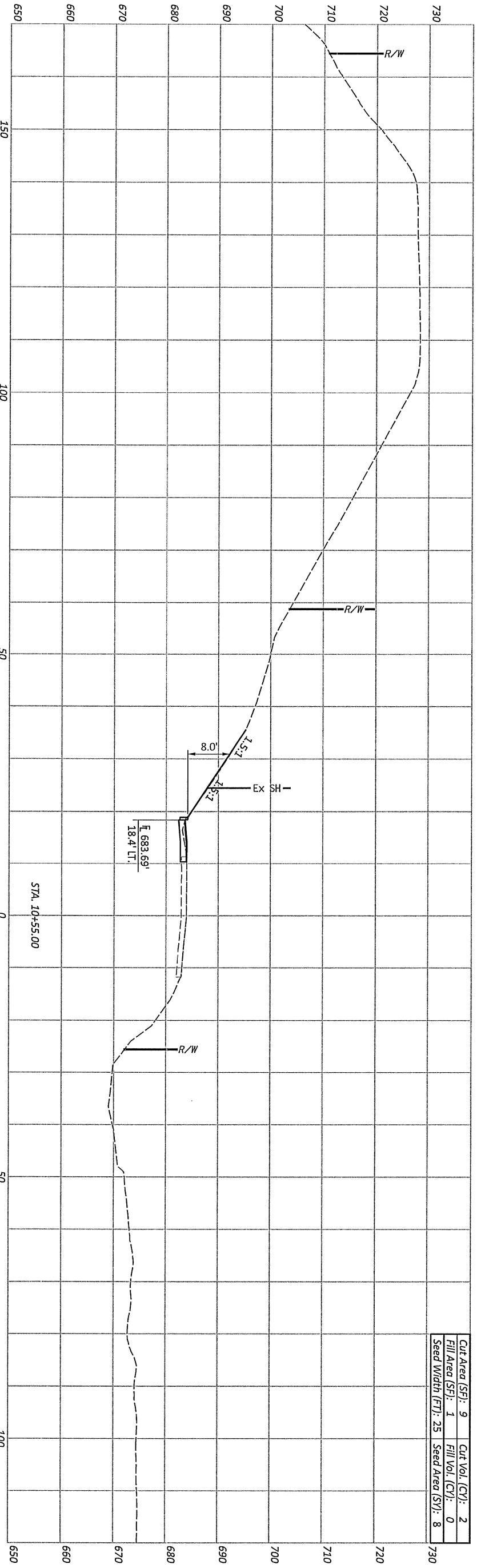
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Cut Area (SF):	62	Cut Vol. (CY):	26
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):	34	Seed Area (SY):	66

Cut Area (SF):	9	Cut Vol. (CY):	2
Fill Area (SF):	1	Fill Vol. (CY):	0
Seed Width (FT):	25	Seed Area (SY):	8



PROJECT ID			
115989			
DESIGNER			
GPM			
REVIEWER			
SHEET TOTAL			
74	28	0	28



CROSS SECTIONS - S.R. 376  
 STA. 10+55 - STA. 10+75