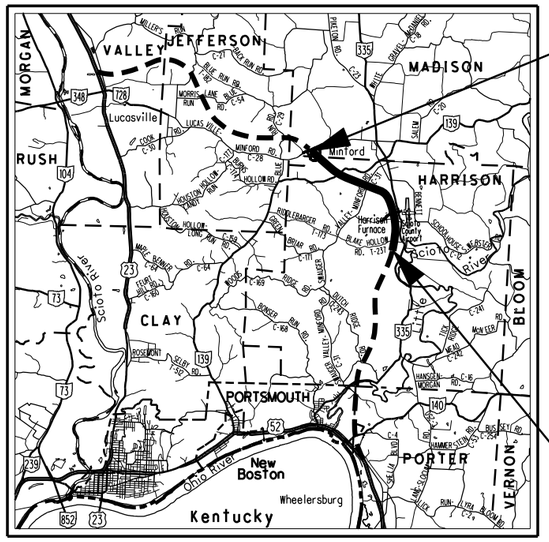


END PROJECT
STA. 536+15.00
SLM = 10.15

BEGIN PROJECT
STA. 353+00.00
SLM = 6.69

LOCATION MAP

LATITUDE: N 38°50'25" LONGITUDE: W 82°50'50"

SCALE IN MILES
0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

(SEE SHEET 2)

DESIGN EXCEPTIONS

(SEE SHEET 2)

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:

HDR ENGINEERING, INC.
9987 CARVER RD, SUITE 200
CINCINNATI, OHIO 45242
513-984-7500

ENGINEERS SEAL:
ROADWAY PLANS
(HDR ENGINEERING, INC.)
SIGNED:
DATE:

ENGINEERS SEAL:
MOT/TRAFFIC PLANS
(WD TRANSPORTATION)
SIGNED:
DATE:

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

SCI-823-6.81
PART 5

MADISON & HARRISON TOWNSHIPS
SCIOTO COUNTY

PART 1 - EARTHWORK
PART 2 - SR 335 & BRIDGE NO. SCI-TR234-0122
PART 3 - BRIDGE NO. SCI-823-0837 L & R
PART 4 - BRIDGE NO. SCI-823-0917 L & R
PART 5 - PAVEMENT

INDEX OF SHEETS

PROJECT DESCRIPTION (PART 5)

FINAL GRADING AND PAVING OF 2.42 MILES OF NEW FOUR LANE LIMITED ACCESS HIGHWAY (SR 823) FROM NORTH OF PROPOSED TR234 INTERCHANGE TO SOUTH OF PROPOSED CR28 INTERCHANGE. INCLUDING PAVING OF RAMPS A & D AT THE TR234 AND CR28 INTERCHANGES. OTHER IMPROVEMENTS INCLUDE GUARDRAIL, BARRIER, DRAINAGE, TRAFFIC CONTROL, LIGHTING AND NOISE BARRIER. COMPLETE WIDENING AND RECONSTRUCTION OF 0.52 MILES OF CR28 (DETOURED TRAFFIC) INCLUDING WORK ON THE PRIVATE DRIVE AND RASES MOUNTAN DRIVE.

PROJECT EARTH DISTURBED AREAS

SEE PART 1

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEETS 22 TO 25 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. G990 (624)
PID NO. 19415
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
SCI-823-6.81

USER: CWohlbr; PLOT DATE: 9/5/2011 910021 AM REVISION DATE: 9/15/2011 MODEL: Sheet
FILE...4HDR.Cu0000000000045878 /1945g1001.dgn

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NO.
HORIZONTAL STOPPING SIGHT DISTANCE (DC = 2°) PROVIDED 663 FT (NDC = 730 FT)	NOVEMBER 4, 2008	57, 59, 61, 63

DESIGN DESIGNATION SR823 (TR234 INTERCHANGE TO US 23 INTERCHANGE)

CURRENT ADT (2010)	19,800
DESIGN YEAR ADT (2030)	26,000
DESIGN HOURLY VOLUME (2030)	2600
DIRECTIONAL DISTRIBUTION	55%
T_D	7%
TRUCKS (24 HOUR B&C)	14%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION	RURAL PRINCIPAL ARTERIAL

DESIGN DESIGNATION CR28 (LUCASVILLE-MINFORD ROAD)

CURRENT ADT (2010)	3000
DESIGN YEAR ADT (2030)	6000
DESIGN HOURLY VOLUME (2030)	600
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION	RURAL MAJOR COLLECTOR

STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
SEE PART 1		

NOTE:
ITEMS THAT WILL BE PERFORMED BY OTHERS UNDER SEPARATE CONTRACT WILL BE DENOTED BY THE ABBREVIATION "NIC" (NOT IN CONTRACT) THROUGHOUT THE PLAN SET.

NOTE:
ITEMS THAT WILL BE PERFORMED UNDER SEPARATE PART WILL BE DENOTED BY THE ABBREVIATION "NIP" (NOT IN PART) THROUGHOUT THE PLAN SET.

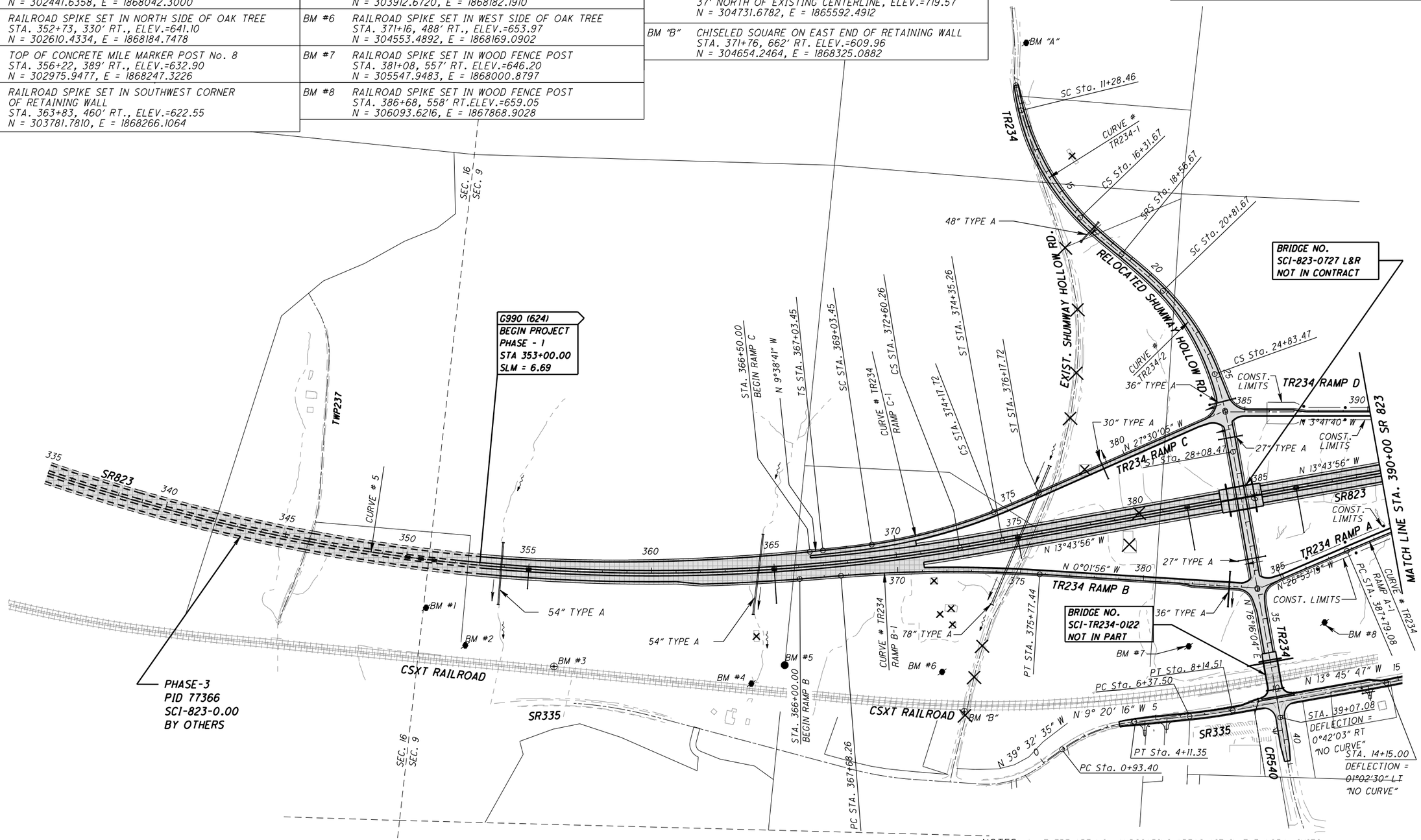
CALCULATED LBD
CHECKED JMB

SCI-823-6.81

BENCHMARKS:

BM #1	RAILROAD SPIKE SET IN NORTH SIDE OF OAK TREE STA. 349+97, 190' RT., ELEV.=657.72 N = 302441.6358, E = 1868042.3000	BM #5	TOP OF CONCRETE MONUMENT WITH "X" STA. 365+16, 392' RT., ELEV.=643.18 N = 303912.6720, E = 1868182.1910	BM "A"	RAILROAD SPIKE SET IN WOOD POST ABOUT 170' WEST OF CENTERLINE STATION 10+23.46 (TR 234) AND 37' NORTH OF EXISTING CENTERLINE, ELEV.=719.57 N = 304731.6782, E = 1865592.4912
BM #2	RAILROAD SPIKE SET IN NORTH SIDE OF OAK TREE STA. 352+73, 330' RT., ELEV.=641.10 N = 302610.4334, E = 1868184.7478	BM #6	RAILROAD SPIKE SET IN WEST SIDE OF OAK TREE STA. 371+16, 488' RT., ELEV.=653.97 N = 304553.4892, E = 1868169.0902	BM "B"	CHISELED SQUARE ON EAST END OF RETAINING WALL STA. 371+76, 662' RT. ELEV.=609.96 N = 304654.2464, E = 1868325.0882
BM #3	TOP OF CONCRETE MILE MARKER POST No. 8 STA. 356+22, 389' RT., ELEV.=632.90 N = 302975.9477, E = 1868247.3226	BM #7	RAILROAD SPIKE SET IN WOOD FENCE POST STA. 381+08, 557' RT. ELEV.=646.20 N = 305547.9483, E = 1868000.8797		
BM #4	RAILROAD SPIKE SET IN SOUTHWEST CORNER OF RETAINING WALL STA. 363+83, 460' RT., ELEV.=622.55 N = 303781.7810, E = 1868266.1064	BM #8	RAILROAD SPIKE SET IN WOOD FENCE POST STA. 386+68, 558' RT.ELEV.=659.05 N = 306093.6216, E = 1867868.9028		

NOTE:
TR234 AND SR335 IMPROVEMENTS HAVE BEEN PERFORMED IN OTHER PART (NIP).



NOTES:
1. THERE ARE NO LANDSCAPING AREAS WITHIN THE WORK LIMITS.
2. FOR INTERSECTION STATIONS AND FOR INTERSECTION ANGLES FOR ALL INTERSECTING ROADWAYS, SEE INTERSECTION DETAIL SHEETS AND PLAN SHEETS.
3. FOR BEARINGS ON SIDEROADS SEE PLAN SHEETS.
4. FOR HORIZONTAL CURVE DATA SEE PLAN SHEETS AND HORIZONTAL CURVE DATA SHEET.
5. ALL COORDINATES SHOWN ARE ON GROUND VALUES, SEE HORIZONTAL CURVE DATA SHEET FOR SCALE FACTOR.
6. FOR CENTERLINE REFERENCE MONUMENTS SEE PLAN SHEETS.

LEGEND:
× = REMOVAL
PAVEMENT TO BE CONSTRUCTED IN OTHER PART
PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED BEE
CHECKED JMB

SCHEMATIC PLAN - SR823
STA. 335+00.00 TO STA. 390+00.00

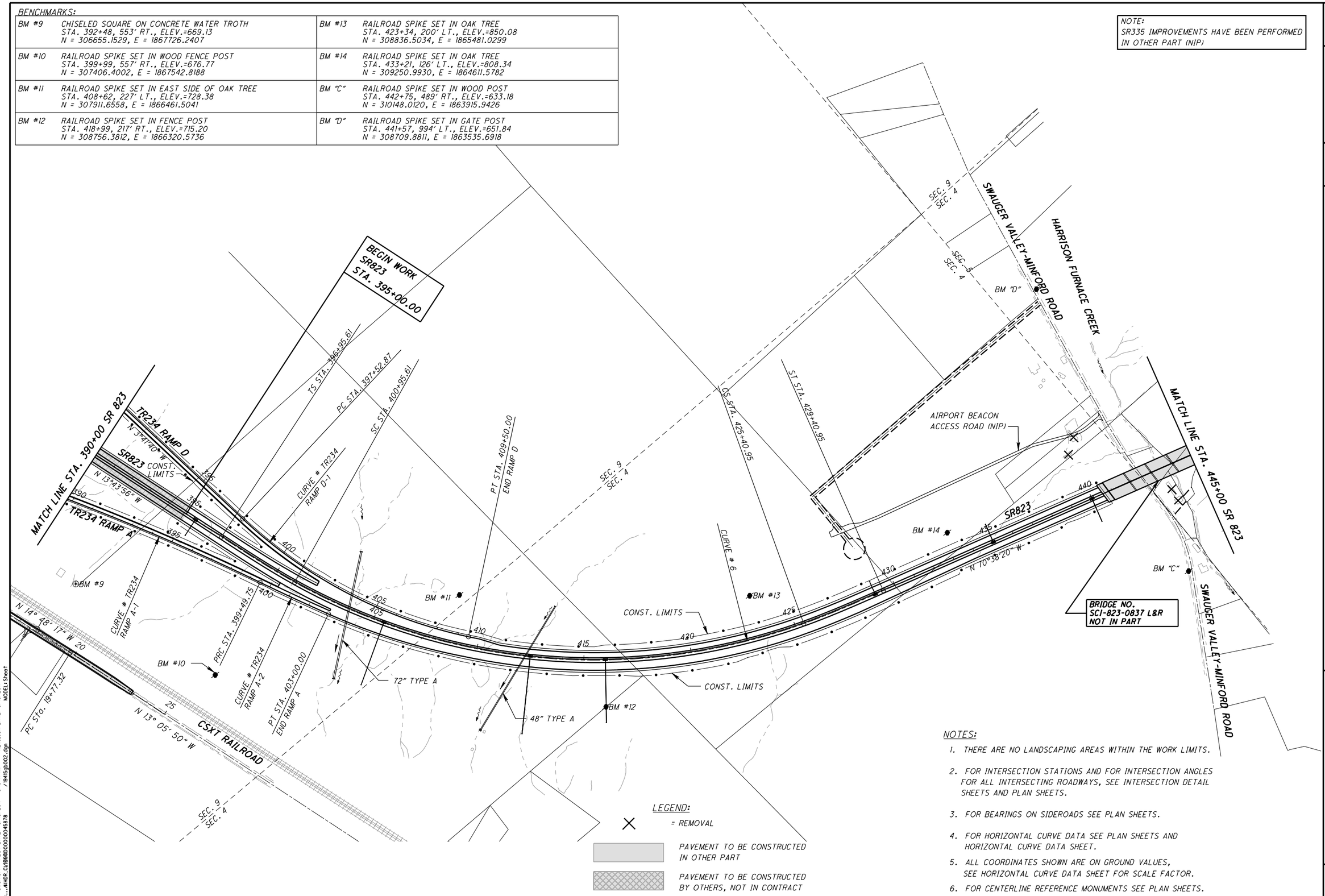
SCI-823-6.81

USER: CWahlbr1 PLOT DATE: 9/15/2011 9h10m33 AM REVISION DATE: 9/15/2011 MODEL: Sheet
FILE:...\MHDR.CvB0000000004578 /1845gb001.dgn

BENCHMARKS:

BM #9	CHISELED SQUARE ON CONCRETE WATER TROTH STA. 392+48, 553' RT., ELEV.=669.13 N = 306655.1529, E = 1867726.2407	BM #13	RAILROAD SPIKE SET IN OAK TREE STA. 423+34, 200' LT., ELEV.=850.08 N = 308836.5034, E = 1865481.0299
BM #10	RAILROAD SPIKE SET IN WOOD FENCE POST STA. 399+99, 557' RT., ELEV.=676.77 N = 307406.4002, E = 1867542.8188	BM #14	RAILROAD SPIKE SET IN OAK TREE STA. 433+21, 126' LT., ELEV.=808.34 N = 309250.9930, E = 1864611.5782
BM #11	RAILROAD SPIKE SET IN EAST SIDE OF OAK TREE STA. 408+62, 227' LT., ELEV.=728.38 N = 307911.6558, E = 1866461.5041	BM "C"	RAILROAD SPIKE SET IN WOOD POST STA. 442+75, 489' RT., ELEV.=633.18 N = 310148.0120, E = 1863915.9426
BM #12	RAILROAD SPIKE SET IN FENCE POST STA. 418+99, 217' RT., ELEV.=715.20 N = 308756.3812, E = 1866320.5736	BM "D"	RAILROAD SPIKE SET IN GATE POST STA. 441+57, 994' LT., ELEV.=651.84 N = 308709.8811, E = 1863535.6918

NOTE:
SR335 IMPROVEMENTS HAVE BEEN PERFORMED IN OTHER PART (NIP)



LEGEND:

× = REMOVAL

PAVEMENT TO BE CONSTRUCTED IN OTHER PART

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

NOTES:

1. THERE ARE NO LANDSCAPING AREAS WITHIN THE WORK LIMITS.
2. FOR INTERSECTION STATIONS AND FOR INTERSECTION ANGLES FOR ALL INTERSECTING ROADWAYS, SEE INTERSECTION DETAIL SHEETS AND PLAN SHEETS.
3. FOR BEARINGS ON SIDEROADS SEE PLAN SHEETS.
4. FOR HORIZONTAL CURVE DATA SEE PLAN SHEETS AND HORIZONTAL CURVE DATA SHEET.
5. ALL COORDINATES SHOWN ARE ON GROUND VALUES, SEE HORIZONTAL CURVE DATA SHEET FOR SCALE FACTOR.
6. FOR CENTERLINE REFERENCE MONUMENTS SEE PLAN SHEETS.

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED BEE
CHECKED JBM

SCHEMATIC PLAN - SR823
STA. 390+00.00 TO STA. 445+00.00

SCI-823-6.81

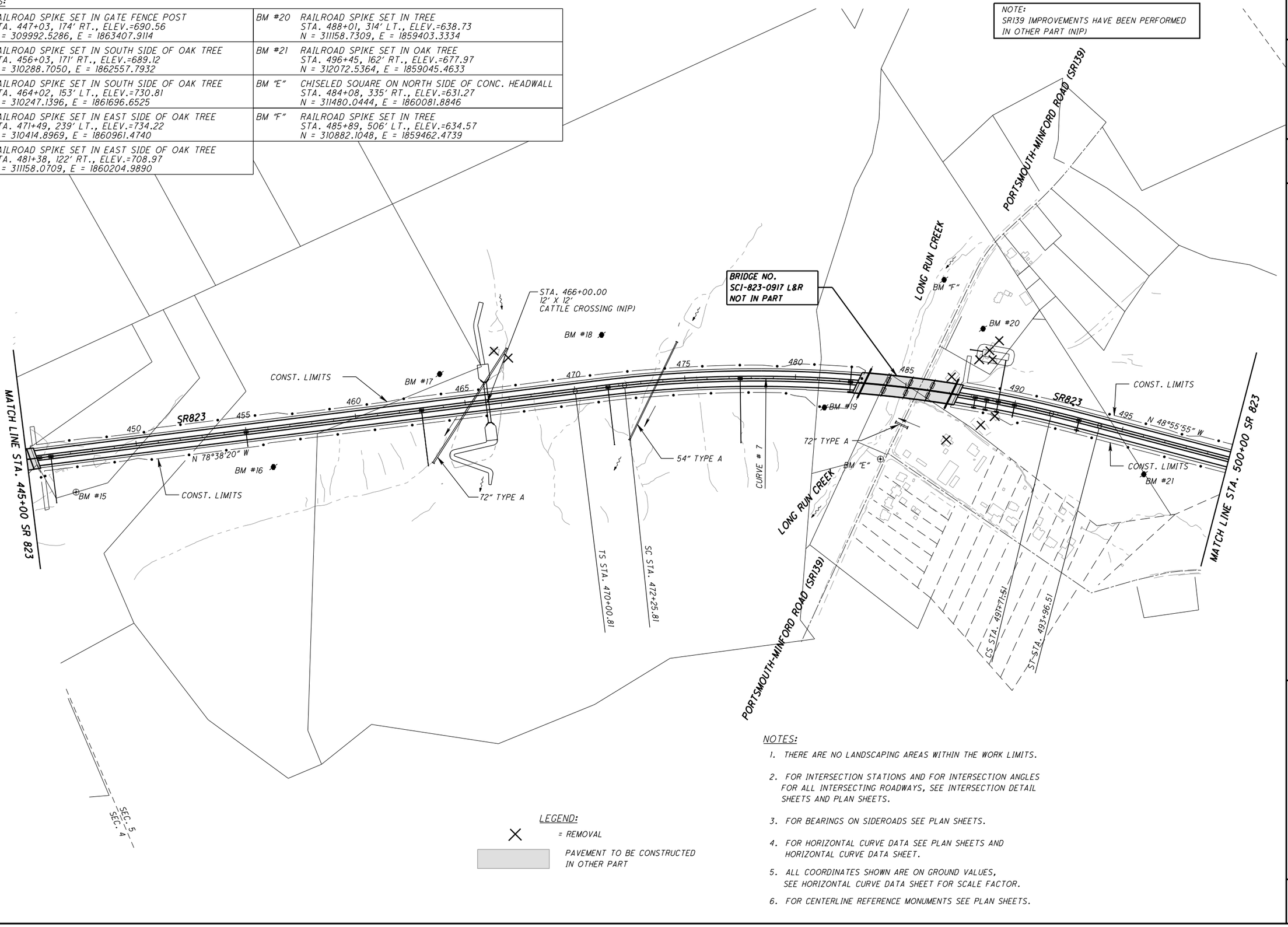
4
209

USER: CMahlbri PLOT DATE: 9/15/2011 9H041 AM REVISION DATE: 9/15/2011
FILE...4HOR.CU000000004587B /9415gb002.dgn MODEL: Sheet

BENCHMARKS:

BM #15	RAILROAD SPIKE SET IN GATE FENCE POST STA. 447+03, 174' RT., ELEV.=690.56 N = 309992.5286, E = 1863407.9114	BM #20	RAILROAD SPIKE SET IN TREE STA. 488+01, 314' LT., ELEV.=638.73 N = 311158.7309, E = 1859403.3334
BM #16	RAILROAD SPIKE SET IN SOUTH SIDE OF OAK TREE STA. 456+03, 171' RT., ELEV.=689.12 N = 310288.7050, E = 1862557.7932	BM #21	RAILROAD SPIKE SET IN OAK TREE STA. 496+45, 162' RT., ELEV.=677.97 N = 312072.5364, E = 1859045.4633
BM #17	RAILROAD SPIKE SET IN SOUTH SIDE OF OAK TREE STA. 464+02, 153' LT., ELEV.=730.81 N = 310247.1396, E = 1861696.6525	BM "E"	CHISELED SQUARE ON NORTH SIDE OF CONC. HEADWALL STA. 484+08, 335' RT., ELEV.=631.27 N = 311480.0444, E = 1860081.8846
BM #18	RAILROAD SPIKE SET IN EAST SIDE OF OAK TREE STA. 471+49, 239' LT., ELEV.=734.22 N = 310414.8969, E = 1860961.4740	BM "F"	RAILROAD SPIKE SET IN TREE STA. 485+89, 506' LT., ELEV.=634.57 N = 310882.1048, E = 1859462.4739
BM #19	RAILROAD SPIKE SET IN EAST SIDE OF OAK TREE STA. 481+38, 122' RT., ELEV.=708.97 N = 311158.0709, E = 1860204.9890		

NOTE:
SR139 IMPROVEMENTS HAVE BEEN PERFORMED IN OTHER PART (NIP)



LEGEND:

× = REMOVAL

PAVEMENT TO BE CONSTRUCTED IN OTHER PART

NOTES:

1. THERE ARE NO LANDSCAPING AREAS WITHIN THE WORK LIMITS.
2. FOR INTERSECTION STATIONS AND FOR INTERSECTION ANGLES FOR ALL INTERSECTING ROADWAYS, SEE INTERSECTION DETAIL SHEETS AND PLAN SHEETS.
3. FOR BEARINGS ON SIDEROADS SEE PLAN SHEETS.
4. FOR HORIZONTAL CURVE DATA SEE PLAN SHEETS AND HORIZONTAL CURVE DATA SHEET.
5. ALL COORDINATES SHOWN ARE ON GROUND VALUES, SEE HORIZONTAL CURVE DATA SHEET FOR SCALE FACTOR.
6. FOR CENTERLINE REFERENCE MONUMENTS SEE PLAN SHEETS.

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED BEE
CHECKED JMB

SCHEMATIC PLAN - SR823
STA. 445+00.00 TO STA. 500+00.00

SCI-823-6.81

5
209

USER: cmahlbri PLOT DATE: 9/15/2011 9h10m47 AM REVISION DATE: 9/15/2011
FILES: ..\MNDR_CU\BND00000045878 /9415gb003.dgn MODEL: Sheet

BENCHMARKS:

BM #22 RAILROAD SPIKE SET IN TREE STA. 503+90, 204' RT., ELEV.=694.21 N = 312593.4456, E = 1858511.6346	BM "G" RAILROAD SPIKE SET IN CEDAR TREE STA. 8+35 (CR 28), 51' LT., ELEV.=720.41 N = 314184.6930, E = 1854725.0774
BM #23 RAILROAD SPIKE SET IN OAK TREE STA. 512+04, 223' LT., ELEV.=883.26 N = 312806.2273, E = 1857617.2352	BM "H" RAILROAD SPIKE SET IN TELEPHONE POLE ABOUT 365' EAST OF CENTERLINE STATION 37+89.24 (CR 28) AND ABOUT 22' SOUTH OF EXISTING CENTERLINE, ELEV.=722.33 N = 315559.9414, E = 1857744.7665
BM #24 RAILROAD SPIKE SET IN OAK TREE STA. 518+43, 282' LT., ELEV.=890.77 N = 313181.5447, E = 1857096.6910	
BM #25 RAILROAD SPIKE SET IN NORTH SIDE OF OAK TREE STA. 525+29, 1146' RT., ELEV.=721.05 N.= 1857516.9650, E.= 314709.3198	

LEGEND:

× = REMOVAL

PAVEMENT TO BE CONSTRUCTED IN OTHER PART

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

MATCH LINE STA. 500+00 SR 823

SR823

CONST. LIMITS

BM #22

54" TYPE A

BM #23

CONST. LIMITS

BM #24

HARRISON/MADISON TWP. LINE

STA. 523+39.69

SC Sta. 522+70.16
TS Sta. 520+70.16
BEGIN RAMP D

CR28 RAMP D

CURVE # CR28 RAMP D-1

CS Sta. 526+01.19

SRS Sta. 528+21.19

SC Sta. 530+41.19

CURVE # CR28 RAMP D-2

CS Sta. 535+88.12

HARRISON TWP.
MADISON TWP.

SEC. 6
SEC. 5

HARRISON TWP.
MADISON TWP.

CR28 RAMP A

PC Sta. 516+80.70
BEGIN RAMP A

CURVE # CR28 RAMP A-1

PCC Sta. 522+65.47

CURVE # CR28 RAMP A-2

CS Sta. 526+71.11

SRS Sta. 529+31.11

SC Sta. 531+06.11

CURVE # CR28 RAMP A-3

CS Sta. 532+84.55

ST Sta. 534+59.55

END WORK
SR283
STA. 523+00.00

BM #25

HARRISON TWP.
MADISON TWP.

CR28 RAMP C

SC Sta. 521+84.67
TS Sta. 519+84.67

CURVE # CR28 RAMP C-1

CS Sta. 530+93.64

SC Sta. 532+93.64

CURVE # CR28 RAMP C-2

PT Sta. 538+87.92

CR28 RAMP B

CURVE # CR28 RAMP B-1

SC Sta. 525+61.07
TS Sta. 523+86.07

CS Sta. 532+08.62

ST Sta. 534+58.62

CONST. LIMITS

CR28 (LUCASVILLE-MINFORD ROAD)

N 69° 22' 55" E

RASES MOUNTAIN DRIVE

STA. 37+31.38
END WORK
CR28
STA. 37+31.38

BM "H"

SEC. 31
SEC. 32

MADISON TWP.
HARRISON TWP.

CR28 (LUCASVILLE-MINFORD ROAD)

SEC. 6
SEC. 31

STA. 4+56.30

PC Sta. 6+98.11
N 34° 14' 27" E

STA. 9+97.25
BEGIN WORK
CR28
STA. 9+97.25

PT Sta. 9+67.22

BM "G"

FLOWERS ISON ROAD (TR381)

ST Sta. 538+08.12

48" TYPE A

PC Sta. 13+32.00
N 22° 57' 11" W

72" TYPE A

S 22° 57' 11" E

CR28

N 5° 36' 17" E

PRIVATE DRIVE

48" TYPE A

PC STA. 10+41.03
PT STA. 11+82.02
PC STA. 13+70.96
PT STA. 14+59.62
STA. 15+21.15

36" TYPE A

PT Sta. 17+51.41

SR823

N 48°55'55" W

72" TYPE A

N 64° 56' 40" E

PHASE-2
PID 79977
SCI-823-10.13
BY OTHERS

CONST. LIMITS

G990 (624)
END PROJECT
PHASE - 1
STA 536+15.00
SLM = 10.15

BRIDGE NO.
SCI-823-1018 L&R
NOT IN CONTRACT

N 23° 44' 27" W

PC Sta. 23+68.09

PT Sta. 29+43.09

NOTES:

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5. ALL COORDINATES SHOWN ARE ON GROUND VALUES, SEE HORIZONTAL CURVE DATA SHEET FOR SCALE FACTOR.
6. FOR CENTERLINE REFERENCE MONUMENTS SEE PLAN SHEETS.

HORIZONTAL SCALE IN FEET
0 100 200 400

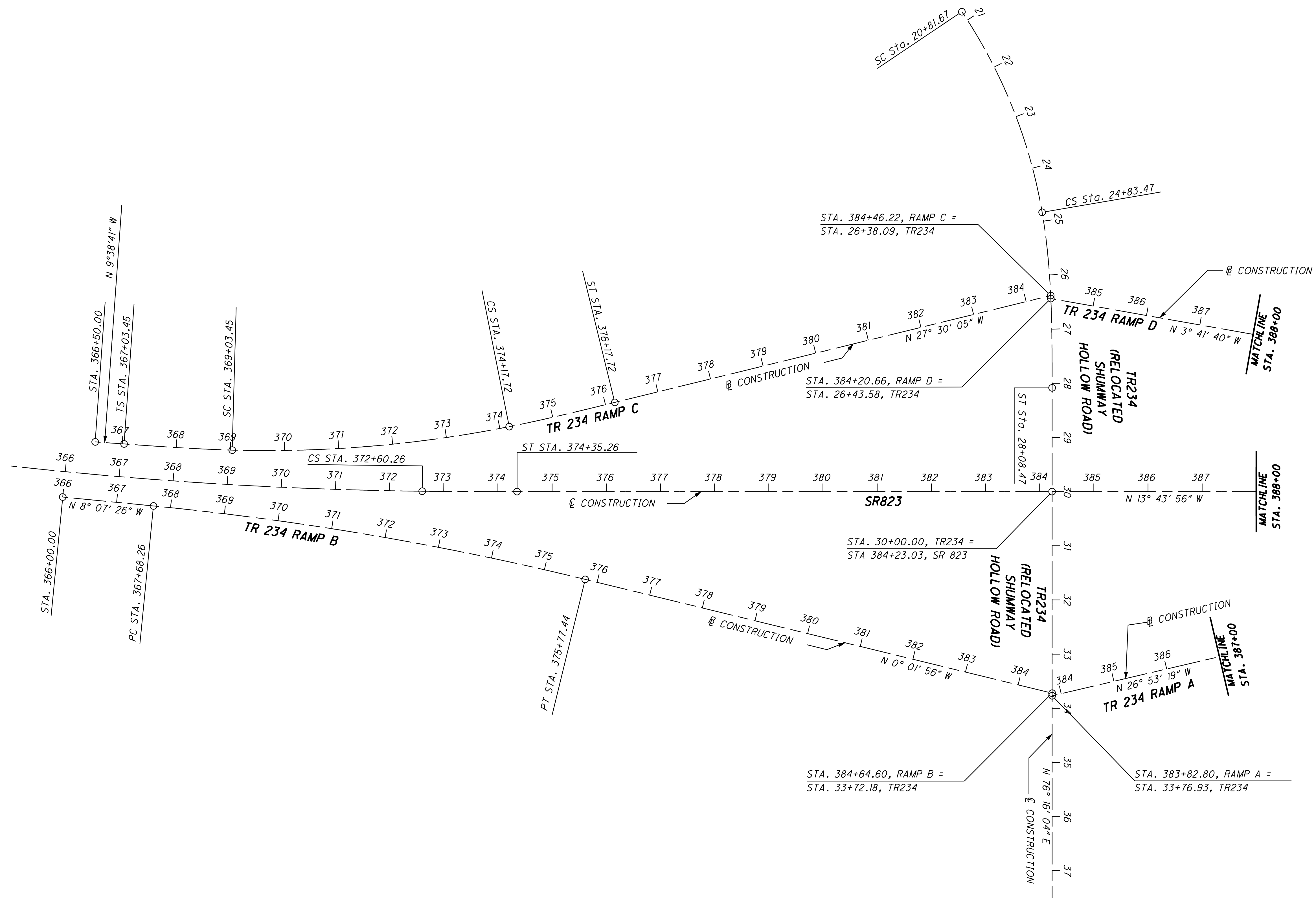
CALCULATED BEE
CHECKED JBM

SCHEMATIC PLAN - SR823
STA. 500+00.00 TO STA. 555+00.00

SCI-823-6.81

6
209

USER: CWohlbri PLOT DATE: 9/15/2011 9:11:00 AM REVISION DATE: 9/15/2011
FILE...\MHDR.C/80000000045878 /79415gb004.dgn MODEL: Sheet



NOTES:
1. FOR HORIZONTAL CURVE DATA, SEE HORIZONTAL CURVE DATA SHEET.

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED LBD
CHECKED JMB

GEOMETRIC LAYOUT SR823 AND TR234 INTERCHANGE

SCI-823-6.81

NOTES:
1. FOR HORIZONTAL CURVE DATA, SEE HORIZONTAL CURVE DATA SHEET.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED LBD
CHECKED JMB

GEOMETRIC LAYOUT
SR823 AND TR234 INTERCHANGE

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:11:36 AM REVISION DATE: 9/15/2011
FILE...ANHOR.Cu0000000004587B /1945g1002.dgn MODEL: Sheet1

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED LBD
CHECKED JMB

GEOMETRIC LAYOUT
SR 823 AND CR28 INTERCHANGE

SCI-823-6.81

USER: CWohlbr; PLOT DATE: 9/15/2011 9:11:40 AM REVISION DATE: 9/15/2011
FILE:...AMHOR.Cvl0000000045878 /19456g1003.dgn MODEL: Sheet

HORIZONTAL CURVE DATA

ALIGNMENT	CURVE NO.	P.I. STATION	P.I. COORDINATES NORTH	P.I. COORDINATES EAST	P.I. C_{CI} STATION	P.I. C_{CI} COORDINATES NORTH	P.I. C_{CI} COORDINATES EAST	Δ	Δ OR Δ_{CI}	D_C	R OR R_{CI}	L_S OR L_{SI}	θ_S OR θ_{SI}	LT OR LT_1	ST OR ST_1	L_{S2}	θ_{S2}	LT_2	ST_2
SR823	CURVE #5	346+07.50	301,733.59	1,868,360.11	345+94.11	301,738.66	1,868,323.63	43°17'19.64" LT.	41°58'34.64" LT.	0°45'00.0"	7,639.44	175.00	0°39'22.5" LT.	116.67	58.33				
	CURVE #6	414+49.27	308,662.80	1,866,666.83	413+98.35	308,586.28	1,866,582.40	56°54'23.97" LT.	48°54'23.97" LT.	2°00'00.0"	2,864.79	400.00	4°00'00.0" LT.	266.73	133.40				
	CURVE #7	482+11.90	310,991.61	1,860,039.47	482+08.12	311,009.88	1,860,050.11	21°42'25.19" RT.	19°27'25.19" RT.	1°00'00.0"	5,729.58	225.00	1°07'30.0" RT.	150.00	75.00				
TR234	CURVE #1	14+27.25	304,800.62	1,866,158.43	13+86.05	304,805.97	1,866,114.13	40°05'33.00" LT.	30°11'32.71" LT.	6°00'00.0"	954.93	105.00	3°09'00.0" LT.	70.01	35.01	225.00	6°45'00.0" LT.	150.11	75.10
	CURVE #2	23+26.93	305,555.66	1,866,700.17	22+85.59	305,501.54	1,866,701.70	40°36'30.00" RT.	24°06'29.71" RT.	6°00'00.0"	954.93	225.00	6°45'00.0" RT.	150.11	75.10	325.00	9°45'00.0" RT.	216.99	108.63
TR234 RAMP A	CURVE #1	393+64.93	306,688.48	1,867,307.20				5°51'12.19" RT.		0°30'00.0"	11,459.16								
	CURVE #2	401+24.89	307,398.76	1,867,034.05				1°55'15.62" LT.		0°32'54.5"	10,446.37								
TR234 RAMP B	CURVE #1	371+73.52	304,518.99	1,867,747.48				8°05'30.33" RT.		1°00'00.0"	5,729.58								
TR234 RAMP C	CURVE #1	371+63.61	304,491.54	1,867,629.38	371+61.67	304,486.97	1,867,615.78	17°51'23.79" LT.	12°51'23.79" LT.	2°30'00.0"	2,291.83	200.00	2°30'00.0" LT.	133.35	66.68				
TR234 RAMP D	CURVE #1	403+66.60	307,578.02	1,866,914.20				31°07'31.70" LT.		2°36'00.0"	2,203.68								
CR28	CURVE #1	8+32.71	314,142.43	1,854,750.25				3°21'50.00" RT.		1°15'00.0"	4,583.66								
	CURVE #2	15+41.99	314,522.48	1,855,349.22				7°20'23.00" RT.		1°45'00.0"	3,274.04								
	CURVE #3	26+55.61	314,994.33	1,856,358.56				1°26'15.00" RT.		0°15'00.0"	22,918.31								
CR28 RAMP A	CURVE #1	519+73.56	313,515.69	1,857,214.36				7°59'30.83" RT.		1°22'00.0"	4,192.37								
	CURVE #2	525+50.54	313,952.26	1,856,835.67	524+73.20	313,893.83	1,856,886.35	40°10'22.38" RT.	30°25'22.38" RT.	7°30'00.0"	763.94	260.00	9°45'00.0" RT.	173.60	86.91				
	CURVE #3	531+98.00	314,623.96	1,856,826.67	531+95.64	314,620.79	1,856,812.06	22°58'25.78" LT.	11°35'55.78" LT.	6°30'00.0"	881.47	175.00	5°41'15.0" LT.	116.73	58.39				
CR28 RAMP B	CURVE #1	539+25.53	313,466.00	1,857,291.18	530+76.04	314,199.80	1,856,798.30	154°48'32.57" RT.	116°33'32.57" RT.	18°00'00.0"	318.31	175.00	15°45'00.0" RT.	117.13	58.76	250.00	22°30'00.0" RT.	168.03	84.58
CR28 RAMP C	CURVE #1	536+72.75	315,519.84	1,854,973.00	543+95.56	312,121.40	1,857,176.81	200°31'52.00" LT.	163°36'52.00" LT.	18°00'00.0"	318.31	200.00	18°00'00.0" LT.	134.03	67.30	200.00	18°55'00.0" LT.	130.91	70.63
	CURVE #2	535+91.00	314,507.12	1,855,933.51				5°26'51.27" LT.		0°55'00.0"	6,250.45								
CR28 RAMP D	CURVE #1	524+73.49	313,763.45	1,856,767.16	524+42.04	313,704.10	1,856,762.80	62°13'05.95" LT.	38°04'05.95" LT.	11°30'00.0"	498.22	200.00	11°30'00.0" LT.	133.62	66.92	220.00	12°39'00.0" LT.	147.04	73.68
	CURVE #2	534+17.71	313,399.52	1,855,826.45	533+45.89	313,505.77	1,855,871.44	88°11'49.21" RT.	62°53'49.21" RT.	11°30'00.0"	498.22	220.00	12°39'00.0" RT.	147.04	73.68				
PRIVATE DRIVE	CURVE #1	11+12.00	314,414.05	1,854,965.84				16°12'51.00" RT.		11°30'00.0"	498.22								
	CURVE #2	14+21.26	314,516.03	1,855,258.81				67°35'50.00" LT.		76°15'00.0"	75.14								
SR335	CURVE #1	2+56.17	305,186.24	1,868,348.28				30°12'19.08" RT.		9°30'00.0"	603.11								
	CURVE #2	7+26.05	305,657.37	1,868,270.81				4°25'31.60" LT.		2°30'00.0"	2,291.83								
	CURVE #3	21+48.08	307,035.53	1,867,920.17				1°42'27.09" RT.		0°30'00.0"	11,459.16								

HORIZONTAL CURVE DATA

ALIGNMENT	CURVE NO.	T_C OR T_{CI}	T, T_1 * OR T_S	L OR L_C OR L_{CI}	E OR E_S	T.S. STATION	T.S. COORDINATES NORTH	T.S. COORDINATES EAST	S.C./P.C. STATION	S.C./P.C. COORDINATES NORTH	S.C./P.C. COORDINATES EAST	C.S./P.T. STATION	C.S./P.T. COORDINATES NORTH	C.S./P.T. COORDINATES EAST	S.T. STATION	S.T. COORDINATES NORTH	S.T. COORDINATES EAST	SUPER ELEVATION e (FT/FT)
SR823	CURVE #5	2,930.69	3,119.08	5,596.84	579.69	314+88.42	299,020.40	1,866,821.52	316+63.42	299,172.96	1,866,907.26	372+60.26	304,593.37	1,867,660.58	374+35.26	304,763.52	1,867,619.69	0.028
	CURVE #6	1,302.74	1,753.66	2,445.33	396.24	396+95.61	306,959.26	1,867,083.12	400+95.61	307,345.43	1,866,979.17	425+40.95	309,102.85	1,865,386.45	429+40.95	309,244.18	1,856,012.34	0.065
	CURVE #7	982.31	1,211.09	1,945.70	104.73	470+00.81	310,590.11	1,861,182.07	472+25.81	310,666.09	1,860,970.29	491+71.51	311,640.55	1,859,296.99	493+96.51	311,787.25	1,859,126.40	0.036
TR234	CURVE #1	257.59	403.79	503.21	63.02	10+23.46	304,701.24	1,865,767.06	11+28.46	304,728.94	1,865,868.32	16+31.67	304,996.16	1,866,287.86	18+56.67	305,173.57	1,866,426.02	0.08
	CURVE #2	203.92	470.26	401.80	66.90	18+56.67	305,173.57	1,866,426.02	20+81.67	305,350.98	1,866,564.17	24+83.47	305,582.80	1,866,888.73	28+08.47	305,677.60	1,867,199.16	0.08
TR234 RAMP A	CURVE #1		585.85	1,170.68	14.97				387+79.08	306,165.97	1,867,572.15	399+49.75	307,235.29	1,867,096.91				NC
	CURVE #2		175.14	350.24	1.47				399+49.75	307,235.29	1,867,096.91	403+00.00	307,560.03	1,866,965.74				RC
TR234 RAMP B	CURVE #1		405.26	809.18	14.31				367+68.26	304,117.79	1,867,804.75	375+77.44	304,924.25	1,867,747.25				0.029
TR234 RAMP C	CURVE #1	258.22	460.16	514.26	28.85	367+03.45	304,037.88	1,867,706.48	369+03.45	304,234.53	1,867,670.11	374+17.72	304,720.99	1,867,506.65	376+17.72	304,899.70	1,867,416.90	0.061
TR234 RAMP D	CURVE #1		613.73	1,197.13	83.87				397+52.87	306,965.56	1,866,953.74	409+50.00	308,081.86	1,866,563.76				0.065
CR28	CURVE #1		134.59	269.11	1.98				6+98.11	314,063.78	1,854,641.03	9+67.22	314,214.54	1,854,863.90				
	CURVE #2		209.99	419.41	6.73				13+32.00	314,409.97	1,855,171.90	17+51.41	314,611.41	1,855,539.45				0.04
	CURVE #3		287.52	575.00	1.80				23+68.09	314,872.57	1,856,098.10	29+43.09	315,109.52	1,856,621.99				NC
CR28 RAMP A	CURVE #1		292.86	584.77	10.22				516+80.70	313,323.29	1,857,435.16	522+65.47	313,736.92	1,857,022.46				0.038
	CURVE #2	207.72	285.07	405.64	51.45				522+65.47	313,736.92	1,857,022.46	526+71.11	314,098.06	1,856,848.43	529+31.11	314,357.09	1,856,830.25	0.08
	CURVE #3	89.53	266.89	178.44	19.49	529+31.11	314,357.09	1,856,830.25	531+06.11	314,531.82	1,856,822.12	532+84.55	314,705.91	1,856,784.31	534+59.55	314,868.27	1,856,719.22	0.063
CR28 RAMP B	CURVE #1	514.98	1,539.46	647.55	1,169.21	523+86.07	314,875.18	1,856,671.39	525+61.07	314,709.78	1,856,726.71	532+08.62	314,363.79	1,856,310.14	534+58.62	314,501.11	1,856,103.28	0.08
CR28 RAMP C	CURVE #1	2,210.89	1,688.08	908.97	1,302.71	519+84.67	313,965.41	1,855,631.32	521+84.67	313,791.17	1,855,727.70	530+93.64	314,132.14	1,856,257.59	532+93.64	314,291.36	1,856,138.14	0.08
	CURVE #2		297.36	594.28	7.07				532+93.64	314,291.36	1,856,138.14	538+87.92	314,702.47	1,855,709.32				0.027
CR28 RAMP D	CURVE #1	171.89	403.33	331.03	88.00	520+70.16	313,498.48	1,857,071.24	522+70.16	313,619.28	1,856,912.30	526+01.19	313,678.70	1,856,592.80	528+21.19	313,614.75	1,856,382.80	0.079
	CURVE #2	304.70	596.52	546.93	201.17	528+21.19	313,614.75	1,856,382.80	530+41.19	313,550.80	1,856,172.79	535+88.12	313,753.51	1,855,694.06	538+08.12	313,948.81	1,855,593.82	0.079
PRIVATE DRIVE	CURVE #1		70.97	140.99	5.03				10+41.03	314,372.93	1,854,907.99	11+82.02	314,437.38	1,855,032.86				NC
	CURVE #2		50.30	88.65	15.28				13+70.96	314,499.50	1,855,211.30	14+59.62	314,566.26	1,855,261.62				NC
SR335	CURVE #1		162.76	317.95	20.83				0+93.40	305,060.73	1,868,451.90	4+11.35	305,346.85	1,868,321.87				0.080
	CURVE #2		88.55	177.02	1.71				6+37.50	305,569.99	1,868,285.17	8+14.51	305,743.38	1,868,249.74				0.053
	CURVE #3		170.77	341.51	1.27				19+77.32	306,870.43	1,867,963.81	23+18.82	307,201.85	1,867,881.48				NC

NOTES:

THE GROUND COORDINATE VALUES SHOWN HEREIN ARE CONVERTED FROM THE OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE. THESE GROUND COORDINATES WERE ESTABLISHED BY DIVIDING THE GRID COORDINATE BY A COMBINED SCALE FACTOR OF 0.99996061457.

* THE BACK TANGENT LENGTH HAS BEEN GIVEN FOR UNEQUAL TANGENTS

CALCULATED LBD CHECKED JMB

HORIZONTAL CURVE DATA

SCI-823-6.81

LEGEND

(1) (2) NOT USED

(3) ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)

(4) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GALLONS/SQ YD)

(5) ITEM 442 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)

(6) ITEM 407 - TACK COAT (0.075 GALLONS/SQ YD)

(7) ITEM 302 - 5" ASPHALT CONCRETE BASE, PG64-22

(7A) ITEM 302 - 6" ASPHALT CONCRETE BASE, PG64-22

(7B) ITEM 302 - 8" ASPHALT CONCRETE BASE, PG64-22

(8) ITEM 408 - PRIME COAT (0.4 GALLONS/SQ YD)

(9) ITEM 304 - 6" AGGREGATE BASE

(10) ITEM 304 - 8" AGGREGATE BASE

(11) ITEM 204 - SUBGRADE COMPACTION & PROOF ROLLING

(11A) ITEM 204 - SUBGRADE COMPACTION

(12) ITEM 422 - CHIP SEAL

(13) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN (NIP)

(14) ITEM 605 - 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31

(15) ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31

(16) ITEM 605 - 6" ROCK CUT UNDERDRAINS, 707.31

(17) ITEM 605 - AGGREGATE DRAINS

(18) ITEM 606 - GUARDRAIL, TYPE 5

(19) ITEM 609 - CURB, TYPE 4-C

(20) ITEM 609 - 6" CONCRETE MEDIAN

(21) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 (WITH 2-4" RACEWAY)

(22) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1 (WITH 2-4" RACEWAY)

(23) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

(23A) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN

(24) ITEM 659 - SEEDING AND MULCHING

(25) ITEM SPECIAL - NOISE BARRIER

(26) NOT USED

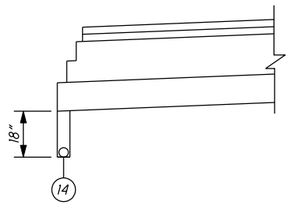
(27) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

(28) ITEM 605 - 6" UNCLASSIFIED UNDERDRAIN WITH FABRIC WRAP

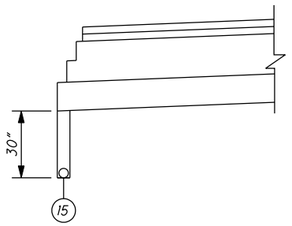
(29) ITEM 605 - 6" DEEP PIPE UNDERDRAIN WITH FABRIC WRAP

(30) ITEM 204 - GEOTEXTILE FABRIC

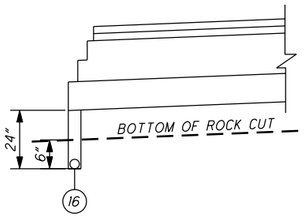
(31) ITEM 204 - GRANULAR MATERIAL, TYPE C



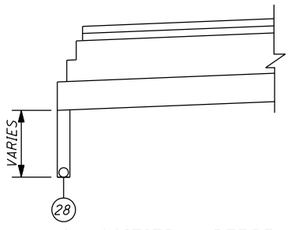
BASE PIPE UNDERDRAIN



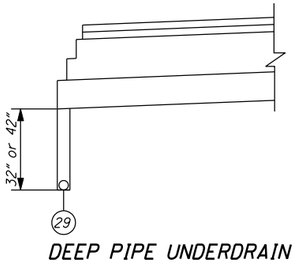
SHALLOW PIPE UNDERDRAIN



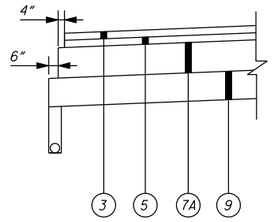
ROCK CUT UNDERDRAIN



UNCLASSIFIED UNDERDRAIN

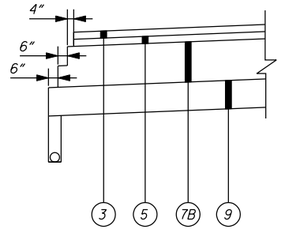


DEEP PIPE UNDERDRAIN



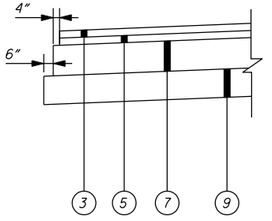
TR234 INTERCHANGE RAMPS,
CR28 INTERCHANGE RAMPS

BASE STEP DETAIL



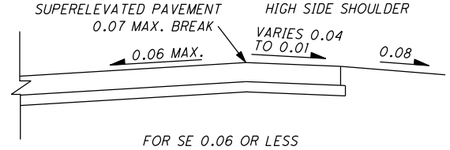
SR823

BASE STEP DETAIL

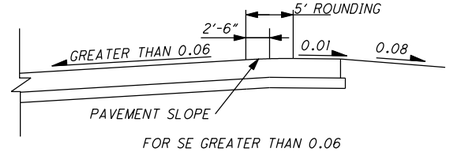


CR28

BASE STEP DETAIL

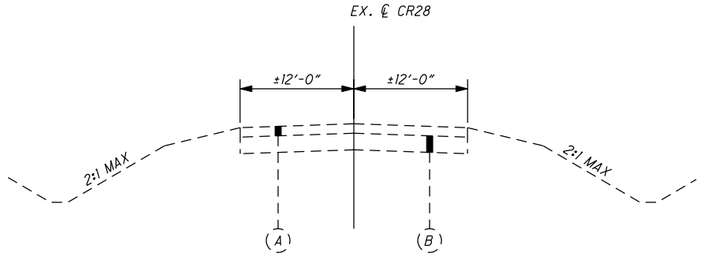


FOR SE 0.06 OR LESS



FOR SE GREATER THAN 0.06

SUPERELEVATED HIGH SIDE SHOULDER TREATMENTS



EXISTING CR28

EXISTING LEGEND

(A) ±4" ASPHALT CONCRETE PAVEMENT

(B) ±7" AGGREGATE BASE

NOTES:

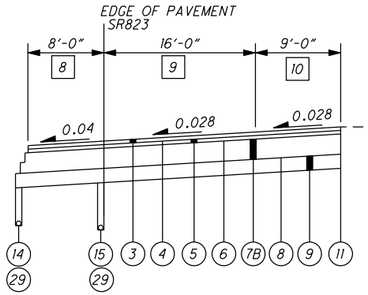
1. FOR GUARDRAIL LOCATIONS SEE PLAN SHEETS

CALCULATED LBD
CHECKED JMB

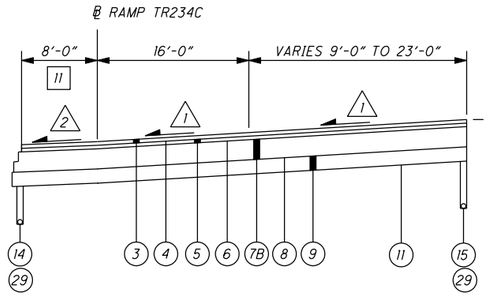
TYPICAL SECTIONS

SCI-823-6.81

USER: Cmahlbri PLOT DATE: 9/15/2011 9:11:53 AM REVISION DATE: 9/15/2011
FILE: ...4\HDR_CVR\0000000045878 /7941Sgy001.dgn MODEL: Sheet

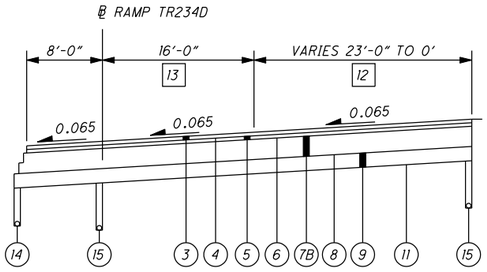


SR823: STA. 354+00.00 TO STA. 366+50.00 = 1250.00 LF

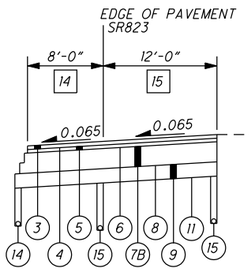


SR823: STA. 366+50.00 TO STA. 370+86.29 = 436.29 LF

TR234 INTERCHANGE RAMP C
SPEED CHANGE LANE (ACCELERATION)



SR823: STA. 401+94.66 TO STA. 409+50.00 = 755.34 LF



SR823: STA. 409+50.00 TO STA. 411+00.00 = 150 LF

TR234 INTERCHANGE RAMP D
SPEED CHANGE LANE (DECELERATION)

1. SLOPE VARIES, SEE PAVEMENT ELEVATION DETAIL SHEETS
2. 0.04 OR RATE OF SUPERELEVATION, WHICH EVER IS GREATER
3. SEE SUPERELEVATED HIGH SIDE SHOULDER TREATMENTS, SHEET 11

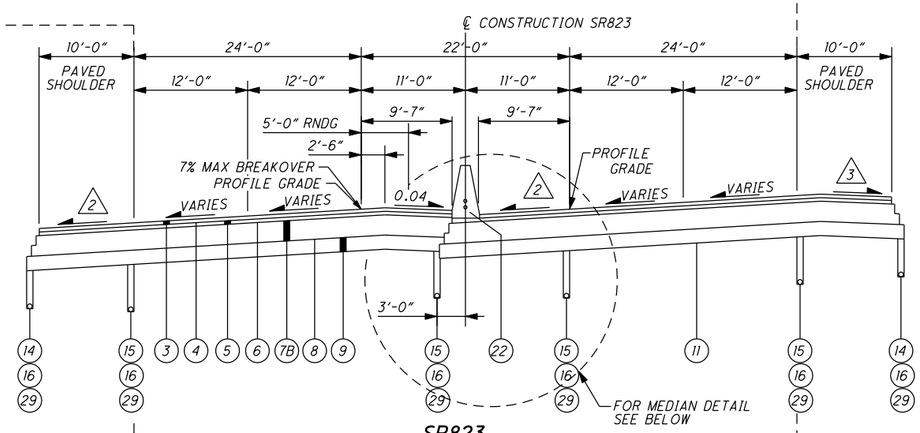
1. WIDTH VARIES FROM 0' AT 361+00.00 TO 12'-0" AT STA. 362+00.00
2. WIDTH VARIES FROM 10'-0" AT STA. 361+00.00 TO 8'-0" AT STA. 362+00.00
3. WIDTH VARIES FROM 12'-0" AT STA. 366+00.00 TO 16'-0" AT STA. 368+34.28
4. WIDTH VARIES FROM 0' AT STA. 368+34.28 TO 23'-0" AT STA. 371+05.85
5. WIDTH VARIES FROM 9'-0" AT STA. 403+00.00 TO 0' AT STA. 407+50.00
6. WIDTH VARIES FROM 16'-0" AT STA. 407+50.00 TO 12'-0" AT STA. 409+50.00
   WIDTH IS 12'-0" FROM STA. 409+50.00 TO STA. 428+00.00
   WIDTH VARIES FROM 12'-0" AT STA. 428+00.00 TO 7'-2" AT STA. 430+39.41
7. WIDTH VARIES FROM 8'-0" AT STA. 408+50.00 TO 10'-0" AT STA. 409+50.00
8. WIDTH VARIES FROM 10'-0" AT STA. 354+00.00 TO 8'-0" AT STA. 355+00.00
9. WIDTH VARIES FROM 0' AT STA. 354+00.00 TO 16'-0" AT STA. 362+00.00
10. WIDTH VARIES FROM 0' AT STA. 362+00.00 TO 9'-0" AT STA. 366+50.00
11. WIDTH VARIES FROM 8'-0" AT STA. 366+50.00 TO 6'-0" AT STA. 367+00.00
12. WIDTH VARIES FROM 23'-0" AT STA. 401+94.66 TO 0' AT STA. 406+60.42
13. WIDTH VARIES FROM 16'-0" AT STA. 406+60.42 TO 12'-0" AT STA. 409+50.00
14. WIDTH VARIES FROM 8'-0" AT STA. 410+00.00 TO 10'-0" AT STA. 411+00.00

NOTES:

1. FOR LEGEND AND BASE STEP DETAIL SEE SHEET 11
2. FOR GUARDRAIL LOACTIONS SEE PLAN SHEETS
3. FOR UNDERDRAIN DETAILS SEE SHEET 11

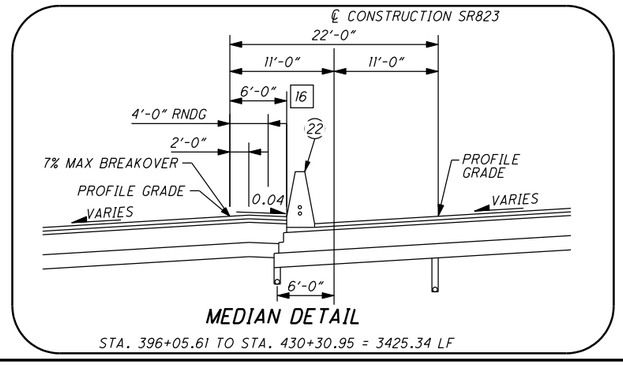
NOTE:
EARTHWORK AND ROCK UNDERCUTS OF SR283 AND RAMPS HAVE BEEN PERFORMED IN OTHER PART.

15. WIDTH VARIES FROM 12'-0" AT STA. 410+00.00 TO 0' AT STA. 411+00.00
16. WIDTH VARIES FROM 9'-7" AT STA. 396+05.61 TO 6'-0" AT STA. 396+95.61
    WIDTH VARIES FROM 6'-0" AT STA. 429+40.95 TO 9'-7" AT STA. 430+30.95



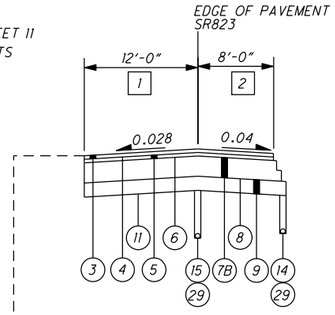
SR823
SUPERELEVATED SECTION

STA. 395+97.15 TO STA. 430+39.41 = 3442.26 LF [Emax = 0.065]

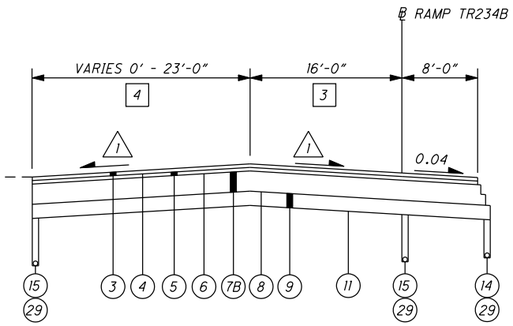


MEDIAN DETAIL

STA. 396+05.61 TO STA. 430+30.95 = 3425.34 LF

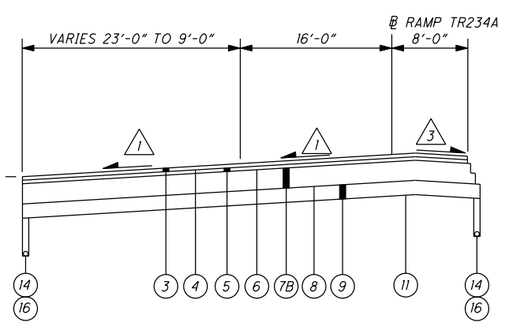


SR823: STA. 361+00.00 TO STA. 366+00.00 = 500.00 LF

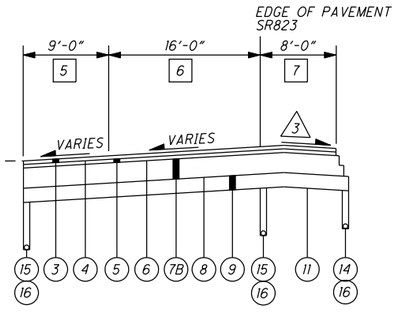


SR823: STA. 366+00.00 TO STA. 371+05.85 = 505.85 LF

TR234 INTERCHANGE RAMP B
SPEED CHANGE LANE (DECELERATION)



SR823: STA. 400+38.73 TO STA. 403+00.00 = 261.27 LF



SR823: STA. 403+00.00 TO STA. 430+39.41 = 2739.41 LF

TR234 INTERCHANGE RAMP A
SPEED CHANGE LANE (ACCELERATION)

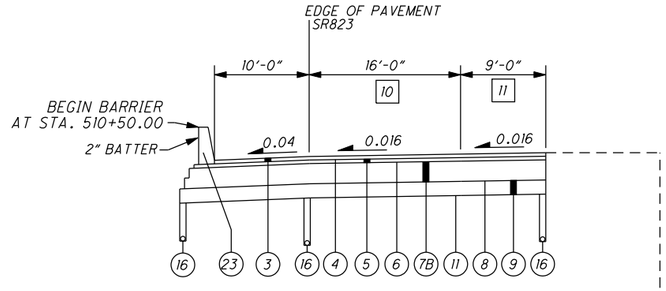
TYPICAL SECTIONS - SR823

SCI-823-6.81

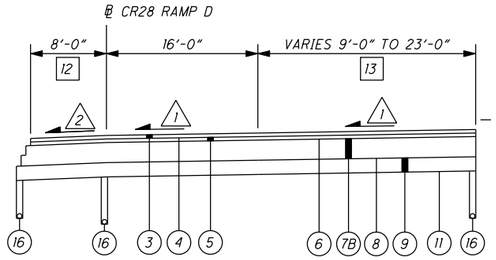
12
209

CALCULATED LBD
CHECKED JMB

USER: CWahlbri PLOT DATE: 9/15/2011 9:11:58 AM REVISION DATE: 9/15/2011
FILE...4HDR.Cr0000000004578 /SR45sy002.dgn MODEL: Sheet

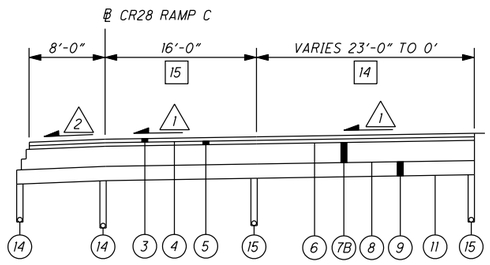


SR823: STA. 506+70.00 TO STA. 519+20.00 = 1250.00 LF

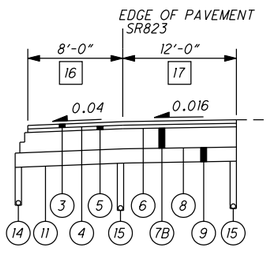


SR823: STA. 519+20.00 TO STA. 522+74.18 = 354.18 LF

CR28 INTERCHANGE RAMP D
SPEED CHANGE LANE (ACCECELERATION)



SR823: STA. 533+06.84 TO STA. 538+87.92 = 581.08 LF

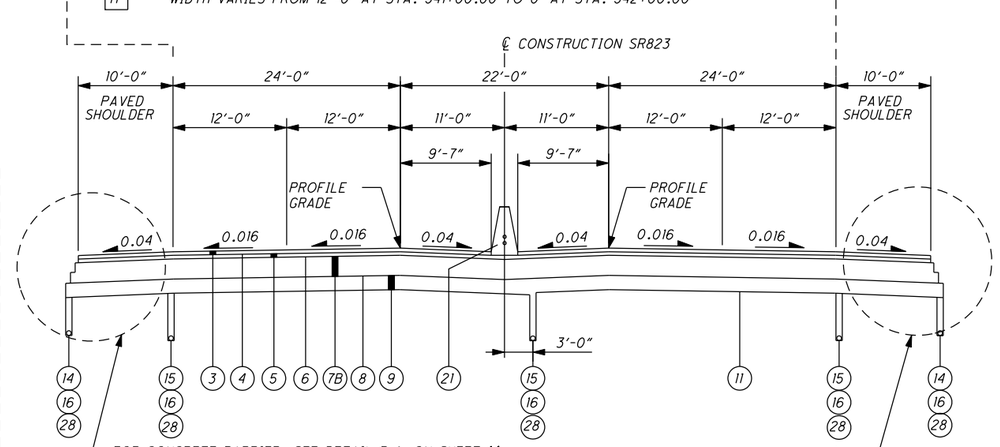


SR823: STA. 538+87.92 TO STA. 542+00.00 = 312.08 LF

CR28 INTERCHANGE RAMP C
SPEED CHANGE LANE (DECELERATION)

1. SLOPE VARIES, SEE PAVEMENT ELEVATION DETAIL SHEETS
2. 0.04 OR RATE OF SUPERELEVATION, WHICH EVER IS GREATER

1. WIDTH VARIES FROM 0' AT STA. 513+50.00 TO 12'-0" AT STA. 514+50.00
2. WIDTH VARIES FROM 10'-0" AT STA. 513+50.00 TO 8'-0" AT STA. 514+50.00
3. WIDTH VARIES FROM 12'-0" AT STA. 516+80.70 TO 16'-0" AT STA. 518+63.50
4. WIDTH VARIES FROM 0' AT STA. 518+63.50 TO 23'-0" AT STA. 521+56.64
5. WIDTH VARIES FROM 6'-0" AT STA. 534+08.62 TO 8'-0" AT STA. 534+58.62
6. WIDTH IS 9'-0" FROM STA. 534+58.62 TO STA. 537+90.00 AND VARIES FROM 9'-0" AT STA. 537+90.00 TO 0' AT STA. 542+40.00
7. WIDTH VARIES FROM 16'-0" AT STA. 542+40.00 TO 0' AT STA. 550+40.00
8. WIDTH VARIES FROM 8'-0" AT STA. 549+40.00 TO 10'-0" AT STA. 550+40.00
9. WIDTH VARIES FROM 7'-2" AT STA. 430+39.41 TO 0' AT 434+00
10. WIDTH VARIES FROM 0' AT STA. 506+70.00 TO 16'-0" AT STA. 514+70.00
11. WIDTH VARIES FROM 0' AT STA. 514+70.00 TO 9'-0" AT STA. 519+20.00
12. WIDTH VARIES FROM 8'-0" AT STA. 520+70.16 TO 6'-0" AT STA. 521+20.16
13. WIDTH IS 9'-0" FROM STA. 519+20.00 TO STA. 520+70.16 AND VAREIS FROM 9'-0" AT STA. 520+70.16 TO 23'-0" AT STA. 522+74.18
14. WIDTH VARIES FROM 23'-0" AT STA. 533+06.84 TO 0' AT STA. 536+64.58
15. WIDTH VARIES FROM 16'-0" AT STA. 536+64.58 TO 12'-0" AT STA. 538+87.92
16. WIDTH VARIES FROM 8'-0" AT STA. 541+00.00 TO 10'-0" AT STA. 542+00.00
17. WIDTH VARIES FROM 12'-0" AT STA. 541+00.00 TO 0' AT STA. 542+00.00

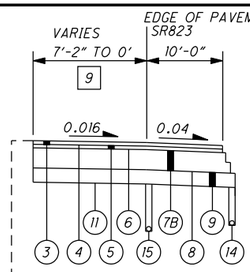


SR823
NORMAL SECTION

STA. 395+00.00 TO STA. 395+97.15 = 97.15 LF
STA. 430+39.41 TO STA. 440+55.00 = 1015.59 LF
STA. 445+45.84 TO STA. 469+00.81 = 2354.97 LF
STA. 494+96.51 TO STA. 523+00.00 = 2803.49 LF

NOTES:

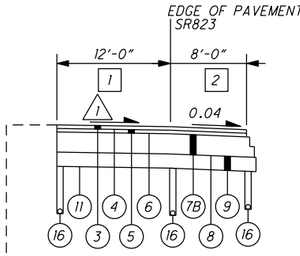
1. FOR LEGEND AND, UNDERDRAIN DETAILS, AND BASE STEP DETAIL SEE SHEET 11
2. FOR GUARDRAIL LOCATIONS SEE PLAN SHEETS



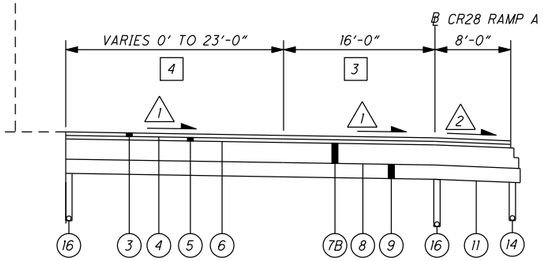
SR823: STA. 430+39.41 TO STA. 434+00.00 = 360.59 LF

TR 234 INTERCHANGE RAMP A
AUXILLARY LANE

NOTE:
EARTHWORK AND ROCK UNDERCUTS OF SR283 AND RAMPS HAVE BEEN PERFORMED IN OTHER PART

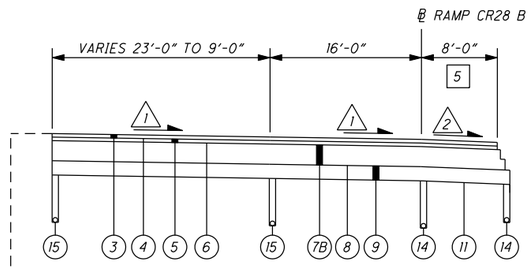


SR823: STA. 513+50.00 TO STA. 516+80.70 = 330.70 LF

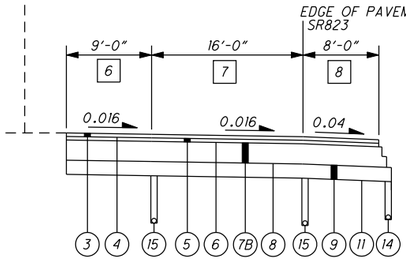


SR823: STA. 516+80.70 TO STA. 521+56.64 = 475.94 LF

CR28 INTERCHANGE RAMP A
SPEED CHANGE LANE (DECELERATION)



SR823: STA. 532+69.18 TO STA. 534+58.62 = 189.44 LF



SR823: STA. 534+58.62 TO STA. 550+40.00 = 1581.38 LF

CR28 INTERCHANGE RAMP B
SPEED CHANGE LANE (ACCCELERATION)

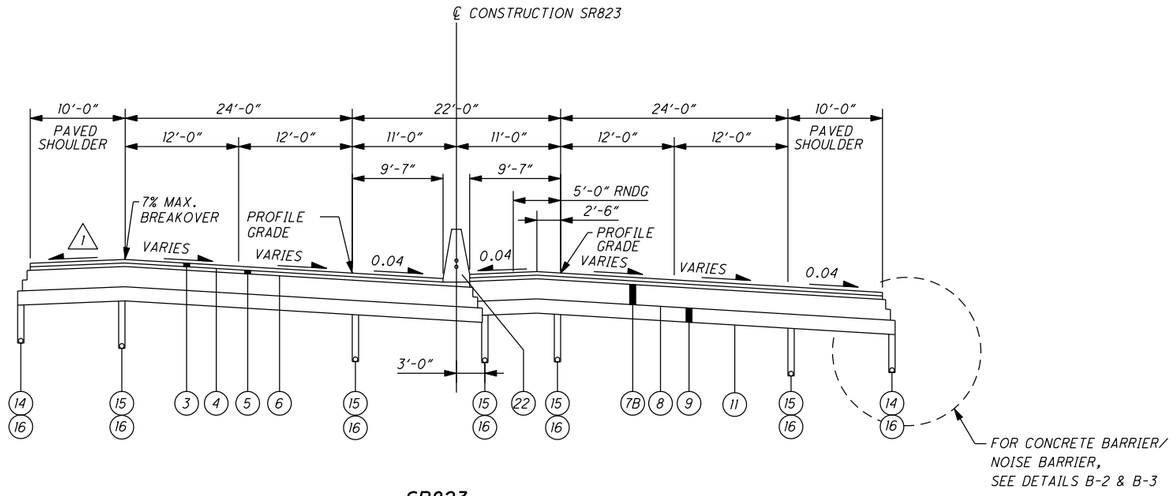
CALCULATED LBD CHECKED JMB

TYPICAL SECTIONS - SR823

SCI-823-6.81

USER: CWahlbr PLOT DATE: 9/15/2011 9:12:04 AM REVISION DATE: 9/15/2011 MODEL: Sheet
FILE...4HDR.C/B0000000045878 /B45sy003.dgn

NOTE:
EARTHWORK AND ROCK UNDERCUTS OF SR283 AND RAMPS HAVE BEEN PERFORMED IN OTHER PART



SR823
SUPERELEVATED SECTION

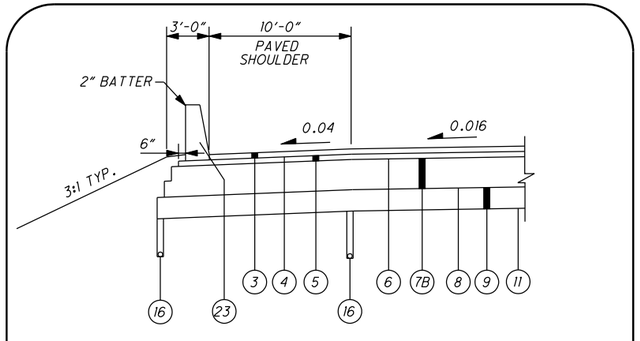
STA. 469+00.81 TO STA. 482+81.30 = 1380.49 LF [Emax = 0.036]

STA 487+42.07 TO STA. 494+96.51 = 754.44 LF [Emax = 0.036]

NOTES:

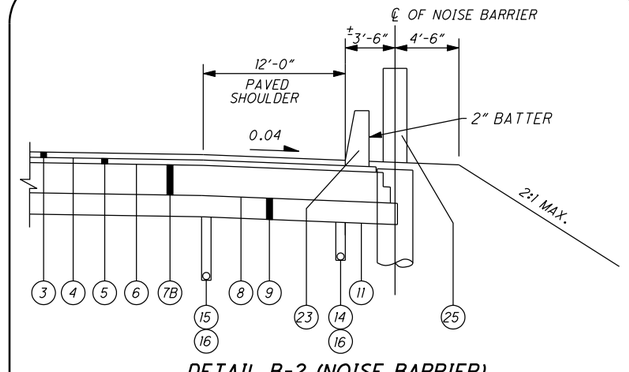
1. FOR LEGEND AND BASE STEP DETAIL SEE SHEET 11
2. FOR GUARDRAIL LOCATIONS SEE PLAN SHEETS
3. FOR UNDERDRAIN DETAILS SEE SHEET 11

1 0.04 OR AS SHOWN ON THE SUPERELEVATION TABLE



DETAIL B-1

SR823: STA. 510+50.00 LT. TO STA. 519+20.00 LT. = 870.00 LF

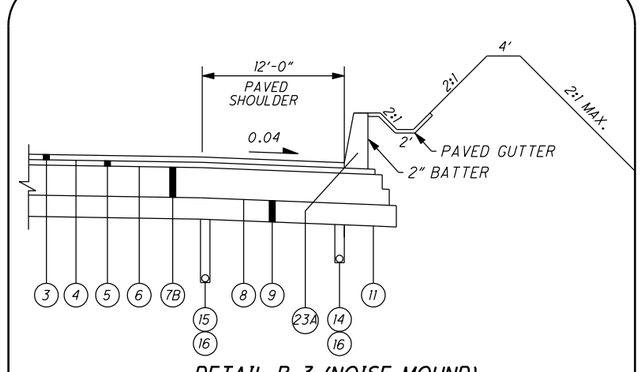


DETAIL B-2 (NOISE BARRIER)

SR823: STA. 480+51.79 RT. TO STA. 482+61.65 RT. = 209.86 LF

SR823: STA. 487+16.97 RT. TO STA. 489+55.00 RT. = 238.03 LF

*SEE NOISE BARRIER SHEETS FOR MORE DETAILED INFORMATION



DETAIL B-3 (NOISE MOUND)

SR823: STA. 489+55.00 RT. TO STA. 509+00.00 RT. = 1945.00 LF

*SEE NOISE BARRIER SHEETS FOR MORE DETAILED INFORMATION

CALCULATED LBD
CHECKED JMB

TYPICAL SECTIONS - SR823

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:12:10 AM REVISION DATE: 9/15/2011
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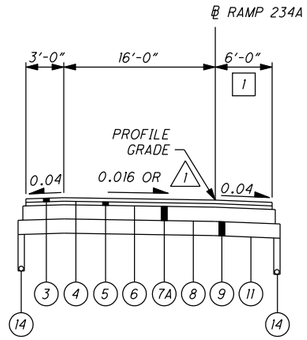
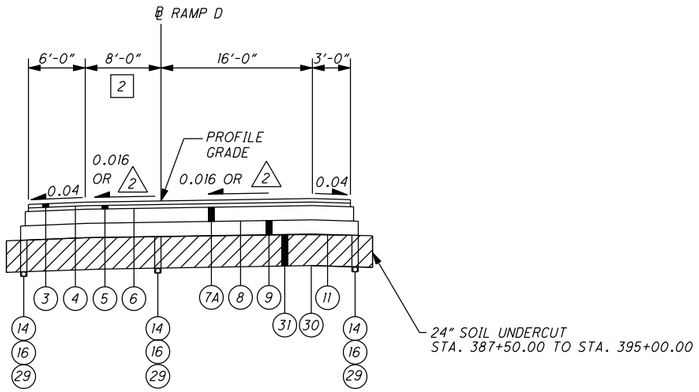


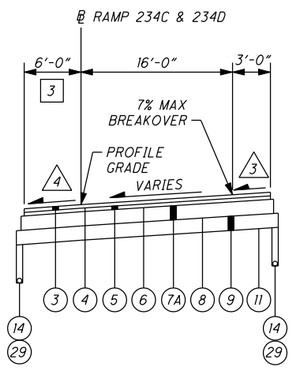
TR234 INTERCHANGE
NORMAL SECTION - RAMP A

RAMP A: STA. 385+00.00 (TR234 EOP) TO STA. 400+33.79 (SR823 GORE) = 1533.79 LF



TR234 INTERCHANGE
NORMAL SECTION - RAMP D

RAMP D: STA. 386+00.00 (TR234 EOP) TO STA. 396+32.87 = 1032.87 LF



TR234 INTERCHANGE
SUPERELEVATED SECTION - RAMP D

RAMP D: STA. 396+32.87 TO STA. 402+09.94 (SR823 GORE) = 577.07 LF (E MAX. = 0 .065)

NOTE:
EARTHWORK AND ROCK UNDERCUTS OF SR283 AND RAMPS HAVE BEEN PERFORMED IN OTHER PART

NOTES:

1. FOR LEGEND AND BASE STEP DETAIL SEE SHEET 11
2. FOR GUARDRAIL LOCATIONS SEE PLAN SHEETS
3. FOR UNDERDRAIN DETAILS SEE SHEET 11
4. UNDERCUT TO EXTEND 18" BEYOND THE EDGE OF PAVEMENT SURFACE

△1 RAMP A SLOPE VARIES, SEE PAVEMENT ELEVATION DETAIL SHEETS AND INTERSECTION DETAIL SHEETS.

△2 RAMP D SLOPE VARIES, SEE INTERSECTION DETAIL SHEETS.

△3 SLOPE VARIES, SEE SUPERELEVATION TABLE.

△4 0.04 OR SUPERELEVATION RATE, WHICH EVER IS GREATER.

[1] RAMP A: WIDTH VARIES FROM 6'-0" AT STA. 399+83.79 TO 8'-0" AT STA. 400+33.79.

[2] RAMP D: WIDTH VARIES FROM 8'-0" AT STA. 387+00.00 TO 0' AT STA. 387+50.00.

[3] RAMP D: WIDTH VARIES FROM 6'-0" AT STA. 401+59.94 TO 8'-0" AT STA. 402+09.94.

CALCULATED LBD
CHECKED JMB

TYPICAL SECTIONS - TR234 INTERCHANGE RAMPS

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:12:18 AM REVISION DATE: 9/15/2011 MODEL: Sheet
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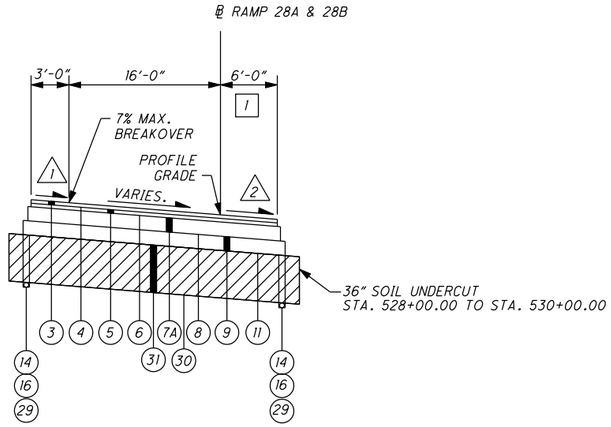
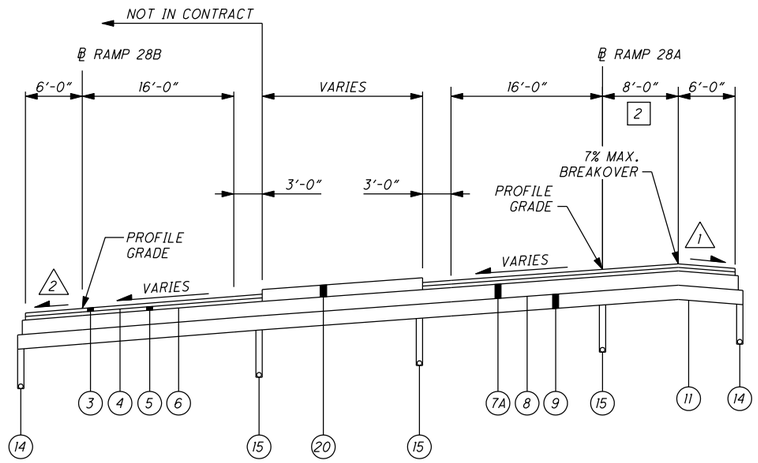


CR28 INTERCHANGE
SUPERELEVATED SECTION - RAMP A

RAMP A: STA. 521+55.85 (SR823 GORE) TO STA. 529+31.11 = 775.26 LF [E MAX. = 0.08]

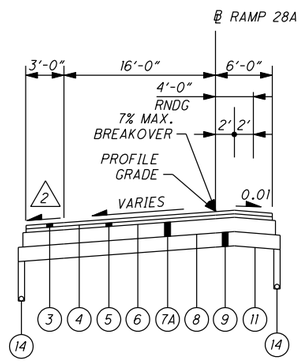


CR28 INTERCHANGE
SUPERELEVATED SECTION - RAMP A & B

RAMP A : STA. 532+94.60 (RAMP A & B GORE) TO STA. 534+59.55 = 164.95 LF [E MAX. = 0.0594]

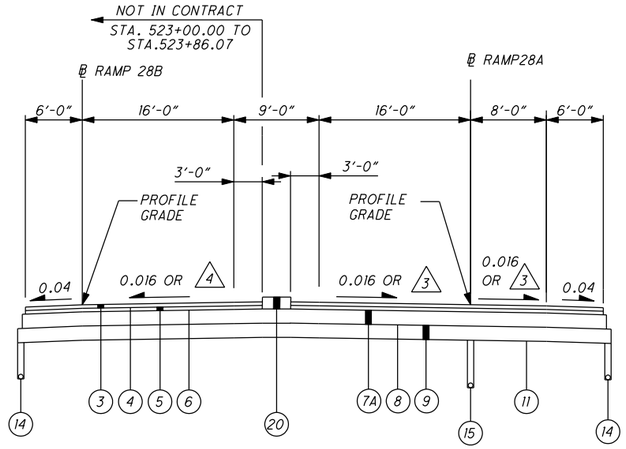
RAMP B : STA. 523+86.07 TO STA. 525+67.64 (RAMP A & B GORE) = 181.57 LF [E MAX. = 0.08] (NOT IN CONTRACT)

NOTE:
EARTHWORK AND ROCK UNDERCUTS OF SR283 AND RAMPS HAVE BEEN PERFORMED IN OTHER PART



CR28 INTERCHANGE
SUPERELEVATED SECTION - RAMP A

RAMP A: STA. 529+31.11 TO STA. 532+94.60 (RAMP A & B GORE) = 363.49 LF [E MAX. = 0.063]



CR28 INTERCHANGE
NORMAL SECTION - RAMP A & B

RAMP A : STA. 534+59.55 TO STA. 537+01.55 (EOP CR 28) = 242.00 LF
RAMP B : STA. 521+81.62 (EOP CR 28) TO STA. 523+86.07 = 204.45 LF
PAVE RAMP B FROM CR28 EOP TO STA. 523+00

NOTES:

1. FOR LEGEND AND BASE STEP DETAIL SEE SHEET 11
2. FOR GUARDRAIL LOCATIONS SEE PLAN SHEETS
3. FOR UNDERDRAIN DETAILS SEE SHEET 11
4. UNDERCUT TO EXTEND 18" BEYOND THE EDGE OF PAVEMENT SURFACE

△1 SLOPE VARIES, SEE SUPERELEVATION TABLE.

△2 0.04 OR SUPERELEVATION RATE, WHICH EVER IS GREATER.

△3 RAMP A SLOPE VARIES, SEE INTERSECTION DETAIL SHEETS.

△4 RAMP B SLOPE VARIES, SEE INTERSECTION DETAIL SHEETS.

[1] RAMP A: WIDTH VARIES FROM 8'-0" AT STA. 521+55.85 TO 6'-0" AT STA. 522+05.85.

[2] RAMP A: WIDTH VARIES FROM 0' AT STA. 533+00.00 TO 8'-0" AT STA. 533+50.00.

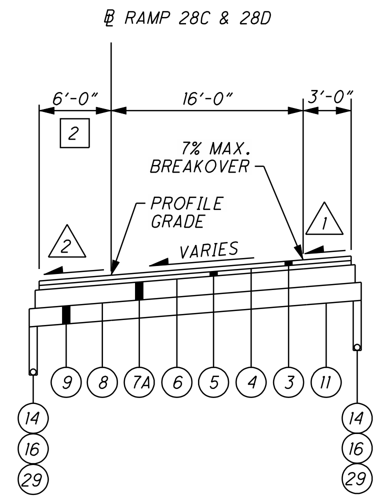
CALCULATED LBD CHECKED JMB

TYPICAL SECTIONS - CR28 INTERCHANGE RAMPS

SCI-823-6.81

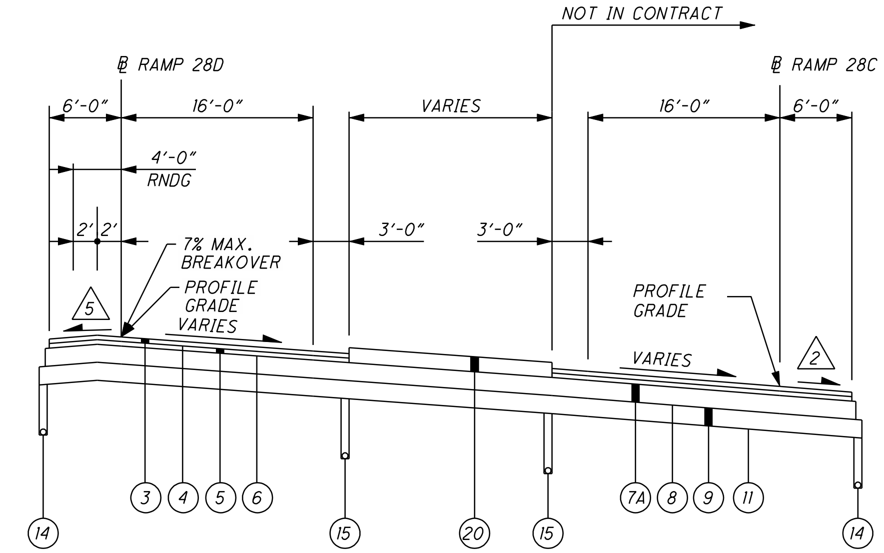
USER: CWohlbri PLOT DATE: 9/15/2011 9:12:24 AM REVISION DATE: 9/15/2011
FILE:...&MINOR_CU000000004878 /19x15sy008.dgn MODEL: Sheet

NOTE:
EARTHWORK AND ROCK UNDERCUTS OF SR283 AND RAMPS HAVE BEEN PERFORMED IN OTHER PART.



CR28 INTERCHANGE
SUPERELEVATED SECTION - RAMP D

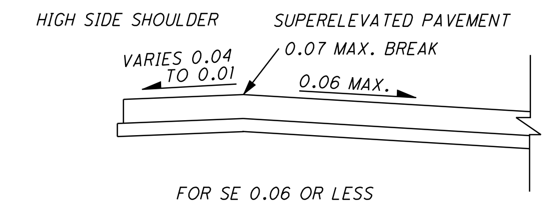
RAMP D: STA. 522+71.78 (SR823 GORE) TO STA. 528+21.19 = 549.41 LF (E MAX. = 0.079)

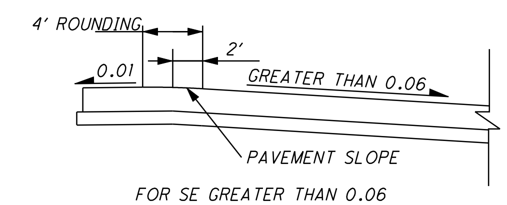


CR28 INTERCHANGE
SUPERELEVATED SECTION - RAMP C & D

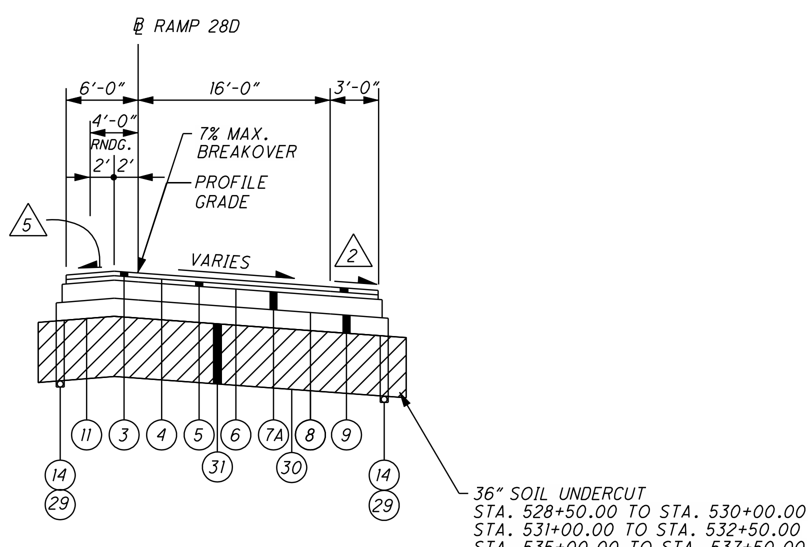
RAMP C : STA. 520+19.81 TO STA. 522+26.16 (RAMP C & D GORE) = 206.35 LF (E MAX. = 0.080) (NOT IN CONTRACT)

RAMP D : STA. 535+50.01 (RAMP C & D GORE) TO STA. 538+08.12 = 258.11 LF (E MAX. = 0.079)



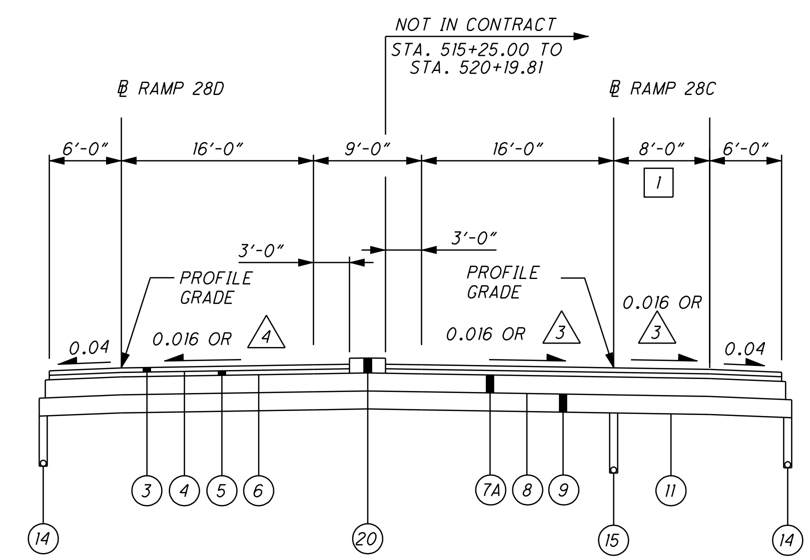


SUPERELEVATED HIGH SIDE SHOULDER TREATMENTS



CR28 INTERCHANGE
SUPERELEVATED SECTION - RAMP D

RAMP D: STA. 528+21.19 TO STA. 535+50.01 (RAMPC & D GORE) = 728.82 LF (E MAX. = 0.079)



CR28 INTERCHANGE
NORMAL SECTION - RAMP C & D

PAVE RAMP C FROM CR28 EOP TO STA. 515+25

RAMP C : STA. 513+82.50 (EOP CR 28) TO STA. 520+19.81 = 637.31 LF

RAMP D : STA. 538+08.12 TO STA. 543+95.00 (EOP CR 28) = 586.88 LF

NOTES:

1. FOR LEGEND AND BASE STEP DETAIL SEE SHEET 11
2. FOR GUARDRAIL LOCATIONS SEE PLAN SHEETS
3. FOR UNDERDRAIN DETAILS SEE SHEET 11
4. UNDERCUT TO EXTEND 18" BEYOND THE EDGE OF PAVEMENT SURFACE

- △1 SLOPE VARIES, SEE SUPERELEVATION TABLE.
- △2 0.04 OR SUPERELEVATION RATE, WHICHEVER IS GREATER.
- △3 RAMP C SLOPE VARIES, SEE INTERSECTION DETAIL SHEETS.
- △4 RAMP D SLOPE VARIES, SEE INTERSECTION DETAIL SHEETS.
- △5 SEE SUPERELVATED HIGH SIDE SHOULDER TREATMENTS, THIS SHEET
- [1] RAMP C: WIDTH VARIES FROM 8'-0" AT STA. 516+50.00 TO 0' AT STA. 517+00.00.
- [2] RAMP C: WIDTH VARIES FROM 6'-0" AT STA. 532+57.48 TO 8'-0" AT STA. 533+07.48.

CALCULATED LBD CHECKED JMB

TYPICAL SECTIONS - CR28 INTERCHANGE RAMPS

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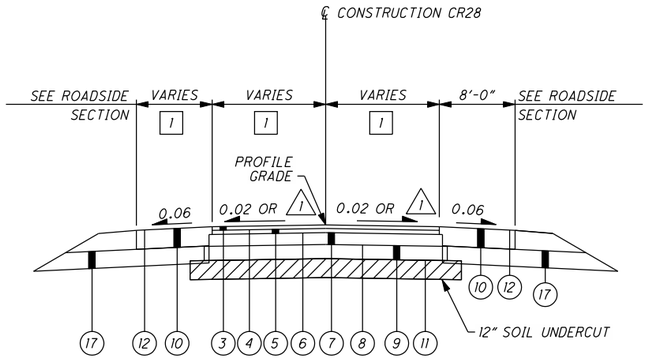
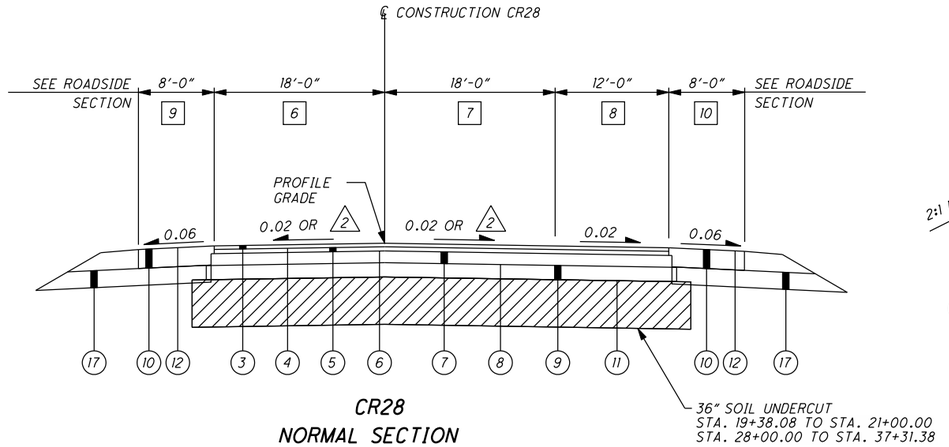


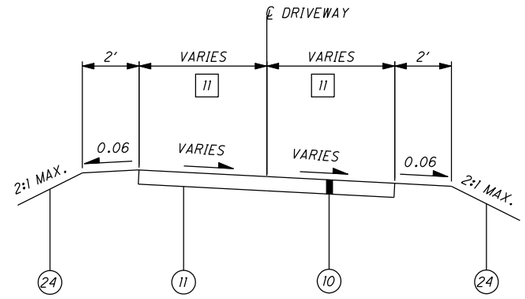
CR28
NORMAL SECTION

STA. 10+76.00 TO STA. 11+45.33 = 69.33 LF



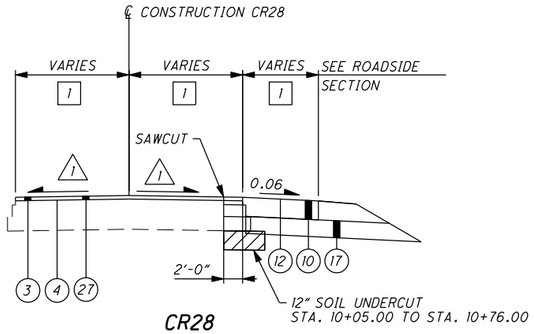
CR28
NORMAL SECTION

STA. 19+38.08 TO STA. 37+31.38 = 1793.3 LF



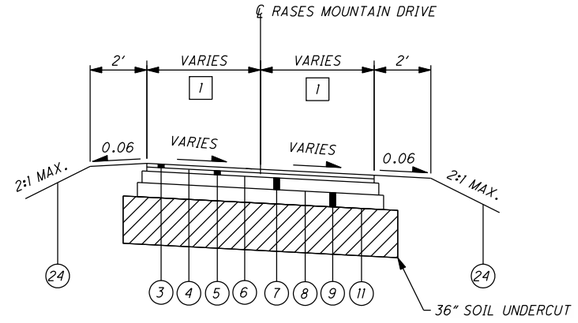
DRIVEWAY SECTION

PRIVATE DRIVE: STA. 10+10.00 TO STA. 15+21.15 = 511.15 LF

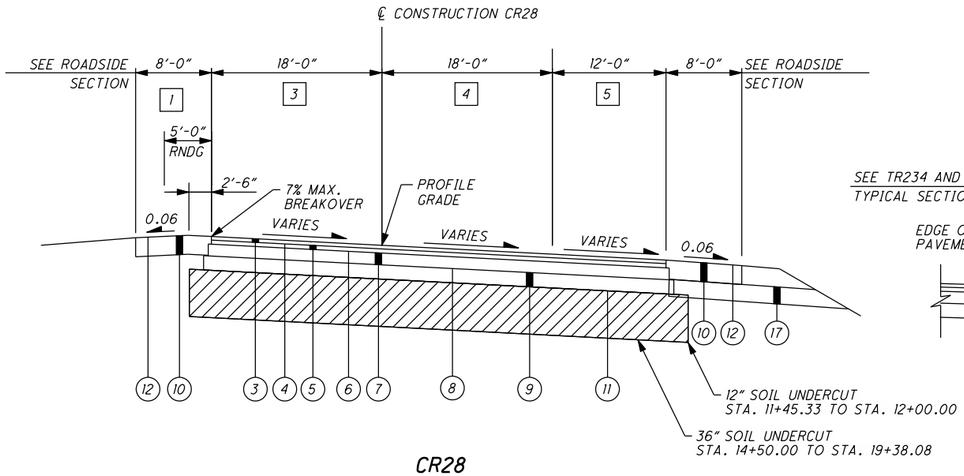


CR28
NORMAL SECTION

STA. 9+97.25 TO STA. 10+76.00 = 78.75 LF

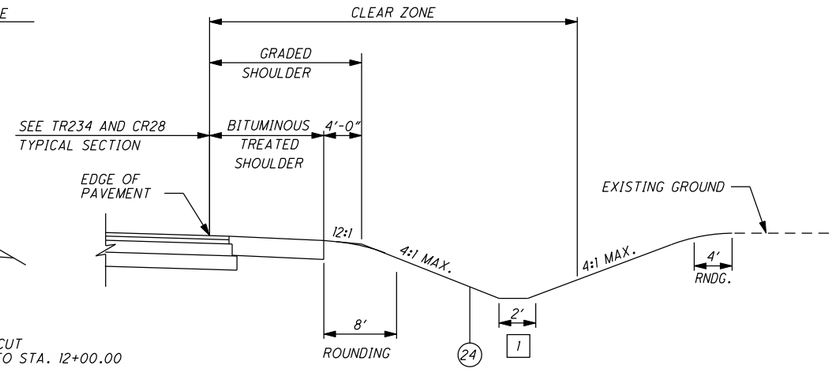


RASES MOUNTAIN DRIVE
NORMAL SECTION



CR28
SUPERELEVATED SECTION

STA. 11+45.33 TO STA. 19+38.08 = 792.75 LF [E MAX. = 0.04]



CLEAR ZONE GRADING SECTION - CR28

OPPOSITE HAND ALSO, SEE CROSS SECTIONS

NOTES:

1. FOR LEGEND AND BASE STEP DETAIL SEE SHEET 11
2. FOR GUARDRAIL LOCATIONS SEE PLAN SHEETS
3. UNDERCUT TO EXTEND 18" BEYOND THE EDGE OF PAVEMENT SURFACE.

△1 SLOPE VARIES, SEE INTERSECTION DETAIL SHEETS.

△2 SLOPE VARIES, SEE INTERSECTION DETAIL SHEETS.

[1] WIDTH VARIES SEE PLAN SHEETS.

[2] NOT USED

[3] WIDTH VARIES FROM 12'-0" AT STA. 11+45.33 TO 18'-0" AT STA. 14+75.50.

[4] WIDTH VARIES FROM 12.63' AT STA. 11+45.33 TO 18'-0" AT STA. 14+42.50.

[5] WIDTH VARIES FROM 0' AT STA. 12+00.00 TO 12'-0" AT STA. 12+50.00, AND IS 12'-0" FROM STA. 12+50.00 TO STA. 14+68.63.

[6] WIDTH VARIES FROM 18'-0" AT STA. 32+45.00 TO 12'-0" AT STA. 35+75.00.
WIDTH IS 12'-0" FROM STA. 35+75.00 TO STA. 36+77.20.
WIDTH VARIES FROM 12'-0" AT STA. 36+77.20 TO ±9.5' AT STA. 37+31.38.

[7] WIDTH VARIES FROM 18'-0" AT STA. 32+45.00 TO 12'-0" AT STA. 35+75.00.
WIDTH IS 12'-0" FROM STA. 35+75.00 TO STA. 36+10.00.
WIDTH VARIES FROM 12'-0" AT STA. 36+10.00 TO ±9.8' AT STA. 37+31.38.

[8] WIDTH VARIES FROM 0' AT STA. 26+50.00 TO 12'-0" AT STA. 27+00.00, AND IS 12'-0" FROM STA. 27+00.00 TO STA. 29+13.20.

[9] WIDTH IS 2'-0" FROM STA. 36+77.20 TO ±1.4' AT STA. 37+31.38.

[10] WIDTH VARIES FROM 8'-0" AT STA. 36+10.00 TO ±0.6' AT STA. 37+31.38.

[11] SEE DRIVEWAY DETAILS SHEETS OR PLAN SHEETS

CALCULATED LBD
CHECKED JMB

TYPICAL SECTIONS - CR28

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ROUNDING

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

UTILITIES

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

COLUMBIA GAS OF OHIO
TIFFANY WOODYARD
843 PIATT AVENUE
CHILLICOTHE, OHIO 45601
(740) 772-9131

AMERICAN ELECTRIC POWER
PAUL PAXTON
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
(614) 883-6831

MINFORD TELEPHONE COMPANY
PAULA MCGRAW
PO BOX 181
MINFORD, OHIO 45653
(740) 820-2151

SPRINT COMMUNICATIONS, INC.
JOE THOMAS
11370 ENTERPRISE PARK DRIVE
SHARONVILLE, OHIO 45241
(513) 459-5761

TIME WARNER CABLE
TERRY ALLEN
3760 INTERCHANGE DRIVE
COLUMBUS, OHIO 43204-4131
(614) 255-6349

SCIOTO COUNTY SANITARY ENGINEERING
DARREN LEBRUN
602 SEVENTH STREET
PORTSMOUTH, OHIO 45662
(740) 355-8249

SCIOTO COUNTY REGIONAL WATER AUTHORITY
JONATHAN KING
PO BOX 310
LUCASVILLE, OHIO 45648
(740) 259-2301

PIKE NATURAL GAS COMPANY
ROBERT SEELING JR.
PO BOX 249
HILLSBORO, OHIO 45133
(937) 393-1901

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.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON NAD83 HORIZONTAL DATUM AND NAVD83 VERTICAL DATUM.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON THE PLAN SHEETS.

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.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED IN THE PLANS.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

COOPERATION BETWEEN CONTRACTORS

AT ANY TIME, THE DEPARTMENT MAY CONTRACT FOR OTHER WORK ON OR NEAR THE PROJECT.

SEPARATE CONTRACTORS WORKING WITHIN THE LIMITS OF THE PROJECT SHALL CONDUCT THEIR WORK WITHOUT INTERFERING WITH OR HINDERING THE PROGRESS OR COMPLETION OF WORK BEING PERFORMED BY OTHER CONTRACTORS AND SHALL COOPERATE WITH EACH OTHER AS DIRECTED BY THE ENGINEER.

STREAM CHANNEL EXCAVATION

STREAM CHANNEL EXCAVATION WITHIN "WATERS OF THE US" IS SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION AND WILL REQUIRE AUTHORIZATION BY THE USACE VIA THE WATERWAY PERMITTING PROCESS (404/401). IN ACCORDANCE WITH THE APPLICABLE WATERWAY PERMITS (404/401) STREAM CHANNEL EXCAVATION CAN NOT EXCEED THE QUANTITIES AND/OR SURFACE AREA THAT HAS BEEN PERMITTED. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND WILL BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

STREAM CHANNEL EXCAVATION (CONT.)

TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEANOUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

WASTE AND BORROW AREAS

HIRE AN ECOLOGICAL ENVIRONMENTAL CONSULTANT TO CERTIFY THAT THE PROPOSED BORROW AND WASTE OPERATIONS WILL NOT IMPACT "THE WATERS OF THE UNITED STATES" OR A ISOLATED WETLAND(S) OR TO OBTAIN AN U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND AN OHIO EPA 401 PERMIT, PER THE REQUIREMENTS OF CONSTRUCTION AND MATERIAL SPECIFICATIONS 105.16.

HIRE A CULTURAL RESOURCE ENVIRONMENTAL CONSULTANT PER CONSTRUCTION AND MATERIAL SPECIFICATIONS IN 105.16 TO PERFORM A CULTURAL RESOURCE INVESTIGATION FOR ALL WASTE AND BORROW AREAS OUTSIDE THE RIGHT-OF-WAY LIMITS.

THE CONTRACTOR SHALL NOT BORROW FROM A SITE KNOWN OR SUSPECTED OF HAVING CONTAMINATED SOIL OR WATER.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 750 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO FILE A NEW FAA FORM 7460-1, ADVISING THE FAA THAT AERONAUTICAL STUDY NO. 2011-AGL-7796-OE OR 2011-AGL-8018-OE IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED.

COPIES OF THE ALTERATION AND FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:

Express Processing Center
The Federal Aviation Administration
Southwest Regional Office
Air Traffic Airspace Branch ASW-520
2601 Meachan Blvd.
Fort Worth, TX 76137-4298

Ohio Department of Transportation
Office of Aviation
2829 West Dublin-Granville Road
Columbus, Ohio 43235
614-387-2346

CONTRACTOR SHALL REFER TO AERONAUTICAL STUDY NUMBERS LISTED ABOVE FOR CONDITIONS THAT NEED TO BE MET IN ADDITION TO DETERMINATION EXPIRATION DATES AND INSTRUCTIONS FOR EXTENSION REQUESTS.

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATIONS SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATION INFORMATION IS AVAILABLE FROM "ODOT DISTRICT 9."

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

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.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.

2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05. THE EXCAVATION LIMITS FOR UNSUITABLE SOIL ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. THE EXCAVATION LIMITS FOR UNSUITABLE SUBGRADE CONSISTING OF COAL, SHALE OR ROCK ARE SHOWN ON THE CROSS SECTIONS AND DETAILED ON THE TYPICAL SECTIONS

   IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

3. COMPACT THE SUBGRADE ACCORDING TO 204.03.

4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

   PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.

7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204

CALCULATED LBD
CHECKED JMB

GENERAL NOTES

SCI-823-6.81

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EROSION CONTROL

ITEMS 601, 660, AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE 660 OR 670. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET REQUIREMENT OF 108.04.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST 2 EACH

659, SEEDING AND MULCHING 26119 SQ. YD.

659, REPAIR SEEDING AND MULCHING 1306 SQ. YD

659, INTER-SEEDING 1306 SQ. YD.

659, COMMERCIAL FERTILIZER 3.64 TON

659, LIME 0.60 ACRES

659, WATER 145 M. GAL.

659, MOWING 59 M. SQ. FT.

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 MULCHING ARE BASED ON THESE LIMITS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY COUNTY FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

UNTREATED SEPTIC CONNECTIONS

THIS PLAN MAKES NO PROVISION FOR CONNECTION, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY UNTREATED SEPTIC DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM. ANY PIPE CARRYING UNTREATED SEPTIC FLOW SHALL BE PLUGGED WITH CLASS C CONCRETE AT THE RIGHT-OF-WAY LINE.

PAYMENT FOR PLUGGING SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEMS 203 EXCAVATION.

UNRECORDED UNTREATED NON-STORMWATER DRAINAGE

FURNISH NO CONTINUANCE FOR ANY UNRECORDED UNTREATED NON- STORMWATER DRAINAGE SUCH AS UNTREATED SEPTIC, UNTREATED WASTEWATER, UNTREATED CURTAIN/GRADIENT DRAINS, AND UNTREATED FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. PLUG ANY UNRECORDED UNTREATED NON-STORMWATER DRAINAGE WITH CLASS C CONCRETE AT THE RIGHT OF WAY LINE. PAYMENT FOR PLUGGING SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 OR 203 ITEM.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

PRECAST WINGWALLS, HEADWALLS AND FOOTERS

AT THE OPTION OF THE CONTRACTOR, A PRECAST WINGWALL, HEADWALL, OR FOOTER MAY BE FURNISHED PER ITEM 602.03 PRECAST STRUCTURES. THE PRECAST OPTION FURNISHED WILL MEET THE CAST-IN-PLACE STRUCTURAL DESIGN LOADINGS, DESIGN HEIGHT, AND DESIGN LENGTH DIMENSIONS.

FULL COMPENSATION FOR THE PRECAST WINGWALL, HEADWALL, OR FOOTER IS THE NUMBER OF CUBIC YARDS OF ITEM 511 OR SUPPLEMENTAL SPECIFICATION 898, AND POUNDS OF ITEM 509 FOR THE CORRESPONDING CAST-IN-PLACE STRUCTURE.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

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 RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET-2000 PLUS 50'-0" PLAN, ELEVATION AND SECTIONS 25'-0" RAIL, SLEEVE W/ PL POSTS 1-4	4/12/00	7/31/00
SS141	ET-2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 7/32 PLUS 9/32 EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

USER: CWohlbr: PLOT DATE: 9/15/2011 9:12:48 AM REVISION DATE: 9/15/2011
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ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4" BY 4" SQUARE OR 4 1/2" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D. O.D., AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE.

ITEM 616 - WATER

THIS QUANTITY OF WATER IS PROVIDED TO COMPLY WITH THE 404/401 WATERWAY PERMIT FOR USE AS ADDITIONAL DUST CONTROL WHEN WORKING WITHIN 100 FEET OF THESE PRESERVED WATERWAYS. THE STREAM IDENTIFICATION NUMBER AND APPROXIMATE LOCATION ARE LISTED IN TABLE BELOW. FOR A DETAILED LOCATION SEE THE WATERWAY PERMIT, AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE

STREAM #	APPROXIMATE LOCATION STATION
STREAM 17A	539+00
STREAM 17B	CR 28 RAMP C-D
STREAM 17C	CR 28 RAMP C-D
STREAM 18	484+50

ITEM 616 - WATER **90MGAL**

UTILITY LEGEND

ABBREVIATIONS:

— — — — — UNK UNKNOWN FUNCTION UTILITY PIPE

– – – – – – – – (DATUR) DEPICTED ACCORDING TO UTILITY RECORDS, NO ELECTRONIC INFORMATION WAS OBTAINED.

NAP	NO ASSOCIATED PIPING FOUND FROM STRUCTURE TO ANY OTHER UTILITY OR STRUCTURE.
(FO)	FIBER OPTIC
(AATFI)	ABANDONED ACCORDING TO FIELD INSPECTION
(AATUR)	ABANDONED ACCORDING TO UTILITY RECORDS
(DATFI)	DEPICTED ACCORDING TO FIELD INSPECTION, NO ELECTRONIC INFORMATION WAS OBTAINED.
(QL-C)	DEPICTED ACCORDING TO RECORD INFORMATION AND EXISTING ASSOCIATED UTILITY STRUCTURES. NO ELECTRONIC INFORMATION WAS OBTAINED.
(QL-D)	DEPICTED ACCORDING TO RECORD INFORMATION. NO ELECTRONIC INFORMATION WAS OBTAINED. UTILITY END POINT
EOI	END OF ELECTRONIC DESIGNATING INFORMATION
EORI	END OF RECORD INFORMATION
(APPROX.)	APPROXIMATE LOCATION SHOWN. SANITARY SEWER WAS PROPOSED AT THE TIME OF PREPARING THESE PLANS AND THE SEWER HAS BEEN SHOWN ON THESE PLANS AS TAKEN FORM THE PLANS OF RECORD. FIELD VERIFY LOCATION PRIOR TO THE START OF CONSTRUCTION.

JOURNAL ENTRY: TR234 RAMP D RENAMED SR335C

SUBSEQUENT TO THE COMPLETED PLANS, TR234 RAMP D (STA. 402+09.94 TO STA. 384+20.66) AND TR234 BETWEEN TR234 RAMP D AND SR335 (STA. 26+43.58 TO STA. 38+44.54) WAS JOURNALIZED AND SHALL NOW BE REFERRED TO AS SR335C.

CALCULATED LBD
CHECKED JMB

GENERAL NOTES

SCI-823-6.81

USER: ldearnel PLOT DATE: 4/18/2012 2:20:45 PM REVISION DATE: 4/18/2012
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ITEM 614, MAINTAINING TRAFFIC

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

SEQUENCE OF CONSTRUCTION

S.R. 139/GLENDALE ROAD

PERFORM IMPROVEMENTS TO THE INTERSECTION AND INSTALL TEMPORARY SIGNAL AT S.R. 139 AND GLENDALE ROAD AS SHOWN ON SHEETS 24-25 AND DETAILS SHOWN ON STANDARD CONSTRUCTION DRAWINGS MT-96.20 AND MT-96.26. MAINTAIN TRAFFIC WITH THE USE OF FLAGGERS.

C.R. 28

DETOUR C.R. 28 AS SHOWN ON SHEET 23. TEMPORARY SIGNAL AT S.R. 139 AND GLENDAL ROAD SHALL BE OPERATIONAL PRIOR TO DETOURING C.R. 28. NO CLOSURES OR WORK SHALL BE PERFORMED ON S.R. 139 WHILE C.R. 28 IS DETOURED. CLOSURE OF C.R. 28 SHALL BE BETWEEN OF JUNE 15TH THRU AUGUST 15TH AND SHALL NOT EXCEED 60 DAYS. ACCESS TO AND FROM RASES MOUNTAIN DRIVE AND FLOWERS ISON ROAD SHALL BE MAINTAINED AT ALL TIMES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 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 SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.
- WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 20 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

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 63 M. GAL

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET 23. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, 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 ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

ITEM 301, ASPHALT CONCRETE BASE, PG 64-22	90 CU. YD.
ITEM 304, AGGREGATE BASE	130 CU. YD.
ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22	30 CU. YD.
ITEM 407, TACK COAT	30 GAL.
ITEM 408, PRIME COAT	310 GAL.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	125 CU. YD.
ITEM 617, COMPACTED AGGREGATE, TYPE A	40 CU. YD.
ITEM 617, WATER	0.5 M. GAL.
ITEM 642, CENTER LINE	0.06 MILE
ITEM 642, EDGE LINE	0.12 MILE

ITEM 614, DETOUR SIGNING

THE CONTRACTOR SHALL PROVIDE, MAINTAIN AND SUBSEQUENTLY REMOVE ALL DETOUR SIGNING AND SUPPORTS AS SHOWN ON SHEET 23 AND ON MT-101.60. ALL WORK SHALL BE PAID FOR UNDER ITEM 614, DETOUR SIGNING.

OVERHEAD-MOUNTED WORK ZONE SIGNALS

SIGNALS SHALL BE OVERHEAD MOUNTED IN ACCORDANCE WITH THE DETAILS SHOWN ON SCD MT-96.20.

CALCULATED MMB CHECKED TWG

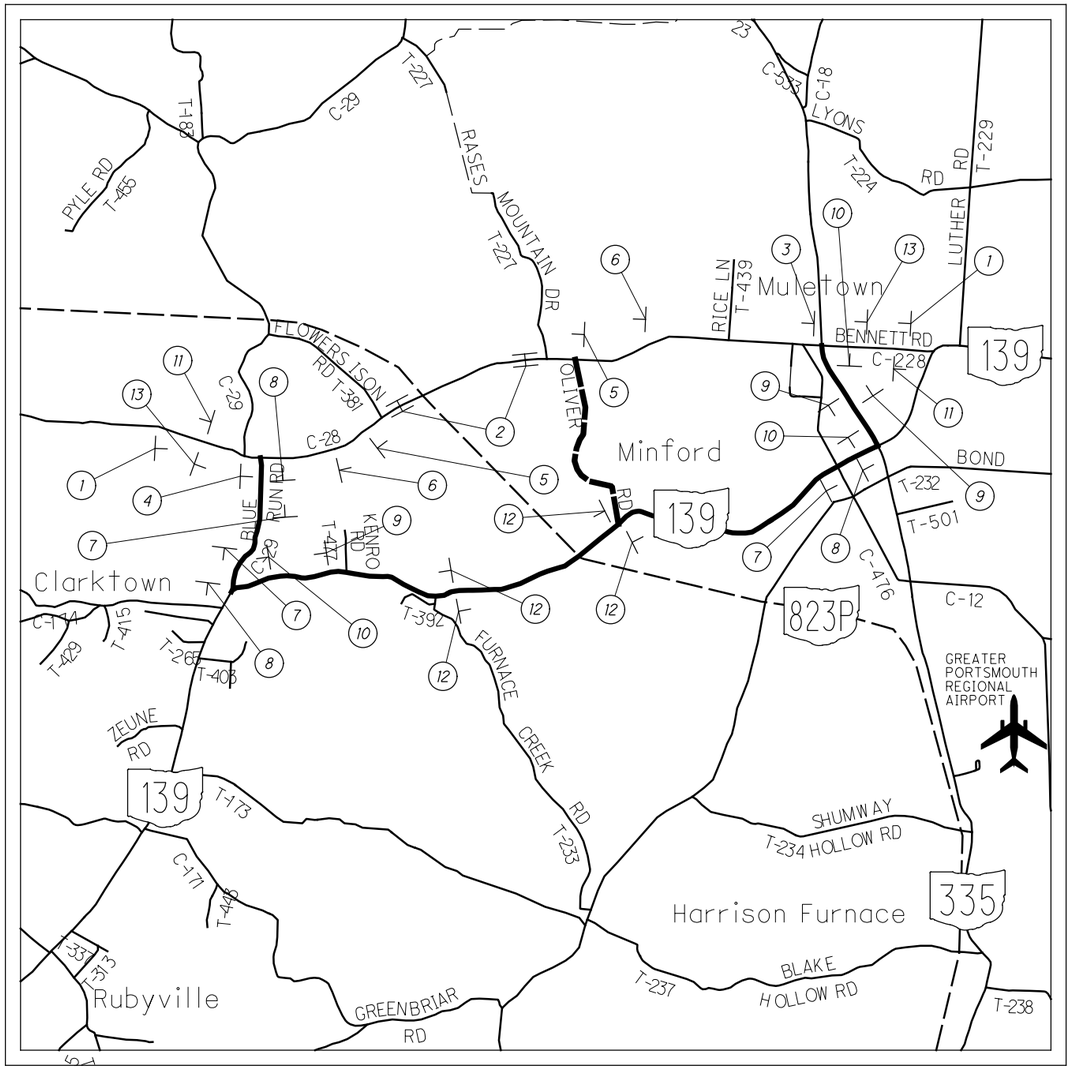
MAINTENANCE OF TRAFFIC GENERAL NOTES

SCI-823-6.81

MAINTENANCE OF TRAFFIC
C.R. 28 DETOUR

CALCULATED KAM
CHECKED TWG

SCI-823-6.81



1. ROAD CLOSED AHEAD
   W20-3-36

2. TYPE B WARNING LIGHT
   ROAD CLOSED
   R11-2-48
   TYPE III BARRICADE

3. ROAD CLOSED
   0.9 MILES AHEAD
   LOCAL TRAFFIC ONLY
   DETOUR
   R11-3A-60
   TYPE III BARRICADE
   M4-10L-48

4. ROAD CLOSED
   0.4 MILES AHEAD
   LOCAL TRAFFIC ONLY
   DETOUR
   R11-3A-60
   TYPE III BARRICADE
   M4-10R-48

5. ROAD CLOSED 500 FT
   W20-3-36

6. ROAD CLOSED 1000 FT
   W20-3-36

7. DETOUR — SCIOTO 28 COUNTY
   M4-8-24
   M1-6-30
   M5-1L-24

8. DETOUR — SCIOTO 28 COUNTY
   M4-8-24
   M1-6-30
   M6-1L-24

9. DETOUR — SCIOTO 28 COUNTY
   M4-8-24
   M1-6-30
   M5-1R-24

10. DETOUR — SCIOTO 28 COUNTY
    M4-8-24
    M1-6-30
    M6-1R-24

11. END DETOUR
    M4-8A-24

12. DETOUR — SCIOTO 28 COUNTY
    M4-8-24
    M1-6-30
    M6-3-24

13. DETOUR 1500 FT
    W20-2-36

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INTERSECTION: S.R. 139 AND GLENDALE ROAD
MAINTAINING AGENCY: ODOT

START UP

START IN: (X) Y/R FLASH OR ( ) ALL RED
TIME FOR FLASH OR ALL RED: 10 SEC.
FIRST PHASES: ϕ2 & ϕ6
COLOR DISPLAYED: (X) GREEN ( ) YELLOW

DUAL ENTRY ( )
REST IN RED: ( ) RING 1 ( ) RING 2

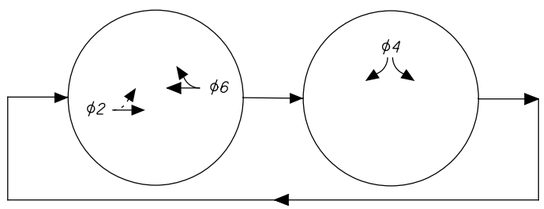
OVERLAP	A	B	C	D
PHASES				

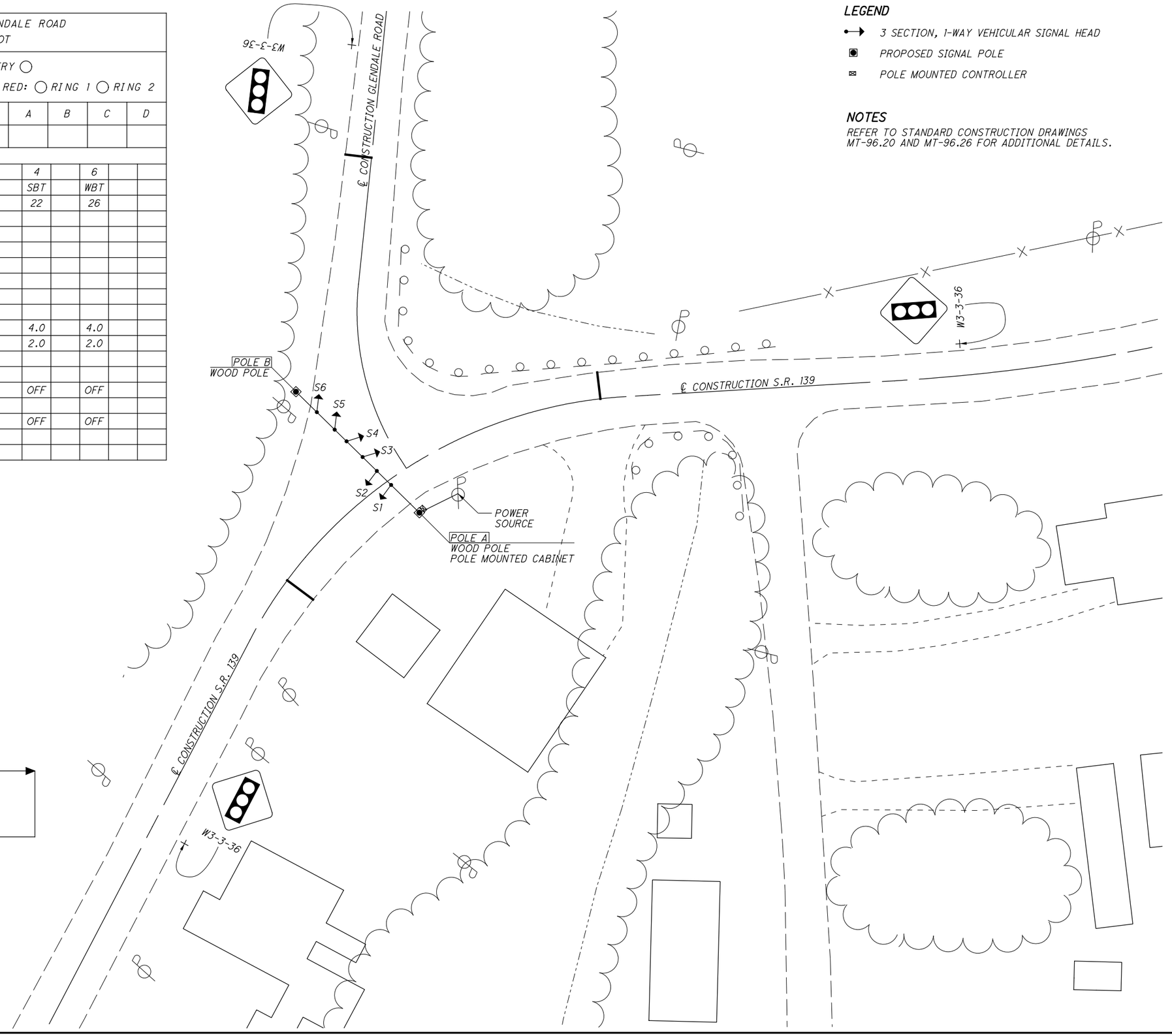
PHASE			2		4		6		
MOVEMENT			EBT		SBT		WBT		
MINIMUM GREEN (INITIAL)			26		22		26		
ADDED INITIAL									
PASSAGE (PRESET GAP)									
TIME BEFORE REDUCTION									
MINIMUM GAP									
TIME TO REDUCE									
MAX. GREEN I									
MAX. GREEN II									
YELLOW CHANGE			4.0		4.0		4.0		
ALL RED CLEARANCE			2.0		2.0		2.0		
WALK									
PEDESTRIAN CLEARANCE									
RECALL	MAX/MIN/OFF		OFF		OFF		OFF		
	PEDESTRIAN								
MEMORY			OFF		OFF		OFF		
CALL TO NON ACTUATED	NO. 1								
	NO. 2								

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1, 2 EB	R	ϕ2 R	Y
	Y	ϕ2 Y	
	G	ϕ2 G	
3, 4 WB	R	ϕ6 R	Y
	Y	ϕ6 Y	
	G	ϕ6 G	
5, 6 SB	R	ϕ4 R	R
	Y	ϕ4 Y	
	G	ϕ4 G	

PROPOSED PHASING DIAGRAMS





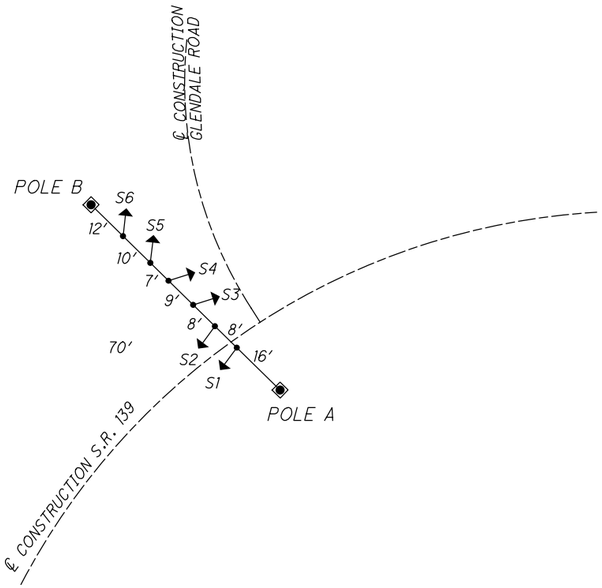
HORIZONTAL SCALE IN FEET
0 10 20 40

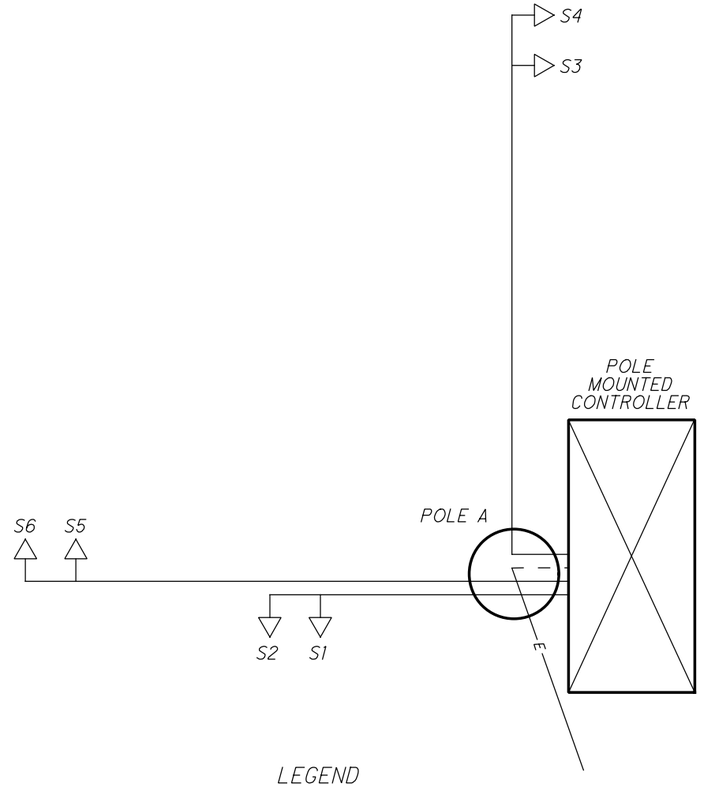
CALCULATED MMB
CHECKED TWG

MAINTENANCE OF TRAFFIC SIGNAL
S.R. 139 AND GLENDALE ROAD

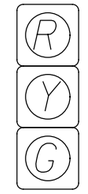
SCI-823-6.81

TEMPORARY S.R. 139 & GLENDALE ROAD





VEHICULAR SIGNAL HEADS
ALL LENSES SHALL BE 12″ LED



S1, S2, S3,
S4, S5, S6

LEGEND

VEHICULAR SIGNAL HEAD

STRAIN POLE

2/C #6 AWG (POWER CABLE)

3/C #6 AWG (SERVICE CABLE)

5/C #14 AWG

CALCULATED MMB
CHECKED TWG

MAINTENANCE OF TRAFFIC SIGNAL DETAILS
S.R. 139 AND GLENDALE ROAD

SCI-823-6.81

25
209

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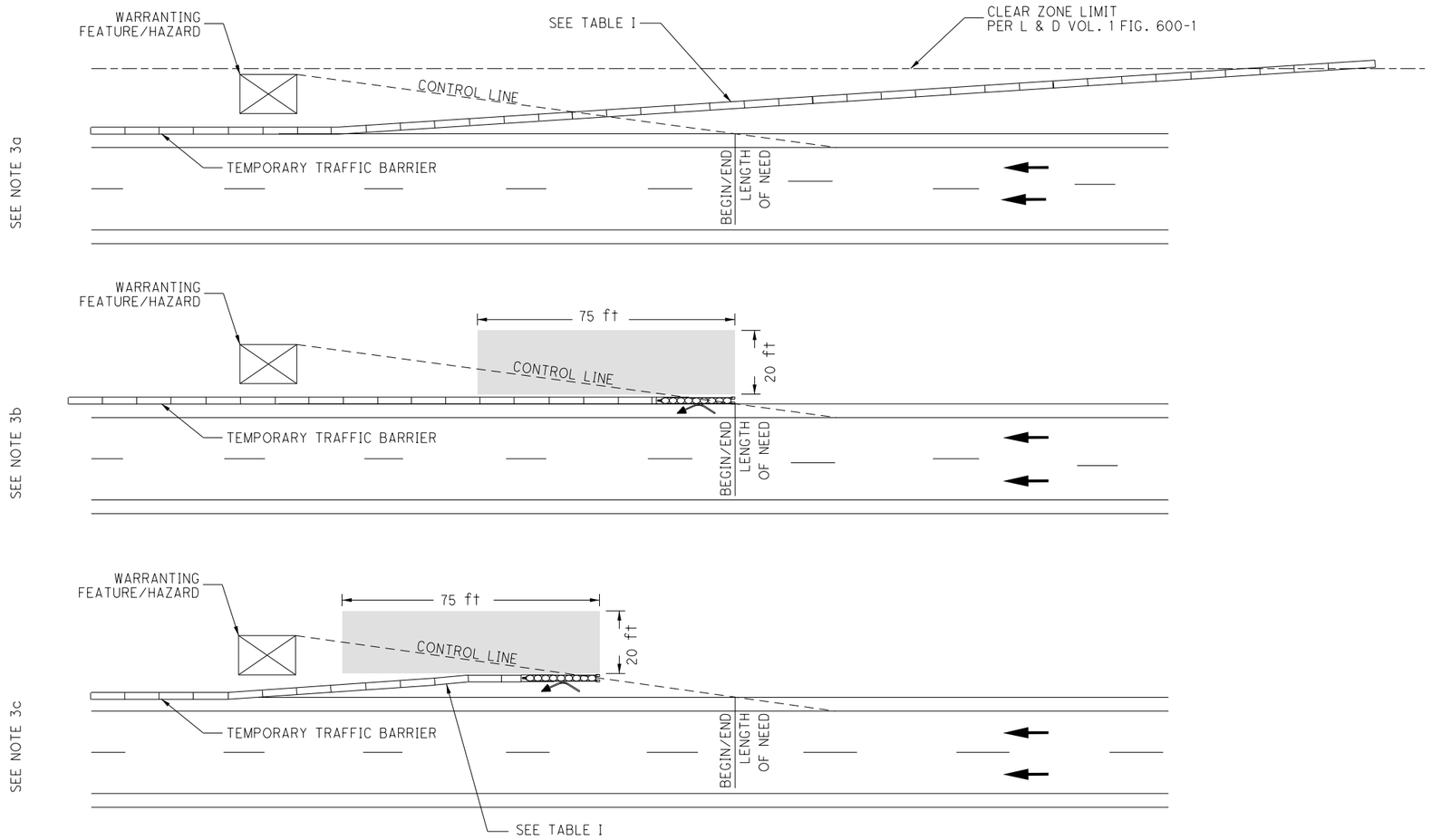


TABLE I

SPEED LIMIT (MPH)	PCB FLARE RATE MINIMUM
25	8:1
30	8:1
35	10:1
40	11:1
45	13:1
50	14:1
55	16:1
60	17:1
65	18:1

NOTES

1. Attenuators shall be installed per manufacturers' specifications.
2. Recovery area shall have slopes 3:1 or flatter and be free of workers, hazards, equipment, drop-offs, and material storage.
3. The Contractor shall select one of the three acceptable options for terminating temporary traffic barrier:
   a) Terminate flared section of temporary traffic barrier outside clear zone with tapered end only where cross slopes are 10:1 or flatter.
   b) Terminate temporary traffic barrier with an impact attenuator. A non-gating attenuator may be included in the length of need measurement.
   c) Flare a section of temporary traffic barrier to the length of need control line and terminate with an impact attenuator. A non-gating impact attenuator may be included in the flared section of temporary traffic barrier.
4. The Contractor shall submit documentation, 2 weeks prior to implementation, to the Engineer for acceptance when:
   a) Deviating from the three acceptable options for terminating temporary traffic barrier.

      Documentation shall explain any deviations and verify that the recovery area fulfills the manufacturers' specifications and note 2.

   b) Using a gating impact attenuator in lieu of a non-gating impact attenuator.

      The gating impact attenuator length shall not be included as part of the length of need or recovery area requirements. Additional temporary traffic barrier will need to be added. The additional cost for the additional barrier required for a gating impact attenuator shall be included in the cost of the gating impact attenuator.

      Documentation shall verify that the extended recovery area fulfills the manufacturers' specifications and note 2.
5. Gating impact attenuators shall not be used in gore locations or within the clear zone between bi-directional traffic.

LEGEND

RECOVERY AREA

TEMPORARY TRAFFIC BARRIER

NON-GATING IMPACT ATTENUATOR

DIRECTION OF TRAVEL

OFFICE OF TRAFFIC ENGINEERING

DESIGNED MER REVIEWED

REVISION DATE 04/20/11 CHECKED LAM

P1S NUMBER 2010175

PLAN INSERT SHEET

IMPACT ATTENUATOR PLACEMENT

SCI-823-6.81

1 / 1

25A
209

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS			19	21	29	30	31	32	33	34	35	155	174							
																			ROADWAY	
			LUMP												201	11000	LUMP		CLEARING AND GRUBBING	
						4									202	20010	4	EACH	HEADWALL REMOVED	
						2059									202	35100	2059	FT	PIPE REMOVED, 24" AND UNDER	
						138									202	35200	138	FT	PIPE REMOVED, OVER 24"	
						1409									202	38000	1409	FT	GUARDRAIL REMOVED	
						13									202	58100	13	EACH	CATCH BASIN REMOVED	
						868									202	75000	868	FT	FENCE REMOVED	
						2									202	98100	2	EACH	REMOVAL MISC.: POST	
													90		202	98200	90	FT	REMOVAL MISC.: PORTABLE CONCRETE BARRIER	
							18362								203	10000	18362	CU YD	EXCAVATION	
							13031								203	20000	13031	CU YD	EMBANKMENT	
171917															204	10000	171917	SQ YD	SUBGRADE COMPACTION	
								10027							204	13000	10027	CU YD	EXCAVATION OF SUBGRADE	
								10936							204	30020	10936	CU YD	GRANULAR MATERIAL, TYPE C	
62															204	45000	62	HOUR	PROOF ROLLING	
								12289							204	50000	12289	SQ YD	GEOTEXTILE FABRIC	
												420			209	10000	420	FT	DITCH CLEANOUT	
					9	5									604	38500	14	EACH	MONUMENT ASSEMBLY	
					11										604	40500	11	EACH	REFERENCE MONUMENT	
					21987.5	612.5									606	13000	22600.0	FT	GUARDRAIL, TYPE 5	
						1									606	20000	1	EACH	FLARED END SECTION	
					3	1									606	22010	4	EACH	ANCHOR ASSEMBLY, TYPE E-98	
					2	2									606	26500	4	EACH	ANCHOR ASSEMBLY, TYPE T	
					5										606	35000	5	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					5										606	35100	5	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					1750	1213									607	15000	2963	FT	FENCE, TYPE 47	
					6833										622	10100	6833	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	
					4954										622	10140	4954	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	
					1388										622	10160	1388	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
					1865										622	10161	1865	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	184
					38										622	25020	38	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED	
					10										622	25050	10	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
						3									SPECIAL	69050100	3	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	21
						3									SPECIAL	69050350	3	EACH	MAILBOX REMOVED AND RESET	21
																			EROSION CONTROL	
									4						601	11000	4	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB	
										76	56				601	21050	132	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
									505						601	21060	505	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 2	
									102						601	32004	102	CU YD	ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER	
									11						601	32100	11	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
									1865						601	37500	1865	FT	PAVED GUTTER, TYPE 1-2	
				90											616	10000	90	M GAL	WATER	
							2								659	00100	2	EACH	SOIL ANALYSIS TEST	
							26119								659	10000	26119	SQ YD	SEEDING AND MULCHING	
							1306								659	14000	1306	SQ YD	REPAIR SEEDING AND MULCHING	
							1306								659	15000	1306	SQ YD	INTER-SEEDING	
							3.64								659	20000	3.64	TON	COMMERCIAL FERTILIZER	
							0.60								659	31000	0.60	ACRE	LIME	
							145								659	35000	145	M GAL	WATER	
							59								659	40000	59	M SQ FT	MOWING	
									1208						670	10020	1208	SQ YD	VEGETATED SWALE EROSION PROTECTION MAT, TYPE B	
									1067						836	10000	1067	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	
									108						836	10020	108	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2	

CALCULATED LBD
CHECKED KAG

GENERAL SUMMARY

SCI-823-6.81

USER: ldoornel PLOT DATE: 2/21/2012 9:18:14 AM REVISION DATE: 2/21/2012
FILE: ...4\HOR_CL\0800000045878 /19415gg001.dgn MODEL: Sheet

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS				30	33	34	35	36	169	170	171	174								
																			DRAINAGE	
					11.4										602	20000	11.4	CU YD	CONCRETE MASONRY	
					7										603	00200	7	FT	4" CONDUIT, TYPE C	
						2977	2063								603	00510	5040	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
					168										603	13400	168	FT	30" CONDUIT, TYPE B	
					121										603	16200	121	FT	36" CONDUIT TYPE A, 707.01 (0.109 AL COATED),	
																			707.02 (0.109 AL COATED), 707.02 CFP, 707.04	
					126										603	20700	126	FT	48" CONDUIT TYPE A, 706.02 (1000 D-LOAD)	
					282										603	26000	282	FT	72" CONDUIT TYPE A, 706.02 (1000 D-LOAD)	
					2										604	04900	2	EACH	CATCH BASIN, NO. 2-3	
						38	28								604	36600	66	EACH	PRECAST REINFORCED CONCRETE OUTLET	
						20657	5652								605	11110	26309	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	
							3527								605	12210	3527	FT	6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP	
						298									605	13410	298	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	
						18112	13999								605	13500	32111	FT	6" ROCK CUT UNDERDRAINS	
						10597	8961								605	14020	19558	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	
								1958							605	31100	1958	FT	AGGREGATE DRAINS	
																			PAVEMENT	
252															254	01000	252	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
34560															302	46000	34560	CU YD	ASPHALT CONCRETE BASE, PG64-22	
29139															304	20000	29139	CU YD	AGGREGATE BASE	
12286															407	10000	12286	GALLON	TACK COAT	
6322															407	14000	6322	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
67656															408	10000	67656	GALLON	PRIME COAT	
4270															422	10000	4270	SQ YD	SINGLE CHIP SEAL	
6586															442	10000	6586	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	
7881															442	10100	7881	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	
9															609	24510	9	FT	CURB, TYPE 4-C	
				574											609	72000	574	SQ YD	CONCRETE MEDIAN	
								47402							618	40100	47402	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)	
																			TRAFFIC CONTROL	
									2						614	12336	2	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
										168					620	00500	168	EACH	DELINEATOR, POST MOUNTED	
										18					620	11000	18	EACH	DELINEATOR, BRACKET MOUNTED	
									468						621	00100	468	EACH	RPM	
									4110						622	40020	4110	FT	PORTABLE CONCRETE BARRIER, 32"	
											602				626	00100	602	EACH	BARRIER REFLECTOR	
												60			630	02100	60	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
												577			630	03100	577	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
												128			630	04100	128	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
												34			630	06100	34	FT	GROUND MOUNTED SUPPORT, NO. 6 POST	
												101			630	06400	101	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	
												183			630	06500	183	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	
												54			630	07500	54	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	
												306			630	08000	306	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30	
												2			630	08004	2	FT	ONE WAY SUPPORT, NO. 3 POST	
												10			630	08600	10	EACH	SIGN POST REFLECTOR	
												6			630	09000	6	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
												609			630	80100	609	SQ FT	SIGN, FLAT SHEET	
												1466			630	80200	1466	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET	
												28			630	84500	28	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
												6			630	84900	6	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
												4			630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST AND DISPOSAL	
									13.23						644	00100	13.23	MILE	EDGE LINE	
									4.19						644	00200	4.19	MILE	LANE LINE	
									0.86						644	00300	0.86	MILE	CENTER LINE	
									1879						644	00400	1879	FT	CHANNELIZING LINE	
									58						644	00500	58	FT	STOP LINE	
									581						644	00700	581	FT	TRANSVERSE/DIAGONAL LINE	
									16						644	01300	16	EACH	LANE ARROW	

CALCULATED LBD
CHECKED KAG

GENERAL SUMMARY

SCI-823-6.81

USER: ldaornel PLOT DATE: 2/21/2012
FILE: ...4\HOR.CL\0800000045878
lh25g21 AM REVISION DATE: 2/21/2012
/9415gg002.dgn MODEL: Sheet

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS									22	182	183	185								
																			STRUCTURES (BARRIER TRANSITION)	
										12	12				516	13600	24	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	
										30	30				516	13900	60	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
										62	62				622	10161	124	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	182
																			NOISE BARRIER	
												441			SPECIAL	60610000	441	SQ FT	NOISE BARRIER	188
												540			SPECIAL	60610200	540	SQ FT	NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER	190
												5176			SPECIAL	60610210	5176	SQ FT	NOISE BARRIER (REFLECTIVE), OVER 10' TO 14' HEIGHT	190
												720			SPECIAL	60610220	720	SQ FT	NOISE BARRIER (REFLECTIVE), OVER 14' TO 20' HEIGHT	190
																			MAINTENANCE OF TRAFFIC	
									90						301	46000	90	CU YD	ASPHALT CONCRETE BASE, PG 64-22	
									130						304	20000	130	CU YD	AGGREGATE BASE	
									30						407	10000	30	GALLON	TACK COAT	
									310						408	10000	310	GALLON	PRIME COAT	
									30						448	47020	30	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22	
									20						614	11110	20	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
									LUMP						614	12420	LUMP		DETOUR SIGNING	
									125						614	13000	125	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
									63						616	10000	63	M GAL	WATER	
									40						617	10100	40	CU YD	COMPACTED AGGREGATE, TYPE A	
									0.5						617	25000	0.5	M GAL	WATER	
									0.12						642	00090	0.12	MILE	EDGE LINE	
									0.06						642	00290	0.06	MILE	CENTER LINE	

CALCULATED LBD
CHECKED KAG

GENERAL SUMMARY

SCI-823-6.81

USER: ldearnel PLOT DATE: 2/21/2012 9:20:14 AM REVISION DATE: 2/21/2012
FILE: ...4\HDR_CVBMD0000045878 /9415gg003.dgn MODEL: Sheet

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 HEADWALL REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 GUARDRAIL REMOVED	202 CATCH BASIN REMOVED	202 FENCE REMOVED	202 REMOVAL MISC.: POST	604 MONUMENT ASSEMBLY	604 REFERENCE MONUMENT	606 GUARDRAIL, TYPE 5	606 FLARED END SECTION	606 ANCHOR ASSEMBLY, TYPE E-98	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2	607 FENCE, TYPE 47	609 CONCRETE MEDIAN	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE BI	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE CI	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	622 CONCRETE BARRIER, END ANCHOR, REINFORCED	622 CONCRETE BARRIER, END ANCHOR, REINFORCED, TYPE D	690 SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE	690 SPECIAL - MAILBOX REMOVED AND RESET
					EACH	FT	FT	FT	EACH	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	SQ YD	FT	FT	FT	FT	FT	FT	EACH	EACH
		TR234 RAMP D	**SR823**																										
G-1	37	385+16.50	440+69.40	LT										5525					1										
		TR234 RAMP A	**SR823**																										
G-2	37	400+54.20	440+91.19	RT										4050		1		1											
		SR823																											
M-1		374+35.26		LT									1																
M-2		374+35.26		RT									1																
B-1	37	395+00.00	396+05.61	CL																		106				2			
B-2	37	396+05.61	430+30.95	LT																			3425			10			
M-3	37	396+95.61		LT									1																
M-4	37	396+95.61		RT									1																
M-5	43	429+40.95		LT								1																	
M-6	43	429+40.95		RT								1																	
B-3	43	430+30.95	440+40.00	CL																		1009				4			
M-7	43	439+00.00		RT									1																
F-1	206	440+15.99	440+73.32	LT																255									
F-2	206	440+95.85	441+09.58	RT																232									
F-3	206	445+03.69	445+04.84	LT																164									
F-4	206	445+27.23	445+76.64	RT																235									
B-4	45	445+60.84	471+88.31	CL																		2627				8			
G-3	45	445+09.65	483+24.40	LT										3837.5				1	1										
G-4	45	445+31.46	473+43.63	RT										2812.5			1		1										
M-8	45	449+00.00		RT									1																
M-9	47	460+00.00		RT									1																
M-10	49	465+00.00		RT									1																
M-11	49	470+00.81		LT									1																
M-12	49	470+00.81		RT									1																
B-5	49	471+88.31	482+65.74	CL																			1077			4			
G-5	51	477+35.14	480+47.64	RT										275		1		1											
B-6	51	480+51.79	482+62.67	RT																				211			2		
F-5	207	482+52.32	482+86.07	RT																185									
F-6	207	483+22.12	483+38.75	LT																257									
F-7	207	486+88.35	486+89.54	RT																160									
F-8	207	487+31.36	487+65.02	LT																262									
B-7	51	487+28.04	489+55.00	RT																				227			2		
B-8	51	487+57.50	492+09.01	CL																			452			2			
G-6	51	487+30.90	510+45.75	LT										2337.5				1	1										
B-9	53	489+55.00	508+20.00	RT																					1865				
B-10	53	492+09.01	523+00.00	CL																		3091				8			
M-13	53	493+96.51		LT									1																
M-14	53	493+96.51		RT								1																	
M-15	53	500+00.00		RT								1																	
B-11	55	508+20.00	509+00.00	RT																				80			2		
B-12	55	510+50.00	519+20.00	LT																				870			4		
M-16	55	510+00.00		RT								1																	
M-17	57	516+00.00		LT								1																	
M-18	57	516+00.00		RT								1																	
M-19	57	522+00.00		LT								1																	
M-20	57	522+00.00		RT								1																	
		SR823	**CR28 RAMP A**																										
G-7	55	509+04.25	529+41.75	RT										2025			1		1										
		SR823	**CR28 RAMP D**																										
G-8	57	519+20.00	530+99.15	LT										1125		1		1											
TOTALS CARRIED TO GENERAL SUMMARY					0	0	0	0	0	0	0	9	11	21987.5	0	3	2	5	5	1750	0	6833	4954	1388	1865	38	10	0	0

CALCULATED KAG
CHECKED LBD

ROADWAY SUBSUMMARY

SCI-823-6.81

USER: Cwahlbri PLOT DATE: 9/15/2011 9:31:15 AM
FILES: ...\HDR_CU\BRIDGE\000000045878 /9415gs001.dgn REVISION DATE: 9/15/2011
MODEL: Sheet

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 HEADWALL REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 GUARDRAIL REMOVED	202 CATCH BASIN REMOVED	202 FENCE REMOVED	202 REMOVAL MISC.: POST	604 MONUMENT ASSEMBLY	604 REFERENCE MONUMENT	606 GUARDRAIL, TYPE 5	606 FLARED END SECTION	606 ANCHOR ASSEMBLY, TYPE E-98	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2	607 FENCE, TYPE 47	609 CONCRETE MEDIAN	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE BI	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE CI	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	622 CONCRETE BARRIER, END ANCHOR, REINFORCED	622 CONCRETE BARRIER, END ANCHOR, REINFORCED, TYPE D	690 SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE	690 SPECIAL - MAILBOX REMOVED AND RESET
					EACH	FT	FT	FT	EACH	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	SQ YD	FT	FT	FT	FT	FT	FT	EACH	EACH
		CR 28 RAMP A																											
CM-1	71	532+94.60	536+65.00	LT																	200								
		CR 28 RAMP D																											
CM-2	75	535+50.01	543+67.22	RT																	374								
		CR 28																											
R-1	77	10+14.60	16+68.22	RT				652																					
M-21	77	10+49.68		CL								1																	
G-9	77	10+61.70	16+47.50	LT										612.5	1	1	2												
R-2	77	10+63.16	14+32.09	LT				415																					
R-3	77	10+66.30	10+84.20	BOTH	2		71																						
R-4	77	10+73.40	16+56.69	RT						580																			
M-22	77	13+32.00		CL								1																	
R-5	77	13+85.18	16+00.97	LT		218																							
R-6	77	13+85.23		LT							1																		
R-7		NOT USED																											
MB-1	79	14+72.16		LT																								1	1
R-8	79	16+83.27	18+37.58	RT						154																			
R-9	79	17+06.47	19+08.56	RT				202																					
R-10	79	18+11.13	19+51.13	LT				140																					
R-11	79	18+34.95	18+64.48	BOTH	2		67																						
R-12	79	19+08.77	19+39.30	RT		31																							
R-13	79	19+33.29	20+66.99	RT						134																			
R-14	79	19+41.37		LT							1																		
R-15	79	19+76.11	20+17.12	LT		41																							
R-16	79	20+85.81	21+64.72	LT		79			1																				
R-17	79	21+36.91	21+72.33	RT		35																							
R-18	79	21+64.72	23+51.75	LT		187			1																				
R-19	79	23+51.75	24+30.15	LT		79			1																				
F-9	208	23+82.37	25+00.78	LT																119									
R-20	79	24+30.15	25+28.61	LT		99			1																				
F-10	208	25+00.78	28+99.03	LT																400									
R-21	79	25+28.61	25+87.22	LT		59			1																				
R-22	79	25+87.22	28+40.07	LT		253			1																				
R-23	79	26+60.31	26+84.75	LT		25																							
R-24	81	28+40.07	28+98.26	LT		58			1																				
R-25	81	28+98.26	30+37.84	LT		140			1																				
F-11	209	28+99.03	29+99.00	LT																101									
M-23	81	29+43.09		CL								1																	
F-12	209	29+99.00	33+99.53	LT																401									
R-26	81	30+37.84	31+01.22	LT		63			1																				
R-27	81	31+01.20	31+88.50	LT		87			1																				
R-28	81	31+88.50	34+06.89	LT		218			1																				
F-13	209	33+99.53	35+90.99	LT																192									
R-29	81	34+06.89	35+01.82	LT		95			1																				
M-24	81	35+00.00		CL								1																	
R-30	81	35+01.82	35+98.67	LT		97			1																				
R-31	81	35+98.67	37+89.24	LT		195																							
M-25	81	36+20.57		CL								1																	
MB-2	81	36+60.87		LT																								1	1
MB-3	81	36+64.26		LT																								1	1
TOTALS CARRIED TO GENERAL SUMMARY					4	2059	138	1409	13	868	2	5	0	612.5	1	1	2	0	0	1213	574	0	0	0	0	0	0	3	3

CALCULATED KAG
CHECKED LBD

ROADWAY SUBSUMMARY

SCI-823-6.81

USER: Cwahibri PLOT DATE: 9/15/2011 9:39:21 AM
FILES: ...\HDR_CU\BRIDGE\000000045878 /7941Sgs002.dgn REVISION DATE: 9/15/2011 MODEL: Sheet

EARTHWORK & SEEDING			
SHEET	203		659
	EXC.	EMB.	SEEDING & MULCHING
	CU YD	CU YD	SQ YD
CR28			
85	35	338	504
86	170	2234	2272
87	148	3426	1766
88	72	1484	594
89	790	708	2033
90	2564	1001	2050
91	246	1180	1773
92	640	852	1689
93	2003	142	1679
94	3136	13	1912
95	2463	36	1551
96	1243	68	1139
97	909	126	933
98	837	224	1156
99	440	298	1032
100	710	130	1106
101	1128	19	1188
102	588	32	718
103	214	10	59
SUBTOTALS	18336	12321	25154
PRIVATE DRIVE			
104	0	339	414
105	0	186	211
106	7	140	294
107	19	45	46
SUBTOTALS	26	710	965

EARTHWORK & SEEDING			
TOTALS	203		659
	EXC.	EMB.	SEEDING & MULCHING
	CU YD	CU YD	SQ YD
CR28	18336	12321	25154
PRIVATE DRIVE	26	710	965
TOTALS CARRIED TO GENERAL SUMMARY	18362	13031	26119

SEEDING CALCULATIONS		
659, SOIL ANALYSIS TEST	2	EACH
659, SEEDING & MULCHING	26119	SQ YD
659, REPAIR SEEDING & MULCHING	1306	SQ YD
659, INTER-SEEDING	1306	SQ YD
659, COMMERCIAL FERTILIZER	3.64	TON
659, LIME	0.60	ACRES
659, WATER	145	M GAL
659, MOWING	59	M SQ FT

TOTALS CARRIED TO GENERAL SUMMARY

CALCULATED SRD
CHECKED LBD

EARTHWORK AND SEEDING SUBSUMMARY

SCI-823-6.81

ITEM 204 CALCULATIONS						
STATION	CUT END AREA	FILL END AREA	WIDTH	204 EXC. OF SUBGRADE	204 GRAN. MAT. TYPE C	204 GEOTEXTILE FABRIC
	SQ FT	SQ FT	FT	CU YD	CU YD	SQ YD
TR234 RAMP D						
387+50	56		28			
388+00	56		28	104	104	156
388+50	56		28	104	104	156
389+00	56		28	104	104	156
389+50	56		28	104	104	156
390+00	56		28	104	104	156
390+50	56		28	104	104	156
391+00	56		28	104	104	156
391+50	56		28	104	104	156
392+00	56		28	104	104	156
392+50	56		28	104	104	156
393+00	56		28	104	104	156
393+50	56		28	104	104	156
394+00	56		28	104	104	156
394+50	56		28	104	104	156
395+00	43		28	92	92	156
SUBTOTALS				1544	1544	2333
CR28 RAMP A						
528+50	84		28			
529+00	84		28	156	156	156
529+50	84		28	156	156	156
530+00	70		28	143	143	156
SUBTOTALS				454	454	467
CR28 RAMP D						
528+50	84		28			
529+00	84		28	156	156	156
529+50	84		28	156	156	156
530+00	84		28	156	156	156
531+00	57		28			
531+50	84		28	131	131	156
532+00	78		28	150	150	156
532+50	40		16	109	109	122
535+00	84		28			
535+50	124		45	193	193	203
536+00	96		39	204	204	233
536+50	94		35	176	176	206
537+00	97		32	177	177	186
537+50	94		31	177	177	175
SUBTOTALS				1782	1782	1903

ITEM 204 CALCULATIONS						
STATION	CUT END AREA	FILL END AREA	WIDTH	204 EXC. OF SUBGRADE	204 GRAN. MAT. TYPE C	204 GEOTEXTILE FABRIC
	SQ FT	SQ FT	FT	CU YD	CU YD	SQ YD
CR28						
10+05	5		5			
10+76	25		25	39	39	118
11+00	26		26	23	23	68
11+50	28		28	50	50	150
12+00	30		30	54	54	161
14+50	111	41	51			
15+00	101	84	62	196	312	314
15+50	86	62	50	173	308	311
16+00	82	98	60	156	304	306
16+50	81	50	44	151	288	289
17+00	89	29	39	157	231	231
17+50	103	14	39	178	218	217
18+00	111	6	39	198	217	217
18+50	113	4	39	207	217	217
19+00	101	17	39	198	218	217
19+50	85	30	39	172	216	217
20+00	82	35	39	155	215	217
20+50	81	36	39	151	217	217
21+00	106	11	39	173	217	217
28+00	148		51			
28+50	163		58	288	288	303
29+00	139		50	280	280	300
29+50	112		38	232	232	244
30+00	124		45	219	219	231
30+50	113		39	219	219	233
31+00	113		39	209	209	217
31+50	115		39	211	211	217
32+00	116		39	214	214	217
32+50	115		39	214	214	217
33+00	111		37	209	209	211
33+50	105		35	200	200	200
34+00	100		33	190	190	189
34+50	95		32	181	181	181
35+00	89		30	170	170	172
35+50	84		28	160	160	161
36+00	90		30	161	161	161
36+50	122		40	196	196	194
37+00	73		24	181	181	178
37+31.38	67		22	81	81	80
SUBTOTALS				6247	7156	7586
TOTALS CARRIED TO GENERAL SUMMARY				10027	10936	12289

CALCULATED SRD
CHECKED LBD

SOIL UNDERCUT SUBSUMMARY

SCI-823-6.81

USER: CMahlbri PLOT DATE: 9/15/2011 9:13:30 AM REVISION DATE: 9/15/2011
FILES...ANNOR_CU6800000000045878 /1941sgs102.dgn MODEL: Sheet

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 RIPRAP USING 6" REINFORCED CONCRETE SLAB (SQ YD)	601 TIED CONCRETE BLOCK MAT, TYPE 2 (SQ YD)	601 ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER (CU YD)	601 ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER (CU YD)	601 PAVED GUTTER, TYPE 1-2 (FT)	670 VEGETATED SWALE EROSION PROTECTION MAT, TYPE B (SQ YD)	836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (SQ YD)	836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (SQ YD)	602 CONCRETE MASONRY (CU YD)	603 4" CONDUIT, TYPE C (FT)	603 30" CONDUIT, TYPE B (FT)	603 36" CONDUIT TYPE A, 707.01 (0.109 AL COATED), 707.02 (0.109 AL COATED), 707.02 CFP, 707.04 (FT)	603 48" CONDUIT TYPE A, 706.02 (1000 D-LOAD) (FT)	603 72" CONDUIT TYPE A, 706.02 (1000 D-LOAD) (FT)	604 CATCH BASIN, NO. 2-3 (EACH)
		SR823																		
E-1	45	445+41.49		LT		92														
E-2	45	445+63.19		RT		185														
E-3	51	487+62.44		LT		129														
PG-1	53	489+55	490+00	RT					45											
PG-2	53	490+00	493+00	RT					300											
PG-3	53	493+00	503+00	RT					1000											
PG-4	55	503+00	508+20	RT					520											
D-1 TO D-29		NOT USED																		
		CR28																		
D-30	77	10+97.50	10+78.68	BOTH	4		30						2.2				88			
E-4	77	11+50	15+00	LT						292										
E-5	79	16+00	17+00	LT						83										
E-6	79	16+27.50	18+60.68	RT							639									
D-31	79	17+00	17+00	BOTH				11					1.5			121				
E-7	79	18+60.31	19+51.81	RT						83										
D-32	79	18+69.34	21+12.27	BOTH			72						5.5					282		
E-8	79	21+42.48	22+50	LT								108								
E-9	79	22+50	26+00	LT							428									
E-10	79	26+00	30+50	LT						750										
D-33	81	36+00	36+75	LT										7	75				1	
D-34	81	36+75	37+68.16	LT		6									93				1	
		PRIVATE DRIVE																		
E-11	83	10+20.55	10+46.11	LT		14														
E-12	83	10+23	10+40.34	RT		11														
D-35	83	10+50	10+50	BOTH		68							2.2				38			
TOTALS CARRIED TO GENERAL SUMMARY					4	505	102	11	1865	1208	1067	108	11.4	7	168	121	126	282	2	

CALCULATED KAG
CHECKED LBD

DRAINAGE AND EROSION CONTROL SUBSUMMARY

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:13:36 AM REVISION DATE: 9/15/2011
FILE...\HDR.C/0000000045878 /9415ds001.dgn MODEL: Sheet

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 TIED CONCRETE BLOCK MAT, TYPE 1 SQ YD	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT	604 PRECAST REINFORCED CONCRETE OUTLET EACH	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP FT	605 6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP FT	605 6" ROCK CUT UNDERDRAINS FT	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP FT	FOR INFORMATION ONLY 6" PLUG EACH	6" X 45° BEND EACH	6" X 45° WYE EACH	6" X 30° BEND EACH
U-1	139	395+00.00	395+45.00	LT	2	58	1	40				40	2	3	1	
U-2	139	395+00.00	395+45.00	RT	2	87	1	74				40	3	4	2	
U-3	139	395+50.00	400+45.00	LT	2	70	1	966				488	3	3	1	1
U-4	139	395+50.00	400+45.00	RT	2	64	1	965				487	3	3	1	1
U-5	140	400+50.00	405+45.00	LT	2	109	1	967				752	5	6	3	
U-6	140	400+50.00	405+45.00	RT	2	139	1	988				502	3	4	3	
U-7	140	405+50.00	408+95.00	LT		24		668				333	3	2	2	
U-8	140	405+50.00	408+95.00	RT	2	92	1	1002				351	4	4	2	1
U-9	140	409+00.00	412+40.00	LT	2	48	1	664				330	3	4	1	
U-10	140	409+00.00	412+45.00	RT	2	117	1	1031				347	4	5	4	
U-11	140	412+45.21	415+95.00	LT	2	47	1	667				340	3	3	1	
U-12	140	412+50.00	415+95.00	RT	2	86	1	1001				341	4	4	2	1
U-13	141	416+00.00	420+00.00	LT		43	1				1167			3	1	
U-14	141	416+00.00	420+00.00	RT	2	84	1				1566			4	2	1
U-15	140	405+50.00	410+00.00	LT	2	48	1	440					1	2		
U-16		NOT USED														
U-17	141	420+00.00	425+00.00	LT		86	1				1471		0	3	3	
U-18	141	420+00.00	425+00.00	RT	2	60	1				2007		0	6	2	
U-19	141	425+05.00	429+00.00	LT		62	1				1128		3	3	1	1
U-20	141	425+05.00	429+00.00	RT	2	81	1				1547		4	4	2	1
U-21	141	429+05.00	435+00.00	LT	2	44	1	95			990	95	2	3	1	
U-22	141	429+05.00	435+00.00	RT	2	45	1	178			1479	90	3	3	1	
U-23	142	435+05.00	439+97.50	LT	2	36	1	487				487	2	3	1	
U-24	142	435+05.00	440+00.00	RT	2	45	1	362			900	185	3	3	1	
U-25	142	440+02.50	440+41.79	LT	2	39	1			66			2	3	1	
U-26	142	440+00.00	440+60.26	RT	2	48	1			137			3	3	1	
U-27	142	445+58.53	449+95.00	LT		55		431				431	2	3	1	
U-28	142	455+58.53	446+05.00	RT		60		70				41	3	3	1	
U-29	142	446+10.00	449+95.00	RT	2	48	1	748				375	3	3	1	
U-30	143	450+00.00	454+95.00	RT	2	73	1				1464		3	4	2	
U-31	143	450+00.00	454+95.00	LT	2	34	1				980		2	2	1	
U-32	143	455+00.00	458+95.00	RT	2	44	1	440			469	245	3	3	1	
U-33	143	455+00.00	458+95.00	LT		34	1	95			590	95	2	3	1	
U-34	143	459+00.00	462+95.00	RT	2	78	1	773				390	3	4	2	
U-35	143	459+00.00	462+95.00	LT		34	1	390				390	2	3	1	
U-36	143	463+00.00	466+00.00	RT		63		579				290		3	1	1
U-37	143	463+00.00	466+00.00	LT	2	48	1	295				295		3	1	
U-38		NOT USED														
U-39		NOT USED														
U-40	144	466+00.00	471+50.00	RT	2	86	1	1217				539	1	4	2	
U-41	144	466+00.00	471+50.00	LT	2	84	1	690				545	1	4	2	
U-42	144	471+55.00	477+50.00	RT	2	101	1	1728				580	4	4	2	1
U-43	144	471+55.00	477+50.00	LT	2	78	1	1185				594	3	4	2	
U-44	144	477+55.00	482+50.00	RT		65		428			1330	144	4			3
U-45	144	477+55.00	482+50.00	LT		68	1	292			1024	146	3	4	2	
U-46	145	482+50.00	482+93.12	BOTH		60	1			95			4	3	1	2
U-47	145	487+49.67	489+25.00	LT		34		331				156	3	3	3	
U-48	145	487+33.91	488+19.00	RT		62		180				73	4			3
U-49	145	488+24.00	488+72.00	RT		53		95				30	4			3
U-50	145	488+72.00	489+20.00	RT		53		95				30	4			3
TOTALS CARRIED TO GENERAL SUMMARY					62	2977	38	20657	0	298	18112	10597	121	148	67	23

CALCULATED KAG
CHECKED LBD

UNDERDRAIN SUBSUMMARY

SCI-823-6.81

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 TIED CONCRETE BLOCK MAT, TYPE I (SQ YD)	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS (FT)	604 PRECAST REINFORCED CONCRETE OUTLET (EACH)	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP (FT)	605 6" DEEP PIPE UNDERDRAINS WITH FABRIC WRAP (FT)	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP (FT)	605 6" ROCK CUT UNDERDRAINS (FT)	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP (FT)	FOR INFORMATION ONLY 6" PLUG (EACH)	6" X 45° BEND (EACH)	6" X 45° WYE (EACH)	6" X 30° BEND (EACH)
U-51	145	489+25.00	490+00.00	RT		63		156				60	4			3
U-52	145	490+00.00	493+00.00	RT		74		854				277	4	4	2	2
U-53	145	489+25.00	493+95.00	LT		53		935				467	3	4	2	
U-54	145	493+00.00	498+95.00	RT		62		1046			1470	488	4			3
U-55	145	494+05.00	498+95.00	LT	2	37	1	390			190	390	2	3	1	
U-56		NOT USED														
U-57	146	499+00.00	502+95.00	LT		34	1				778		2	3	1	
U-58	146	503+00.00	508+95.00	RT		41		971			285	488	3			2
U-59	146	503+05.00	508+95.00	LT		38	1	490			190	490	2	3	1	
U-60	146	509+00.00	512+95.00	RT		76	1				1160		3	4	2	
U-61	146	509+00.00	513+95.00	LT		34	1				671		2	3	1	
U-62	146	511+00.00	513+95.00	LT		10					284		1			
U-63	147	513+00.00	518+95.00	RT		57	1				2343		4	4	2	1
U-64	147	514+00.00	518+95.00	LT		53	1				1470		3	4	2	
U-65	147	519+00.00	520+01.30	RT		95	1				281			5	3	
U-66	147	519+00.00	520+01.30	LT		63	1				289			4	2	
U-67	148	520+01.30	522+95.00	LT		14					305		1	3		
U-68	148	520+01.30	523+50.00	RT		177	1				710		1	5	4	
U-69	148	519+50.00	521+50.00	RT		30	1				397			3	1	
														3	1	
		TR234 RAMP A														
U-70	149	385+05.00	389+95.00	BOTH	2	94	1					970	2	3	1	
U-71	149	390+00.00	394+95.00	BOTH	2	57	1					980	2	3	1	
U-72	149	395+00.00	400+40.53	BOTH	2	57	1					1069	2	3	1	
		TR234 RAMP D														
U-73	150	386+00.00	389+95.00	BOTH					490		451		3			
U-74	150	390+00.00	395+00.00	BOTH	2	50	1		990				2	3	1	
U-75	150	395+05.00	400+64.28	BOTH	2	47	1					1108	2	3	1	
		CR28 RAMP A														
U-76	148	521+54.98	526+50.00	BOTH		48	1				985		2	3	1	
U-77	148	526+55.00	530+00.00	BOTH	2	75	1		590		90		2	3	1	
U-90	151	530+05.00	531+50.00	BOTH	2	54	1					280	2	3	1	
U-78	151	531+55.00	534+47.50	LT		10		136				142	1			
U-79	151	531+55.00	535+71.00	BOTH	2	80	1	325				412	3	4	2	
U-80	152	535+71.00	537+00.00	RT		10		125				125	2	2	2	
		CR28 RAMP B														
U-81	152	523+00.00	522+68.40	RT		8						26	1	1	1	
U-82	152	522+68.40	522+00.00	RT		30						65	1	2		
		CR28 RAMP D														
U-83	148	520+01.30	524+50.00	BOTH		56	1				1064		1	4	2	
U-84	148	524+55.00	527+50.00	BOTH		49	1				586		2	3	1	
U-85	153	527+55.00	532+50.00	BOTH	2	65	1		972				2	3	1	
U-91	153	532+55.00	534+00.00	BOTH	2	55	1					278	2	3	1	
U-86	153	534+05.00	537+50.00	BOTH	2	67	1		485			187	2	3	1	
U-92	154	537+55.00	539+00.00	BOTH	2	61	1	140				140	2	3	1	
U-87	154	539+05.00	542+39.00	LT		9						328	1	1	1	
U-88	154	542+39.00	543+50.00	LT	2	22	1					107	1	2		
		CR28 RAMP C														
U-89	154	514+35.12	515+25.00	LT	2	48	1	84				84	2	3	1	
TOTALS CARRIED TO GENERAL SUMMARY					30	2063	28	5652	3527	0	13999	8961	81	113	47	11

CALCULATED KAG
CHECKED LBD

UNDERDRAIN SUBSUMMARY

SCI-823-6.81

USER: Cknihiri PLOT DATE: 9/15/2011 9:13:46 AM REVISION DATE: 9/15/2011
FILE:...\MDR_CU\BRIDGE\000000045878 /79415ds202.dgn MODEL: Sheet

ITEM 605 AGGREGATE UNDERDRAINS		
STATION	SIDE	LENGTH
		FT
CR 28		
10+00	RT	15
10+25	RT	16
10+50	RT	17
10+76	LT	9
11+00	RT	17
11+25	LT	10
11+50	RT	17
11+75	LT	12
12+00	RT	21
12+25	LT	14
12+50	RT	22
12+75	RT	22
13+00	RT	22
13+25	RT	22
13+50	RT	22
13+75	RT	22
14+00	RT	22
14+25	RT	22
14+50	RT	22
16+50	RT	21
16+75	RT	21
17+00	RT	21
17+25	RT	21
17+50	RT	21
17+75	RT	21
18+00	RT	21
18+25	RT	21
18+50	RT	21
18+75	RT	24
19+00	RT	27
19+25	LT	17
19+50	RT	21
19+75	LT	17
20+00	RT	21
20+25	LT	17
20+50	RT	21
20+75	LT	20
21+00	RT	21
21+25	LT	21
21+75	LT	21
22+00	RT	21
22+25	LT	24
22+50	RT	27
22+75	LT	24
23+00	RT	27
23+25	LT	21
23+50	RT	21
23+75	LT	21
24+00	RT	21

ITEM 605 AGGREGATE UNDERDRAINS		
STATION	SIDE	LENGTH
		FT
CR 28 (CONT)		
24+25	LT	21
24+50	RT	21
24+75	LT	21
25+00	RT	21
25+25	LT	21
25+50	RT	21
25+75	LT	21
26+00	RT	21
26+25	LT	21
26+50	RT	21
26+75	LT	21
27+00	RT	21
27+25	LT	21
27+50	RT	21
27+75	LT	21
28+00	RT	22
28+25	LT	21
28+75	LT	21
29+25	LT	21
29+75	LT	21
30+00	RT	21
30+25	LT	21
30+50	RT	21
30+75	LT	21
31+00	RT	21
31+25	LT	21
31+50	RT	21
31+75	LT	21
32+00	RT	21
32+25	LT	21
32+50	RT	21
32+75	LT	21
33+00	RT	19
33+25	LT	21
33+50	RT	21
33+75	LT	21
34+00	RT	24
34+25	LT	21
34+50	RT	26
34+75	LT	21
35+00	RT	21
35+25	LT	19
35+50	RT	17
35+75	LT	19
36+00	RT	17
36+50	RT	15
37+00	RT	13

TOTAL CARRIED TO GENERAL SUMMARY	1958

ITEM 618 RUMBLE STRIPS			
STATION		SIDE	LENGTH
TO	FROM		FT
SR823			
395+00	440+50.00	LT	9049
395+00	440+50.00	RT	9181
445+50	482+75.00	LT	7508
445+50	482+75.00	RT	7432
487+50	523+00.00	LT	7106
487+50	523+00.00	RT	7126
TOTAL CARRIED TO GENERAL SUMMARY			47402

CALCULATED KAG
CHECKED LBD

MISC. SUBSUMMARIES

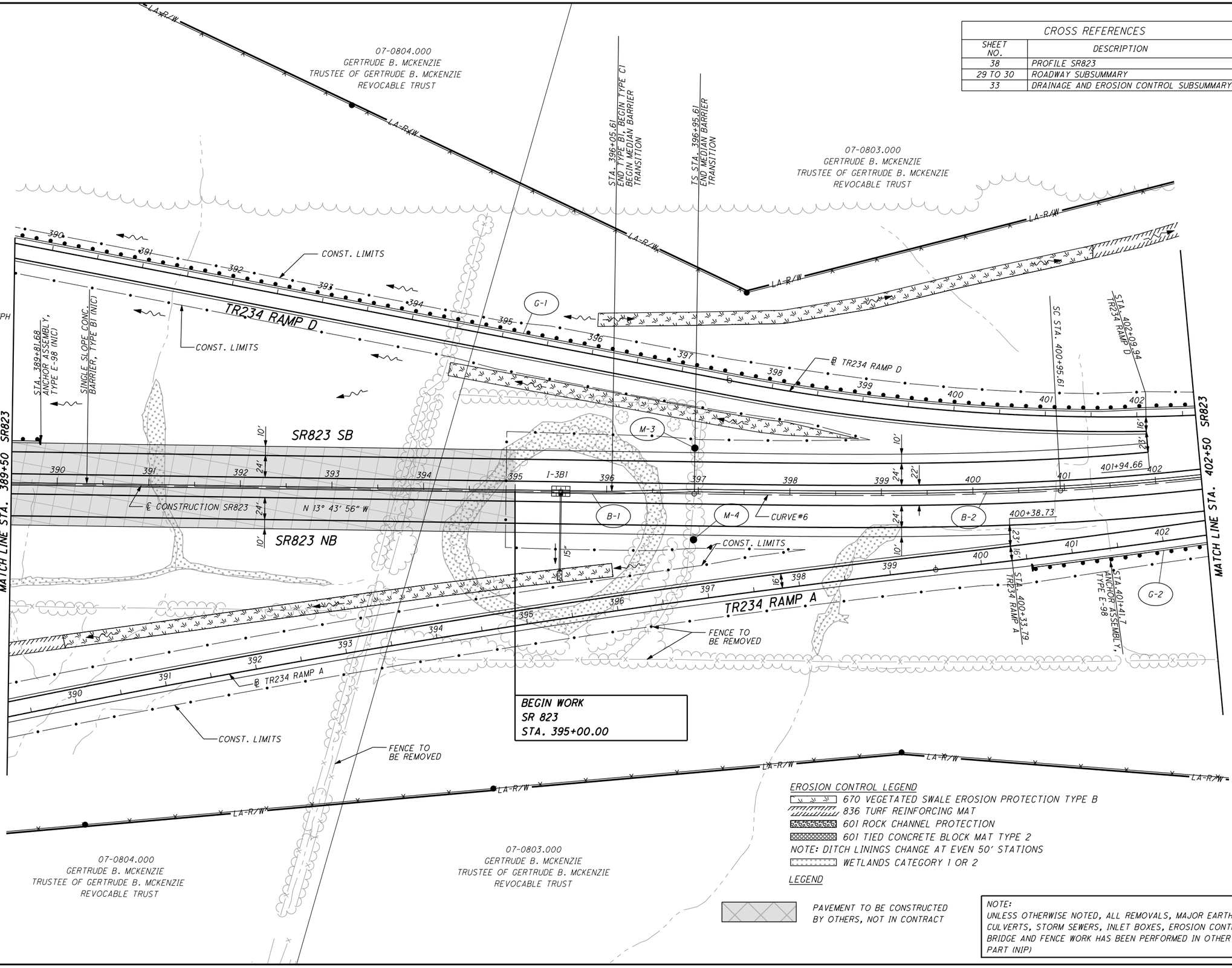
SCI-823-6.81

USER: Cmahbri PLOT DATE: 9/15/2011 9:35:1 AM REVISION DATE: 9/15/2011
FILE...\MDR_CU\BRIDGE\000000045878 /7941Sgs003.dgn MODEL: Sheet

SR823 CURVE #6

P.I. STA.= 414+49.27
DELTA = 56° 54' 24" (LT)
Dc = 2° 00' 00"
R = 2,864.79'
Ls = 400.00'
Theta = 4° 00' 00" (LT)
LT= 266.73'
ST = 133.40'
x = 399.81'
y = 9.31'
k = 199.97'
p = 2.33'
DELTAc = 48° 54' 24" (LT)
Lc = 2,445.33'
Tc = 1,302.74'
Ts = 1,753.66'
Es = 396.24'
Emax. = 0.065
DESIGN SPEED = 70 MPH
SSD = 663' (730' MIN)
ACTUAL DESIGN SPEED 66 MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
38	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY



EROSION CONTROL LEGEND
- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2

LEGEND

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 389+50.00 TO STA. 402+50.00

SCI-823-6.81

USER: CWohlbri PLOT DATE: 9/15/2011 9:14:00 AM REVISION DATE: 9/15/2011
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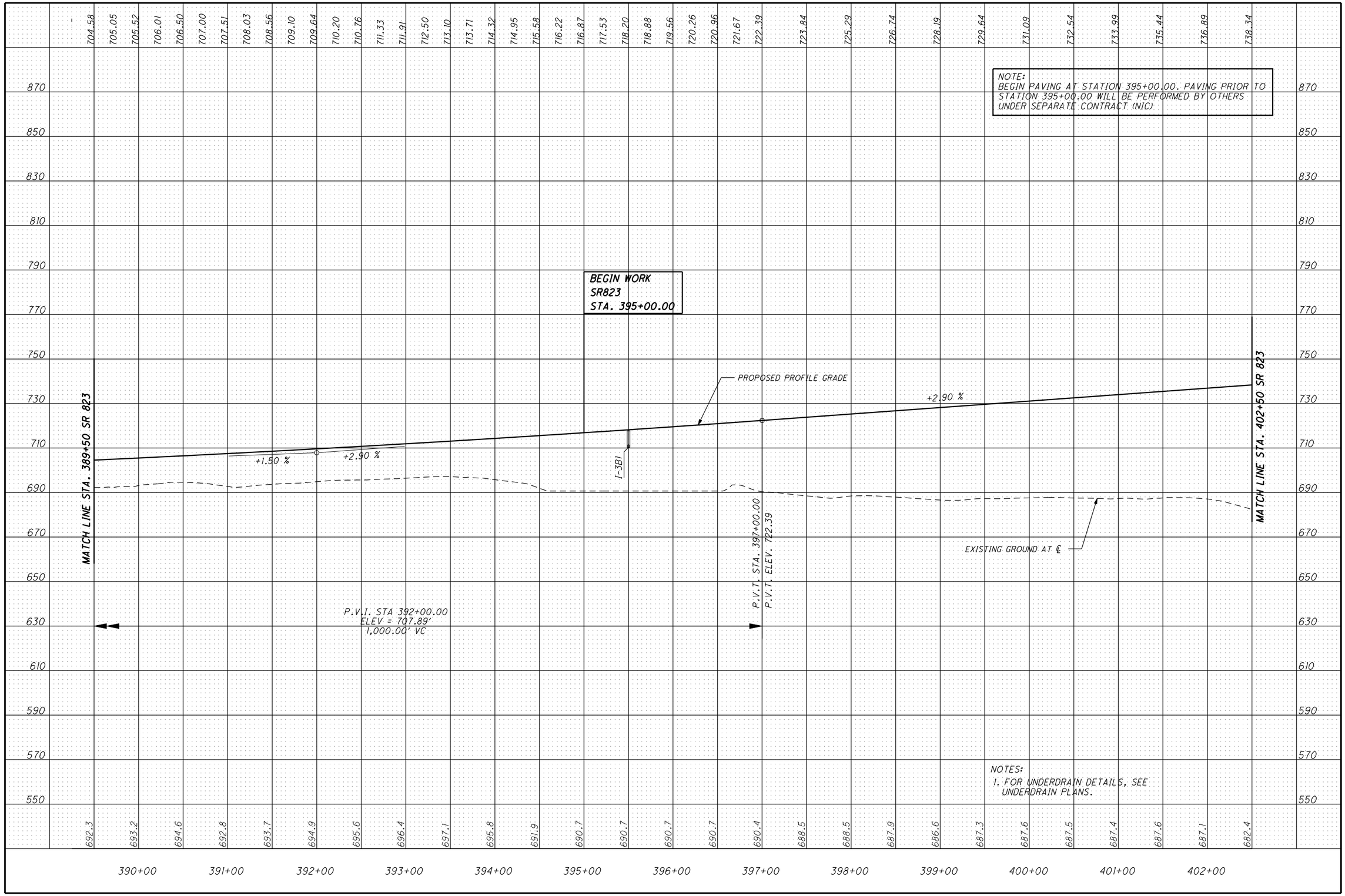
PROFILE - SR823
STA. 389+50 TO STA. 402+50

CALCULATED LBD/KAG
CHECKED JMB



SCI-823-6.81

USER: CWohlbr; PLOT DATE: 9/15/2011 9:14:10 AM REVISION DATE: 9/15/2011
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SR823 CURVE #6

P.I. STA.= 414+49.27
DELTA = 56° 54' 24" (LT)
Dc = 2° 00' 00"
R = 2,864.79'
Ls = 400.00'
Theta = 4° 00' 00" (LT)
LT= 266.73'
ST = 133.40'
x = 399.81'
y = 9.31'
k = 199.97'
p = 2.33'
DELTAc = 48° 54' 24" (LT)
Lc = 2,445.33'
Tc = 1,302.74'
Ts = 1,753.66'
Es = 396.24'
Emax. = 0.065
DESIGN SPEED = 70 MPH
SSD= 663' (730' MIN)
ACTUAL DESIGN SPEED 66 MPH

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2

CROSS REFERENCES

SHEET NO.	DESCRIPTION
40	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

07-0803.000
GERTRUDE B. MCKENZIE
TRUSTEE OF GERTRUDE B. MCKENZIE
REVOCABLE TRUST

07-1396.000
JOHN S., LUKE A., &
BENJAMIN L. LESTER

07-1335.000
DARREN C. AND
KIMBERLY S. JENKINS

ITEM 670 VSEP
14.5 LF x 400 LF = 644 SY

ITEM 601 TIED CONCRETE
BLOCK MAT TYPE 2
147 SY

ITEM 601 TIED CONCRETE
BLOCK MAT TYPE 2
305 SY

ITEM 670 VSEP
14.5 LF x 50 LF = 80 SY

BM #11

SEC. 9
SEC. 4

L.A.-R/W

MATCH LINE STA. 402+50 SR823

MATCH LINE STA. 414+50 SR823

TR234 RAMP D

SR823 SB

SR823 NB

CONST. LIMITS

PT STA. 409+50.00
END TR234 RAMP D =
STA. 409+50.00, SR823

STA. 410+00.00
BEGIN PAVEMENT TAPER, 47' LT
BEGIN SHOULDER TAPER, 55' LT

STA. 411+00.00
END PAVEMENT TAPER, 35' LT
END SHOULDER TAPER, 45' LT

G-1

B-2

G-2

I-3C1

SINGLE SLOPE CONC.
BARRIER, TYPE C1

CURVE #6

℄ CONSTRUCTION SR823

PT STA. 403+00.00
END TR234 RAMP A =
SR823 BEGIN PAVEMENT
TAPER

FENCE TO
BE REMOVED

STA. 408+50.00, 57' RT
BEGIN SHOULDER TAPER

STA. 409+50.00
END PAVEMENT TAPER, 47' RT
END SHOULDER TAPER, 57' RT

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN THER PART (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 402+00.00 TO STA. 414+50.00

SCI-823-6.81

39
209

USER: CWohlbr; PLOT DATE: 9/15/2011 9:14:30 AM REVISION DATE: 9/15/2011
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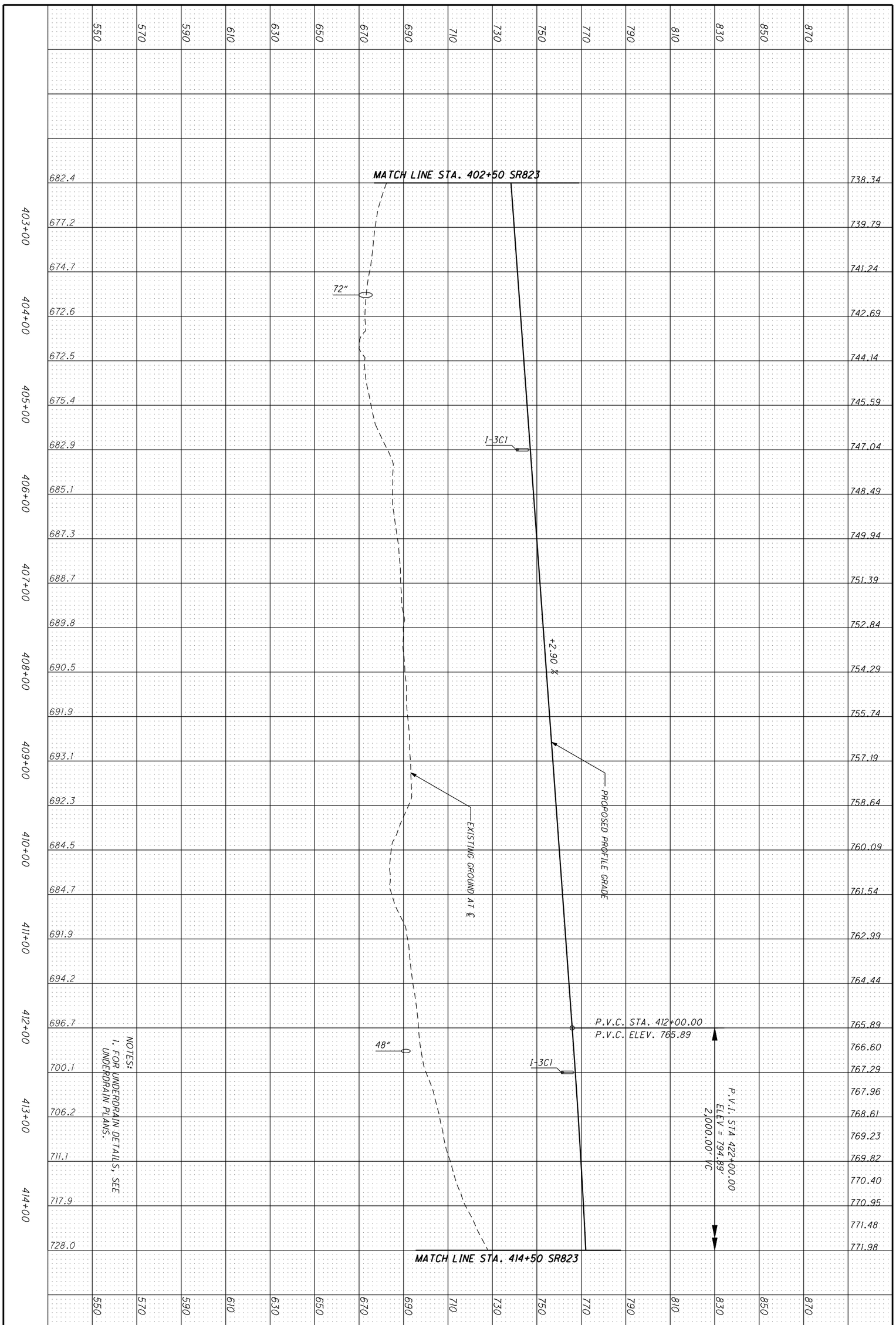


SCI-823-6.81

PROFILE - SR823
STA. 402+50 TO STA. 414+50

CALCULATED LBD/KAG
CHECKED JMB

SR823 CURVE # 6

P.I. STA.= 414+49.27
DELTA = 56° 54' 24" (LT)
Dc = 2° 00' 00"
R = 2,864.79'
Ls = 400.00'
Theta = 4° 00' 00" (LT)
LT= 266.73'
ST = 133.40'
x = 399.81'
y = 9.31'
k = 199.97'
p = 2.33'
DELTAc = 48° 54' 24" (LT)
Lc = 2,445.33'
Tc = 1,302.74'
Ts = 1,753.66'
Es = 396.24'
Emax. = 0.065
DESIGN SPEED = 70 MPH
SSD= 663' (730' MIN)
ACTUAL DESIGN SPEED 66 MPH

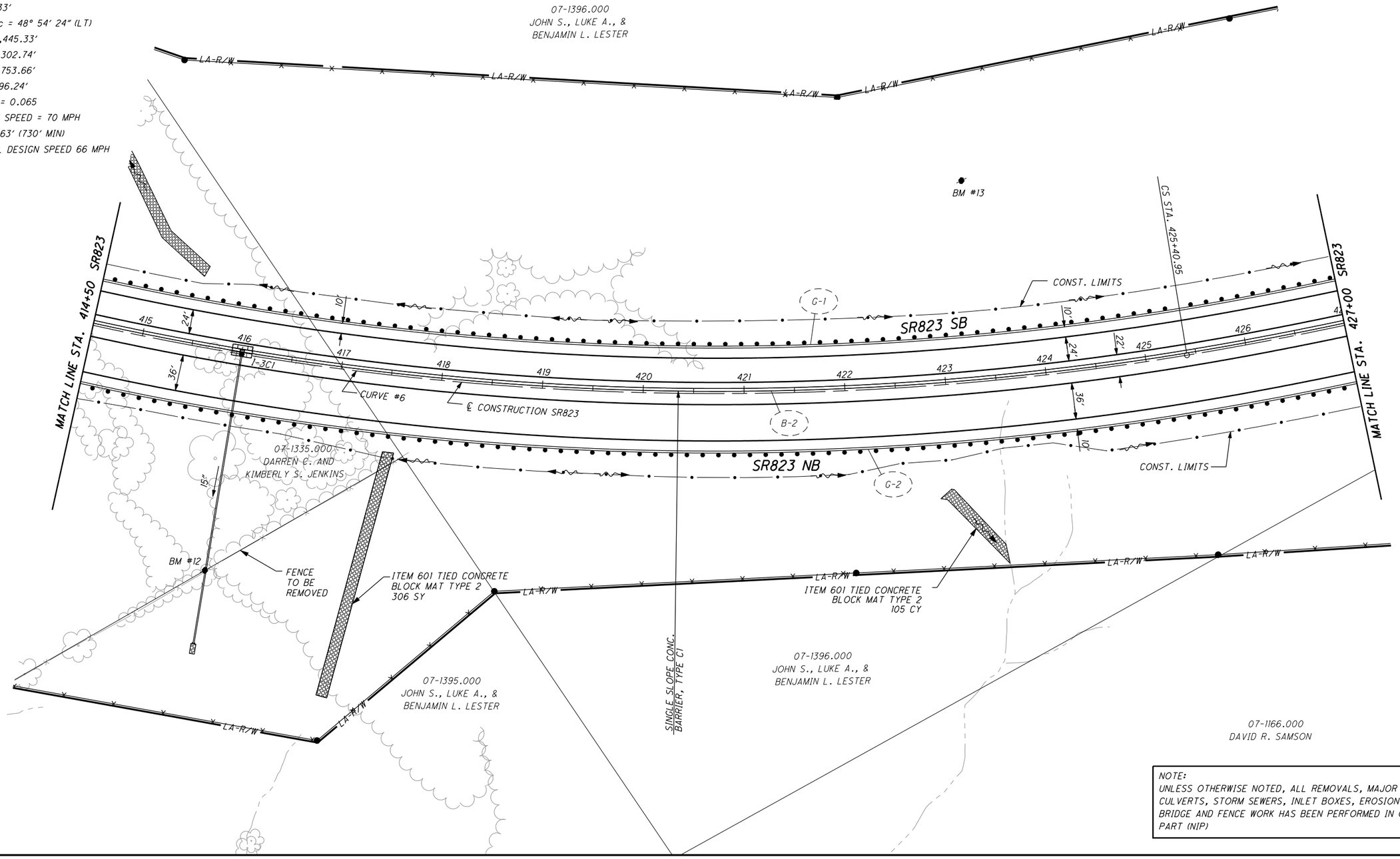
EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
42	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY



NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 414+50.00 TO STA. 427+00.00

SCI-823-6.81

41
209

USER: Cwahlbri PLOT DATE: 9/15/2011 9:15:00 AM REVISION DATE: 9/15/2011
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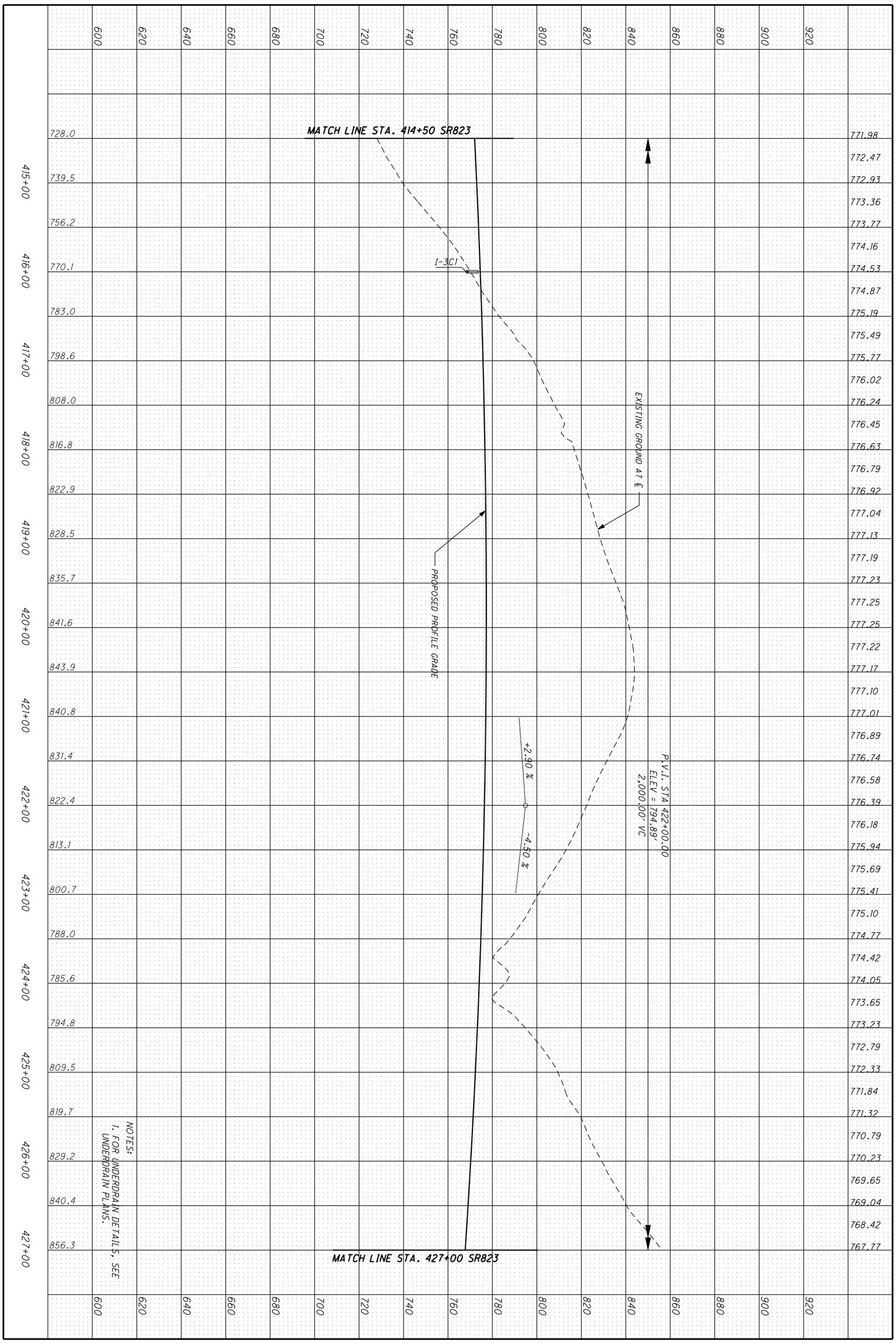


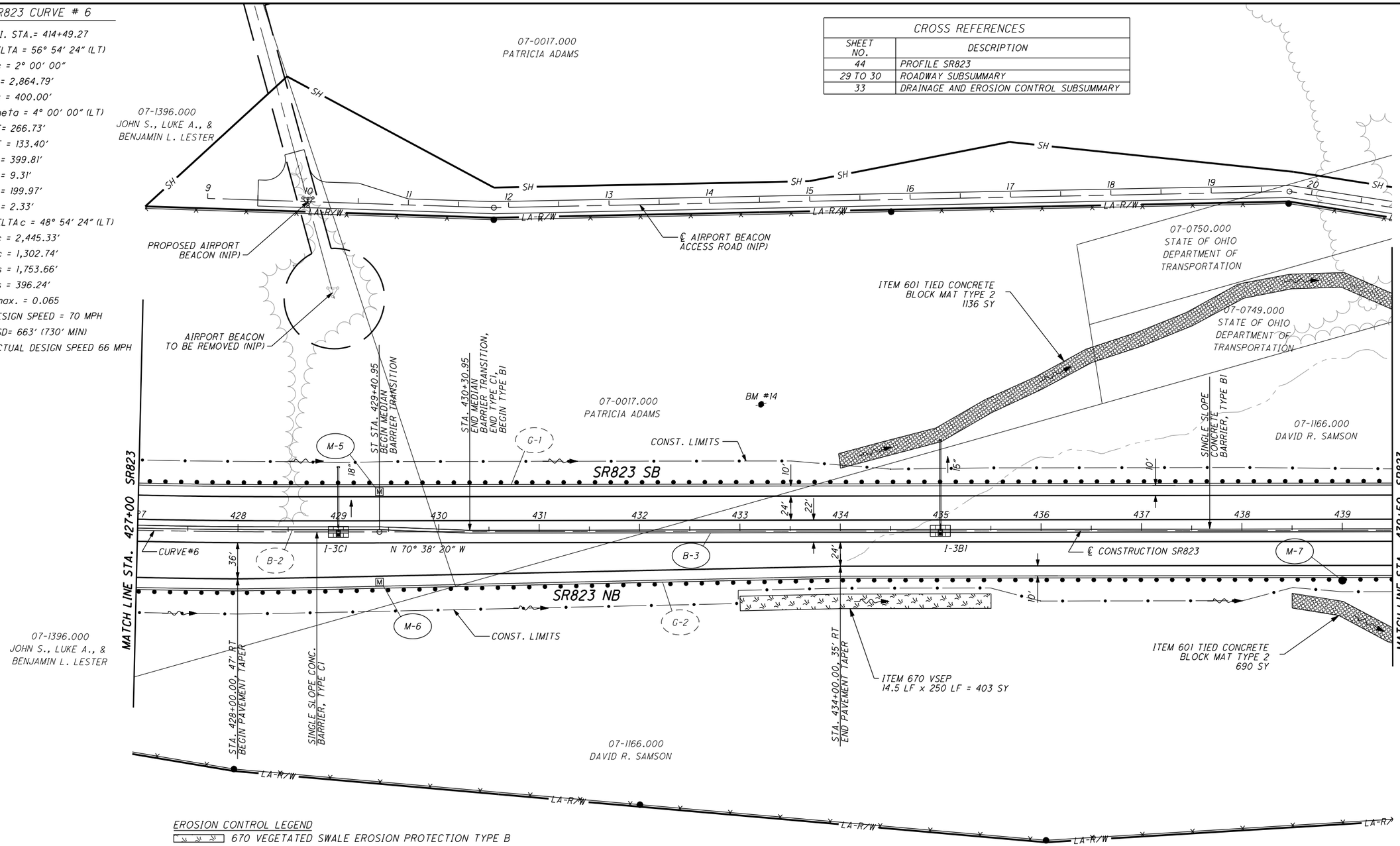
NOTES:
1. FOR UNDERDRAIN DETAILS, SEE UNDERDRAIN PLANS.

42 / 209	SCI-823-6.81	PROFILE - SR823 STA. 414+50 TO STA. 427+00	CALCULATED LBD/KAG CHECKED JMB

SR823 CURVE # 6

P.I. STA.= 414+49.27
DELTA = 56° 54' 24" (LT)
Dc = 2° 00' 00"
R = 2,864.79'
Ls = 400.00'
Theta = 4° 00' 00" (LT)
LT= 266.73'
ST = 133.40'
x = 399.81'
y = 9.31'
k = 199.97'
p = 2.33'
DELTAc = 48° 54' 24" (LT)
Lc = 2,445.33'
Tc = 1,302.74'
Ts = 1,753.66'
Es = 396.24'
Emax. = 0.065
DESIGN SPEED = 70 MPH
SSD= 663' (730' MIN)
ACTUAL DESIGN SPEED 66 MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
44	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY



EROSION CONTROL LEGEND
670 VEGETATED SWALE EROSION PROTECTION TYPE B
836 TURF REINFORCING MAT
601 ROCK CHANNEL PROTECTION
601 TIED CONCRETE BLOCK MAT TYPE 2
NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
WETLANDS CATEGORY 1 OR 2

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 427+00.00 TO STA. 439+50.00

SCI-823-6.81

USER: CMohlbr; PLOT DATE: 9/15/2011 9:15:29 AM REVISION DATE: 9/15/2011
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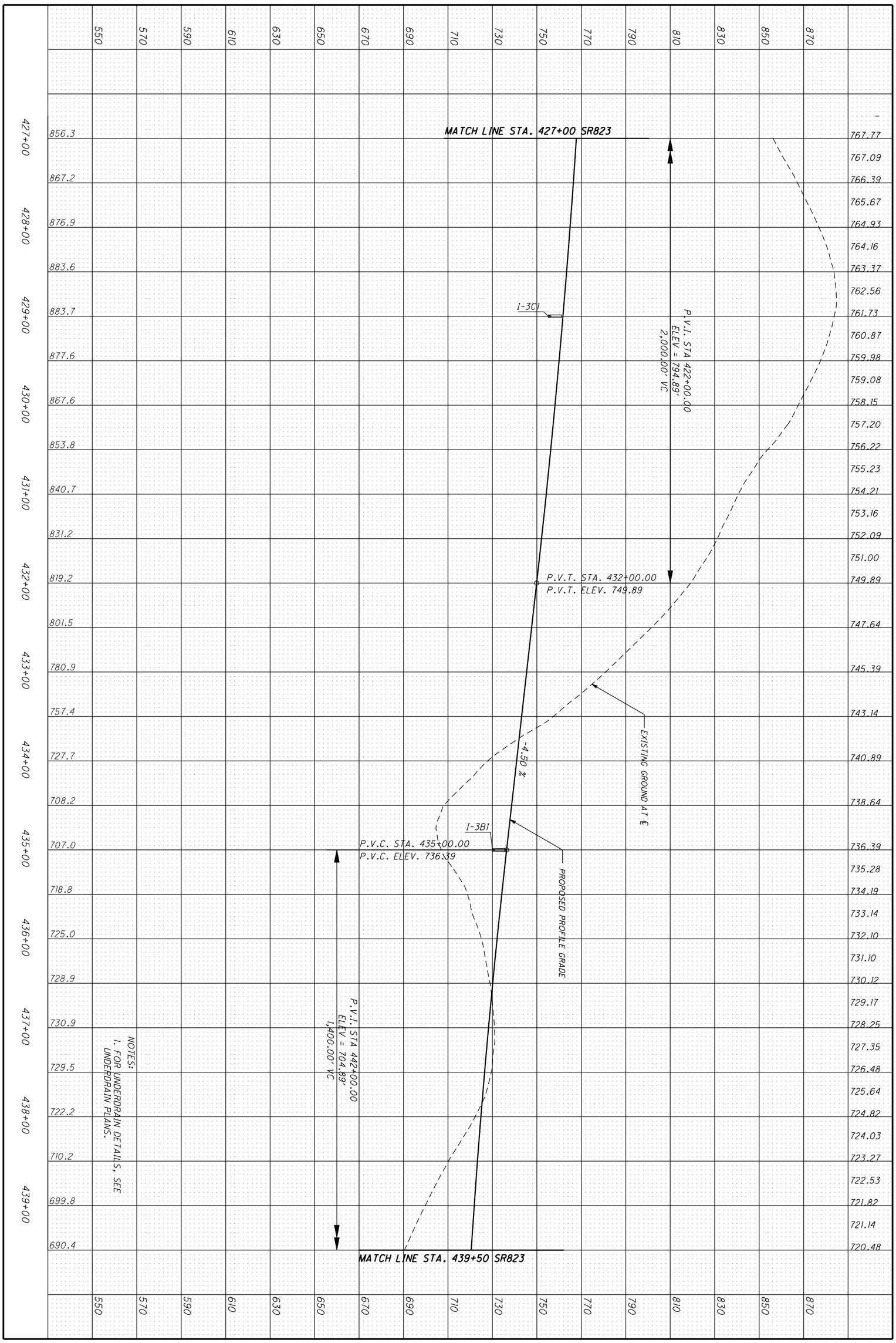

SCI-823-6.81

PROFILE - SR823
STA. 427+00 TO STA. 439+50

CALCULATED LBD/KAG
CHECKED JMB

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
46	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

LEGEND:

PAVEMENT TO BE CONSTRUCTED IN OTHER PART

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED LBG/KAG CHECKED JMB

PLAN - SR823
STA. 439+50.00 TO STA. 452+00.00

SCI-823-6.81

45 / 209

07-0017.000
PATRICIA ADAMS

07-2592.000
HAROLD D. & MARY P. CONKLIN

07-1065.000
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SEC. 4 / SEC. 5

SWAUGER VALLEY- MINFORD ROAD

Ex U
Ex U

07-0750.000
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

℄ AIRPORT BEACON ACCESS ROAD (NIP)

SH

21 22 23

Ex R/W

Ex R/W

24" PLASTIC

RES.

07-0749.000
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2
610 SY

STA. 445+09.65
BRIDGE TERMINAL ASSEMBLY, TYPE 1

STA. 445+15.84
BEGIN APPR. SLAB

STA. 445+45.84
END APPR. SLAB

LA-R/W

07-1116.001
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ITEM 836 TRM TYPE 3
14.5 LF x 113 LF = 182 SY

07-1065.001
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

07-1166.000
DAVID R. SAMSON

STA. 440+69.40
BRIDGE TERMINAL ASSEMBLY, TYPE 2

CONST. LIMITS

G-1

B-3

24" CMP

07-1064.000
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2
92 SY

E-1

DM-4.1

G3

SINGLE SLOPE CONC. BARRIER, TYPE B1

07-1116.000
KEN RASE REAL ESTATE, INC.

CONST. LIMITS

SR823 SB

MATCH LINE STA. 439+50 SR 823

10' 24' 22'

440 441 442 443 444 445 446 447 448 449 450 451

15" 24'

I-3B1

I-3B1

I-3B1

B-4

M-8

N 70° 38' 20" W

℄ CONSTRUCTION SR 823

MATCH LINE STA. 452+00 SR 823

10' 15'

G-2

STA. 440+91.19
BRIDGE TERMINAL ASSEMBLY, TYPE 1

CONST. LIMITS

07-1116.001
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SR823 NB

CONST. LIMITS

E-2

G4

07-1116.001
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ITEM 670 VSEP
11 LF x 200 LF = 244 SY

07-1264.000
CHARLES SMITH, JOSH & MICHAEL CONNEL (E/E), JOANITA DROSHEI

Ex R/W

Ex R/W

4" (SCW) (MT)

STA. 440+55.00
BEGIN APPR. SLAB

STA. 440+85.00
END APPR. SLAB

BM #15

FENCE TO BE REMOVED

LA-R/W

07-1116.000
KEN RASE REAL ESTATE, INC.

07-1512.000
KENNETH R. RASE

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2
185 SY

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2
477 SY

15" CMP

SEC. 4 / SEC. 5

STA. 445+31.46
BRIDGE TERMINAL ASSEMBLY, TYPE 2

07-1166.000
DAVID R. SAMSON

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

USER: CMohlbri PLOT DATE: 9/15/2011 9h6:00 AM REVISION DATE: 9/15/2011
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USER: CWahlbri PLOT DATE: 9/15/2011 9:16:10 AM REVISION DATE: 9/15/2011
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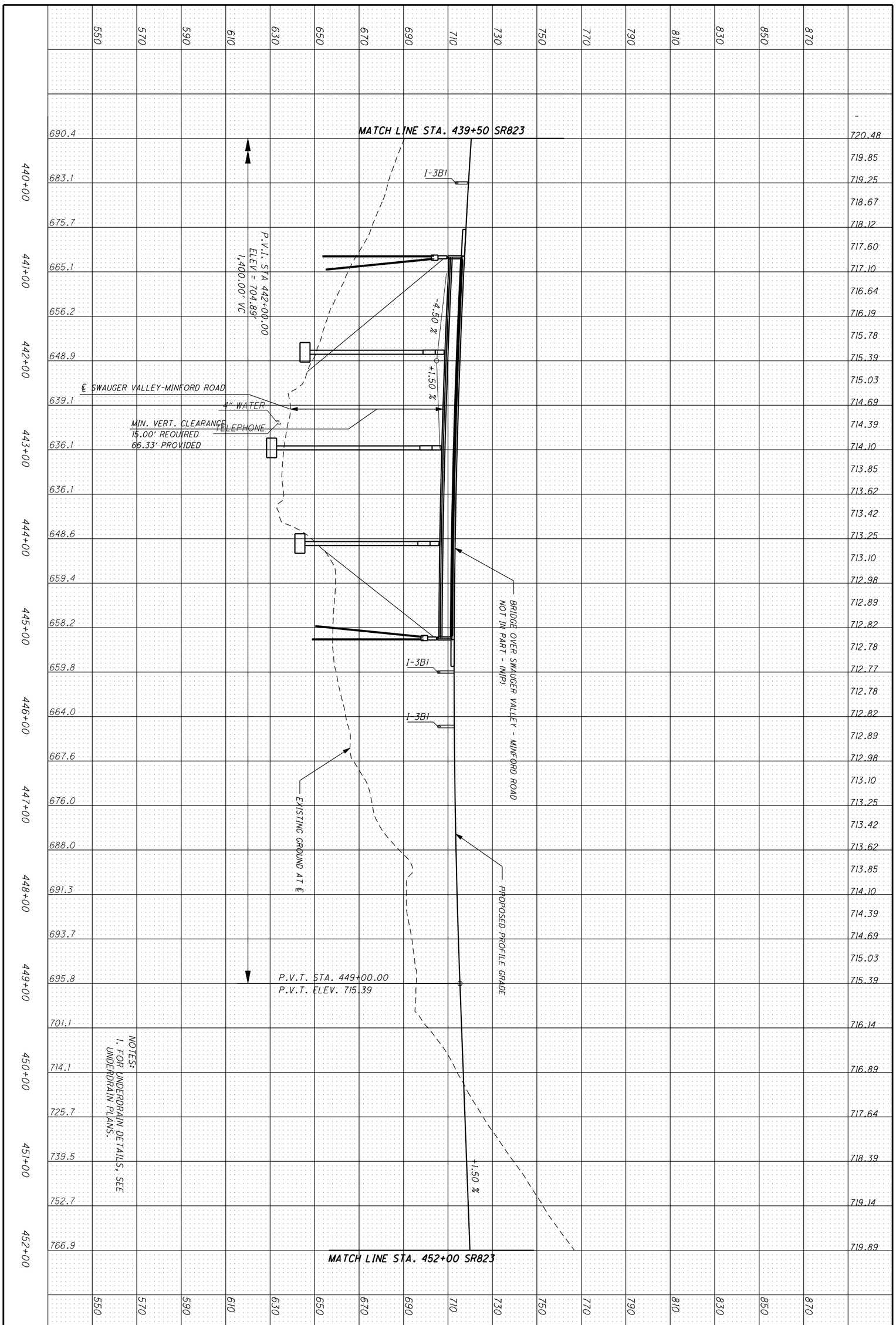

SCI-823-6.81

PROFILE - SR823
STA. 439+50 TO STA. 452+00

CALCULATED LBD/KAG
CHECKED JMB

EROSION CONTROL LEGEND
670 VEGETATED SWALE EROSION PROTECTION TYPE B
836 TURF REINFORCING MAT
601 ROCK CHANNEL PROTECTION
601 TIED CONCRETE BLOCK MAT TYPE 2
NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
WETLANDS CATEGORY 1 OR 2

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
48	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

07-1116.001
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

07-1116.000
KEN RASE REAL
ESTATE, INC.

LA-R/W

07-1514.000
KENNETH R. RASE

07-1512.000
KENNETH R. RASE

ITEM 601 TIED CONCRETE
BLOCK MAT TYPE 2
280 SY

ITEM 670 VSEP
14.5 LF x 100 LF = 161 SY

BM #17

SINGLE SLOPE CONC.
BARRIER, TYPE B1

SR823

MATCH LINE STA. 452+00

MATCH LINE STA. 464+50

10'

24'

22'

453 454 455 456 457 458 459 460 461 462 463 464

I-3B1

15"

℄ CONSTRUCTION SR823 N 70° 38' 20" W

G-3

CONST. LIMITS

SR823 SB

B-4

M-9

G-4

SR823 NB

BM #16

72"

FENCE TO BE REMOVED

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD / JMB
CHECKED JMB

PLAN - SR823
STA. 452+00.00 TO STA. 464+50.00

SCI-823-6.81

47
209

USER: CMohlbr PLOT DATE: 9/15/2011 9h631 AM REVISION DATE: 9/15/2011
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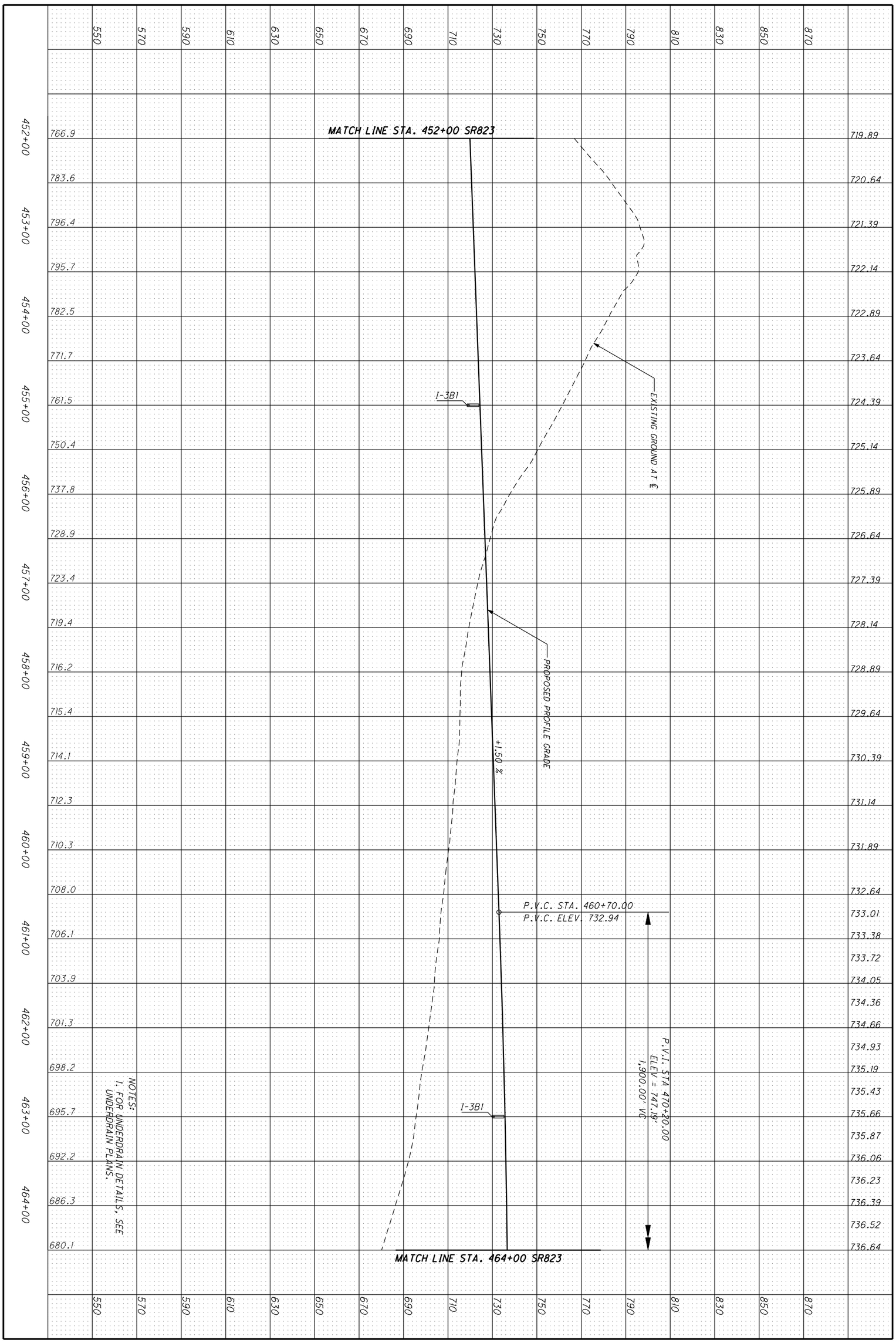

SCI-823-6.81

PROFILE- SR823
STA. 452+50 TO STA. 464+00

CALCULATED LBD/KAG
CHECKED JMB

SR823 CURVE # 7

P.I. STA. = 482+11.90	x = 224.99'
DELTA= 21° 42' 25" (RT)	y = 1.47'
Dc = 1° 00' 00"	k = 112.50'
R = 5,729.58'	p = 0.37'
Ls = 225.00'	DELTAc = 19° 27' 25" (RT)
Theta = 1° 07' 30" (RT)	Lc = 1,945.70'
LT = 150.00'	Tc = 982.31'
ST = 75.00'	Ts = 1,211.09'
	Es = 104.73'
	Emax. = 0.036
	DESIGN SPEED = 70 MPH

CROSS REFERENCES

SHEET NO.	DESCRIPTION
50	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

07-1514.00
RASE, KENNETH R.

SINGLE SLOPE CONC. BARRIER, TYPE B1

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2
102 SY

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2
274 SY

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2
256 SY

BM #18

ITEM 836 TRM TYPE 1
14.5 LF x 100 LF = 161 SY

ITEM 670 VSEP
11 LF x 100 LF = 122 SY

FENCE TO BE REMOVED

CONST. LIMITS

SR823 SB

SR823 NB

MATCH LINE STA. 464+50 SR823

MATCH LINE STA. 477+00 SR823

℄ CONSTRUCTION SR823

N 70° 38' 20" W

CURVE # 7

M-10

12'X12' CATTLE CROSSING (NIP)

M-11

M-12

G-3

G-4

B-4

B-5

I-3B1

TS STA. 470+00.81

STA. 471+88.31
END TYPE B1,
BEGIN TYPE C1

SC STA. 472+25.81

STA. 473+43.63
ANCHOR ASSEMBLY, TYPE T

SINGLE SLOPE CONC. BARRIER, TYPE C1

℄ CATTLE CROSSING

FENCE TO BE REMOVED

LA-R/W

TMP

07-1514.00
RASE, KENNETH R.

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PRT (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 464+50.00 TO STA. 477+00.00

SCI-823-6.81

USER: CWohlbr; PLOT DATE: 9/15/2011 9h59 AM REVISION DATE: 9/15/2011 MODEL: Sheet
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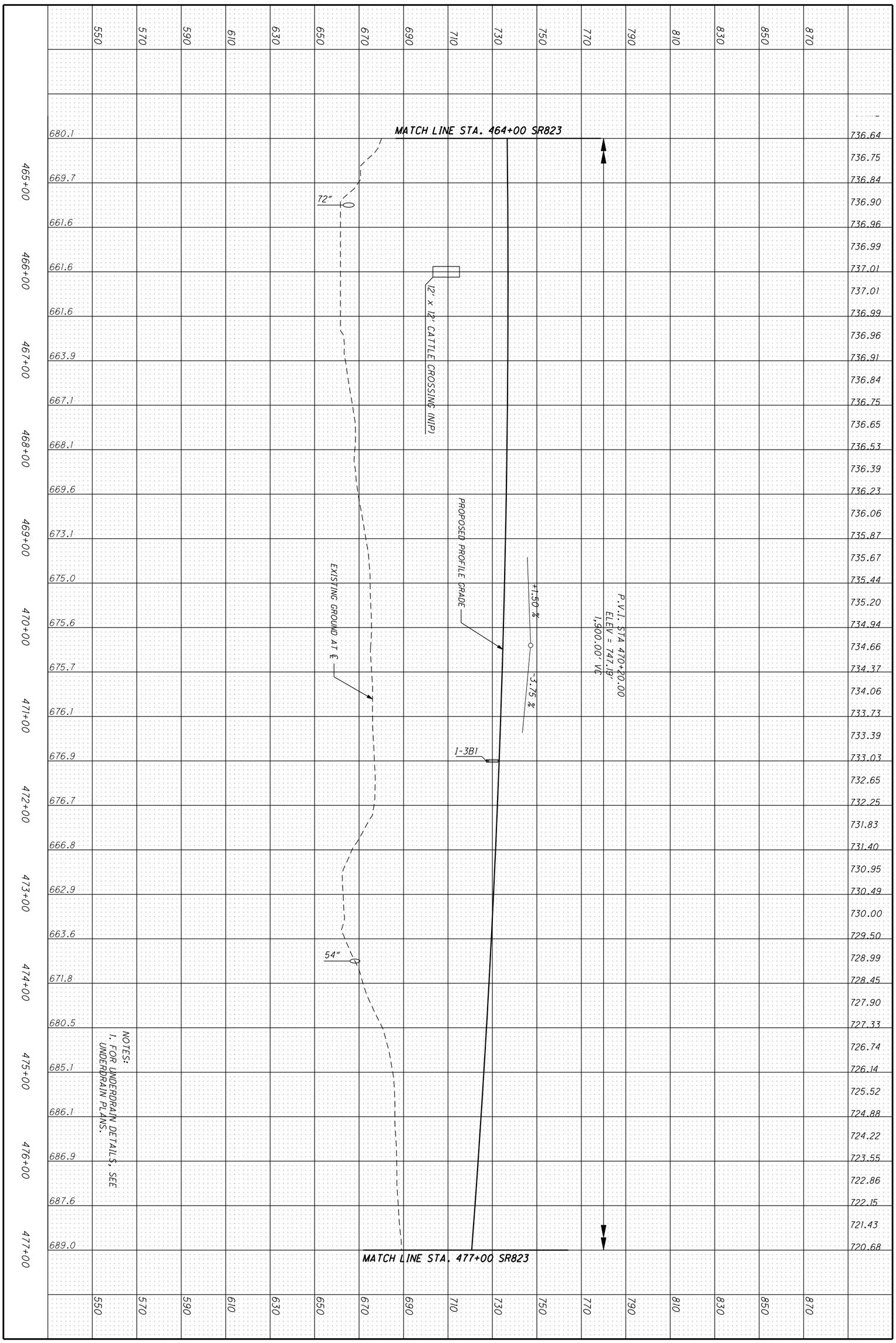

209 / 50	SCI-823-6.81	PROFILE- SR823 STA. 464+00 TO STA. 477+00	CALCULATED LBD/KAG	CHECKED JMB

SR823 CURVE # 7

P.I. STA. = 482+11.90
DELTA= 21° 42' 25" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
Ls = 225.00'
Theta = 1° 07' 30" (RT)
LT = 150.00'
ST = 75.00'
x = 224.99'
y = 1.47'
k = 112.50'
p = 0.37'
DELTAc = 19° 27' 25" (RT)
Lc = 1,945.70'
Tc = 982.31'
Ts = 1,211.09'
Es = 104.73'
Emax. = 0.036
DESIGN SPEED = 70 MPH

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
52	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY
185	NOISE BARRIER SUBSUMMARY

LEGEND:

PAVEMENT TO BE CONSTRUCTED IN OTHER PART

MATCH LINE STA. 477+00 SR823

MATCH LINE STA. 489+50 SR823

SR823 NB

SR823 SB

SR139 (PORTSMOUTH-MINFORD ROAD)

OLIVER RD

LONG RUN CREEK

07-1514.000
RASE, KENNETH R.

07-1374.000
ROBERT TROWBRIDGE

07-1374.002
ROBERT TROWBRIDGE & BARBARA TROWBRIDGE

07-0969.000
JOSEPH AND CRYSTAL PRESTON

07-1558.000
JAMES A. AND ROBERT D. ARTHUR

07-2137.000
MICHAEL L. MILLIGAN

LA-R/W

Ex R/W

CONST. LIMITS

NOISE BARRIER

FENCE TO BE REMOVED

CONSTRUCTION SR823

SINGLE SLOPE CONC. BARRIER, TYPE C1

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2 303 SY

ITEM 601 TIED CONCRETE BLOCK MAT TYPE 2 129 SY

ITEM 836 TRM TYPE I 14.5 LF x 300 LF = 483 SY

STA. 477+35.14 ANCHOR ASSEMBLY, TYPE E-98

STA. 480+47.64 BRIDGE TERMINAL ASSEMBLY, TYPE I

STA. 480+51.79 BEGIN SINGLE SLOPE CONC. BARRIER, TYPE D

STA. 482+81.30 BEGIN APPR. SLAB

STA. 483+11.30 END APPR. SLAB

STA. 483+24.40 BRIDGE TERMINAL ASSEMBLY, TYPE 2

STA. 487+12.07 BEGIN APPR. SLAB

STA. 487+30.90 BRIDGE TERMINAL ASSEMBLY, TYPE I

STA. 487+42.07 END APPR. SLAB

BM #19

BM #20

BM "E"

CB 2-3

BMP BASIN

E-3

G-3

G-5

G-6

B-5

B-6

B-7

B-8

I-3C1

I-3D

CURVE #7

2 STY. RES.

1 STY. RES.

SHED

TMP

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 477+00.00 TO STA. 489+50.00

SCI-823-6.81

51
209

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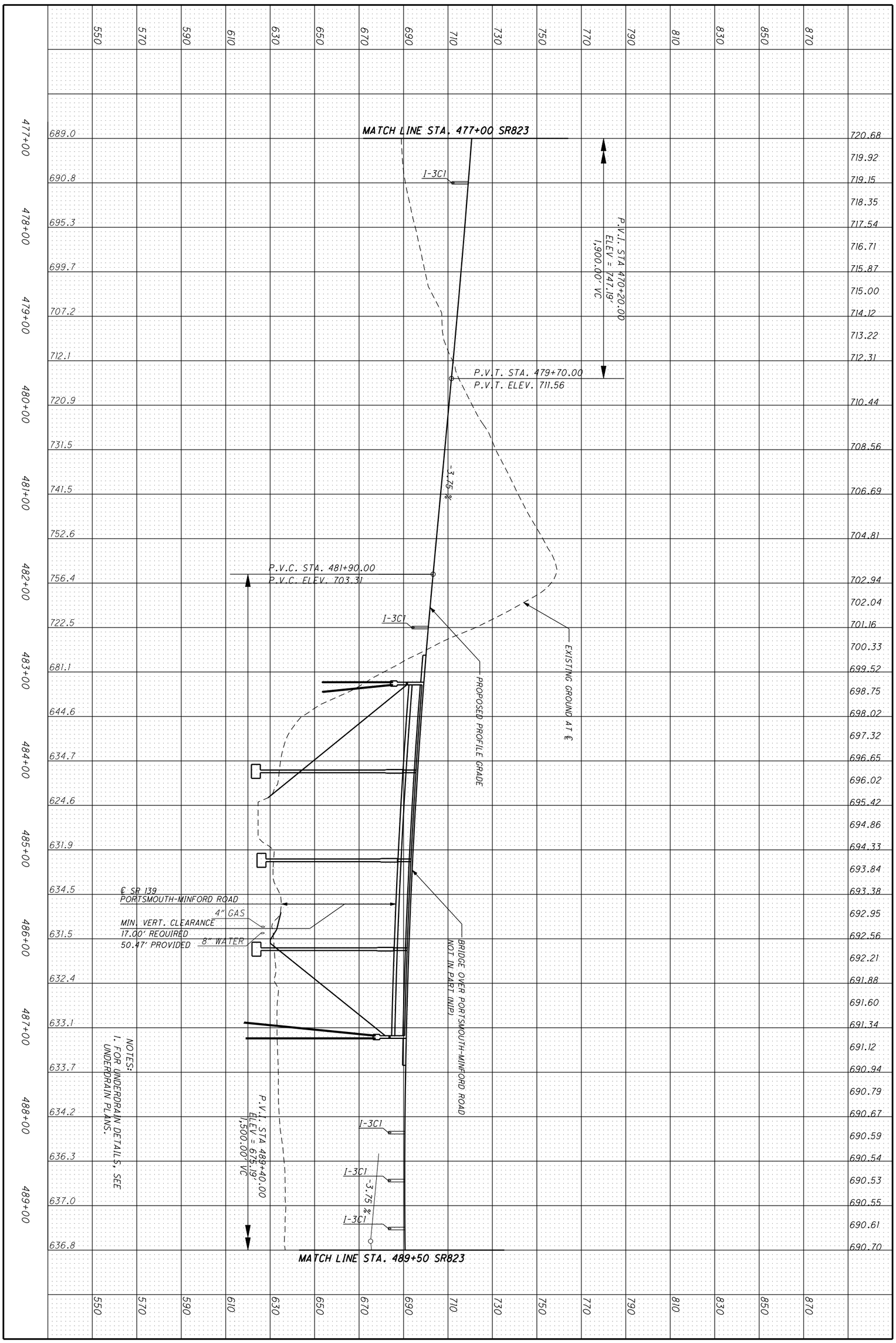

52 / 209	**SCI-823-6.81**	**PROFILE- SR823** **STA. 477+00 TO STA. 489+50**	CALCULATED LBD/KAG CHECKED JMB

07-1056.000
DORA JANE POWELL

07-1062.000
KEVIN MATK POWELL

07-1063.000
RICHARD W. AND
BARBARA J. TROWBRIDGE

07-1374.002
RICHARD AND
BARBARA TROWBRIDGE

EROSION CONTROL LEGEND
- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2
- NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
- WETLANDS CATEGORY 1 OR 2

SR823 CURVE # 7

P.I. STA. = 482+11.90
DELTA= 21° 42' 25" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
Ls = 225.00'
Theta = 1° 07' 30" (RT)
LT = 150.00'
ST = 75.00'
x = 224.99'
y = 1.47'
k = 112.50'
p = 0.37'
DELTAc = 19° 27' 25" (RT)
Lc = 1,945.70'
Tc = 982.31'
Ts = 1,211.09'
Es = 104.73'
Emax. = 0.036
DESIGN SPEED = 70 MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
54	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY
185	NOISE BARRIER SUBSUMMARY

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 489+50.00 TO STA. 502+00.00

SCI-823-6.81

53
209

ITEM 836 TRM TYPE 1
14.5 LF x 475 LF = 765 SY

ITEM 601 TIED CONCRETE
BLOCK TYPE 2
397 SY

SINGLE SLOPE CONC. BARRIER, TYPE C1

07-1374.000
RICHARD TROWBRIDGE,
JAMES TROWBRIDGE, &
ROBERT TROWBRIDGE

M-13 SR823 SB G-6 CONST. LIMITS

MATCH LINE STA. 489+50 SR823

490 491 492 493 494 495 496 497 498 499 500 501

I-3C1 I-3B1 I-3D

18" 18" 18" 15" 15" 12"

24' 22' 24' 22' 24' 22'

B-7 PG-1 B-8 CURVE #7 M-14 B-10

PG-2 PG-3 SR823 NB B-9 M-15

N 48° 55' 55" W

℄ CONSTRUCTION SR823

CONST. LIMITS

SIDE DITCH INLET

NOISE BARRIER

STA. 489+55.00
BEGIN PAVED GUTTER

ITEM 836 TRM TYPE 1
7.5 LF x 200 LF = 167 SY

STA. 489+55.00
BEGIN SINGLE SLOPE
BARRIER, TYPE D
AS PER PLAN

CS STA. 491+71.51

STA. 492+09.01
END TYPE C1,
BEGIN TYPE B1

ST STA. 493+96.51

SIDE DITCH INLET

ITEM 670 VSEP
7.5 LF x 400 LF = 333 SY

SINGLE SLOPE CONC. BARRIER, TYPE B1

PAVED GUTTER, TYPE 1-2

BM #21

MATCH LINE STA. 502+00 SR823

07-1063.000
RICHARD W. AND
BARBARA J. TROWBRIDGE

07-2194.000
ELMER JR. AND
VIRGINIA L. OLIVER

07-1374.000
RICHARD TROWBRIDGE,
JAMES TROWBRIDGE, &
ROBERT TROWBRIDGE

07-2137.000 MICHAEL L. MILLIGAN
07-1807.000 MICHAEL L. MILLIGAN
07-2228.000 DAVID K. AND SANDRA K. SHONKWILER
07-2229.000 BARBARA A. BENNETT
07-2125.000 LARRY E. AND ANGES ROUSH
07-2280.000 PAMELA CLOSSON AND EUNICE SCHROEDER
07-1810.000 MICHAEL J. AND HELEN M. ARNETT
07-2301.000 TIMOTHY ALLEN SHONKWILER
07-2302.000 KIMBERLY MCROBERTS

SHED 2 STY. RES. FR. GAR. 1 STY. RES.

Ex R/W

LA-R/W

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

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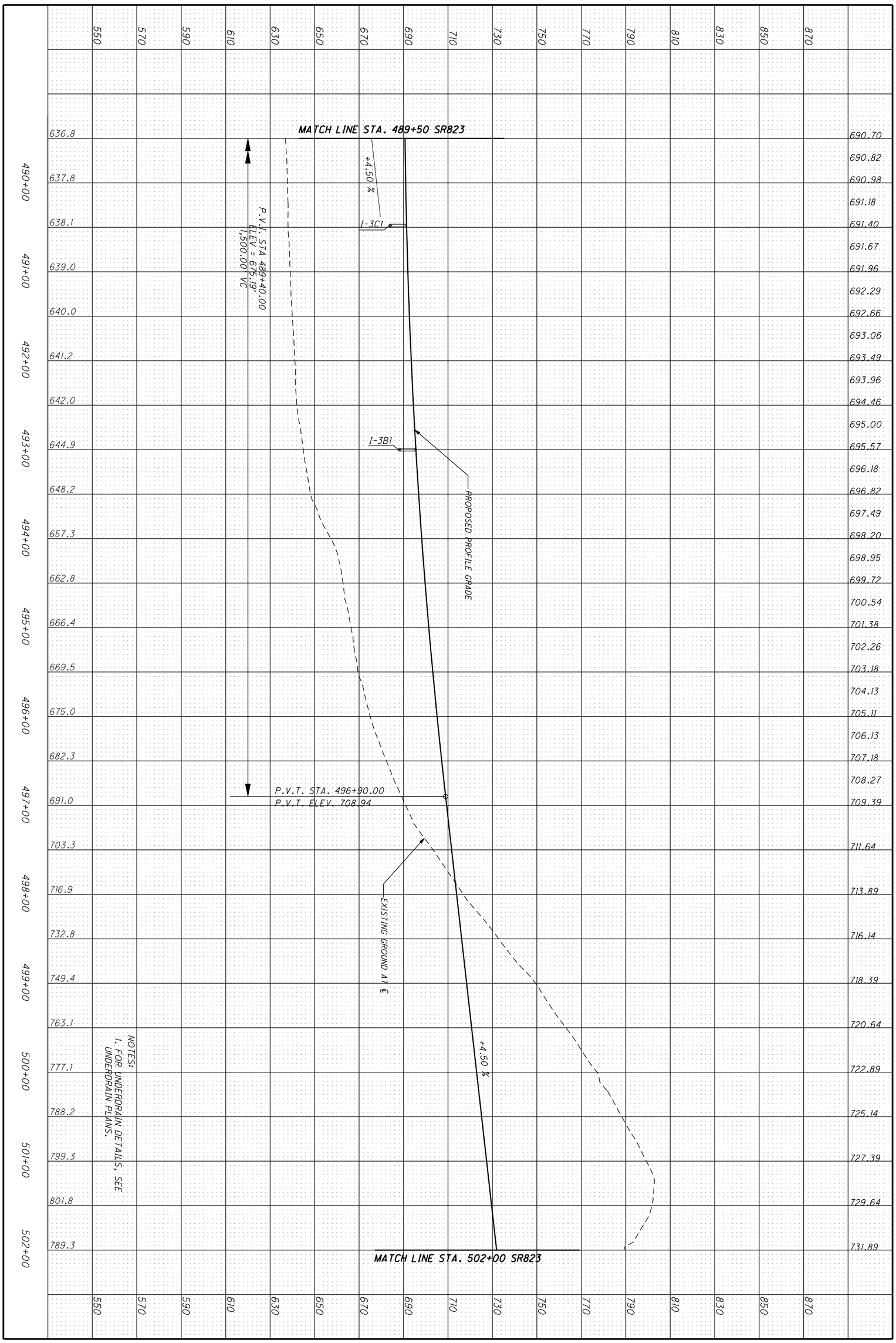


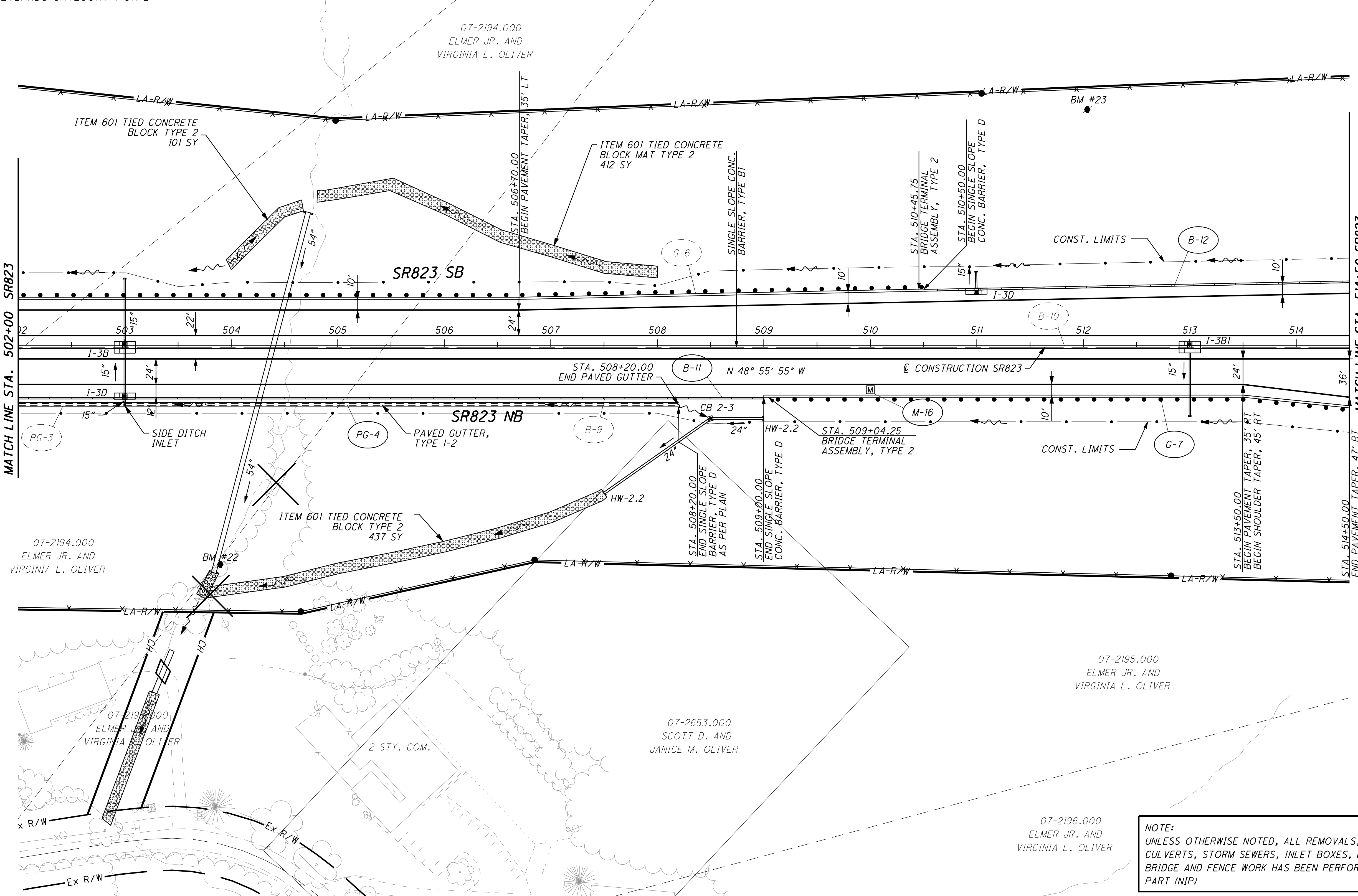
54 / 209	SCI-823-6.81	PROFILE- SR823 STA. 489+50 TO STA. 502+00	CALCULATED LBD/KAG CHECKED JMB

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2
- NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
- WETLANDS CATEGORY 1 OR 2

CROSS REFERENCES

SHEET NO.	DESCRIPTION
56	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY
185	NOISE BARRIER SUBSUMMARY



NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED LBD/KAG CHECKED JMB

PLAN - SR823
STA. 502+00.00 TO STA. 514+50.00

SCI-823-6.81

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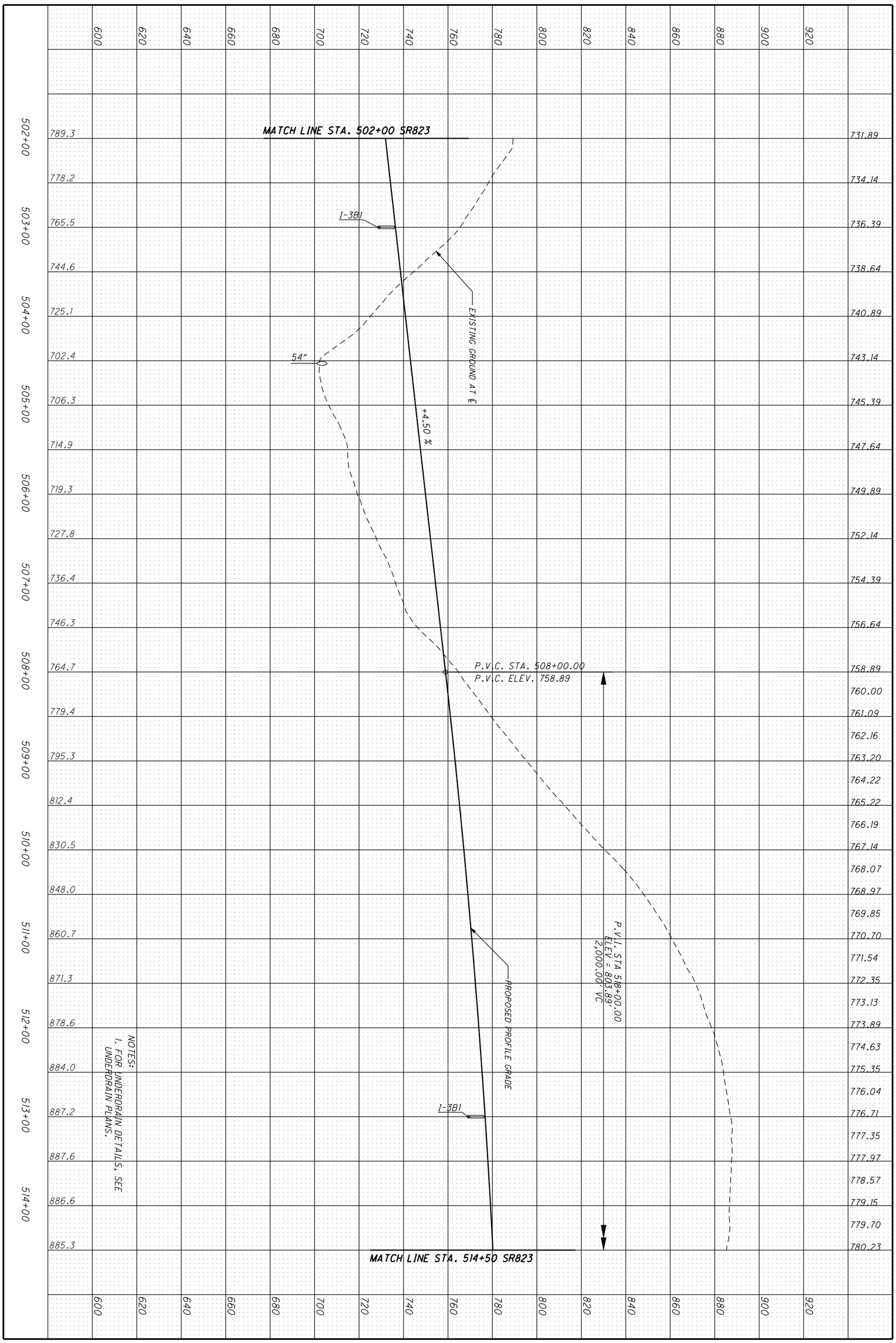
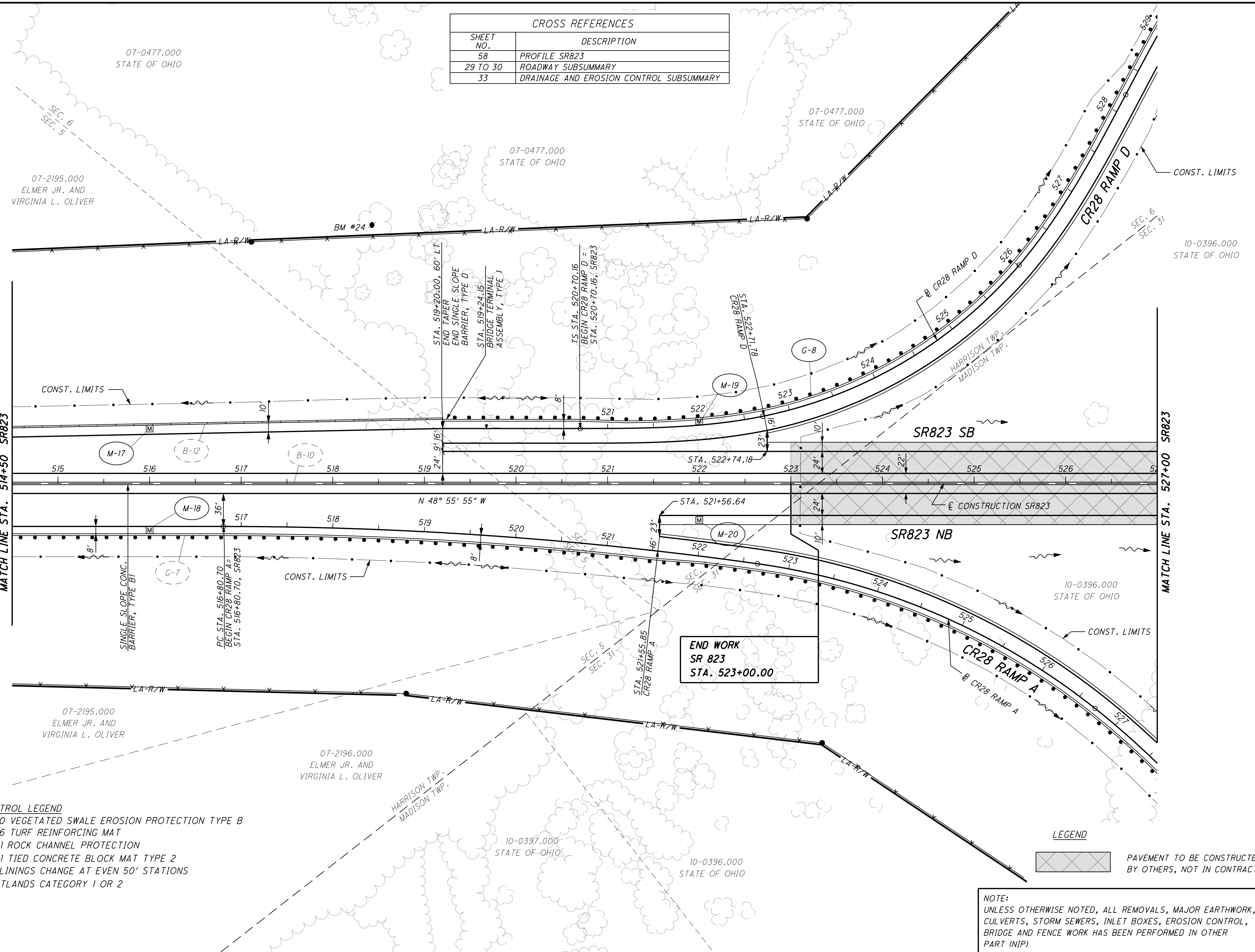


56 / 209	**SCI-823-6.81**	**PROFILE- SR823** **STA. STA. 502+00 TO STA. 514+50**	CALCULATED LBD/KAG CHECKED JMB

CROSS REFERENCES

SHEET NO.	DESCRIPTION
58	PROFILE SR823
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY



EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2
- NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
- WETLANDS CATEGORY 1 OR 2

LEGEND

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - SR823
STA. 514+50.00 TO STA. 527+00.00

SCI-823-6.81

USER: CWohlbr PLOT DATE: 9/15/2011 9:19:01 AM REVISION DATE: 9/15/2011 MODEL: Sheet
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780.23 780.73 781.21 781.67 782.10 782.52 782.90 783.27 783.61 783.93 784.22 784.49 784.74 784.96 785.16 785.34 785.49 785.62 785.73 785.81 785.87 785.91 785.92 785.91 785.88 785.82 785.74 785.63 785.51 785.35 785.18 784.98 784.76 784.52 784.25 783.96 783.64 783.30 782.94 782.56 782.15 781.72 781.26 780.78 780.28 779.76 779.21 778.63 778.04 777.42 776.78

920 900 880 860 840 820 800 780 760 740 720 700 680 660 640 620 600

NOTE:
END PAVING AT STATION 523+00.00 PAVING BEYOND STATION 523+00.00 WILL BE PERFORMED BY OTHERS UNDER SEPARATE CONTRACT (NIC)

EXISTING GROUND AT ℄

P.V.I. STA 518+00.00
ELEV = 803.89'
2,000.00' VC

+4.50 %

-2.99 %

PROPOSED PROFILE GRADE

MATCH LINE STA. 514+50 SR823

MATCH LINE STA. 527+00 SR823

END WORK
SR823
STA. 523+00.00

NOTES:
1. FOR UNDERDRAIN DETAILS, SEE UNDERDRAIN PLANS.

885.3 884.9 886.2 886.7 887.3 884.2 872.0 862.2 852.9 848.2 849.7 857.0 863.8 866.6 875.3 885.2 890.2 892.5 892.6 887.4 876.9 868.2 856.2 842.3 826.2 809.1

515+00 516+00 517+00 518+00 519+00 520+00 521+00 522+00 523+00 524+00 525+00 526+00 527+00

PROFILE - SR823
STA. 514+50 TO STA. 527+00

CALCULATED LBD/KAG
CHECKED JMB

SCI-823-6.81

58
209

USER: CWahlbri PLOT DATE: 9/15/2011 9:19:10 AM REVISION DATE: 9/15/2011
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CURVE # TR234 RAMP A - 1

P.I. STA. = 393+64.93
DELTA = 5° 51' 12" (RT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 585.85'
L = 1,170.68'
E = 14.97'
Emax. = NORMAL CROWN
DESIGN SPEED = 60 MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
60	PROFILE TR234 RAMP A
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

LEGEND
- PAVEMENT TO BE CONSTRUCTED IN OTHER PART
- PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

07-0893.001
ROBERT R. AND ROBIN BOUTS

07-0804.000
GERTRUDE B. MCKENZIE
TRUSTEE OF GERTRUDE
B. MCKENZIE REVOCABLE TRUST

SR823 SB
SR823 NB
TR234 RAMP B
TR234 RAMP A
TR234 (RELOCATED SHUMWAY HOLLOW RD)
SR335
CSXT RAILROAD

ITEM 836 TRM TYPE 1
300 LF x 14.5 LF = 483 SY

ITEM 670 VSEP
600 LF x 14.5 LF = 967 SY

STA. 383+82.80,
BEGIN TR234 RAMP A =
STA. 33+76.93, TR234

CONST. LIMITS
℄ TR234 RAMP A
N 26° 53' 19" W
PC STA. 387+79.08
CURVE # TR234 RAMPA-1
MATCH LINE STA. 392+50 TR234 RAMP A

LA-R/W
Ex RR
Ex R/W
BM #7
BM #8
BM #9

07-0804.000
GERTRUDE B. MCKENZIE
TRUSTEE OF GERTRUDE
B. MCKENZIE REVOCABLE TRUST

07-0803.000
GERTRUDE B. MCKENZIE
TRUSTEE OF GERTRUDE
B. MCKENZIE REVOCABLE TRUST

07-2462.000
CHURCH OF CHRIST (SUNSHINE CONGREGATION), INC., AN OHIO CORPORATION NOT FOR PROFIT

EROSION CONTROL LEGEND
- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
- WETLANDS CATEGORY 1 OR 2

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - TOWNSHIP ROAD 234 RAMP A
STA. 383+82.82 TO STA. 392+50.00

SCI-823-6.81

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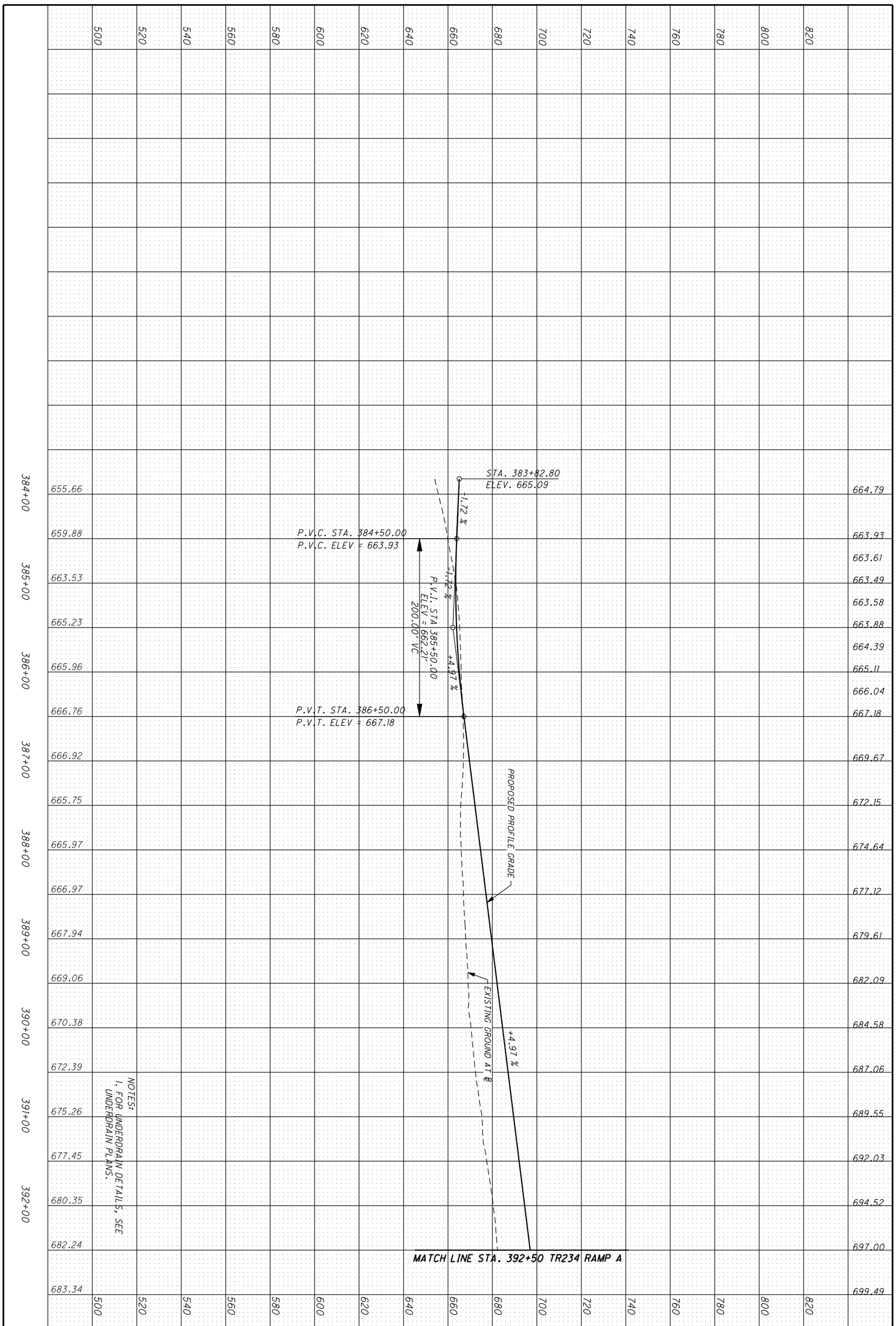

SCI-823-6.81

PROFILE - TOWNSHIP ROAD 234 RAMP A
STA. 383+82.80 TO STA. 392+50.00

CALCULATED LBD/KAG
CHECKED JMB

LEGEND

PAVEMENT TO BE CONSTRUCTED IN OTHER PART

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
62	PROFILE TR234 RAMP A
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - TOWNSHIP ROAD 234 RAMP A
STA. 392+50.00 TO STA. 403+00.00

SCI-823-6.81

61
209

07-0803.00
GERTRUDE B. MCKENZIE
TRUSTEE OF GERTRUDE
B. MCKENZIE REVOCABLE TRUST

07-0804.00
GERTRUDE B. MCKENZIE
TRUSTEE OF GERTRUDE
B. MCKENZIE REVOCABLE TRUST

LA-R/W

CONST. LIMITS

TR234 RAMP D

SR823 SB

SR823 NB

TR234 RAMP A

G-1 G-2 B-1 B-2

400+38.73

MATCH LINE STA. 392+50 TR234 RAMP A

℄ TR234 RAMP A

CURVE # TR234 RAMP A-1

FENCE TO BE REMOVED

CURVE # TR234 RAMP A-1

P.I. STA. = 393+64.93
DELTA = 5° 51' 12" (RT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 585.85'
L = 1,170.68'
E = 14.97'
Emax. = NORMAL CROWN
DESIGN SPEED = 60 MPH

CURVE # TR234 RAMP A-2

P.I. STA. = 401+24.89
DELTA = 1° 55' 15" (LT)
Dc = 0° 32' 54.51"
R = 10,446.37'
T = 175.14'
L = 350.23'
E = 1.47'
Emax. = CROWN REMOVAL
DESIGN SPEED = 60 MPH

PRC STA. 399+49.75

STA. 399+83.79, 6' RT
BEGIN SHOULDER TAPER

STA. 400+33.79, 8' RT
END SHOULDER TAPER

STA. 400+54.20
ANCHOR ASSEMBLY,
TYPE E-98

CURVE # TR234
RAMP A-2

PT STA. 403+00.00
END TR234 RAMP A =
STA. 403+00.00, SR 823

12"

Ex RR

BM #10

07-0803.00
GERTRUDE B. MCKENZIE
TRUSTEE OF GERTRUDE
B. MCKENZIE REVOCABLE TRUST

07-1335.00
DARREN C. AND
KIMBERLY S' JENKINS

SEC. 9
SEC. 4

EROSION CONTROL LEGEND

670 VEGETATED SWALE EROSION PROTECTION TYPE B
836 TURF REINFORCING MAT
601 ROCK CHANNEL PROTECTION
601 TIED CONCRETE BLOCK MAT TYPE 2
NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
WETLANDS CATEGORY 1 OR 2

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

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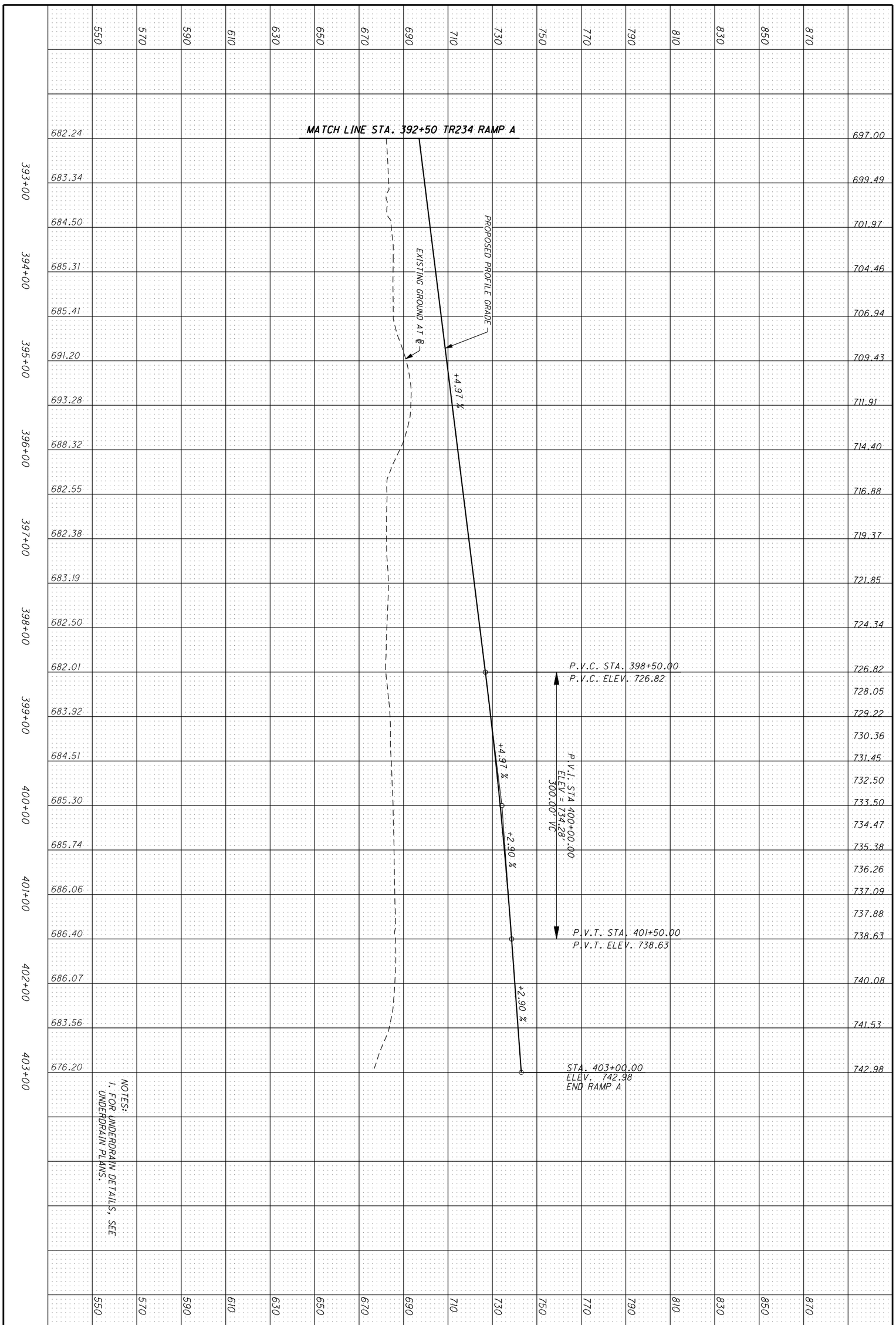

NOTES:
1. FOR UNDERDRAIN DETAILS, SEE UNDERDRAIN PLANS.

SCI-823-6.81

PROFILE - TOWNSHIP ROAD 234 RAMP A
STA. 392+50.00 TO STA. 403+00.00

CALCULATED LBD/KAG
CHECKED JMB

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
64	PROFILE TR234 RAMP D
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

LEGEND

PAVEMENT TO BE CONSTRUCTED IN OTHER PART

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

EROSION CONTROL LEGEND

670 VEGETATED SWALE EROSION PROTECTION TYPE B
836 TURF REINFORCING MAT
601 ROCK CHANNEL PROTECTION
601 TIED CONCRETE BLOCK MAT TYPE 2
NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
WETLANDS CATEGORY 1 OR 2

07-0804.000
GERTRUDE B. MECKENZIE
TRUSTEE OF
GERTRUDE B. MCKENZIE
REVOCABLE TRUST

07-0893.001
ROBERT R. AND ROBIN BOUTS

STA. 384+20.66, BEGIN TR234 RAMP D =
STA. 26+43.58, TR234

STA. 385+16.50
BEGIN GUARDRAIL, 16.00' LT
CONNECT TO EXISTING

STA. 387+00.00, 8' LT
BEGIN PAVEMENT TAPER

STA. 387+50.00
END PAVEMENT TAPER

GUARDRAIL (NIP)

℄ TR234 RAMP D

CONST. LIMITS

N 3° 41' 40" W

MATCH LINE STA. 393+50 TR234 RAMP D

TR234 RAMP C

TR234 RAMP D

TR234

SR823 SB

SR823 NB

TR234 RAMP A

CONST. LIMITS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - TOWNSHIP ROAD 234 RAMP D
STA. 384+07.63 TO STA. 393+50.00

SCI-823-6.81

63
209

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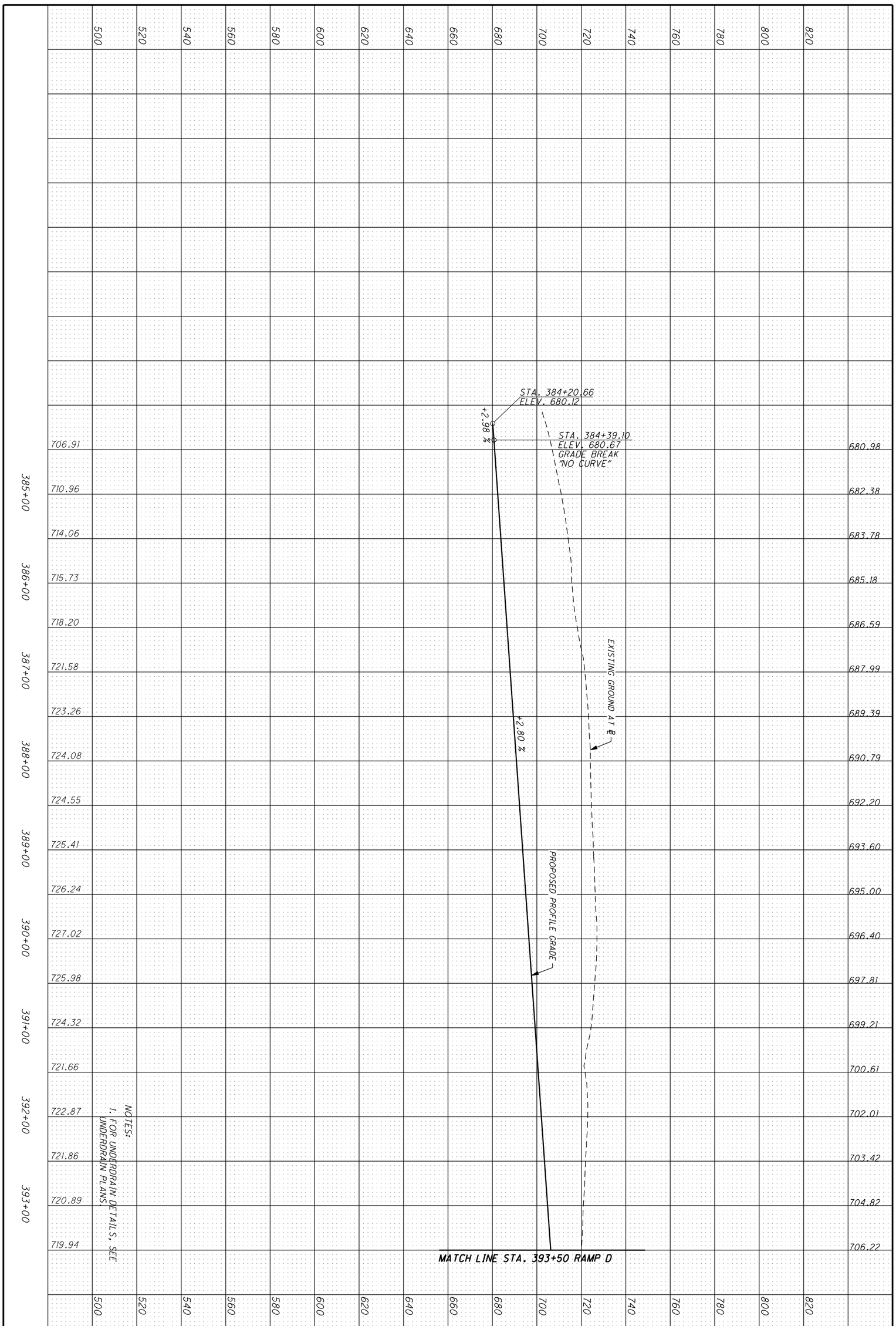

64
209

SCI-823-6.81

PROFILE - TOWNSHIP ROAD 234 RAMP D
STA. 384+20.66 TO STA. 393+50.00

CALCULATED LBD/KAG
CHECKED JMB

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
66	PROFILE TR234 RAMP D
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

07-0804.00
GERTRUDE B. MCKENZIE
TRUSTEE OF
GERTRUDE B. MCKENZIE REVOCABLE TRUST

07-0803.00
GERTRUDE B. MCKENZIE
TRUSTEE OF
GERTRUDE B. MCKENZIE REVOCABLE TRUST

EROSION CONTROL LEGEND
- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2
- NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
- WETLANDS CATEGORY 1 OR 2

CURVE # TR234 RAMP D-1
- P.I. STA. = 403+66.60
- DELTA = 31° 07' 32" (LT)
- Dc = 2° 36' 00"
- R = 2,203.68'
- T = 613.73'
- L = 1,197.13'
- E = 83.87'
- Emax. = 0.065
- DESIGN SPEED = 60 MPH

LEGEND
- PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

ITEM 610 TIED CONCRETE BLOCK MAT TYPE 2
68 SY

ITEM 836 TRM TYPE 1
14.5 LF x 100 LF = 161 SY

ITEM 670 VSEP
14.5 LF x 550 LF = 886 SY

ITEM 670 VSEP
14.5 LF x 400 LF = 644 SY

PC STA. 397+52.87

CURVE # TR234 RAMP D-1

STA. 401+59.94, 6' LT
BEGIN SHOULDER TAPER

STA. 402+09.94, 8' LT
END SHOULDER TAPER

401+94.66

FENCE TO BE REMOVED

℄ TR234 RAMP D

N 3° 41' 40" W

CONST. LIMITS

MATCH LINE STA. 393+50 TR234 RAMP D

MATCH LINE STA. 406+00 TR234 RAMP D

TR234 RAMP D

SR823 SB

SR823 NB

TR234 RAMP A

LA-R/W

07-0803.00
GERTRUDE B. MCKENZIE
TRUSTEE OF
GERTRUDE B. MCKENZIE REVOCABLE TRUST

07-1335.000
DARREN C. AND
KIMBERLY S.
JENKINS

PLAN - TOWNSHIP ROAD 234 RAMP D
STA. 393+50.00 TO STA. 406+00.00

SCI-823-6.81

65
209

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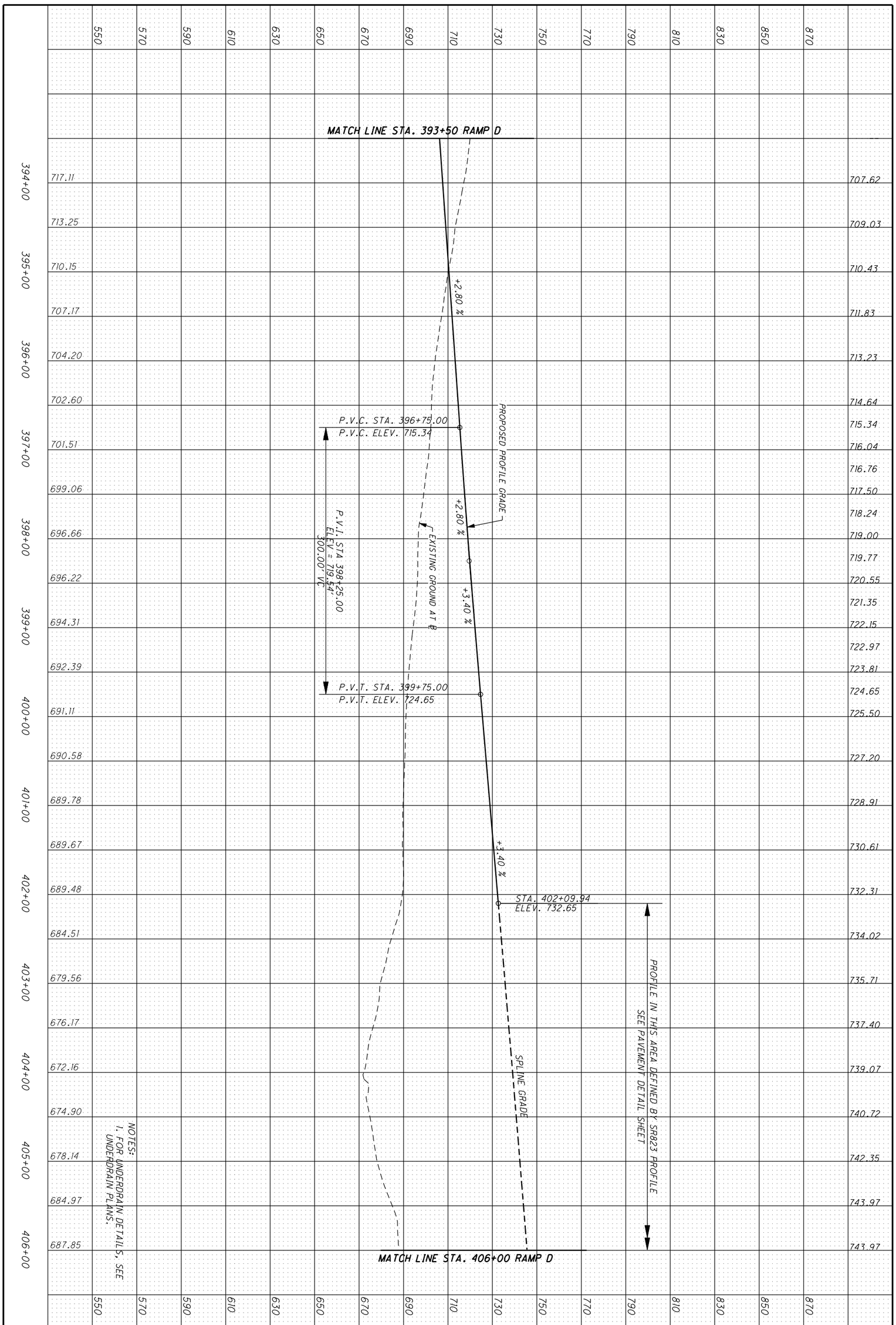

NOTES:
1. FOR UNDERDRAIN DETAILS, SEE UNDERDRAIN PLANS.

66 / 209	SCI-823-6.81	PROFILE - TOWNSHIP ROAD 234 RAMP D STA. 393+50.00 TO STA. 406+00.00	CALCULATED LBD/KAG	CHECKED JMB

07-0803.000
GERTRUDE B. MCKENZIE
TRUSTEE OF
GERTRUDE B. MCHENZIE REVOCABLE TRUST

SEC. 9
SEC. 4

EROSION CONTROL LEGEND
- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
- WETLANDS CATEGORY 1 OR 2

07-1335.000
DARREN C. AND
KIMBERLY S. JENKINS

CURVE # TR234 RAMP D-1
P.I. STA. = 403+66.60
DELTA = 31° 07' 32" (LT)
Dc = 2° 36' 00"
R = 2,203.68'
T = 613.73'
L = 1,197.13'
E = 83.87'
Emax. = 0.065
DESIGN SPEED = 60 MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
68	PROFILE TR234 RAMP D
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

07-1396.000
JOHN S., LUKE A., & BENJAMIN LESTER

LA-R/W

BM #11

CONST. LIMITS

TR234 RAMP D

CURVE # TR234 RAMP D-1

℄ TR234 RAMP D

FENCE TO BE REMOVED

PT STA. 409+50.00, END TR234 RAMP D = STA. 409+50.00, SR823

SR823 SB

G-1

MATCH LINE STA. 406+00 TR234 RAMP D

406 407 408 409 410 411 412 413 414 415 416 417 418

8'

36'

B-2

SR823 NB

G-2

15"

48"

BM #12

07-0803.000
GERTRUDE B. MCKENZIE
TRUSTEE OF
GERTRUDE B. MCHENZIE
REVOCABLE TRUST

07-1395.000
JOHN S., LUKE A., &
BENJAMIN LESTER

07-1335.000
DARREN C. AND
KIMBERLY S. JENKINS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - TOWNSHIP ROAD 234 RAMP D
STA. 406+00.00 TO STA. 409+50.00

SCI-823-6.81

67
209

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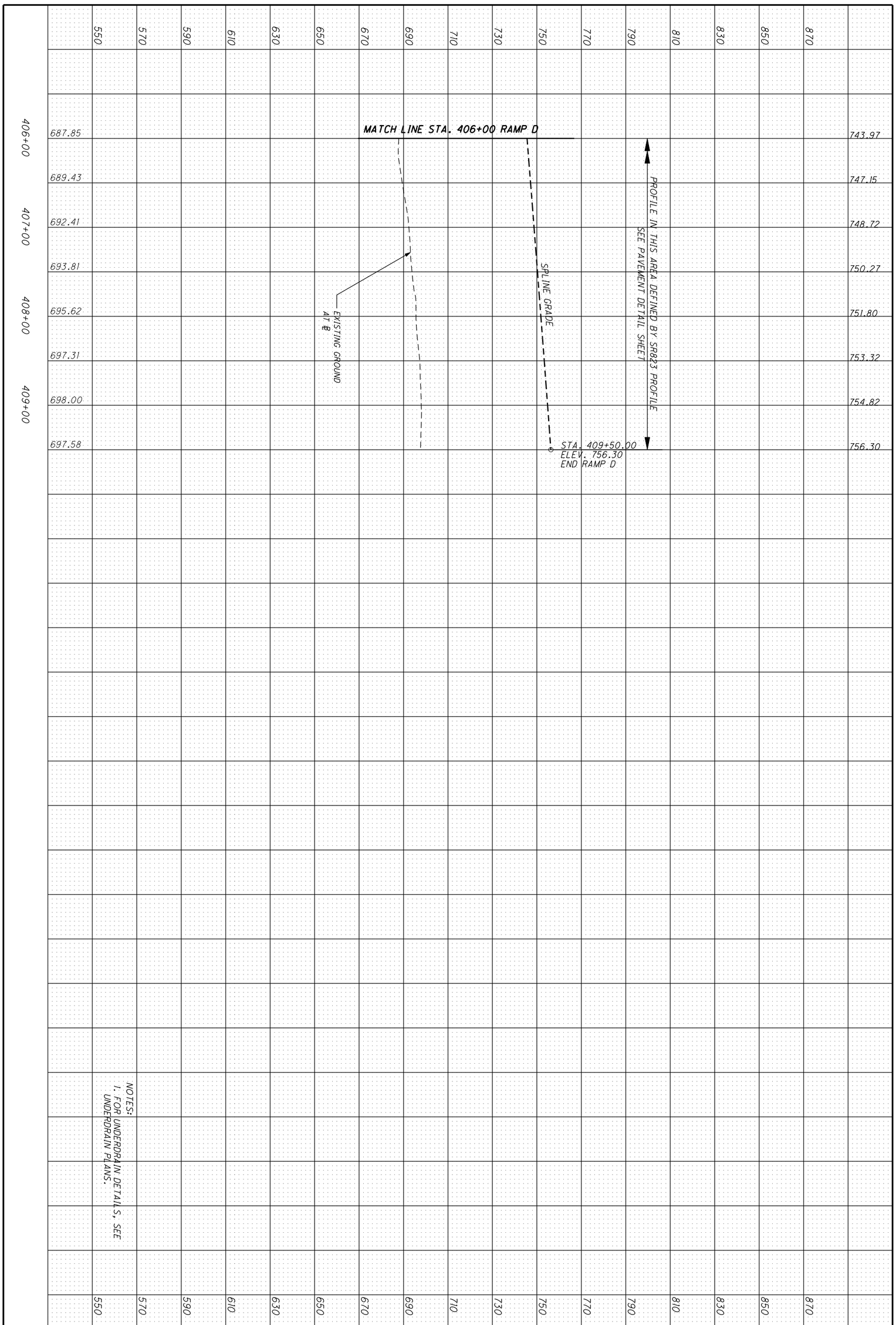


NOTES:
1. FOR UNDERDRAIN DETAILS, SEE UNDERDRAIN PLANS.

68
209

SCI-823-6.81

PROFILE - TOWNSHIP ROAD 234 RAMP D
STA. 406+00.00 TO STA. 409+50.00

CALCULATED LBD/KAG
CHECKED JMB

CURVE # CR28 RAMP A - 1

P.I. STA.= 519+73.56
Δ = 7° 59′ 31″ (RT)
Dc = 1° 22′ 00″
R = 4,192.37′
T = 292.86′
L = 584.77′
E = 10.22′
Emax. = 0.038
DESIGN SPEED = 60 MPH

CURVE # CR28 RAMP A - 2

P.I. STA. 525+50.54
Δ = 40° 10′ 22″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
Ls = 260.00′
θ = 9° 45′ 00″ (RT)
LT = 173.60′
ST = 86.91′
x = 259.25′
y = 14.72′
k = 129.87′
p = 3.68′
Δc = 30° 25′ 22″ (RT)
Lc = 405.64′
Tc = 207.72
Ts = 285.07′
Es = 51.45′
Emax = 0.08
DESIGN SPEED = 50 MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
70	PROFILE CR28 RAMP A
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

LEGEND

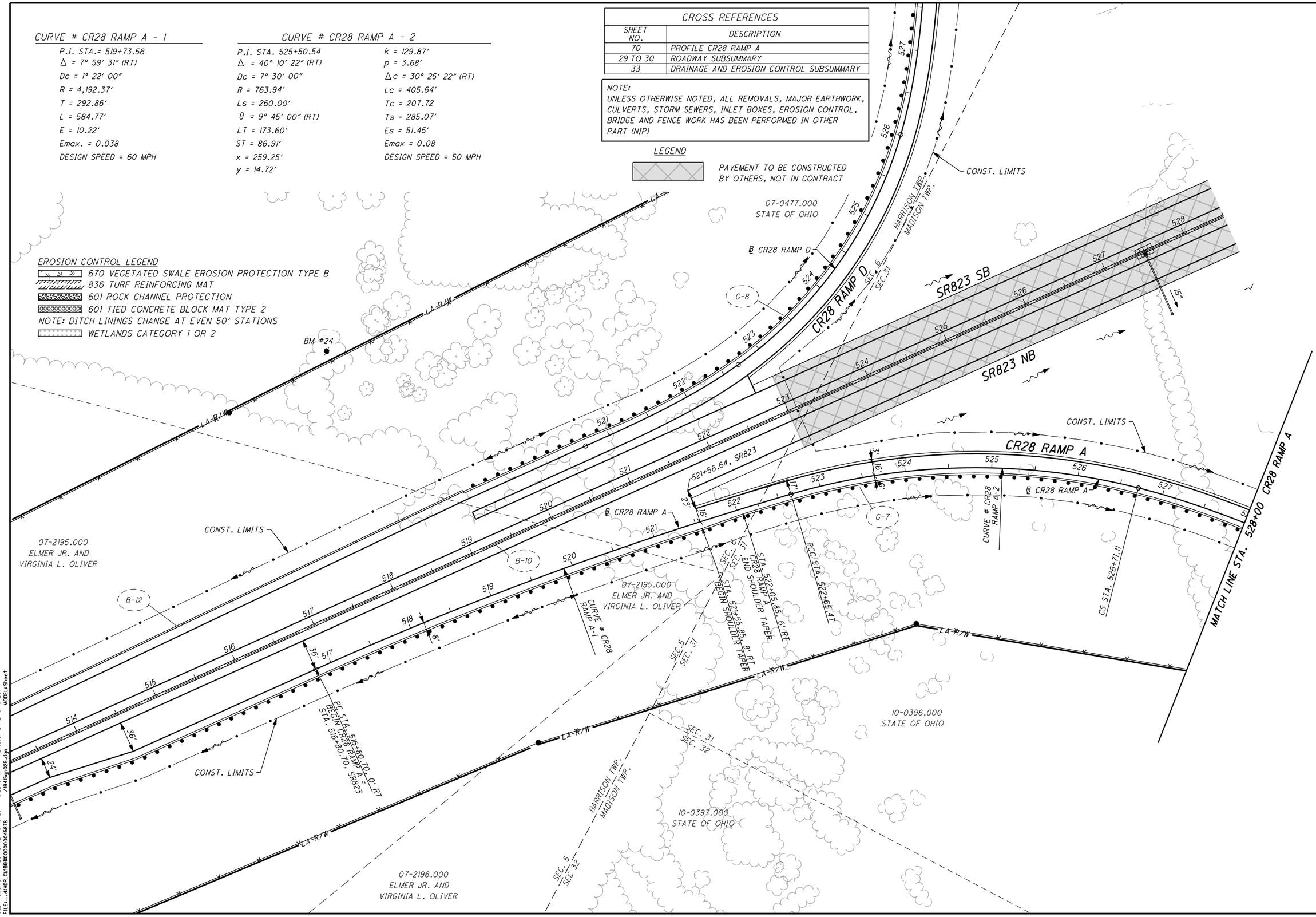
PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50′ STATIONS

- WETLANDS CATEGORY 1 OR 2



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - CR28 INTERCHANGE, RAMP A
STA. 516+80.70 TO STA. 528+00.00

SCI-823-6.81

69
209

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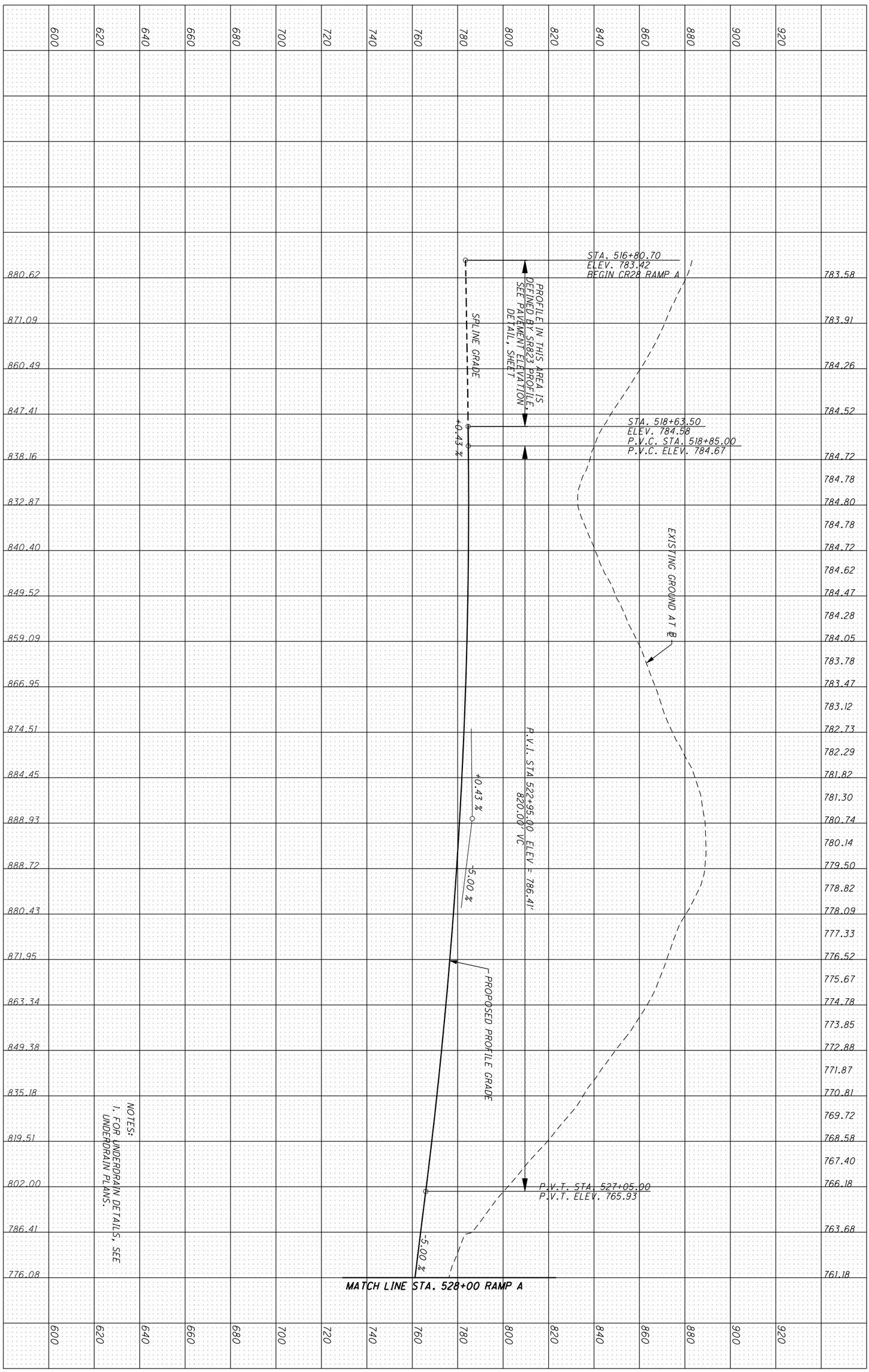


70 / 209	SCI-823-6.81	**PROFILE - CR28 INTERCHANGE, RAMP A STA. 516+80.70 TO STA. 528+00.00**	CALCULATED LBD/KAG CHECKED JMB

CURVE # CR28 RAMP A - 2	
P.I. STA. 525+50.54	k = 129.87'
Δ = 40° 10' 22" (RT)	p = 3.68'
Dc = 7° 30' 00"	Δc = 30° 25' 22" (RT)
R = 763.94'	Lc = 405.64'
Ls = 260.00'	Tc = 207.72
θ = 9° 45' 00" (RT)	Ts = 285.07'
LT = 173.60'	Es = 51.45'
ST = 86.91'	Emax = 0.08
x = 259.25'	DESIGN SPEED = 50 MPH
y = 14.72'	

CURVE # CR28 RAMP A - 3	
P.I. STA. 531+98.00	k = 87.47'
Δ = 22° 58' 26" (LT)	p = 1.45'
Dc = 6° 30' 00"	Δc = 11° 35' 56" (LT)
R = 881.47'	Lc = 178.44'
Ls = 175.00'	Tc = 89.53
θ = 5° 41' 15" (LT)	Ts = 266.89
LT = 116.73'	Es = 19.49'
ST = 58.39'	Emax = 0.063
x = 174.83'	DESIGN SPEED = 40 MPH
y = 5.79'	

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

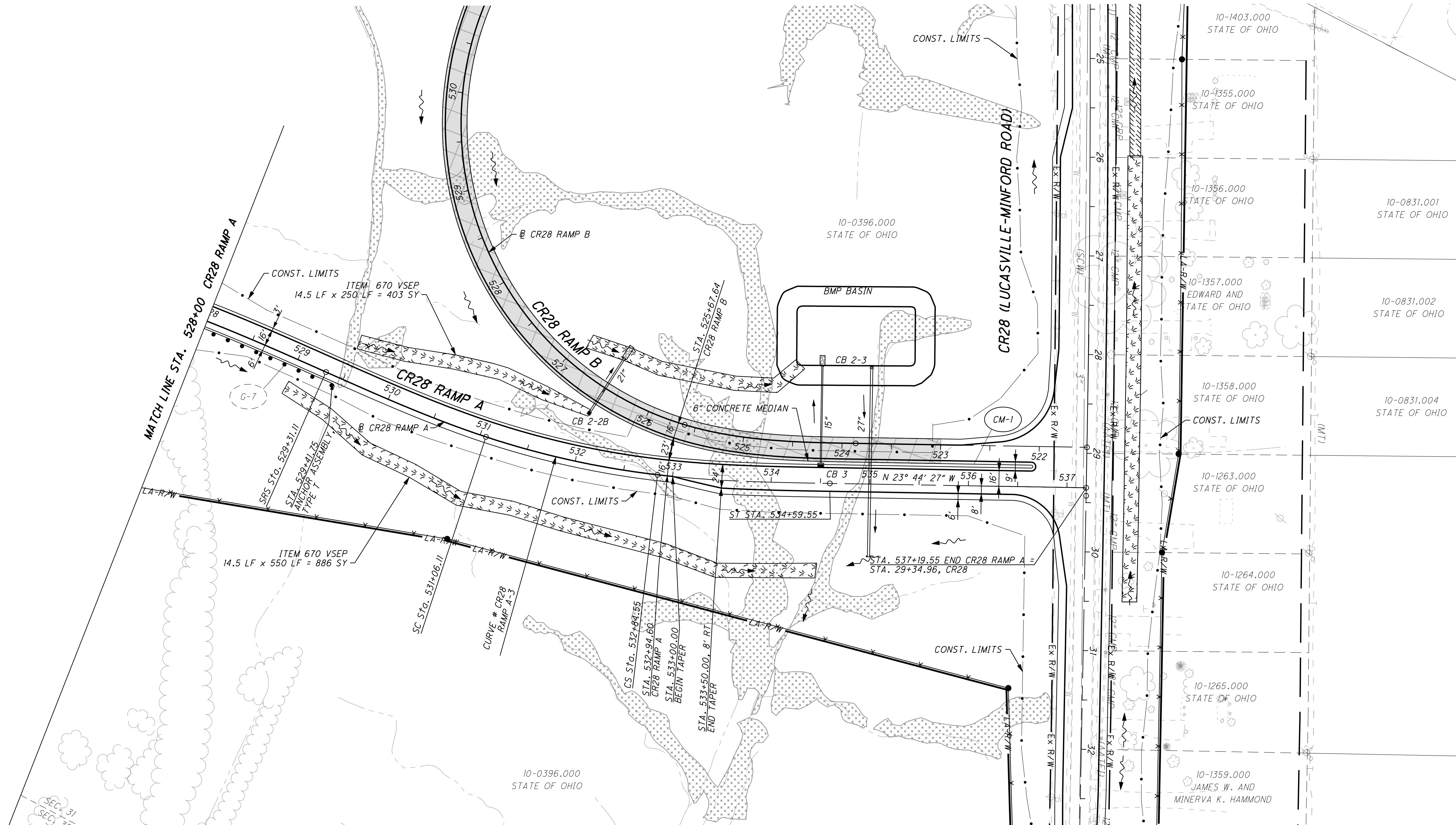
- WETLANDS CATEGORY 1 OR 2

LEGEND

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
72	PROFILE CR28 RAMP A
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)



HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED LBD/KAG CHECKED JMB

PLAN - CR28 INTERCHANGE, RAMP A
STA. STA. 528+00.00 TO STA. 537+19.55

SCI-823-6.81

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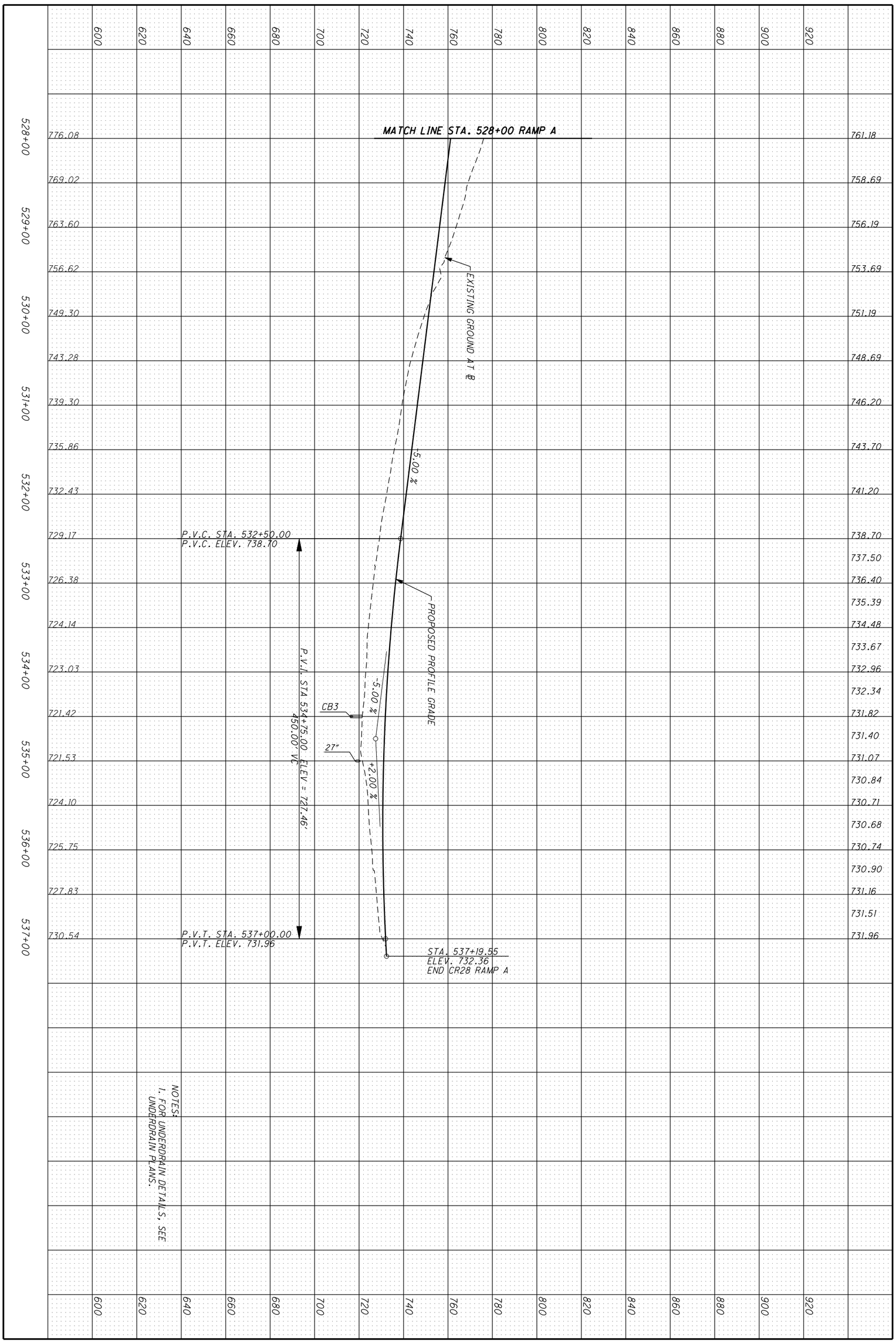


NOTES:
1. FOR UNDERDRAIN DETAILS, SEE UNDERDRAIN PLANS.

SCI-823-6.81

PROFILE - CR28 INTERCHANGE RAMP A
STA. 528+00.00 TO STA. 537+19.55

CALCULATED LBD/KAG
CHECKED JMB

CURVE # CR28 RAMP D - 1

P.I. STA. 524+73.49	ST1 = 66.92'	Δc = 38° 04' 06" (LT)
Δ = 62° 13' 06" (LT)	ST2 = 73.68'	Lc = 331.03'
Dc = 11° 30' 00"	x1 = 199.20'	Tc = 171.89'
R = 498.22'	x2 = 218.93'	Ts = 403.33
Ls1 = 200.00'	y1 = 13.34'	Es = 88.00'
Ls2 = 220.00'	y2 = 16.13'	Emax = 0.079
θs1 = 11° 30' 00" (LT)	k1 = 99.87'	DESIGN SPEED = 40 mph
θs2 = 12° 39' 00" (LT)	k2 = 109.82'	
LT1 = 133.62'	p1 = 3.34'	
LT2 = 147.04'	p2 = 4.04'	

CURVE # CR28 RAMP D - 2

P.I. STA. 534+17.71	k = 109.82'	
Δ = 88° 11' 49" (RT)	p = 4.04'	
Dc = 11° 30' 00"	Δc = 62° 53' 49" (RT)	
R = 498.22'	Lc = 546.93'	
Ls = 220.00'	Tc = 304.70'	
θs = 12° 39' 00" (RT)	Ts = 596.52'	
LT = 147.04'	Es = 201.17'	
ST = 73.68'	Emax = 0.079	
x = 218.93'	DESIGN SPEED = 40 mph	
y = 16.13'		

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
GF029	PROFILE CR28 RAMP D
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

LEGEND

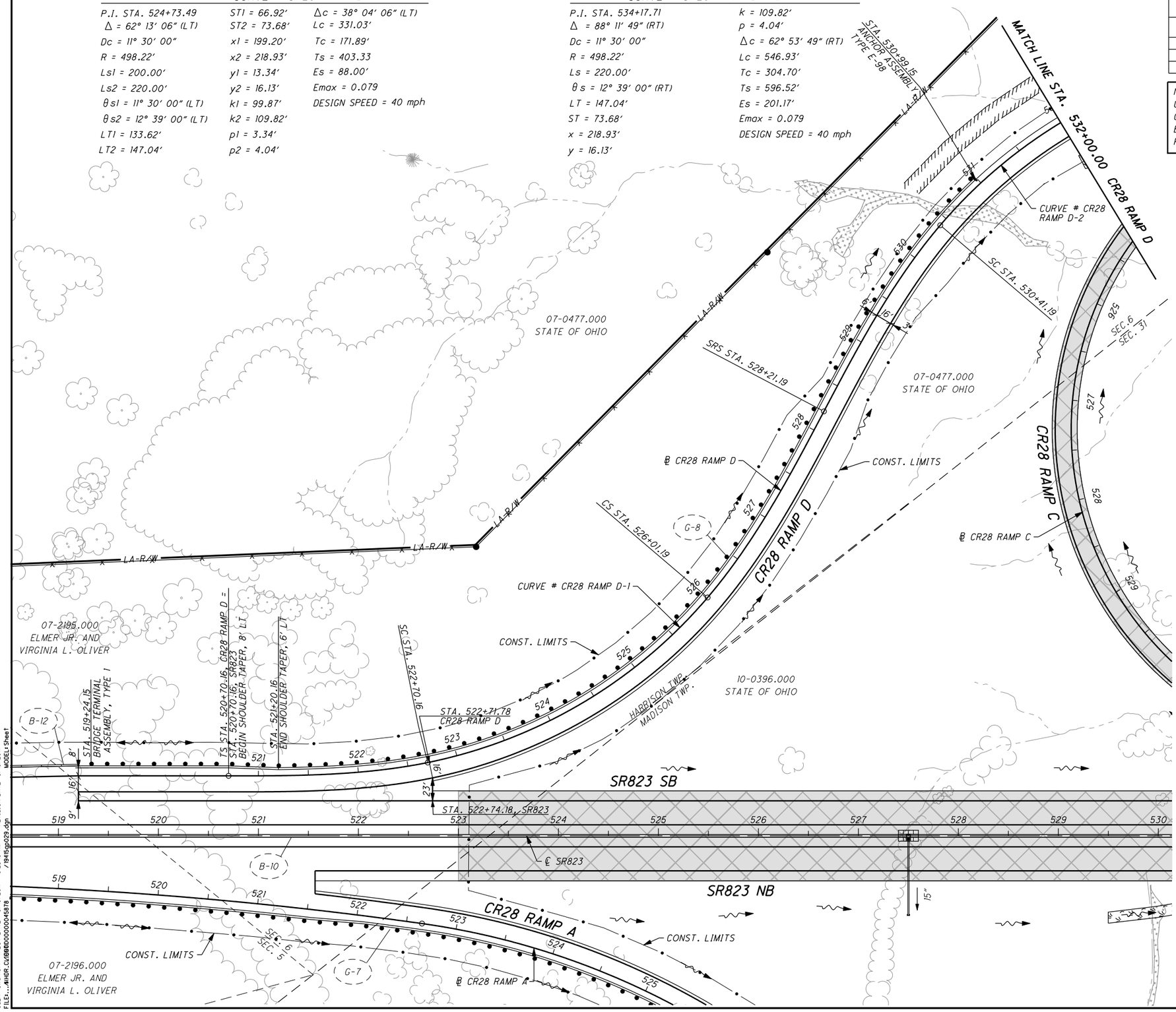
PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2



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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - CR28 INTERCHANGE RAMP D
STA. 520+70.16 TO STA. 532+00.00

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:23:31 AM REVISION DATE: 9/15/2011
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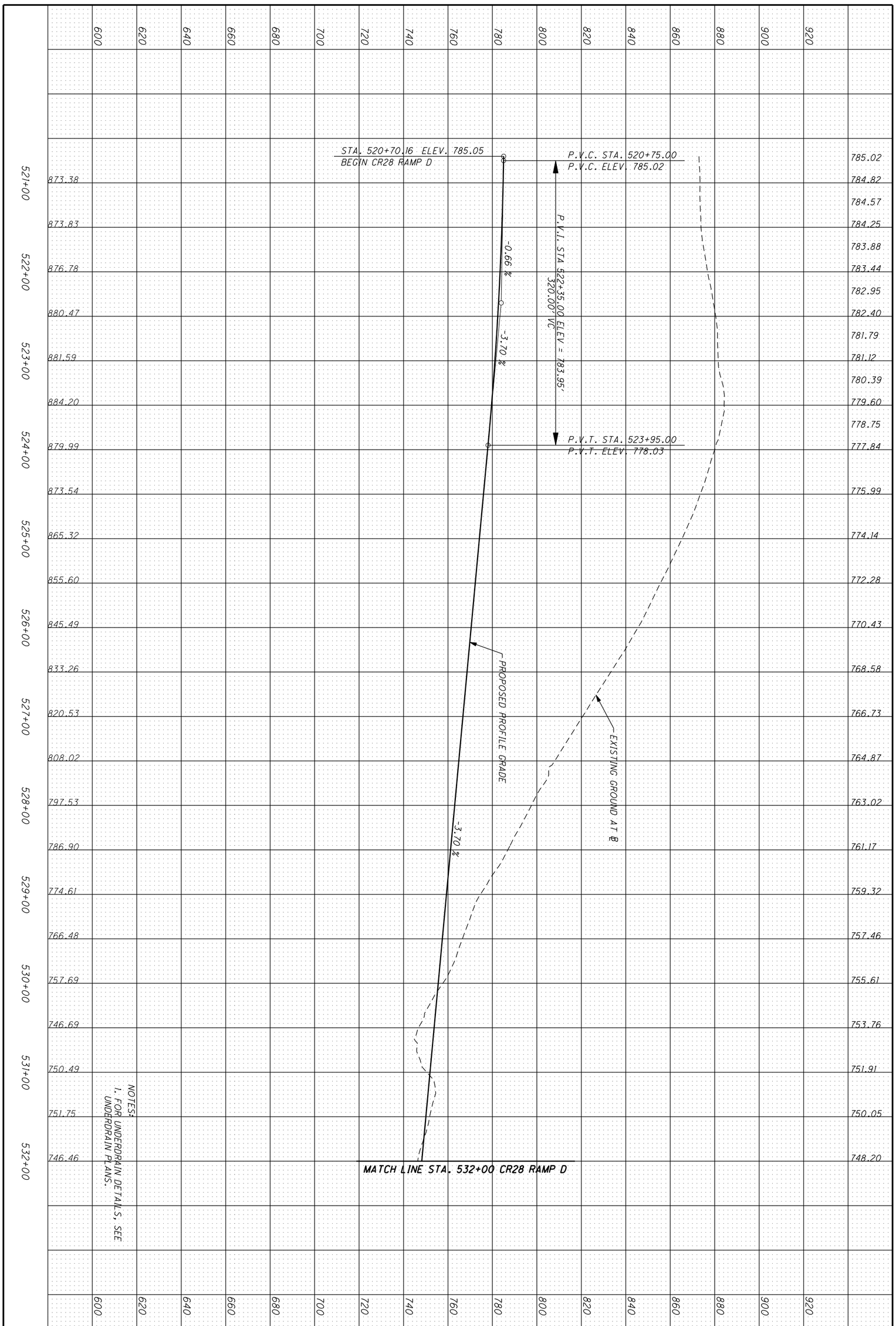
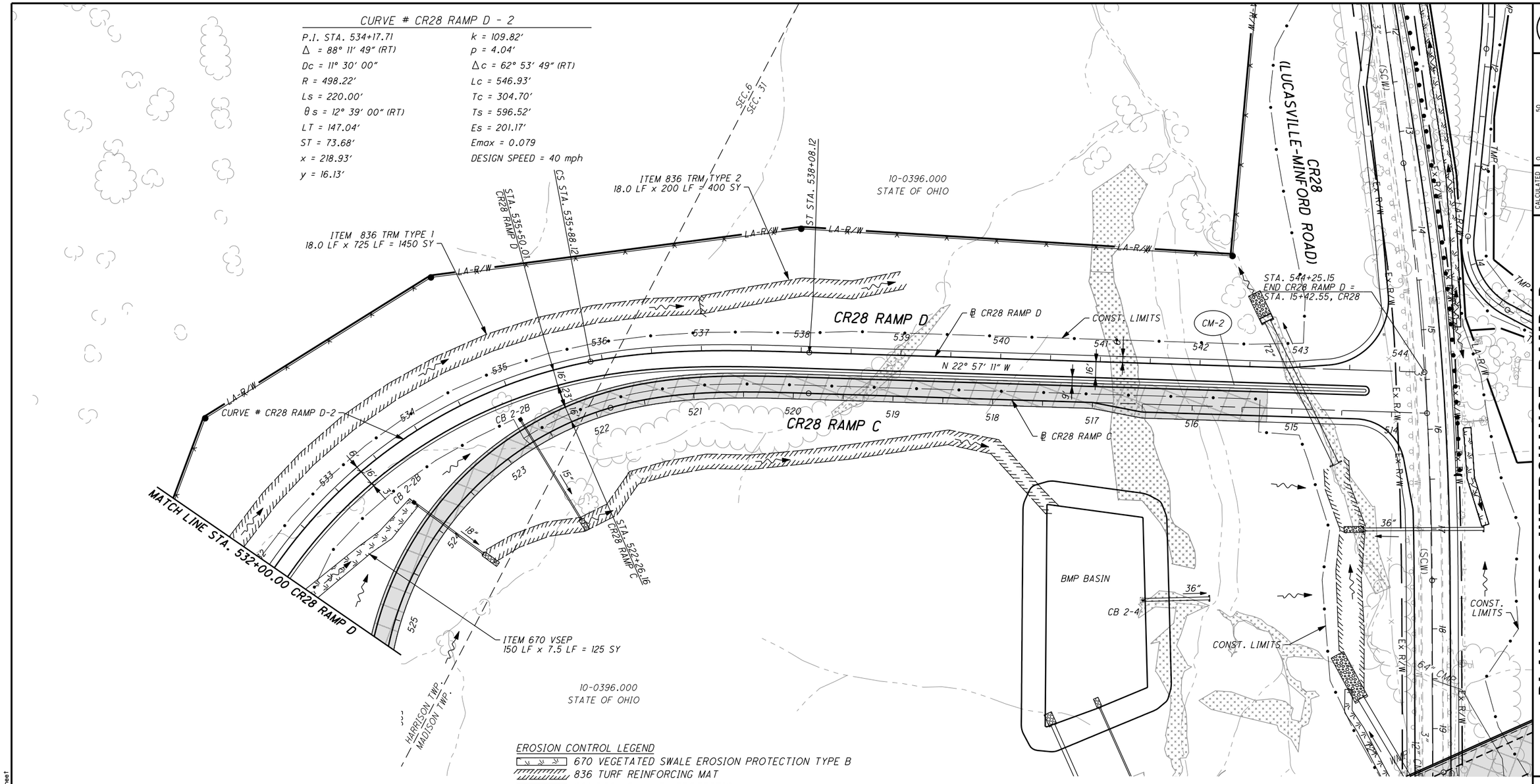


SCI-823-6.81

PROFILE - CR28 INTERCHANGE RAMP D
STA. 520+70.16 TO STA. 532+00.00

CALCULATED LBD/KAG
CHECKED JMB



EROSION CONTROL LEGEND

- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

- WETLANDS CATEGORY 1 OR 2

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
74	PROFILE CR28 RAMP D
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

NOTE:
UNLESS OTHERWISE NOTED, ALL REMOVALS, MAJOR EARTHWORK, CULVERTS, STORM SEWERS, INLET BOXES, EROSION CONTROL, BRIDGE AND FENCE WORK HAS BEEN PERFORMED IN OTHER PART (NIP)

LEGEND

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - CR28 INTERCHANGE RAMP D
STA. 532+00.00 TO STA. 544+25.15

SCI-823-6.81

75
209

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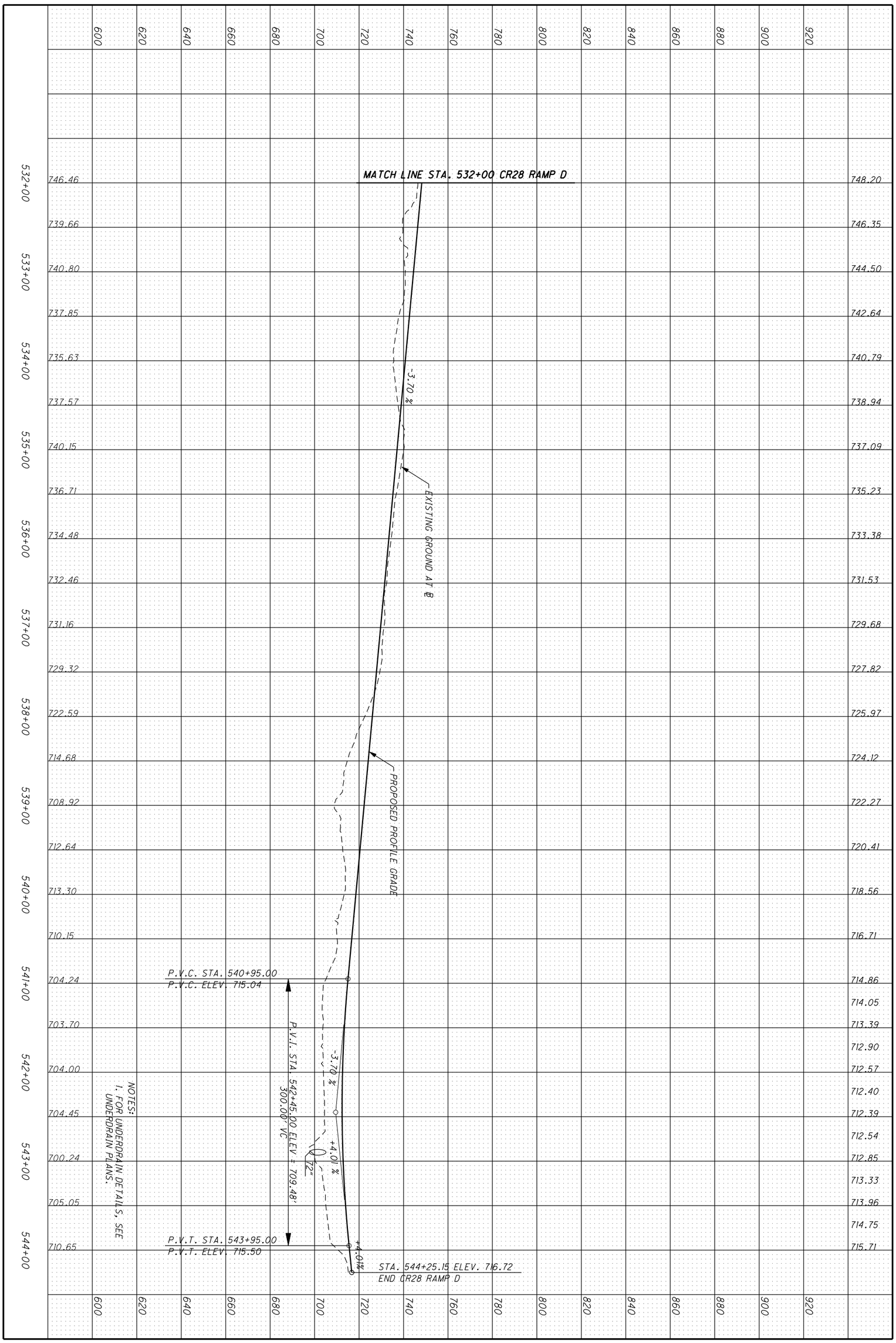

SCI-823-6.81

PROFILE - CR28 INTERCHANGE RAMP D
STA. 532+00.00 TO STA. 544+25.15

CALCULATED LBD/KAG
CHECKED JMB

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
78	PROFILE CR28
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

CURVE # CR28 - 1

P.I. STA. = 8+32.71
DELTA= 3° 21' 50" (RT)
Dc = 1° 15' 00"
R = 4,583.66'
T = 134.59'
L = 269.11'
E = 1.98'
DESIGN SPEED = 55 MPH

CURVE # CR28 - 2

P.I. STA. = 15+41.99
DELTA = 7° 20' 23" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 209.99'
L = 419.41'
E = 6.73'
Emax. = 0.040
DESIGN SPEED = 55 MPH

EROSION CONTROL LEGEND
- 670 VEGETATED SWALE EROSION PROTECTION TYPE B
- 836 TURF REINFORCING MAT
- 601 ROCK CHANNEL PROTECTION
- 601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
- WETLANDS CATEGORY 1 OR 2

LEGEND:
- PAVEMENT PLANING AND OVERLAY
- PAVEMENT REMOVED (PAID FOR UNDER ITEM 203, SEE CROSS SECTIONS)

CR28 (LUCASVILLE-MINFORD ROAD)

℄ CR28
Ex R/W
BM "C"
12" CMP
N 54° 14' 27" E
POT STA. 4+56.30
PC STA. 6+98.11
PT STA. 9+67.22
CURVE # CR28-1
SEC. 31
SEC. 6
MADISON
HARRISON

10-1036.000
RADIANT SALES, INC.

10-1035.001
RADIANT SALES, INC.

10-1035.000
RANDALL D. AND SHERRY L. DODRIDGE

07-0477.00
STATE OF OHIO

10-0146.000
RICHARD AND JUNE BOOK

10-CEM
TRUSTEES OF PRESBYTERIAN CHURCH IN MADISON TOWNSHIP

P.I. STA. 11+13.39 (FIR)
DEFLECTION = 0°51'36" LT
"NO CURVE"

STA. 11+07.99, TR381 =
STA. 10+00.00, PRIVATE DRIVE

STA. 10+23.46 (FIR)
MEET EXIST. WITH BUTT END JOINT
± 18'0' RT AND ±10.2' LT

BEGIN WORK CR28
STA. 9+97.25

TR381 (FLOWERS ISON ROAD)
FLARED END SECTION
15" CMP
UTILITY POLE TO BE RELOCATED BY OTHERS
DO NOT DISTURB EX. UTILITIES
SAWCUT
STA. 9+97.25
MEET EXIST. WITH BUTT END JOINT
BEGIN PAVEMENT TAPER, ± 10.0' RT
BEGIN SHOULDER TAPER, ±14.8' RT
STA. 10+50.99, CR28 =
STA. 10+00.00 TR381
STA. 10+76.00
BEGIN FULL DEPTH PAVEMENT
END SHOULDER TAPER, 19.42' RT
STA. 10+76.00
BEGIN SHOULDER TAPER, ±12.4' LT
STA. 10+81.47
BEGIN PAVEMENT TAPER, ±10.8' LT
CONST. LIMITS
STA. 12+35.00, 21.63' LT
END SHOULDER TAPER
PRIVATE DRIVE
TYPE T ANCHOR
ITEM 670 VSEP
7.5 LF x 350 LF = 292 SY
SAWCUT
N 57° 36' 17" E
(SCW)
END PAVEMENT TAPER (BACK)
BEGIN PAVEMENT TAPER (AHEAD)
STA. 12+00.00, 13.59' RT
END PAVEMENT TAPER (BACK)
BEGIN PAVEMENT TAPER (AHEAD)
STA. 12+50.00, 26.50' RT
PC STA. 13+32.00
CURVE # CR28-2
STA. 14+42.50
END PAVEMENT TAPER, 30' RT
MATCH LINE STA. 14+50 CR28
CONST. LIMITS
FENCE TO BE REMOVED
D-35
D-30
E-11
E-12
E-4
M-21
G-9
R-6
R-2
R-5
R-4
M-22
R-1
R-3
LA-R/W
R/W

10-0975.000
DAVID L. AND ANGELA S. YEAGLE

10-0396.000
STATE OF OHIO

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN-CR 28 (LUCASVILLE -MINFORD ROAD)
STA. 9+97.25 TO STA. 14+50.00

SCI-823-6.81

77
209

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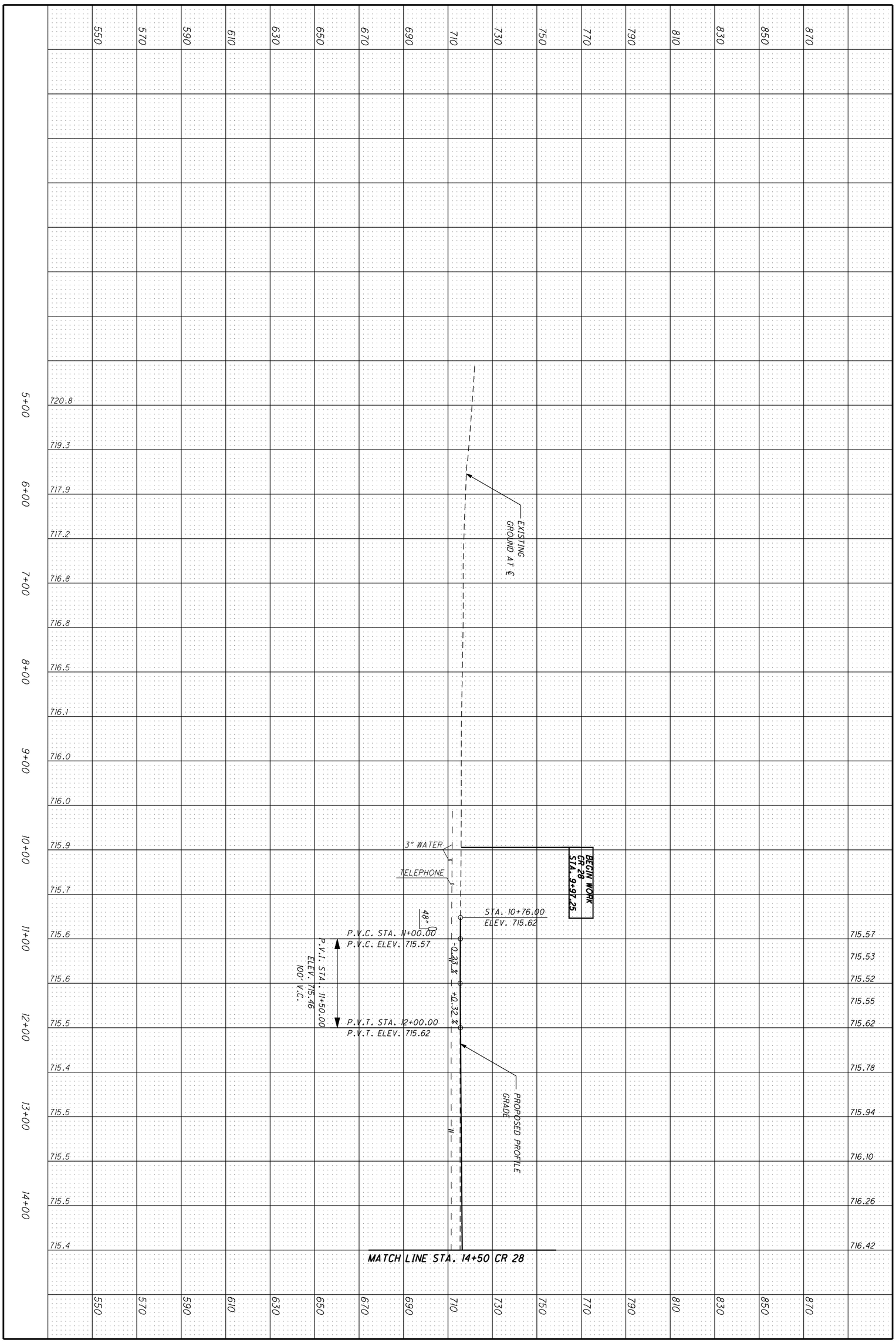

78 / 209	SCI-823-6.81	PROFILE - CR 28 (LUCASVILLE -MINFORD ROAD) STA. 10+05.04 TO STA. 14+50.00	CALCULATED LBD/KAG CHECKED JMB

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
80	PROFILE CR28
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

LEGEND

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

PAVEMENT REMOVED (PAID FOR UNDER ITEM 203, SEE CROSS SECTIONS)

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED LBD/KAG CHECKED JMB

PLAN - CR28 (LUCASVILLE-MINFORD ROAD) STA. 14+50.00 TO STA. 27+00.00

SCI-823-6.81

79 / 209

10-0975.000 ANGELA S. YEAGLE

10-0979.000 NELEN STANLEY

10-0980.000 STATE OF OHIO

10-0937.000 STATE OF OHIO

10-1355.000 STATE OF OHIO

10-1356.000 STATE OF OHIO

10-1357.000 STATE OF OHIO

10-1403.000 STATE OF OHIO

10-0396.000 STATE OF OHIO

SR823 SB

SR823 NB

CR28 RAMP C

CR28 RAMP D

CR28 (LUCASVILLE-MINFORD RD)

PRIVATE DRIVE

STA. 14+75.50 END PAVEMENT TAPER, 18.0' LT

STA. 15+42.55, CR28 = STA. 544+25.15, CR28 RAMP D

STA. 15+83.74, CR28 = STA. 513+64.43, CR28 RAMP C

STA. 16+47.50 ANCHOR ASSEMBLY, TYPE E-98

EXISTING 64" CMP TO BE REMOVED

ITEM 670 VSEP 7.5 LF X 100 LF = 83 SY

CONST. LIMITS

UTILITIES TO BE RELOCATED BY OTHERS

TO BE RELOCATED BY OTHERS

ITEM 836 TRM TYPE 2 7.5 LF x 130 LF = 108 SY

ITEM 836 TRM TYPE 1 11 LF x 350 LF = 428 SY

CONSTR. LIMITS

CURVE # CR28-3

ITEM 670 VSEP 15 LF x 450 LF = 750 SY

ITEM 670 VSEP 7.5 LF x 100 LF = 83 SY

STA. 19+99.93, CR28 = STA. 538+55.57, SR823

ITEM 836 TRM TYPE 1 25 LF x 230 LF = 639 SY

FENCE TO BE REMOVED

PT STA. 17+51.41

PC STA. 23+68.09

STA. 25+50.00 BEGIN TAPER, 18.00' RT

STA. 26+00.00 END TAPER, 30.00' RT

DRIVE PIPES TO BE REMOVED

MATCH LINE STA. 14+50 CR28

MATCH LINE STA. 27+00 CR28

N.64° 56' 40" E

EROSION CONTROL LEGEND

670 VEGETATED SWALE EROSION PROTECTION TYPE B

836 TURF REINFORCING MAT

601 ROCK CHANNEL PROTECTION

601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

WETLANDS CATEGORY 1 OR 2

CURVE # CR28 - 2

P.I. STA. = 15+41.99
DELTA = 7° 20' 23" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 209.99'
L = 419.41'
E = 6.73'
Emax. = 0.040
DESIGN SPEED = 55 MPH

CURVE # CR28 - 3

P.I. STA. = 26+55.61
DELTA = 1° 26' 15" (RT)
Dc = 0° 15' 00"
R = 22,918.31'
T = 287.52'
L = 575.00'
E = 1.80'
Emax. = NORMAL CROWN
DESIGN SPEED = 55 MPH

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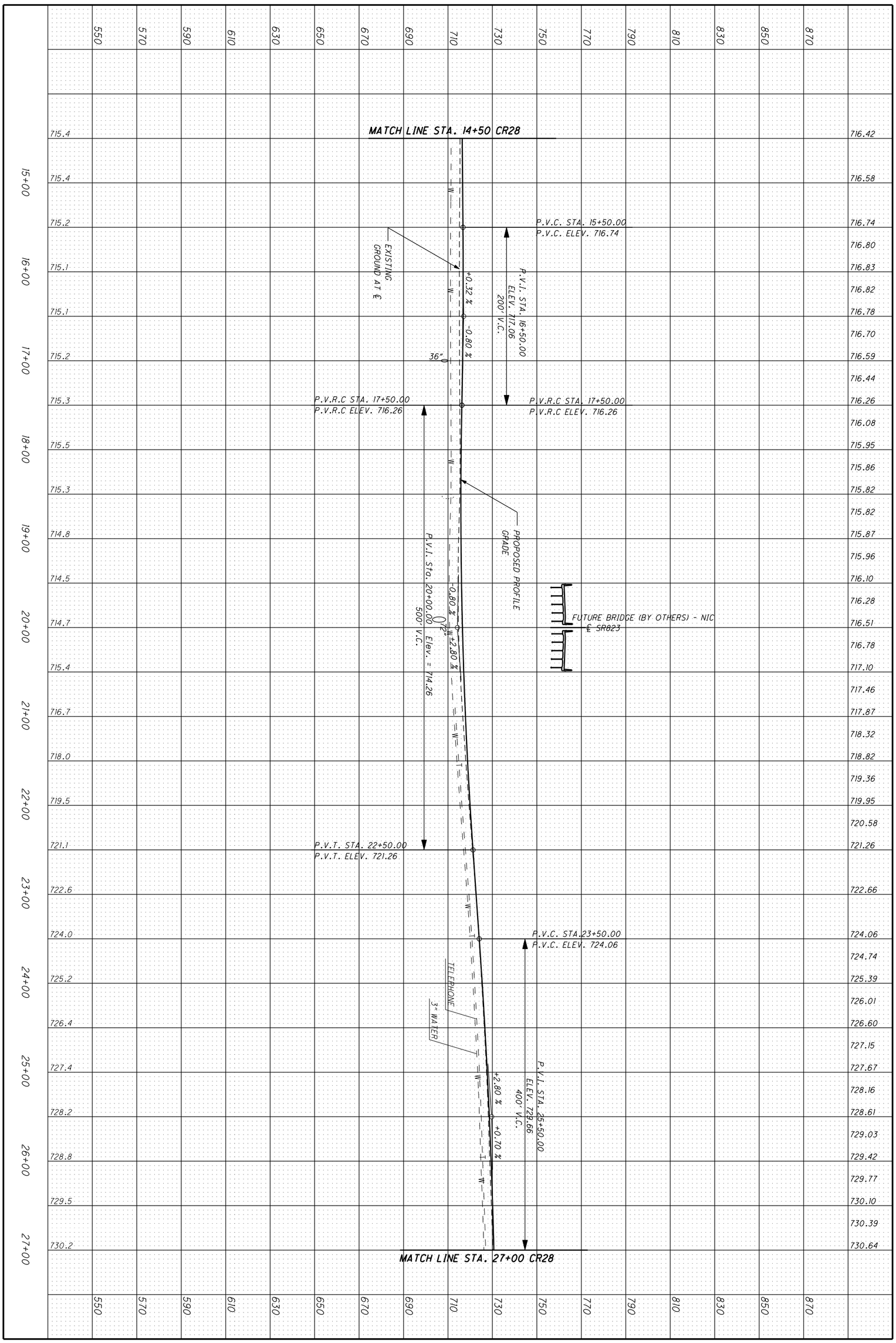

80 / 209	SCI-823-6.81	PROFILE - CR 28 (LUCASVILLE - MINFORD ROAD) STA. 14+50.00 TO STA. 27+00.00	CALCULATED LBD/KAG; CHECKED JMB

EROSION CONTROL LEGEND
670 VEGETATED SWALE EROSION PROTECTION TYPE B
836 TURF REINFORCING MAT
601 ROCK CHANNEL PROTECTION
601 TIED CONCRETE BLOCK MAT TYPE 2
NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS
WETLANDS CATEGORY 1 OR 2

CURVE # CR28 - 3
P.I. STA. = 26+55.61
DELTA = 1° 26' 15" (RT)
Dc = 0° 15' 00"
R = 22,918.31'
T = 287.52'
L = 575.00'
E = 1.80'
Emax.= NORMAL CROWN
DESIGN SPEED = 55 MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
82	PROFILE CR28
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

LEGEND
PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT
PAVEMENT REMOVED (PAID FOR UNDER ITEM 203, SEE CROSS SECTIONS)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - CR 28 (LUCASVILLE-MINFORD ROAD)
STA. 27+00.00 TO STA. 37+31.45

SCI-823-6.81

81
209

MATCH LINE STA. 27+00 CR28

CR28 (LUCASVILLE-MINFORD ROAD)

10-0831.002 STATE OF OHIO
10-0831.004 STATE OF OHIO
10-1357.000 STATE OF OHIO
10-1358.000 STATE OF OHIO
10-1263.000 STATE OF OHIO
10-1264.000 STATE OF OHIO
10-1265.000 STATE OF OHIO
10-1359.000 JAMES W. AND MINERVA K. HAMMOND
10-1254.000 JAMES W. AND MINERVA K. HAMMOND
10-1360.000 STATE OF OHIO
10-2016.000 JAMES W. AND MINERVA K. HAMMOND
10-1832.000 MARLENE KELLY
10-1966.000 TODD D. HILTON
10-1361.000 MARLENE KELLY
10-1266.000 ROBERT ADAMS (L/E)
10-1362.000 RANDALL J. AND BRENDA K. THACKER
10-1363.000 BETTY JO SPEAS
10-1364.000 KENNETH R. RASE
10-1036.000 STATE OF OHIO

RASES MOUNTAIN DRIVE
SEC. 31
SEC. 32

DRIVE PIPES TO BE REMOVED (TYP)
CONST. LIMITS
LA-R/W
Ex R/W
(MT)
(AATF)
(SCW)
(CGOH)
(OL-C)
(TEL)
(G)
(W)
(S)
(TMP)

R-22 R-24 E-10 R-25 R-26 R-27 R-28 R-29 R-30 R-31
MB-3 MB-2
D-33 D-34 D-29
CB2-3
M-23 M-24 M-25
CM-1

12" CMP 18" CMP 30" CMP 27" 15" 21"

STA. 36+65.29 BEGIN SHOULDER TAPER, 14.69' LT
STA. 36+77.20 BEGIN PAVEMENT TAPER, 12' LT
END WORK CR28 STA. 37+31.38

STA. 28+93.96, CR28 = STA. 521+51.64, CR28 RAMP B
STA. 29+34.96, CR28 = STA. 537+19.55, CR28 RAMP A
PT STA. 29+43.09
STA. 32+45.00 BEGIN PAVEMENT TAPER 18' RT & LT
STA. 35+75.00 END PAVEMENT TAPER, 12' RT & LT
STA. 36+10.00 BEGIN PAVEMENT TAPER, 12' RT BEGIN SHOULDER TAPER, 20' RT
STA. 36+27.00, CR28 = ℄ RASES MOUNTAIN DRIVE
P.I. STA. 37+31.38 DEFLECTION = 9°24'07" LT "NO CURVE" MEET EXIST. WITH BUTT END JOINT END PAVEMENT TAPER, ±9.8' RT & ±9.5' LT END SHOULDER TAPER, ±10.4' RT & ±10.9' LT.

CR28 RAMP A
CR28 RAMP B
CURVE # CR28-3
CONST. LIMITS

522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537

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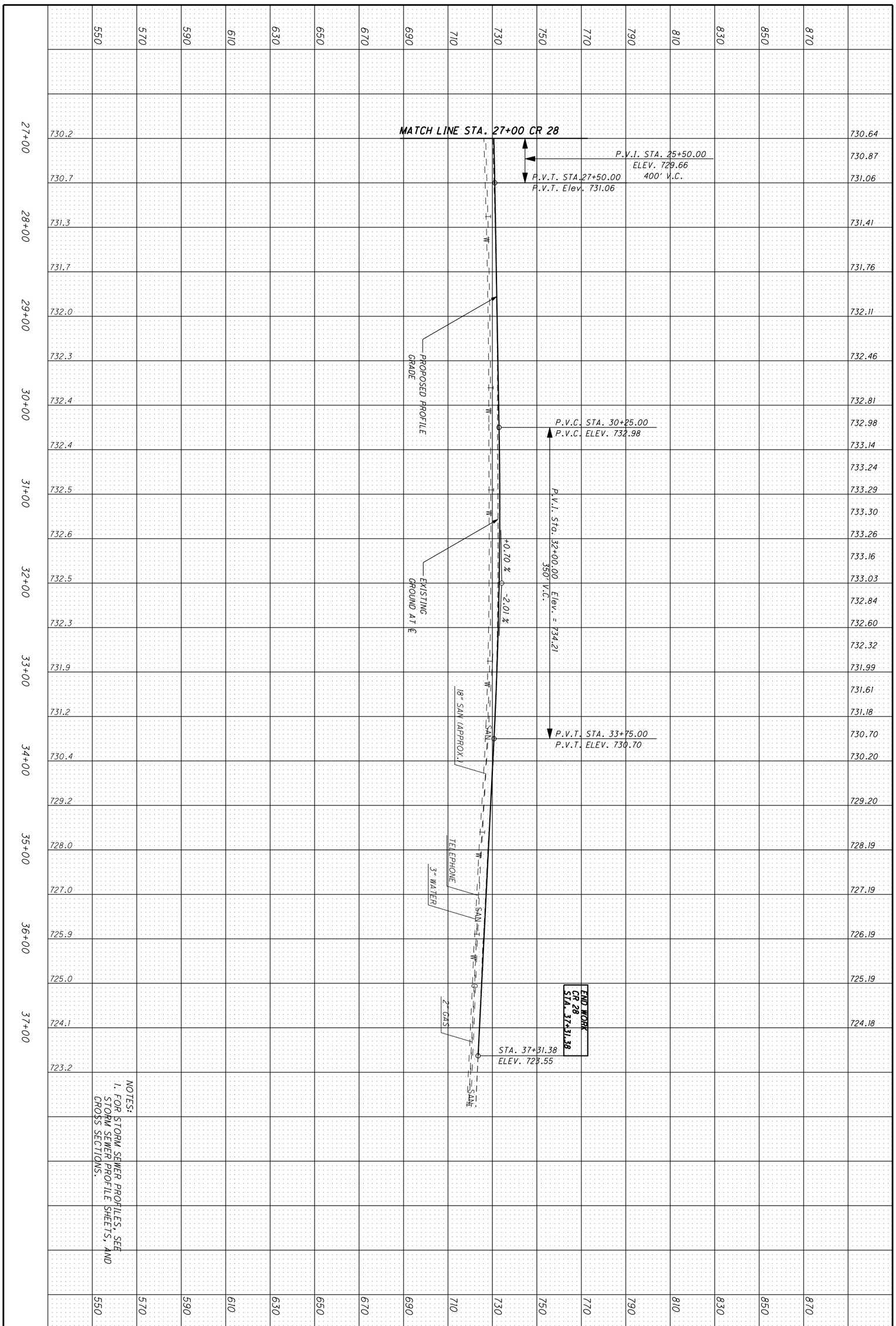

NOTES:
1. FOR STORM SEWER PROFILES, SEE STORM SEWER PROFILE SHEETS, AND CROSS SECTIONS.

SCI-823-6.81

PROFILE - CR 28 (LUCASVILLE -MINFORD ROAD) STA. 27+00.00 TO STA. 37+89.31

CALCULATED LBD/KAG
CHECKED JMB

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
84	PROFILE PRIVATE DRIVE
29 TO 30	ROADWAY SUBSUMMARY
33	DRAINAGE AND EROSION CONTROL SUBSUMMARY

LEGEND

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT

PAVEMENT REMOVED (PAID FOR UNDER ITEM 203, SEE CROSS SECTIONS)

CURVE # PRIVATE DRIVE - 1

P.I. STA. = 11+12.00
DELTA = 16°12'51" (RT)
Dc = 11°30'00.00"
R = 498.22'
T = 70.97'
L = 140.99'
E = 5.03'

CURVE # PRIVATE DRIVE - 2

P.I. STA. = 14+21.26
DELTA = 67°35'50.00" (LT)
Dc = 76°15'00"
R = 75.14'
T = 50.30'
L = 88.65'
E = 15.28'

BEGIN WORK STA. 10+08.94

END WORK STA. 15+21.15

STA. 10+00.000, PRIVATE DRIVE = STA. 11+07.99, TR381

TR381 (FLOWERS ISON ROAD)

PRIVATE DRIVE

CR28 (LUCASVILLE-MINFORD ROAD)

CR28 RAMP D

CR28 RAMP C

SR823 NB

SR823 SB

CONST. LIMITS

TIED CONCRETE BLOCK MAT TYPE 2 14 SY

TIED CONCRETE BLOCK MAT TYPE 2 11 SY

TO BE RELOCATED BY OTHERS

BM "C"

10-0146.000
RICHARD AND JUNE BOOK

10-CEM
TRUSTEES OF PRESBYTERIAN CHURCH IN MADISON TOWNSHIP

10-0980.000
STANLEY, HELEN

10-0975.000
ANGELA S. YEAGLE

10-0931.000
JACK E. AND

10-0396.000
STATE OF OHIO

10-1036.000
RADIANT SALES, INC.

SEC. 31
SEC. 6

EROSION CONTROL LEGEND

670 VEGETATED SWALE EROSION PROTECTION TYPE B
836 TURF REINFORCING MAT
601 ROCK CHANNEL PROTECTION
601 TIED CONCRETE BLOCK MAT TYPE 2

NOTE: DITCH LININGS CHANGE AT EVEN 50' STATIONS

WETLANDS CATEGORY 1 OR 2

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LBD/KAG
CHECKED JMB

PLAN - PRIVATE DRIVE
STA. 10+00.00 TO STA. 15+50.64

SCI-823-6.81

83
209

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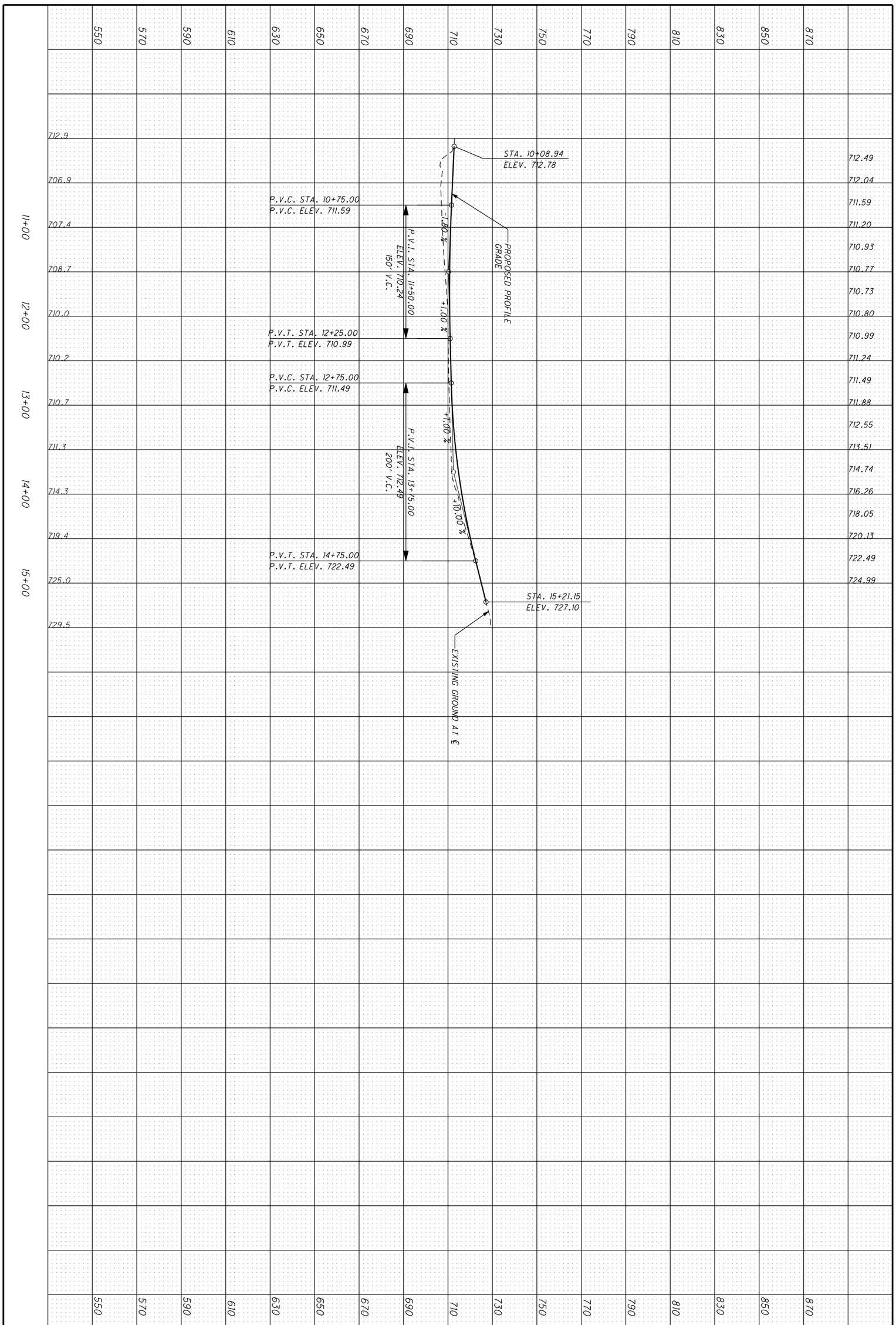

84
209

SCI-823-6.81

PROFILE - PRIVATE DRIVE
STA. 10+08.94 TO STA. 15+21.15

CALCULATED LBD/KAG
CHECKED JMB

SEEDING	
END WIDTH	SQ. YDS.
45	157
	159
64	
	188
0	
	504

END AREA	
CUT	FILL
29	212
8	161
8	0

VOLUME	
CUT	FILL
18	180
16	157
1	1
35	338

CALCULATED LBD/KAG
CHECKED JMB

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C

740 720 700 680 760 740 720 700 680 760 740 720 700 680 760 740 720 700 680

TMP
R/W Fee LA
EX R/W Fee
33.4' RT
4:1
3:1
TELEPHONE
12" UNDERCUT
UNSTABLE SUBGRADE
715.62
10+75.00
715.6
EX R/W Fee
R/W Fee

1.5" PAVEMENT PLANING AND OVERLAY
33.0' RT
TELEPHONE
12" UNDERCUT
UNSTABLE SUBGRADE
5" WATER
4:1
3:1
715.71
10+50.00
715.7
EX R/W Fee
R/W Fee

1.5" PAVEMENT PLANING AND OVERLAY
EX R/W Fee
EX R/W Fee
TELEPHONE
TELEPHONE
TELEPHONE
& CABLE
715.91
9+97.25
715.9
BEGIN WORK
693.5

CUT AND FILL VOLUME ADJUSTMENT
FOR PAVEMENT REMOVAL

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

CROSS SECTIONS - CR28
STA. 9+97.25 TO STA. 10+76.00

SCI-823-6.81

85
209

USER: cmahlbri PLOT DATE: 9/15/2011 9:43:04 AM REVISION DATE: 9/15/2011
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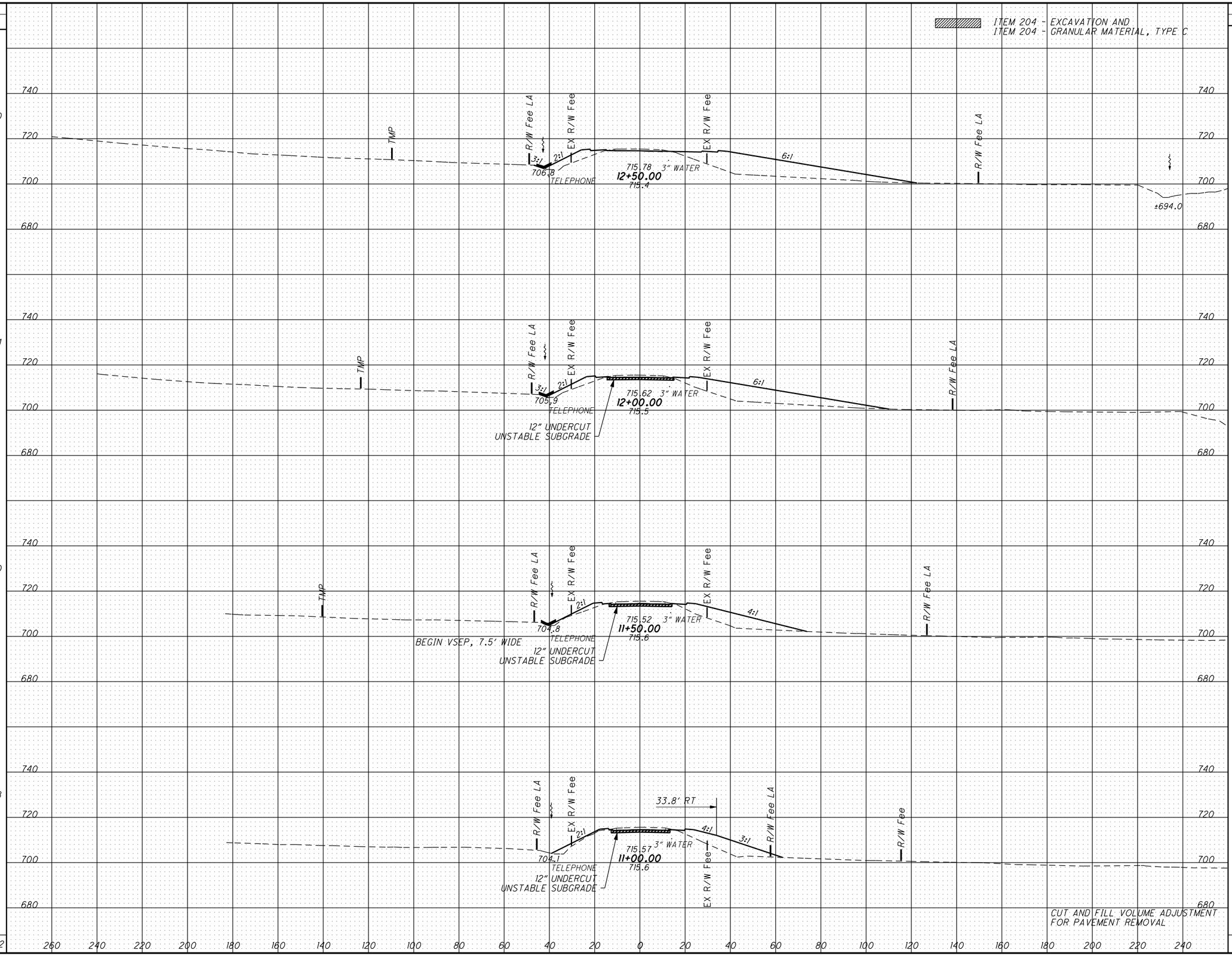
SEEDING	
END WIDTH	SQ. YDS.
116	650
116	644
81	550
73	428
	2272



END AREA		VOLUME	
CUT	FILL	CUT	FILL
20	605	41	981
24	455	48	648
28	245	52	416
28	204	25	185
4	4	170	2234

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 11+00.00 TO STA. 12+50.00

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:43:24 AM REVISION DATE: 9/15/2011
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SEEDING	
END WIDTH	SQ. YDS.
98	528
115	594
116	644
	1766

END AREA	
CUT	FILL
7	542
21	607
19	643

VOLUME	
CUT	FILL
26	1064
37	1157
36	1156
49	49
148	3426

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 13+00.00 TO STA. 14+00.00

SCI-823-6.81

87
209

USER: CWohlbr; PLOT DATE: 9/15/2011 9:43:43 AM REVISION DATE: 9/15/2011
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SEEDING	
END WIDTH	SQ. YDS.
30	178
14	122
91	294
	594

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C
ITEM 204 - GRANULAR MATERIAL, TYPE C

760
740
720
700
680

R/W Fee LA
EX R/W Fee
2:1
8:1
715.8
TELEPHONE
716.74
15+50.00
715.2
3" WATER
36" UNDERCUT
UNSTABLE SUBGRADE
QUANTITIES INCLUDED IN CR28 RAMP C & D EARTHWORK

TMP
R/W Fee LA
EX R/W Fee
8:1
715.9
TELEPHONE
END VSEP, 7.5' WIDE
716.58
15+00.00
715.4
3" WATER
36" UNDERCUT
UNSTABLE SUBGRADE
QUANTITIES INCLUDED IN CR28 RAMP C & D EARTHWORK

QUANTITIES INCLUDED IN PRIVATE DRIVE EARTHWORK
EX R/W Fee
3:1
713.5
TELEPHONE
716.42
14+50.00
715.4
3" WATER
6:1
±696.6
36" UNDERCUT
UNSTABLE SUBGRADE
CUT AND FILL VOLUME ADJUSTMENT FOR PAVEMENT REMOVAL

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

END AREA		VOLUME	
CUT	FILL	CUT	FILL
48	24	44	104
0	88	5	474
5	424	11	894
		12	12
		72	1484

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 14+50.00 TO STA. 15+50.00

SCI-823-6.81

88
209

USER: cmahlbri PLOT DATE: 9/15/2011 9:44:02 AM REVISION DATE: 9/15/2011
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SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
143	805	423	249	510	420
132	767	128	205	177	228
34	461	63	41	103	60
	2033			790	708

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 16+00.00 TO STA. 17+00.00

SCI-823-6.81

89
209

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C
ITEM 204 - GRANULAR MATERIAL, TYPE C

760 740 720 700 680

41.0' LT
EX R/W Fee
41.3' RT
EX R/W Fee
2:1
6:1
3:1
TELEPHONE
3" WATER
710.0
36"
END VSEP, 7.5' WIDE
36" UNDERCUT
UNSTABLE SUBGRADE
716.59
17+00.00
715.2
10'
699.7

EX R/W Fee
58.0' RT
EX R/W Fee
4:1
6:1
715.3
TELEPHONE
716.78
3" WATER
16+50.00
715.1
36" UNDERCUT
UNSTABLE SUBGRADE
±699.1
8.6'
BEGIN TRM TYPE I, 25' WIDE
(SEE PLAN)

R/W Fee LA
EX R/W Fee
EX R/W Fee
3:1
6:1
715.6
TELEPHONE
716.83
3" WATER
16+00.00
715.1
BEGIN VSEP, 7.5' WIDE
36" UNDERCUT
UNSTABLE SUBGRADE
QUANTITIES
INCLUDED IN
CR28 RAMP C & D
EARTHWORK

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

USER: CWohlbri PLOT DATE: 9/15/2011 9:44:22 AM REVISION DATE: 9/15/2011
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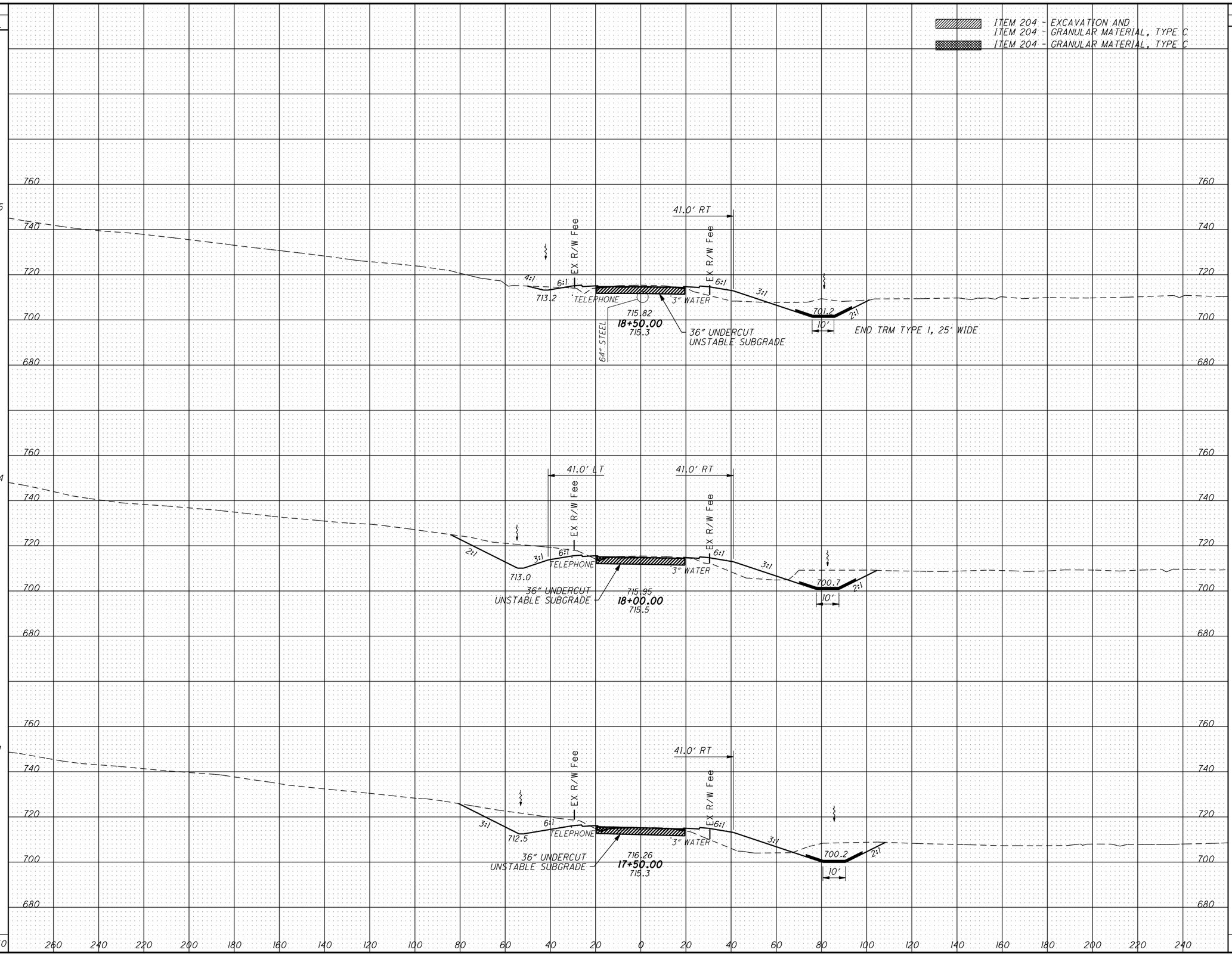
SEEDING	
END WIDTH	SQ. YDS.
104	545
146	694
145	811
	2050

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C
ITEM 204 - GRANULAR MATERIAL, TYPE C



END AREA	
CUT	FILL
222	128
561	136
501	216

VOLUME	
CUT	FILL
725	244
983	326
856	431
2564	1001

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 17+50.00 TO STA. 18+50.00

SCI-823-6.81

USER: CMahlbri PLOT DATE: 9/5/2011 9:44:41 AM REVISION DATE: 9/5/2011
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SEEDING	
END WIDTH	SQ. YDS.
99	717
94	539
90	517
	1773

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C
ITEM 204 - GRANULAR MATERIAL, TYPE C

SEE SR823 PROFILE

41.0' RT

EX R/W Fee

8.5:1 6:1 714.0

TELEPHONE 72" 3" WATER

716.51
20+00.00
714.7

36" UNDERCUT
UNSTABLE SUBGRADE

6:1 3:1 3:1 711.8

FILL SLOPE

8:1 6:1 713.6

TELEPHONE 3" WATER 72"

716.10
19+50.00
714.5

36" UNDERCUT
UNSTABLE SUBGRADE

6:1 3:1 3:1 711.4

8:1 6:1 713.4

TELEPHONE 3" WATER 72"

715.87
19+00.00
714.8

36" UNDERCUT
UNSTABLE SUBGRADE

8:1 709.5 3:1

END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	185	7	414
4	262	19	445
16	219	220	321
		246	1180

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 19+00.00 TO STA. 20+00.00

SCI-823-6.81

91
209

USER: CMahlbr PLOT DATE: 9/15/2011 9:45:01 AM REVISION DATE: 9/15/2011
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SEEDING END WIDTH	SEEDING SQ. YDS.
133	595
	511
51	
159	
	583
	1689

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C
ITEM 204 - GRANULAR MATERIAL, TYPE C

780 760 740 720 700 680

41.0' LT
EX R/W Fee
EX R/W Fee
SEE SR823 PROFILE
FILL SLOPE
6:1
24:1
3:1
3:1
4:1
BEGIN TRM TYPE 2, 7.5' WIDE
704.7
TELEPHONE
718.82
3" WATER
21+50.00
718.0
717.1

12:1
12:1
3:1
72"
TELEPHONE
717.87
3" WATER
21+00.00
716.7
715.4
36" UNDERCUT
UNSTABLE SUBGRADE

41.0' RT
15.6:1
6:1
6:1
3:1
3:1
714.5
TELEPHONE
717.10
3" WATER
72"
20+50.00
715.4
712.4
36" UNDERCUT
UNSTABLE SUBGRADE

CUT AND FILL VOLUME ADJUSTMENT
FOR PAVEMENT REMOVAL

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
604	23	586	53
29	34	33	324
7	316	10	464
		11	11
		640	852

CALCULATED LBD/KAG
CHECKED JMB

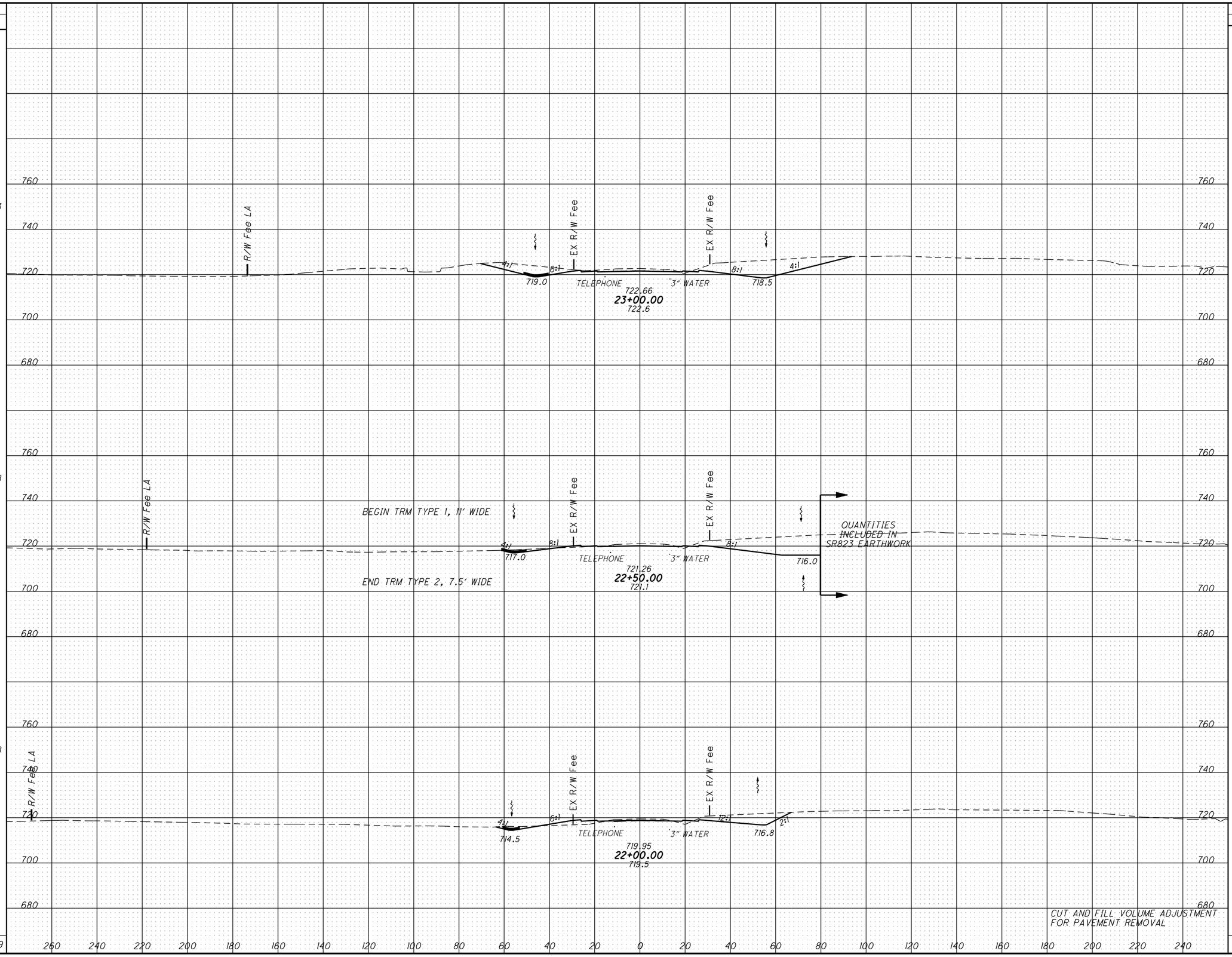
CROSS SECTIONS - CR28
STA. 20+50.00 TO STA. 21+50.00

SCI-823-6.81

92
209

USER: CWohlbr; PLOT DATE: 9/15/2011 9:45:21 AM REVISION DATE: 9/15/2011
FILE:...&HOR.Cu000000000045878 /1945x4023.dgn MODEL: Sheet

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
114	623	469	3	776	11
92	578	369	9	493	47
80	478	163	42	710	60
				24	24
	1679			2003	142



CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 22+00.00 TO STA. 23+00.00

SCI-823-6.81

93
209

USER: CWahlbri PLOT DATE: 9/15/2011 9:45:41 AM REVISION DATE: 9/15/2011
FILE:...4HOR.Cu000000000045878 /1945xs023.dgn MODEL: Sheet

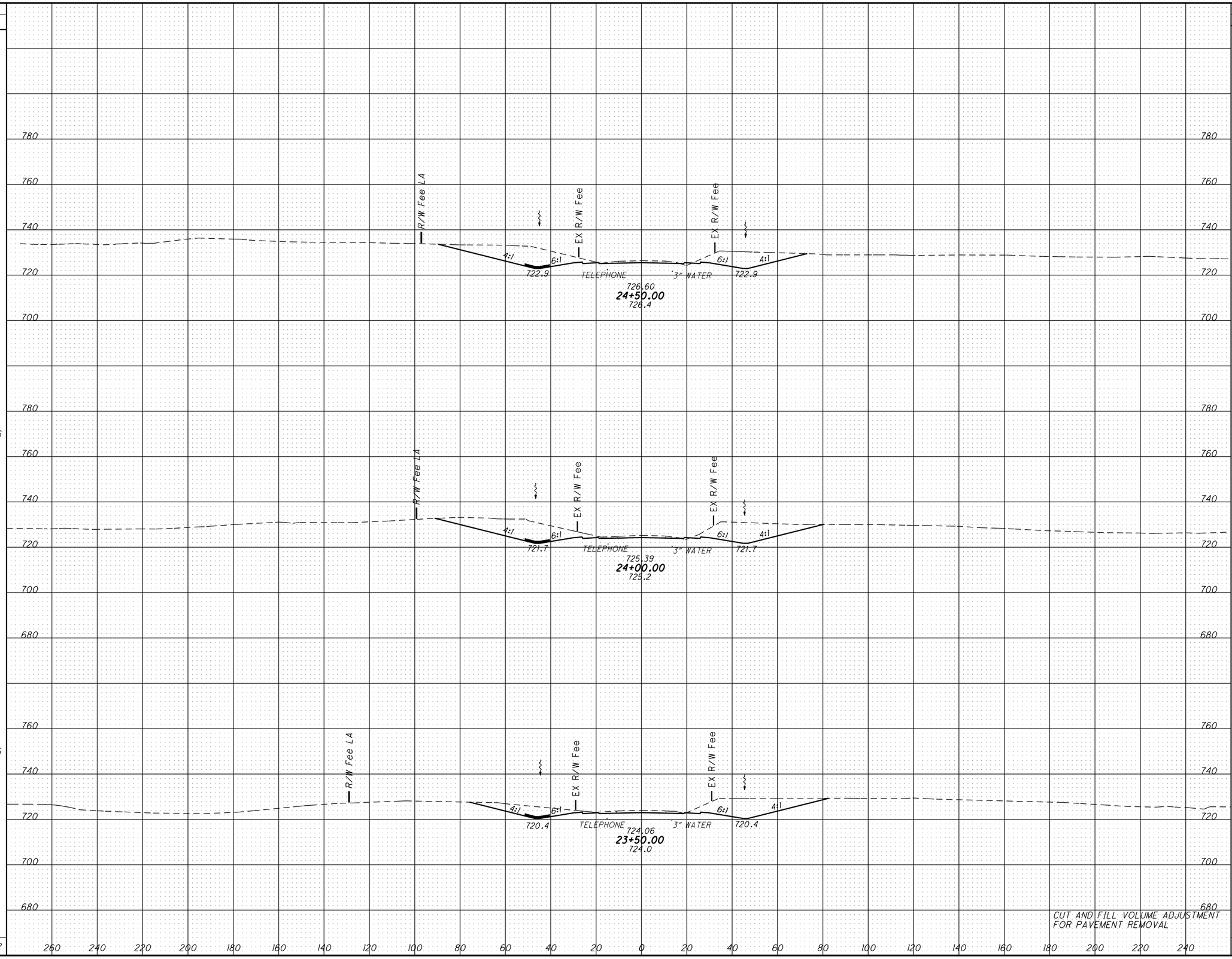
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
113	611	571	3	1166	5
123	656	688	2	1085	2
109	645	484	0	882	3
				3	3
	1912			3136	13

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 23+50.00 TO STA. 24+50.00

SCI-823-6.81

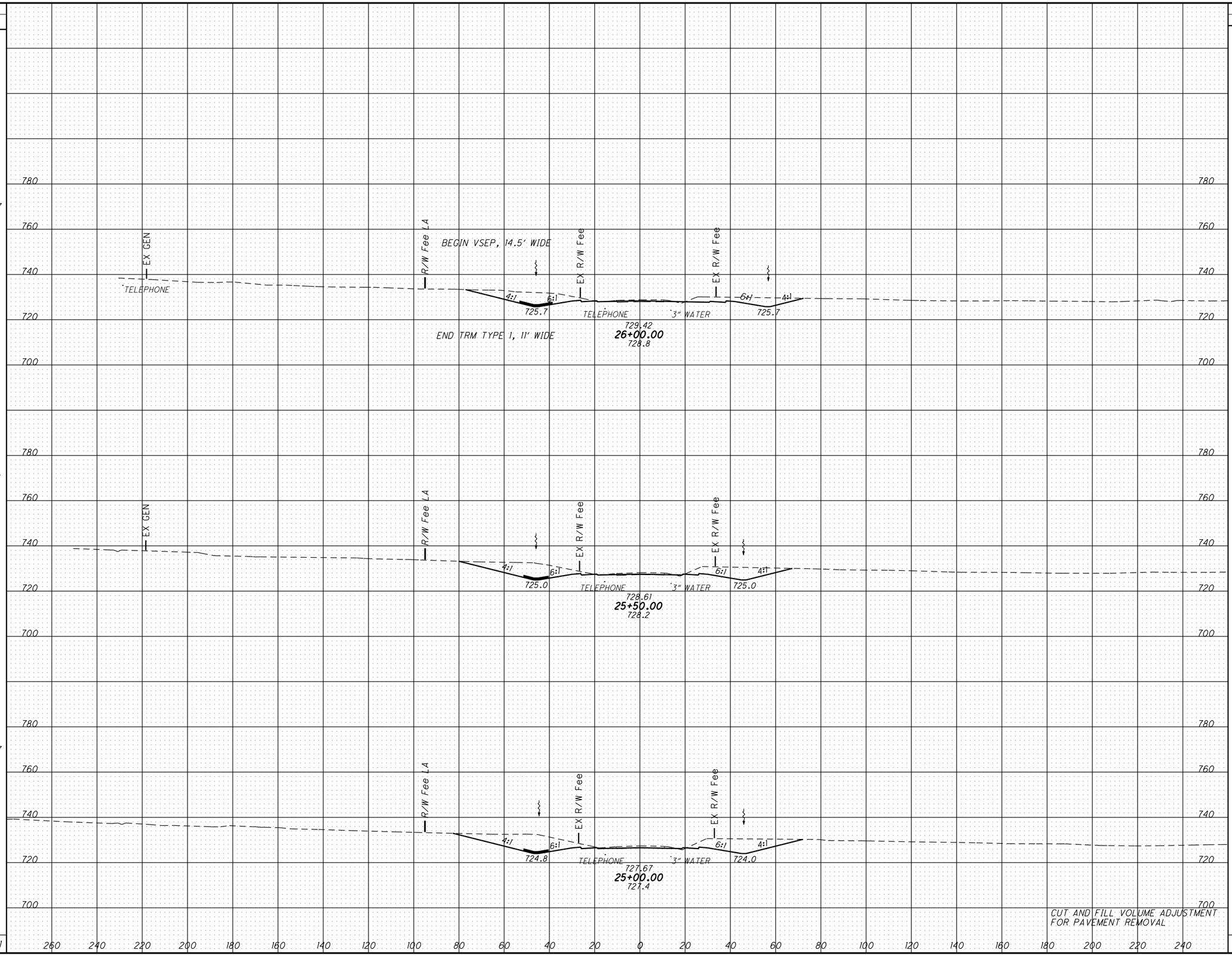
94
209



CUT AND FILL VOLUME ADJUSTMENT FOR PAVEMENT REMOVAL

USER: CMahlbri PLOT DATE: 9/5/2011 9:46:01 AM REVISION DATE: 9/5/2011
FILE: ...4\HDR.CU0000000045878 /1945xs023.dgn MODEL: Sheet

SEEDING END WIDTH	SEEDING SQ. YDS.
87	467
97	517
105	567
	1551



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
317	2	657	3
393	1	808	3
480	2	973	5
		25	25
		2463	36

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 25+00.00 TO STA. 26+00.00

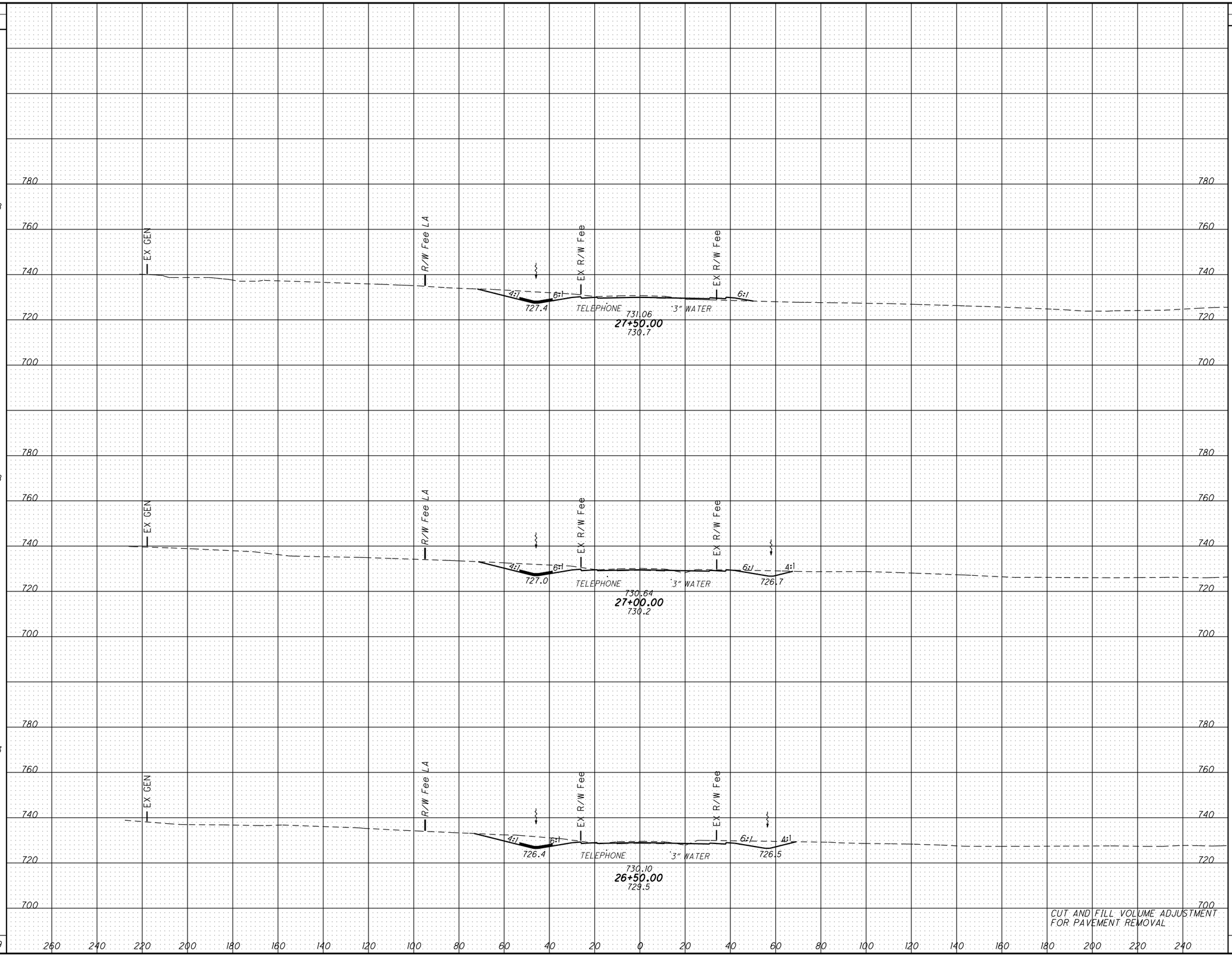
SCI-823-6.81

95
209

USER: CWahlbri PLOT DATE: 9/15/2011 9:46:20 AM REVISION DATE: 9/15/2011
FILE:...4HOR.Cu@@@@@@@@@@45878 /1945x023.dgn MODEL: Sheet

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
59	328	157	21	321	23
76	378	190	4	385	6
80	433	226	3	503	5
	1139			34	34
				1243	68

CALCULATED LBD/KAG
CHECKED JMB



CROSS SECTIONS - CR28
STA. 26+50.00 TO STA. 27+50.00

SCI-823-6.81

USER: CMahlbri PLOT DATE: 9/6/2011 9:46:39 AM REVISION DATE: 9/6/2011
FILE: ...4\HDR.CU0000000045878 /1945xs023.dgn MODEL: Sheet

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
47	272	163	10	316	39
66	316	178	32	305	47
57	345	151	19	285	37
				3	3
	933			909	126

CALCULATED LBD/KAG CHECKED JMB

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C

EX GEN — R/W Fee LA — EX R/W Fee — EX R/W Fee

4:1 6:1 728.5 TELEPHONE 732.11 3" WATER
29+00.00 732.0
QUANTITIES INCLUDED IN CR28 RAMP A & B EARTHWORK
36" UNDERCUT UNSTABLE SUBGRADE

4:1 6:1 728.1 TELEPHONE 731.76 3" WATER 6:1
28+50.00 731.7
36" UNDERCUT UNSTABLE SUBGRADE

4:1 6:1 727.7 TELEPHONE 731.41 3" WATER 6:1
28+00.00 731.3
36" UNDERCUT UNSTABLE SUBGRADE

CUT AND FILL VOLUME ADJUSTMENT FOR PAVEMENT REMOVAL

780 760 740 720 700

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

CROSS SECTIONS - CR28
STA. 28+00.00 TO STA. 29+00.00

SCI-823-6.81

97
209

USER: CWohlbri PLOT DATE: 9/15/2011 9:46:59 AM REVISION DATE: 9/15/2011
FILE:...4HOR.Cu000000000045878 /1945x4023.dgn MODEL: Sheet

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
70	372	91	64	214	137
80	417	140	84	301	78
50	367	185	0	322	9
	1156			837	224

CALCULATED LBD/KAG CHECKED JMB

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C

780 760 740 720 700

R/W Fee LA

EX R/W Fee

EX R/W Fee

4:1 6:1 6:1

729.5

TELEPHONE

3" WATER

END VSEP, 14.5' WIDE

733.14
30+50.00
732.4

36" UNDERCUT
UNSTABLE SUBGRADE

780 760 740 720 700

R/W Fee LA

EX R/W Fee

4:1 6:1

729.2

TELEPHONE

3" WATER

732.81
30+00.00
732.4

36" UNDERCUT
UNSTABLE SUBGRADE

780 760 740 720 700

R/W Fee LA

EX R/W Fee

4:1 6:1

728.8

36" UNDERCUT
UNSTABLE SUBGRADE

TELEPHONE
732.46
29+50.00
732.3

3" WATER

QUANTITIES
INCLUDED IN
CR28 RAMP A & B
EARTHWORK

780 760 740 720 700

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

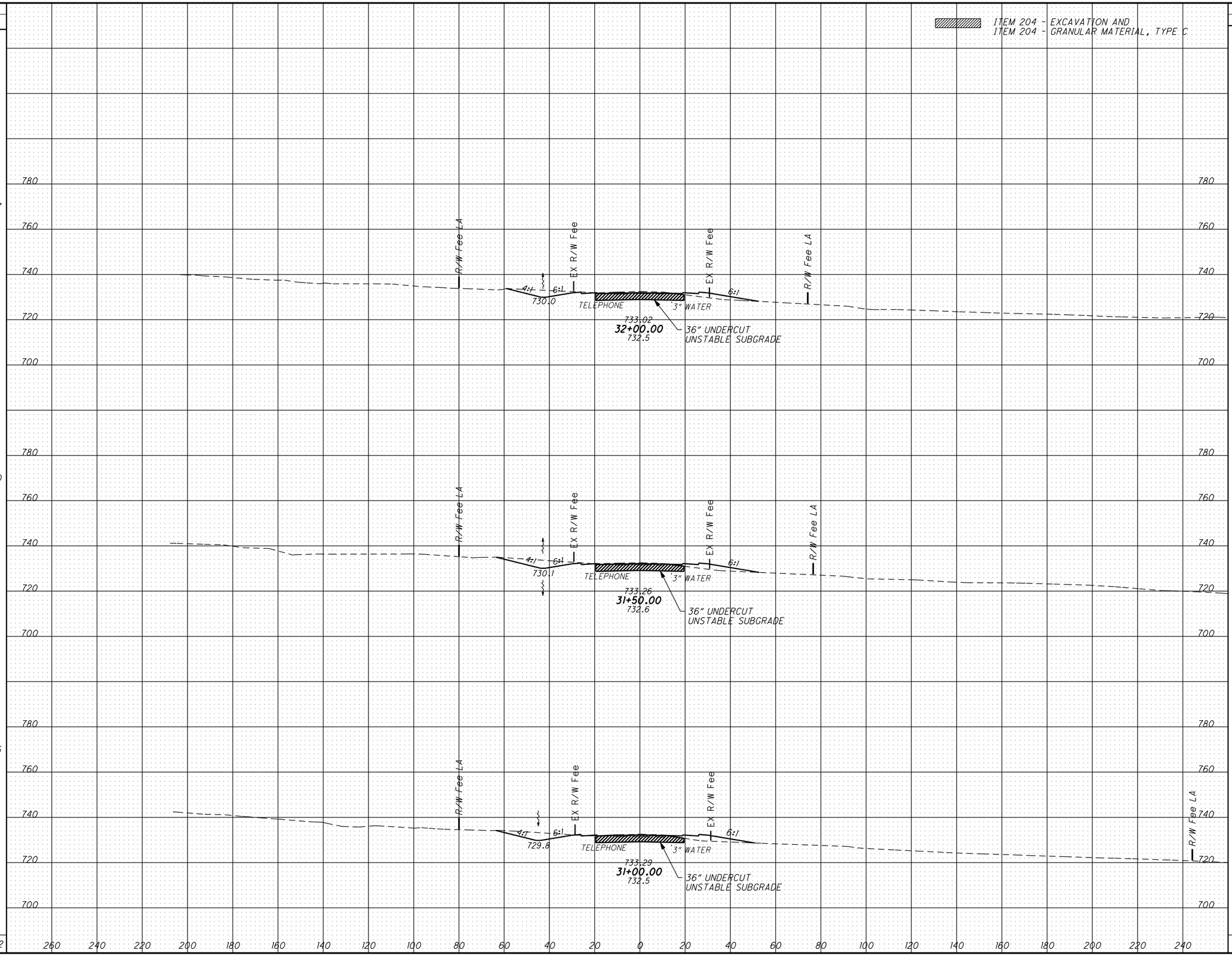
CROSS SECTIONS - CR28
STA. 29+50.00 TO STA. 30+50.00

SCI-823-6.81

98
209

USER: CMahlbri PLOT DATE: 9/5/2011 9:47:19 AM REVISION DATE: 9/5/2011
FILE: ...4\HDR.CU\000000004878 /1945xs023.dgn MODEL: Sheet

SEEDING	
END WIDTH	SQ. YDS.
61	327
65	350
63	355
	1032



END AREA	
CUT	FILL
70	44
84	51
73	56

VOLUME	
CUT	FILL
143	88
145	99
152	111
440	298

CALCULATED LBD/KAG
CHECKED JMB

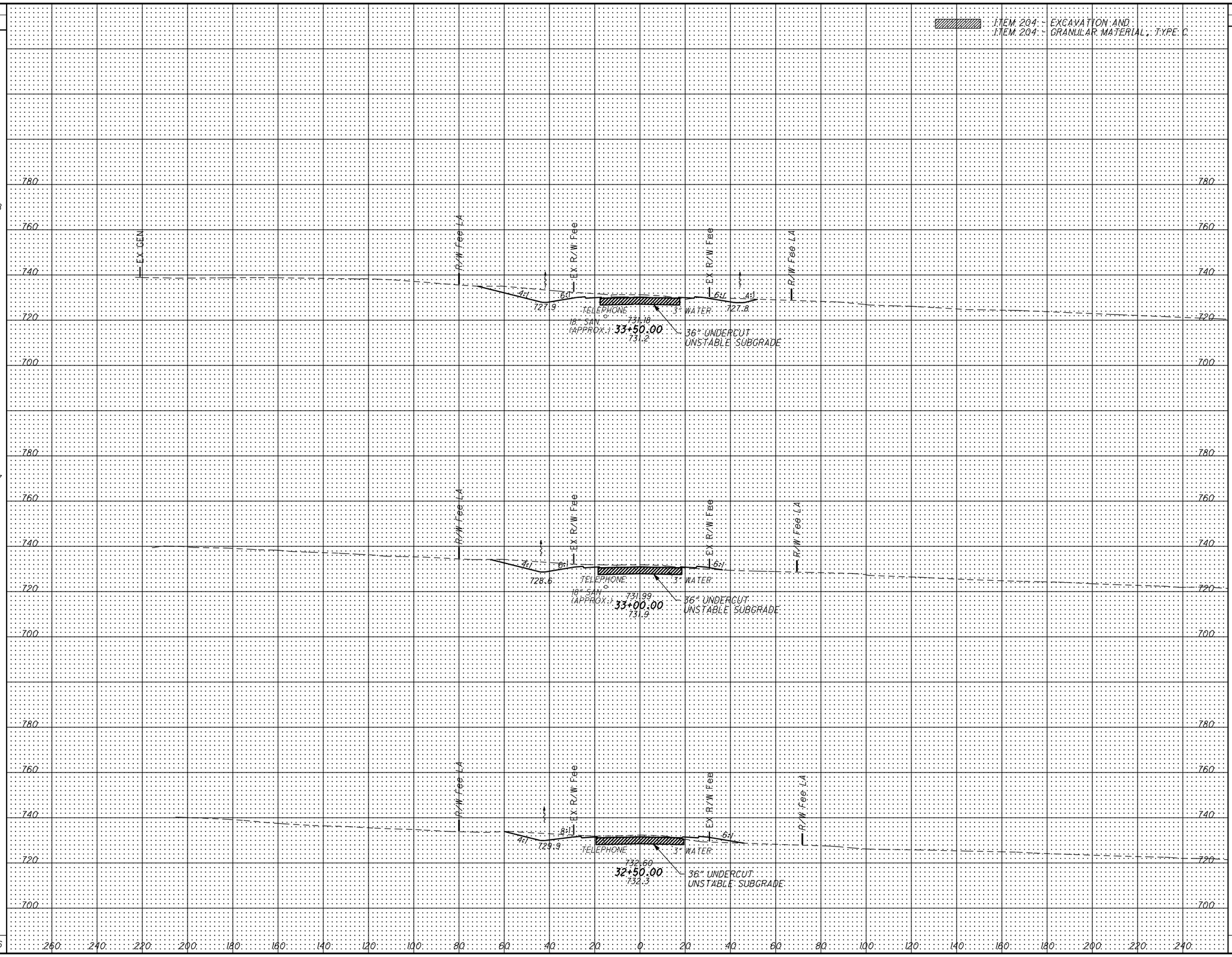
CROSS SECTIONS - CR28
STA. 32+00.00 TO STA. 31+00.00

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:47:39 AM REVISION DATE: 9/15/2011
FILE:...4HOR.Cu000000000045878 /1945x023.dgn MODEL: Sheet

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
77	428	233	4	348	13
54	367	143	10	215	43
56	311	89	36	147	74
	1106			710	130

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C



CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 32+50.00 TO STA. 33+50.00

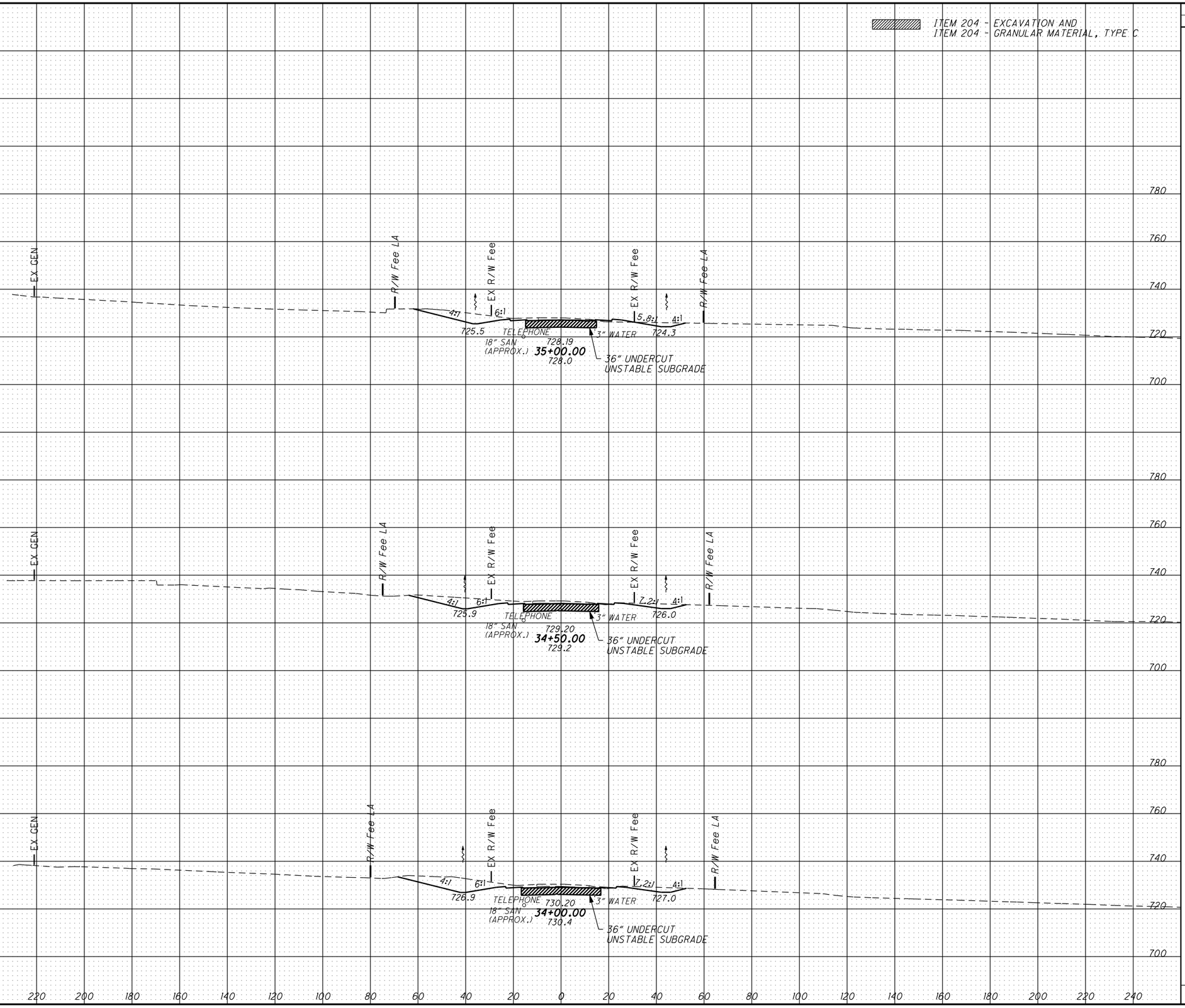
SCI-823-6.81

100
209

USER: ldaornel PLOT DATE: 3/4/2013 8:10:32 AM REVISION DATE: 3/4/2013
FILE: ...4\HDR.CU\000000004587 8 /1945xs023.dgn MODEL: Sheet

SEEDING			END AREA		VOLUME	
STA	END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
73		355	149	10	306	10
74		411	181	1	387	3
76		422	237	2	435	6
		1188			1128	19

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C



CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 34+00.00 TO STA. 35+00.00

SCI-823-6.81

USER: CWohlbri PLOT DATE: 9/15/2011 9:48:19 AM REVISION DATE: 9/15/2011
FILE:...4HOR.Cu0000000045878 /1945xs023.dgn MODEL: Sheet

SEEDING	
END WIDTH	SQ. YDS.
29	178
54	234
55	306
	718

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C

EX. STORM SEWER
TELEPHONE
EX R/W Fee
R/W Fee
2" GAS
3" WATER
18" SAN (APPROX.)
36+50.00
725.19
725.0
722.0
30" TYPE B
36" UNDERCUT
UNSTABLE SUBGRADE

EX R/W Fee
EX. STORM SEWER
EX R/W Fee
R/W Fee LA
TELEPHONE
18" SAN (APPROX.)
36+00.00
726.19
725.9
724.7
722.5
3" WATER
2" GAS
CB-2-3
30" TYPE B
706.04
36" UNDERCUT
UNSTABLE SUBGRADE

R/W Fee LA
EX R/W Fee
EX R/W Fee
R/W Fee LA
725.1 TELEPHONE
18" SAN (APPROX.)
35+50.00
727.19
727.0
723.0
3" WATER
36" UNDERCUT
UNSTABLE SUBGRADE

END AREA	
CUT	FILL
100	2
105	3
88	8

VOLUME	
CUT	FILL
190	5
179	10
219	17
588	32

CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 35+50.00 TO STA. 36+50.00

SCI-823-6.81

102
209

USER: CMahlbri PLOT DATE: 9/5/2011 9:48:39 AM REVISION DATE: 9/5/2011
FILE: ...4\HDR.CU@@@@@@@@@@45878 /1945xs023.dgn MODEL: Sheet

SEEDING	
END WIDTH	SQ. YDS.
0	59
34	
	59

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE C

760 740 720 700 680

TMP
EX R/W Fee
EX. STORM SEWER
EX R/W Fee
18" SAN (APPROX.)
TELEPHONE
2" GAS
3" WATER
37+50.00
723.2

760 740 720 700 680

TMP
EX R/W Fee
EX. STORM SEWER
EX R/W Fee
TELEPHONE
2" GAS
3" WATER
18" SAN (APPROX.)
723.55
37+31.38
723.5
END WORK
±720.4
36" UNDERCUT
UNSTABLE SUBGRADE
30" TYPE B

760 740 720 700 680

TMP
EX R/W Fee
EX. STORM SEWER
EX R/W Fee
R/W Fee
TELEPHONE
12:1
4:1
4:1
724.0
2" GAS
3" WATER
721.3
18" SAN (APPROX.)
724.18
37+00.00
724.1
36" UNDERCUT
UNSTABLE SUBGRADE
30" TYPE B

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

END AREA	
CUT	FILL
25	0
71	6

VOLUME	
CUT	FILL
56	3
158	7
214	10

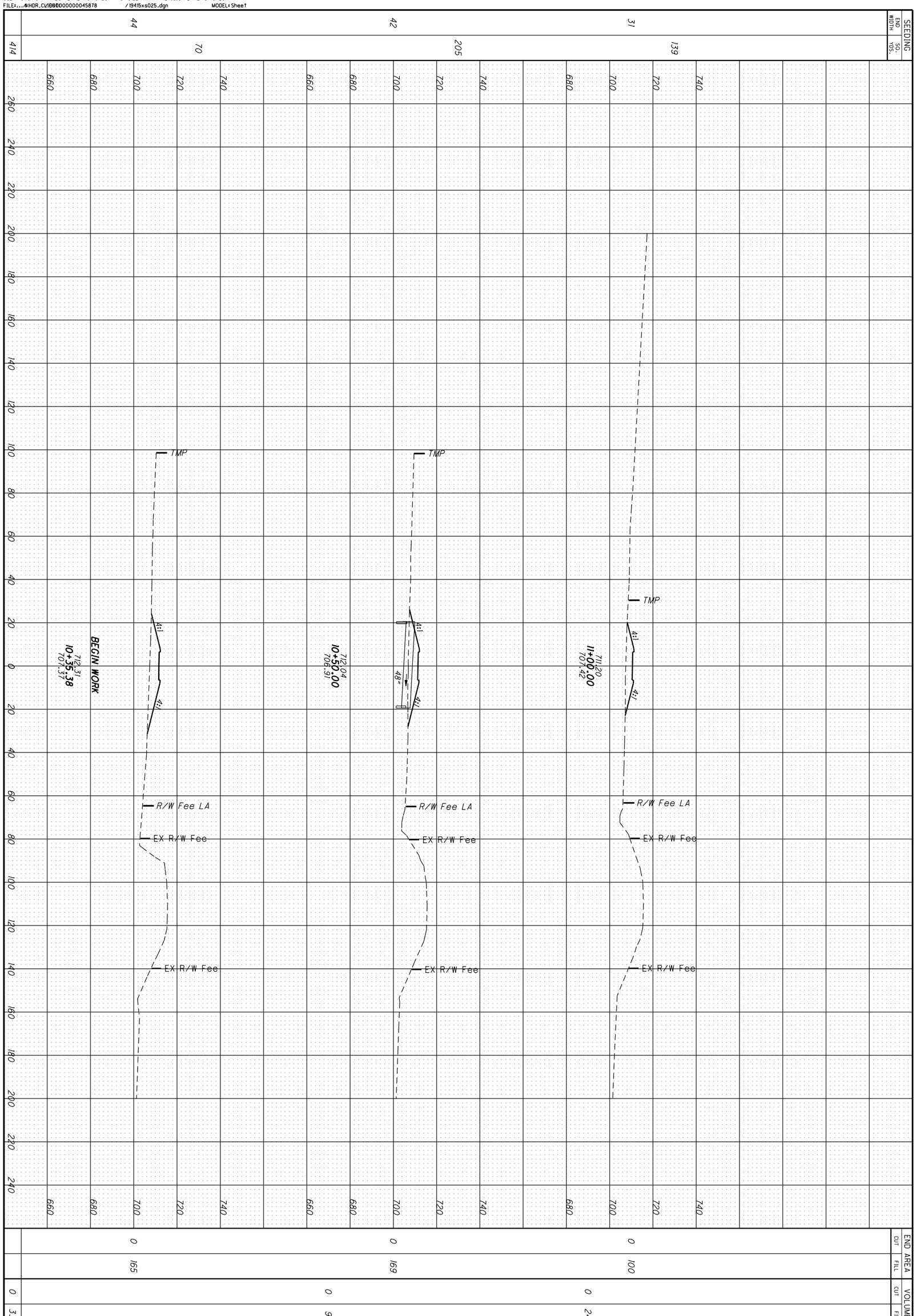
CALCULATED LBD/KAG
CHECKED JMB

CROSS SECTIONS - CR28
STA. 37+00.00 TO STA. 37+50.00

SCI-823-6.81

USER: CWohlbri PLOT DATE: 9/15/2011 9:48:59 AM REVISION DATE: 9/15/2011
FILE: ...4HOR.CU000000000045878 /1945x4023.dgn MODEL: Sheet

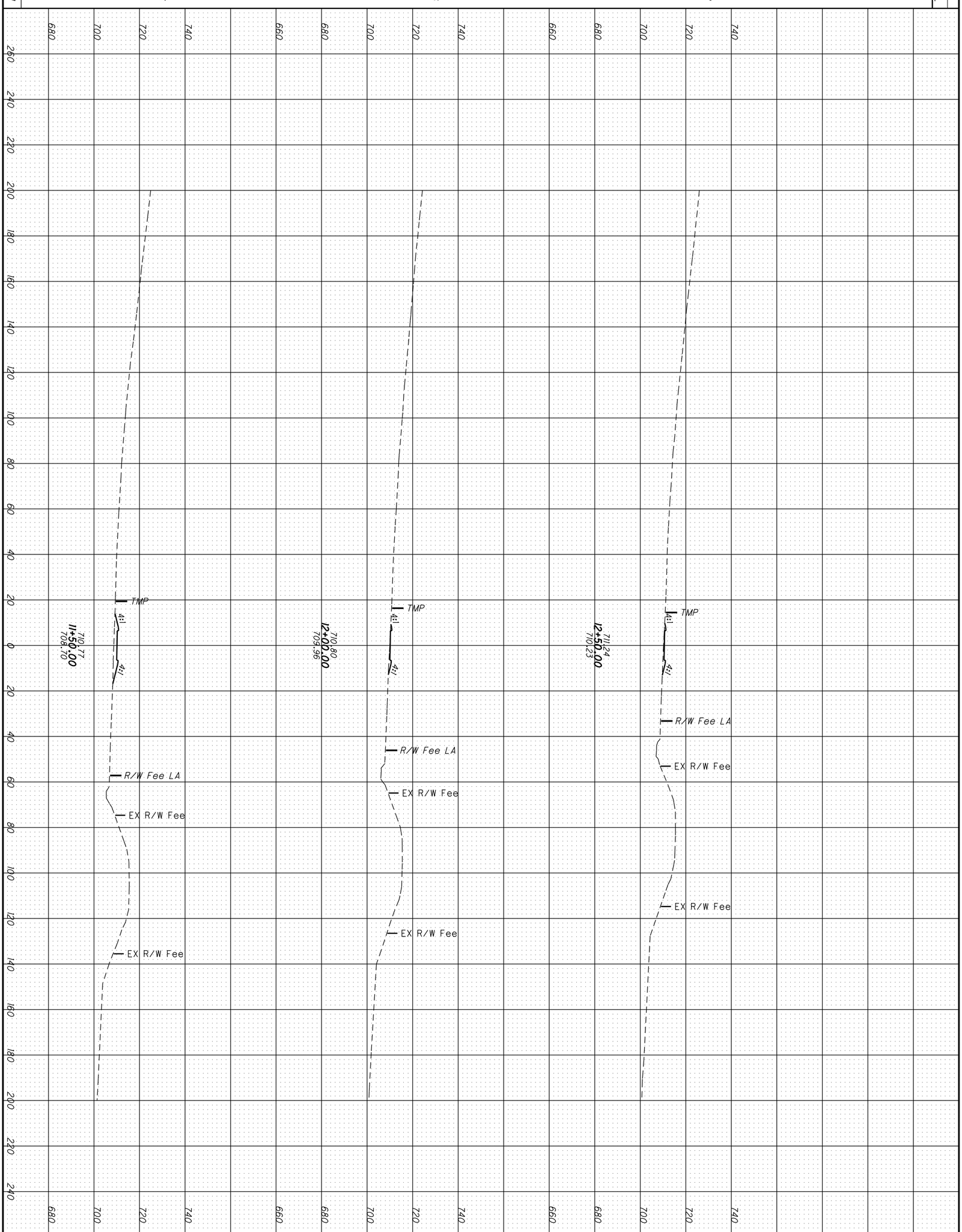
USER: CWahlbri PLOT DATE: 9/15/2011 9:49:22 AM REVISION DATE: 9/15/2011
FILE:...4IHDR.CV1000000000045878 /19415xs025.dgn MODEL: Sheet



104 / 209	SCI-823-6.81	CROSS SECTIONS - PRIVATE DRIVE STA. 10+35.38 TO STA. 11+00.00	CALCULATED LBD/KAG CHECKED JMB

USER: CWahlbri PLOT DATE: 9/15/2011 9:49:41 AM REVISION DATE: 9/15/2011
FILE:...4\HDR.CV\0000000045878 /19415xs025.dgn MODEL: Sheet

	SEEDING END WIDTH	SEEDING SQ. YDS.
211	19	83
	10	56
	10	72

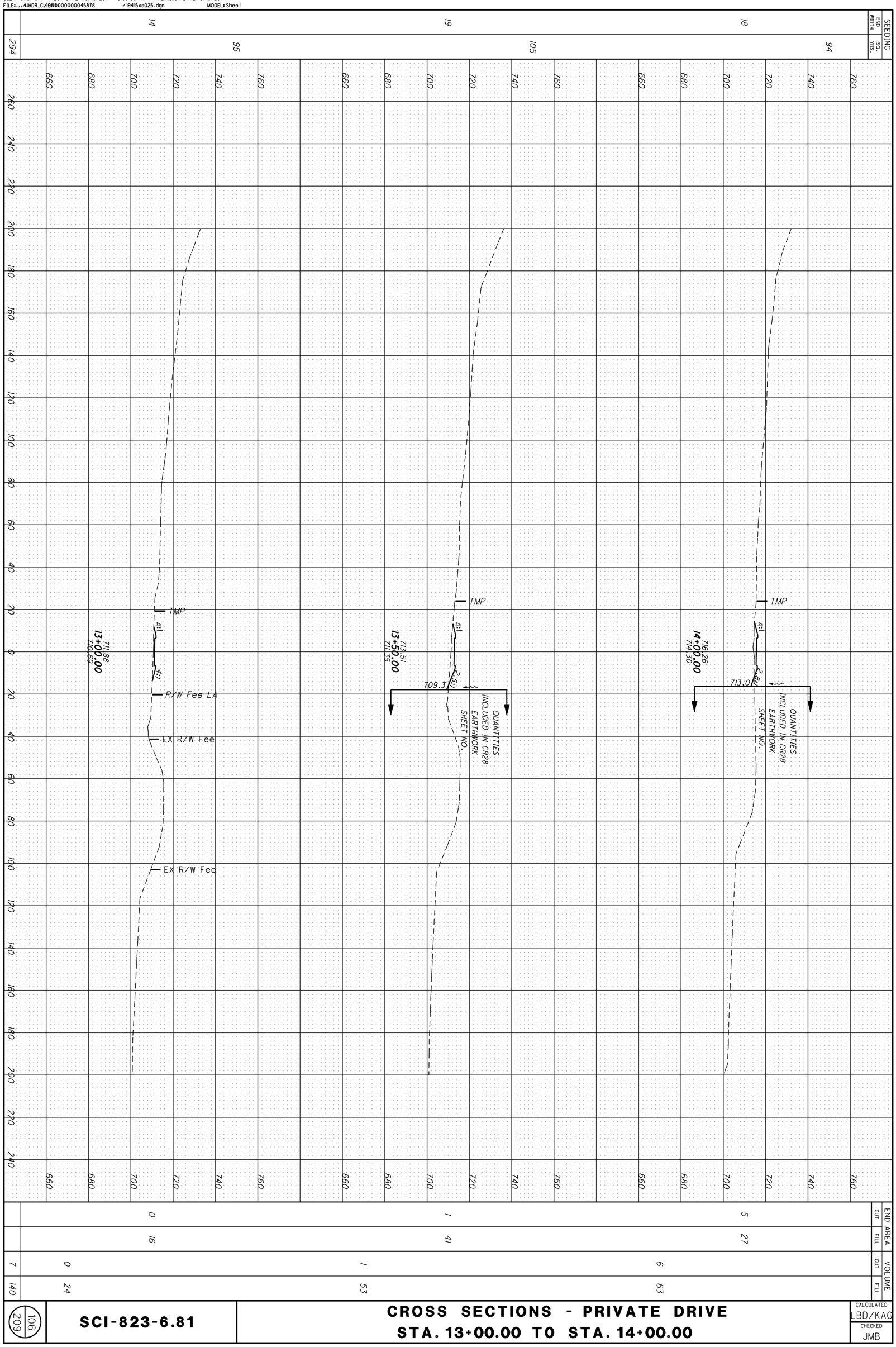


	END AREA CUT	END AREA FILL
	0	0
	38	7
	0	0
	10	0

	VOLUME CUT	VOLUME FILL
0	0	0
186	128	42
	16	0

105 / 209	SCI-823-6.81	CROSS SECTIONS - PRIVATE DRIVE STA. 11+50.00 TO STA. 12+50.00	CALCULATED LBD/KAG CHECKED JMB

USER: CWahlbri PLOT DATE: 9/15/2011 9:50:00 AM REVISION DATE: 9/15/2011
FILE:...4IHDR.CV1000000000045878 /19415xs025.dgn MODEL: Sheet



106
209

SCI-823-6.81

CROSS SECTIONS - PRIVATE DRIVE
STA. 13+00.00 TO STA. 14+00.00

CALCULATED LBD/KAG
CHECKED JMB

USER: CWahlbri PLOT DATE: 9/15/2011 9:50:18 AM REVISION DATE: 9/15/2011
FILE:...4IHDR.CV1000000000045878 /19415xs025.dgn MODEL: Sheet

SEEDING
END WIDTH
SQ. YDS.

14 1
46 45 1

680 700 720 740 760 680 700 720 740 760 660 680 700 720 740 760
260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

TMP
4:1
4:1
TMP
R/W Fee LA
EX R/W Fee
EX R/W Fee
TMP
TMP
TMP
TMP
END WORK

14+50.00
220.43
219.39

15+00.00
224.99
225.00

15+21.15
227.10
227.10

END AREA
CUT
FILL
VOLUME
CUT
FILL

14 1
46 45 1
0 9 7
11 0 0
19 5 8 6
45 35 10 0

SCI-823-6.81

CROSS SECTIONS - PRIVATE DRIVE
STA. 14+50.00 TO STA. 15+21.15

CALCULATED LBD/KAG
CHECKED JMB

SUPERELEVATION TABLE

SR823, CURVE # 6 | P.I. STA. 414+49.27 | DC = 2° | EMAX = 0.065 FT/FT

CALCULATED LBD | CHECKED JMB

STATION	NORTHBOUND, INSIDE SHOULDER			PROFILE GRADE (INSIDE EDGE OF PAVEMENT)	NORTHBOUND, LANES			NORTHBOUND, OUTSIDE SHOULDER						STATION	REMARKS
	SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH		PAVEMENT WIDTH	PAVEMENT SLOPE	EDGE OF PAVEMENT ELEVATION	SHOULDER WIDTH	SHOULDER SLOPE	POINT ON SHOULDER	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION		
395+97.15	719.10	-0.0400	9.59	719.48	24	-0.0160	719.10				10	-0.0400	718.70	395+97.15	NORMAL CROWN
396+00.00	719.18	-0.0400	9.59	719.56	24	-0.0155	719.19				10	-0.0400	718.79	396+00.00	
396+25.00	719.84	-0.0400	10.4	720.26	24	-0.0115	719.98				10	-0.0400	719.58	396+25.00	
396+50.00	720.50	-0.0400	11.4	720.96	24	-0.0074	720.78				10	-0.0400	720.38	396+50.00	
396+75.00	721.18	-0.0400	12.4	721.67	24	-0.0033	721.59				10	-0.0400	721.19	396+75.00	
396+95.61	721.74	-0.0400	13.2	722.26	24	0.0000	722.26				10	-0.0400	721.86	396+95.61	TS
397+00.00	721.86	-0.0400	13.2	722.39	24	0.0007	722.41				10	-0.0400	722.01	397+00.00	
397+25.00	722.59	-0.0400	13.2	723.12	24	0.0048	723.23				10	-0.0400	722.83	397+25.00	
397+50.00	723.31	-0.0400	13.2	723.84	24	0.0088	724.05				10	-0.0400	723.65	397+50.00	
397+75.00	724.04	-0.0400	13.2	724.57	24	0.0129	724.88				10	-0.0400	724.48	397+75.00	
397+94.07	724.59	-0.0400	13.2	725.12	24	0.0160	725.50				10	-0.0400	725.10	397+94.07	
398+00.00	724.76	-0.0400	13.2	725.29	24	0.0170	725.70				10	-0.0400	725.30	398+00.00	
398+25.00	725.49	-0.0400	13.2	726.02	24	0.0210	726.52				10	-0.0400	726.12	398+25.00	
398+50.00	726.21	-0.0400	13.2	726.74	24	0.0251	727.34				10	-0.0400	726.94	398+50.00	
398+75.00	726.94	-0.0400	13.2	727.47	24	0.0292	728.17				10	-0.0400	727.77	398+75.00	
398+80.22	727.09	-0.0400	13.2	727.62	24	0.0300	728.34				10	-0.0400	727.94	398+80.22	
399+00.00	727.66	-0.0400	13.2	728.19	24	0.0332	728.99				10	-0.0368	728.62	399+00.00	
399+25.00	728.39	-0.0400	13.2	728.92	24	0.0373	729.81				10	-0.0327	729.48	399+25.00	
399+41.76	728.87	-0.0400	13.2	729.40	24	0.0400	730.36				10	-0.0300	730.06	399+41.76	
399+50.00	729.10	-0.0413	13.2	729.64	24	0.0413	730.63				10	-0.0287	730.35	399+50.00	
399+75.00	729.77	-0.0454	13.2	730.37	24	0.0454	731.46				10	-0.0246	731.21	399+75.00	
400+00.00	730.44	-0.0495	13.2	731.09	24	0.0495	732.28				10	-0.0205	732.07	400+00.00	
400+25.00	731.11	-0.0535	13.2	731.82	24	0.0535	733.10				10	-0.0165	732.94	400+25.00	
400+50.00	731.78	-0.0576	13.2	732.54	24	0.0576	733.92								
400+64.84	732.18	-0.0600	13.2	732.97	24	0.0600	734.41								
400+75.00	732.45	-0.0617	13.2	733.27	24	0.0617	734.75								
400+95.61	733.01	-0.0650	13.2	733.86	24	0.0650	735.42	SEE SR823 AND TR234 RAMP A PAVEMENT DETAIL							SC, FULL SUPER
401+00.00	733.13	-0.0650	13.2	733.99	24	0.0650	735.55								
401+25.00	733.86	-0.0650	13.2	734.72	24	0.0650	736.28								
401+50.00	734.58	-0.0650	13.2	735.44	24	0.0650	737.00								
401+75.00	735.31	-0.0650	13.2	736.17	24	0.0650	737.73								
								FULL SUPER							
424+75.00	771.93	-0.0650	13.2	772.79	36	0.0650	775.13	2.5	0.0650	775.29	7.5	-0.0100	775.22	424+75.00	
425+00.00	771.47	-0.0650	13.2	772.33	36	0.0650	774.67	2.5	0.0650	774.83	7.5	-0.0100	774.75	425+00.00	
425+25.00	770.98	-0.0650	13.2	771.84	36	0.0650	774.18	2.5	0.0650	774.34	7.5	-0.0100	774.26	425+25.00	
425+40.95	770.65	-0.0650	13.2	771.51	36	0.0650	773.85	2.5	0.0650	774.01	7.5	-0.0100	773.94	425+40.95	CS, FULL SUPER
425+50.00	770.49	-0.0635	13.2	771.32	36	0.0635	773.61	2.5	0.0635	773.77	7.5	-0.0100	773.69	425+50.00	
425+71.72	770.07	-0.0600	13.2	770.86	36	0.0600	773.02				10	-0.0100	772.92	425+71.72	
425+75.00	770.00	-0.0595	13.2	770.79	36	0.0595	772.93				10	-0.0105	772.83	425+75.00	
426+00.00	769.50	-0.0554	13.2	770.23	36	0.0554	772.22				10	-0.0146	772.08	426+00.00	
426+25.00	768.97	-0.0513	13.2	769.65	36	0.0513	771.50				10	-0.0187	771.31	426+25.00	
426+50.00	768.42	-0.0473	13.2	769.04	36	0.0473	770.75				10	-0.0227	770.52	426+50.00	
426+75.00	767.85	-0.0432	13.2	768.42	36	0.0432	769.97				10	-0.0268	769.70	426+75.00	
426+94.80	767.37	-0.0400	13.2	767.90	36	0.0400	769.34				10	-0.0300	769.04	426+94.80	
427+00.00	767.24	-0.0400	13.2	767.77	36	0.0392	769.18				10	-0.0308	768.87	427+00.00	
427+25.00	766.56	-0.0400	13.2	767.09	36	0.0351	768.35				10	-0.0349	768.01	427+25.00	
427+50.00	765.87	-0.0400	13.2	766.39	36	0.0310	767.51				10	-0.0390	767.12	427+50.00	
				SEE NEXT SHEET											

SUPERELEVATION TABLE, CURVE #6
SR823, NORTHBOUND

SCI-823-6.81

SUPERELEVATION TABLE

SR823, CURVE # 6	P.I. STA. 414+49.27	DC = 2°	EMAX = 0.065 FT/FT

STATION	NORTHBOUND, INSIDE SHOULDER			PROFILE GRADE (INSIDE EDGE OF PAVEMENT)	NORTHBOUND, LANES			NORTHBOUND, OUTSIDE SHOULDER						STATION	REMARKS
	SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH		PAVEMENT WIDTH	PAVEMENT SLOPE	EDGE OF PAVEMENT ELEVATION	SHOULDER WIDTH	SHOULDER SLOPE	POINT ON SHOULDER	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION		
							SEE PREVIOUS SHEET								
427+56.33	765.69	-0.0400	13.2	766.21	36	0.0300	767.29				10	-0.0400	766.89	427+56.33	
427+75.00	765.15	-0.0400	13.2	765.67	36	0.0270	766.65				10	-0.0400	766.25	427+75.00	
428+00.00	764.40	-0.0400	13.2	764.93	36	0.0229	765.75				10	-0.0400	765.35	428+00.00	
428+25.00	763.64	-0.0400	13.2	764.16	35.50	0.0188	764.83				10	-0.0400	764.43	428+25.00	
428+42.49	763.09	-0.0400	13.2	763.61	35.15	0.0160	764.17				10	-0.0400	763.77	428+42.49	
428+50.00	762.85	-0.0400	13.2	763.37	35.00	0.0148	763.89				10	-0.0400	763.49	428+50.00	
428+75.00	762.03	-0.0400	13.2	762.56	34.50	0.0107	762.93				10	-0.0400	762.53	428+75.00	
429+00.00	761.20	-0.0400	13.2	761.73	34.00	0.0067	761.95				10	-0.0400	761.55	429+00.00	
429+25.00	760.34	-0.0400	13.2	760.87	33.50	0.0026	760.95				10	-0.0400	760.55	429+25.00	
429+40.95	759.78	-0.0400	13.2	760.31	33.18	0.0000	760.31				10	-0.0400	759.91	429+40.95	ST
429+50.00	759.47	-0.0400	12.8	759.98	33.00	-0.0015	759.93				10	-0.0400	759.53	429+50.00	
429+75.00	758.61	-0.0400	11.8	759.08	32.50	-0.0055	758.90				10	-0.0400	758.50	429+75.00	
430+00.00	757.72	-0.0400	10.8	758.15	32.00	-0.0096	757.84				10	-0.0400	757.44	430+00.00	
430+25.00	756.81	-0.0400	9.8	757.20	31.50	-0.0137	756.77				10	-0.0400	756.37	430+25.00	
430+39.41	756.26	-0.0400	9.59	756.64	31.21	-0.0160	756.14				10	-0.0400	755.74	430+39.41	NORMAL CROWN

CALCULATED LBD
CHECKED JMB

SUPERELEVATION TABLE, CURVE #6
SR823, NORTHBOUND

SCI-823-6.81

USER: CMahlbr PLOT DATE: 9/15/2011 9:27:45 AM REVISION DATE: 9/15/2011
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SUPERELEVATION TABLE

SR823, CURVE # 6	P.I. STA. 414+49.27	DC = 2°	EMAX = 0.065 FT/FT

STATION	SOUTHBOUND, OUTSIDE SHOULDER			SOUTHBOUND, LANES			PROFILE GRADE (INSIDE EDGE OF PAVEMENT)	SOUTHBOUND, INSIDE SHOULDER						STATION	REMARKS
	SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	PAVEMENT SLOPE	PAVEMENT WIDTH		SHOULDER WIDTH	SHOULDER SLOPE	POINT ON SHOULDER	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION		
395+97.15	718.70	-0.0400	10	719.10	-0.0160	24	719.48				9.59	-0.0400	719.10	395+97.15	NORMAL CROWN
396+00.00	718.78	-0.0400	10	719.18	-0.0160	24	719.56				9.59	-0.0400	719.18	396+00.00	
396+25.00	719.47	-0.0400	10	719.87	-0.0160	24	720.26				8.82	-0.0400	719.90	396+25.00	
396+50.00	720.18	-0.0400	10	720.58	-0.0160	24	720.96				7.82	-0.0400	720.65	396+50.00	
396+75.00	720.89	-0.0400	10	721.29	-0.0160	24	721.67				6.82	-0.0400	721.40	396+75.00	
396+95.61	721.48	-0.0400	10	721.88	-0.0160	24	722.26				6	-0.0400	722.02	396+95.61	TS
397+00.00	721.61	-0.0400	10	722.01	-0.0160	24	722.39				6	-0.0400	722.15	397+00.00	
397+25.00	722.33	-0.0400	10	722.73	-0.0160	24	723.12				6	-0.0400	722.88	397+25.00	
397+50.00	723.06	-0.0400	10	723.46	-0.0160	24	723.84				6	-0.0400	723.60	397+50.00	
397+75.00	723.78	-0.0400	10	724.18	-0.0160	24	724.57				6	-0.0400	724.33	397+75.00	
397+94.07	724.34	-0.0400	10	724.74	-0.0160	24	725.12				6	-0.0400	724.88	397+94.07	
398+00.00	724.48	-0.0400	10	724.88	-0.0170	24	725.29				6	-0.0400	725.05	398+00.00	
398+25.00	725.11	-0.0400	10	725.51	-0.0210	24	726.02				6	-0.0400	725.78	398+25.00	
398+50.00	725.74	-0.0400	10	726.14	-0.0251	24	726.74				6	-0.0400	726.50	398+50.00	
398+75.00	726.37	-0.0400	10	726.77	-0.0292	24	727.47				6	-0.0400	727.23	398+75.00	
398+80.22	726.50	-0.0400	10	726.90	-0.0300	24	727.62				6	-0.0400	727.38	398+80.22	
399+00.00	726.99	-0.0400	10	727.39	-0.0332	24	728.19	2	0.0332	728.26	4	-0.0400	728.10	399+00.00	
399+25.00	727.62	-0.0400	10	728.02	-0.0373	24	728.92	2	0.0373	728.99	4	-0.0400	728.83	399+25.00	
399+41.76	728.04	-0.0400	10	728.44	-0.0400	24	729.40	2	0.0400	729.48	4	-0.0400	729.32	399+41.76	
399+50.00	728.24	-0.0413	10	728.65	-0.0413	24	729.64	2	0.0413	729.72	4	-0.0400	729.56	399+50.00	
399+75.00	728.82	-0.0454	10	729.28	-0.0454	24	730.37	2	0.0454	730.46	4	-0.0400	730.30	399+75.00	
400+00.00	729.41	-0.0495	10	729.90	-0.0495	24	731.09	2	0.0495	731.19	4	-0.0400	731.03	400+00.00	
400+25.00	730.00	-0.0535	10	730.53	-0.0535	24	731.82	2	0.0535	731.92	4	-0.0400	731.76	400+25.00	
400+50.00	730.58	-0.0576	10	731.16	-0.0576	24	732.54	2	0.0576	732.66	4	-0.0400	732.50	400+50.00	
400+64.84	730.93	-0.0600	10	731.53	-0.0600	24	732.97	2	0.0600	733.09	4	-0.0400	732.93	400+64.84	
400+75.00	731.17	-0.0617	10	731.79	-0.0617	24	733.27	2	0.0617	733.39	4	-0.0400	733.23	400+75.00	
400+95.61	731.65	-0.0650	10	732.30	-0.0650	24	733.86	2	0.0650	733.99	4	-0.0400	733.83	400+95.61	SC, FULL SUPER
401+00.00	731.78	-0.0650	10	732.43	-0.0650	24	733.99	2	0.0650	734.12	4	-0.0400	733.96	401+00.00	
401+25.00	732.51	-0.0650	10	733.16	-0.0650	24	734.72	2	0.0650	734.85	4	-0.0400	734.69	401+25.00	
401+50.00	733.23	-0.0650	10	733.88	-0.0650	24	735.44	2	0.0650	735.57	4	-0.0400	735.41	401+50.00	
401+75.00	733.96	-0.0650	10	734.61	-0.0650	24	736.17	2	0.0650	736.30	4	-0.0400	736.14	401+75.00	
									FULL SUPER						
424+75.00	770.58	-0.0650	10	771.23	-0.0650	24	772.79	2	0.0650	772.92	4	-0.0400	772.76	424+75.00	
425+00.00	770.12	-0.0650	10	770.77	-0.0650	24	772.33	2	0.0650	772.46	4	-0.0400	772.30	425+00.00	
425+25.00	769.63	-0.0650	10	770.28	-0.0650	24	771.84	2	0.0650	771.97	4	-0.0400	771.81	425+25.00	
425+40.95	769.30	-0.0650	10	769.95	-0.0650	24	771.51	2	0.0650	771.64	4	-0.0400	771.48	425+40.95	CS, FULL SUPER
425+50.00	769.17	-0.0635	10	769.80	-0.0635	24	771.32	2	0.0635	771.45	4	-0.0400	771.29	425+50.00	
425+71.72	768.82	-0.0600	10	769.42	-0.0600	24	770.86	2	0.0600	770.98	4	-0.0400	770.82	425+71.72	
425+75.00	768.77	-0.0595	10	769.36	-0.0595	24	770.79	2	0.0595	770.91	4	-0.0400	770.75	425+75.00	
426+00.00	768.35	-0.0554	10	768.90	-0.0554	24	770.23	2	0.0554	770.34	4	-0.0400	770.18	426+00.00	
426+25.00	767.90	-0.0513	10	768.42	-0.0513	24	769.65	2	0.0513	769.75	4	-0.0400	769.59	426+25.00	
426+50.00	767.44	-0.0473	10	767.91	-0.0473	24	769.04	2	0.0473	769.14	4	-0.0400	768.98	426+50.00	
426+75.00	766.95	-0.0432	10	767.38	-0.0432	24	768.42	2	0.0432	768.50	4	-0.0400	768.34	426+75.00	
426+94.80	766.54	-0.0400	10	766.94	-0.0400	24	767.90	2	0.0400	767.98	4	-0.0400	767.82	426+94.80	
427+00.00	766.42	-0.0400	10	766.82	-0.0392	24	767.77	2	0.0392	767.84	4	-0.0400	767.68	427+00.00	
427+25.00	765.85	-0.0400	10	766.25	-0.0351	24	767.09	2	0.0351	767.16	4	-0.0400	767.00	427+25.00	
427+50.00	765.25	-0.0400	10	765.65	-0.0310	24	766.39	2	0.0310	766.46	4	-0.0400	766.30	427+50.00	
							SEE NEXT SHEET								

CALCULATED LBD
CHECKED JMB

SUPERELEVATION TABLE, CURVE #6
SR823, SOUTHBOUND

SCI-823-6.81

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SUPERELEVATION TABLE

SR823 CURVE # 6	P.I. STA. 414+49.27	DC = 2°	EMAX = 0.065 FT/FT

	SOUTHBOUND, OUTSIDE SHOULDER			SOUTHBOUND, LANES				SOUTHBOUND, INSIDE SHOULDER							
	SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	PAVEMENT SLOPE	PAVEMENT WIDTH	PROFILE GRADE (INSIDE EDGE OF PAVEMENT)	SHOULDER WIDTH	POINT ON SHOULDER	SHOULDER ELEVATION	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION	STATION	REMARKS
					SEE PREVIOUS SHEET										
427+56.33	765.09	-0.0400	10	765.49	-0.0300	24	766.21				6	-0.0400	765.97	427+56.33	
427+75.00	764.63	-0.0400	10	765.03	-0.0270	24	765.67				6	-0.0400	765.43	427+75.00	
428+00.00	763.98	-0.0400	10	764.38	-0.0229	24	764.93				6	-0.0400	764.69	428+00.00	
428+25.00	763.31	-0.0400	10	763.71	-0.0188	24	764.16				6	-0.0400	763.92	428+25.00	
428+42.49	762.83	-0.0400	10	763.23	-0.0160	24	763.61				6	-0.0400	763.37	428+42.49	
428+50.00	762.59	-0.0400	10	762.99	-0.0160	24	763.37				6	-0.0400	763.13	428+50.00	
428+75.00	761.78	-0.0400	10	762.18	-0.0160	24	762.56				6	-0.0400	762.32	428+75.00	
429+00.00	760.94	-0.0400	10	761.34	-0.0160	24	761.73				6	-0.0400	761.49	429+00.00	
429+25.00	760.08	-0.0400	10	760.48	-0.0160	24	760.87				6	-0.0400	760.63	429+25.00	
429+40.95	759.52	-0.0400	10	759.92	-0.0160	24	760.31				6	-0.0400	760.07	429+40.95	ST
429+50.00	759.20	-0.0400	10	759.60	-0.0160	24	759.98				6.36	-0.0400	759.73	429+50.00	
429+75.00	758.29	-0.0400	10	758.69	-0.0160	24	759.08				7.36	-0.0400	758.78	429+75.00	
430+00.00	757.37	-0.0400	10	757.77	-0.0160	24	758.15				8.36	-0.0400	757.82	430+00.00	
430+25.00	756.41	-0.0400	10	756.81	-0.0160	24	757.20				9.36	-0.0400	756.82	430+25.00	
430+39.41	755.86	-0.0400	10	756.26	-0.0160	24	756.64				9.59	-0.0400	756.26	430+39.41	NORMAL CROWN

CALCULATED LBD
CHECKED JMB

SUPERELEVATION TABLE, CURVE #6
SR823, SOUTHBOUND

SCI-823-6.81

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SUPERELEVATION TABLE

SR823 CURVE #7	P.I. 482+11.90	DC = 1°	EMAX = 0.036 FT/FT

STATION	NORTHBOUND, INSIDE SHOULDER						PROFILE GRADE (INSIDE EDGE OF PAVEMENT)	NORTHBOUND, LANES			NORTHBOUND, OUTSIDE SHOULDER			STATION	REMARKS
	SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	POINT ON SHOULDER	SHOULDER SLOPE	SHOULDER WIDTH		PAVEMENT WIDTH	PAVEMENT SLOPE	EDGE OF PAVEMENT ELEVATION	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION		
469+00.81	735.48	-0.0400	9.59				735.87	24	-0.0160	735.48	10	-0.0400	735.08	469+00.81	NORMAL CROWN
469+25.00	735.28	-0.0400	9.59				735.67	24	-0.0160	735.28	10	-0.0400	734.88	469+25.00	
469+50.00	735.06	-0.0400	9.59				735.44	24	-0.0160	735.06	10	-0.0400	734.66	469+50.00	
469+75.00	734.82	-0.0400	9.59				735.20	24	-0.0160	734.82	10	-0.0400	734.42	469+75.00	
470+00.00	734.56	-0.0400	9.59				734.94	24	-0.0160	734.56	10	-0.0400	734.16	470+00.00	
470+00.81	734.55	-0.0400	9.59				734.93	24	-0.0160	734.55	10	-0.0400	734.15	470+00.81	TS
470+25.00	734.28	-0.0400	9.59				734.67	24	-0.0160	734.28	10	-0.0400	733.88	470+25.00	
470+50.00	733.99	-0.0400	9.59				734.37	24	-0.0160	733.99	10	-0.0400	733.59	470+50.00	
470+75.00	733.68	-0.0400	9.59				734.06	24	-0.0160	733.68	10	-0.0400	733.28	470+75.00	
471+00.00	733.35	-0.0400	9.59				733.73	24	-0.0160	733.35	10	-0.0400	732.95	471+00.00	
471+00.81	733.34	-0.0400	9.59				733.72	24	-0.0160	733.34	10	-0.0400	732.94	471+00.81	
471+25.00	733.00	-0.0400	9.59				733.39	24	-0.0199	732.91	10	-0.0400	732.51	471+25.00	
471+50.00	732.64	-0.0400	9.59				733.03	24	-0.0239	732.45	10	-0.0400	732.05	471+50.00	
471+75.00	732.26	-0.0400	9.59				732.65	24	-0.0279	731.98	10	-0.0400	731.58	471+75.00	
471+88.31	732.05	-0.0400	9.59				732.44	24	-0.0300	731.72	10	-0.0400	731.32	471+88.31	
472+00.00	732.05	-0.0400	7.09	732.33	0.0319	2.5	732.25	24	-0.0319	731.48	10	-0.0400	731.08	472+00.00	
472+25.00	731.64	-0.0400	7.09	731.92	0.0359	2.5	731.83	24	-0.0359	730.97	10	-0.0400	730.57	472+25.00	
472+25.81	731.63	-0.0400	7.09	731.91	0.0360	2.5	731.82	24	-0.0360	730.96	10	-0.0400	730.56	472+25.81	SC, FULL SUPER
472+50.00	731.21	-0.0400	7.09	731.49	0.0360	2.5	731.40	24	-0.0360	730.54	10	-0.0400	730.14	472+50.00	
472+75.00	730.76	-0.0400	7.09	731.04	0.0360	2.5	730.95	24	-0.0360	730.09	10	-0.0400	729.69	472+75.00	
473+00.00	730.29	-0.0400	7.09	730.58	0.0360	2.5	730.49	24	-0.0360	729.62	10	-0.0400	729.22	473+00.00	
473+25.00	729.81	-0.0400	7.09	730.10	0.0360	2.5	730.01	24	-0.0360	729.14	10	-0.0400	728.74	473+25.00	
												FULL SUPER			
491+00.00	691.77	-0.0400	7.09	692.05	0.0360	2.5	691.96	24	-0.0360	691.10	12	-0.0400	690.62	491+00.00	
491+25.00	692.10	-0.0400	7.09	692.38	0.0360	2.5	692.29	24	-0.0360	691.43	12	-0.0400	690.95	491+25.00	
491+50.00	692.47	-0.0400	7.09	692.75	0.0360	2.5	692.66	24	-0.0360	691.80	12	-0.0400	691.32	491+50.00	
491+71.51	692.81	-0.0400	7.09	693.09	0.0360	2.5	693.00	24	-0.0360	692.14	12	-0.0400	691.66	491+71.51	CS, FULL SUPER
491+75.00	692.86	-0.0400	7.09	693.15	0.0354	2.5	693.06	24	-0.0354	692.21	12	-0.0400	691.73	491+75.00	
492+00.00	693.29	-0.0400	7.09	693.57	0.0314	2.5	693.49	24	-0.0314	692.74	12	-0.0400	692.26	492+00.00	
492+09.01	693.27	-0.0400	9.59				693.66	24	-0.0300	692.94	12	-0.0400	692.46	492+09.01	
492+25.00	693.58	-0.0400	9.59				693.96	24	-0.0274	693.30	12	-0.0400	692.82	492+25.00	
492+50.00	694.08	-0.0400	9.59				694.46	24	-0.0234	693.90	12	-0.0400	693.42	492+50.00	
492+75.00	694.62	-0.0400	9.59				695.00	24	-0.0194	694.54	12	-0.0400	694.06	492+75.00	
492+96.51	695.11	-0.0400	9.59				695.49	24	-0.0160	695.11	12	-0.0400	694.63	492+96.51	
493+00.00	695.19	-0.0400	9.59				695.57	24	-0.0160	695.19	12	-0.0400	694.71	493+00.00	
493+25.00	695.80	-0.0400	9.59				696.18	24	-0.0160	695.80	12	-0.0400	695.32	493+25.00	
493+50.00	696.44	-0.0400	9.59				696.82	24	-0.0160	696.44	12	-0.0400	695.96	493+50.00	
493+75.00	697.11	-0.0400	9.59				697.49	24	-0.0160	697.11	12	-0.0400	696.63	493+75.00	
493+96.51	697.72	-0.0400	9.59				698.10	24	-0.0160	697.72	12	-0.0400	697.24	493+96.51	ST
494+00.00	697.82	-0.0400	9.59				698.20	24	-0.0160	697.82	12	-0.0400	697.34	494+00.00	
494+25.00	698.56	-0.0400	9.59				698.95	24	-0.0160	698.56	12	-0.0400	698.08	494+25.00	
494+50.00	699.34	-0.0400	9.59				699.72	24	-0.0160	699.34	12	-0.0400	698.86	494+50.00	
494+75.00	700.15	-0.0400	9.59				700.54	24	-0.0160	700.15	12	-0.0400	699.67	494+75.00	
494+96.51	700.88	-0.0400	9.59				701.26	24	-0.0160	700.88	12	-0.0400	700.40	494+96.51	NORMAL CROWN

CALCULATED LBD
CHECKED JMB

SUPERELEVATION TABLE, CURVE #7
SR823, NORTHBOUND

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:28:02 AM REVISION DATE: 9/15/2011
FILE:...\HDR_C\0000000045878 /9415ge005.dgn MODEL: Sheet

SUPERELEVATION TABLE

SR823 CURVE # 7	P.I. 482+11.90	DC = 1°	EMAX = 0.036 FT/FT

STATION	SOUTHBOUND, OUTSIDE SHOULDER			SOUTHBOUND, LANES			PROFILE GRADE (INSIDE EDGE OF PAVEMENT)	SOUTHBOUND, INSIDE SHOULDER						STATION	REMARKS
	SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	PAVEMENT SLOPE	PAVEMENT WIDTH		SHOULDER WIDTH	SHOULDER SLOPE	POINT ON SHOULDER	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION		
469+00.81	735.08	-0.0400	10	735.48	-0.0160	24	735.87	9.59	-0.0400	735.48				469+00.81	NORMAL CROWN
469+25.00	734.97	-0.0400	10	735.37	-0.0121	24	735.67	9.59	-0.0400	735.28				469+25.00	
469+50.00	734.85	-0.0400	10	735.25	-0.0081	24	735.44	9.59	-0.0400	735.06				469+50.00	
469+75.00	734.70	-0.0400	10	735.10	-0.0041	24	735.20	9.59	-0.0400	734.82				469+75.00	
470+00.00	734.54	-0.0400	10	734.94	-0.0001	24	734.94	9.59	-0.0400	734.56				470+00.00	
470+00.81	734.53	-0.0400	10	734.93	0.0000	24	734.93	9.59	-0.0400	734.55				470+00.81	TS
470+25.00	734.36	-0.0400	10	734.76	0.0039	24	734.67	9.59	-0.0400	734.28				470+25.00	
470+50.00	734.16	-0.0400	10	734.56	0.0079	24	734.37	9.59	-0.0400	733.99				470+50.00	
470+75.00	733.95	-0.0400	10	734.35	0.0119	24	734.06	9.59	-0.0400	733.68				470+75.00	
471+00.00	733.71	-0.0400	10	734.11	0.0159	24	733.73	9.59	-0.0400	733.35				471+00.00	
471+00.81	733.71	-0.0400	10	734.11	0.0160	24	733.72	9.59	-0.0400	733.34				471+00.81	
471+25.00	733.47	-0.0400	10	733.87	0.0199	24	733.39	9.59	-0.0400	733.00				471+25.00	
471+50.00	733.20	-0.0400	10	733.60	0.0239	24	733.03	9.59	-0.0400	732.64				471+50.00	
471+75.00	732.92	-0.0400	10	733.32	0.0279	24	732.65	9.59	-0.0400	732.26				471+75.00	
471+88.31	732.76	-0.0400	10	733.16	0.0300	24	732.44	9.59	-0.0400	732.05				471+88.31	
472+00.00	732.63	-0.0381	10	733.01	0.0319	24	732.25	9.59	-0.0400	731.87				472+00.00	
472+25.00	732.35	-0.0341	10	732.70	0.0359	24	731.83	9.59	-0.0400	731.45				472+25.00	
472+25.81	732.35	-0.0340	10	732.69	0.0360	24	731.82	9.59	-0.0400	731.44				472+25.81	SC, FULL SUPER
472+50.00	731.93	-0.0340	10	732.27	0.0360	24	731.40	9.59	-0.0400	731.02				472+50.00	
472+75.00	731.48	-0.0340	10	731.82	0.0360	24	730.95	9.59	-0.0400	730.57				472+75.00	
473+00.00	731.01	-0.0340	10	731.35	0.0360	24	730.49	9.59	-0.0400	730.10				473+00.00	
473+25.00	730.53	-0.0340	10	730.87	0.0360	24	730.01	9.59	-0.0400	729.62				473+25.00	
									FULL SUPER						
491+00.00	692.49	-0.0340	10	692.83	0.0360	24	691.96	9.59	-0.0400	691.58				491+00.00	
491+25.00	692.82	-0.0340	10	693.16	0.0360	24	692.29	9.59	-0.0400	691.91				491+25.00	
491+50.00	693.18	-0.0340	10	693.52	0.0360	24	692.66	9.59	-0.0400	692.28				491+50.00	
491+71.51	693.53	-0.0340	10	693.87	0.0360	24	693.00	9.59	-0.0400	692.62				491+71.51	CS, FULL SUPER
491+75.00	693.56	-0.0346	10	693.91	0.0354	24	693.06	9.59	-0.0400	692.68				491+75.00	
492+00.00	693.86	-0.0386	10	694.25	0.0314	24	693.49	9.59	-0.0400	693.11				492+00.00	
492+09.01	693.98	-0.0400	10	694.38	0.0300	24	693.66	9.59	-0.0400	693.27				492+09.01	
492+25.00	694.22	-0.0400	10	694.62	0.0274	24	693.96	9.59	-0.0400	693.58				492+25.00	
492+50.00	694.63	-0.0400	10	695.03	0.0234	24	694.46	9.59	-0.0400	694.08				492+50.00	
492+75.00	695.07	-0.0400	10	695.47	0.0194	24	695.00	9.59	-0.0400	694.62				492+75.00	
492+96.51	695.48	-0.0400	10	695.88	0.0160	24	695.49	9.59	-0.0400	695.11				492+96.51	
493+00.00	695.54	-0.0400	10	695.94	0.0154	24	695.57	9.59	-0.0400	695.19				493+00.00	
493+25.00	696.05	-0.0400	10	696.45	0.0114	24	696.18	9.59	-0.0400	695.80				493+25.00	
493+50.00	696.60	-0.0400	10	697.00	0.0074	24	696.82	9.59	-0.0400	696.44				493+50.00	
493+75.00	697.18	-0.0400	10	697.58	0.0034	24	697.49	9.59	-0.0400	697.11				493+75.00	
493+96.51	697.70	-0.0400	10	698.10	0.0000	24	698.10	9.59	-0.0400	697.72				493+96.51	ST
494+00.00	697.79	-0.0400	10	698.19	-0.0006	24	698.20	9.59	-0.0400	697.82				494+00.00	
494+25.00	698.44	-0.0400	10	698.84	-0.0046	24	698.95	9.59	-0.0400	698.56				494+25.00	
494+50.00	699.12	-0.0400	10	699.52	-0.0086	24	699.72	9.59	-0.0400	699.34				494+50.00	
494+75.00	699.83	-0.0400	10	700.23	-0.0126	24	700.54	9.59	-0.0400	700.15				494+75.00	
494+96.51	700.48	-0.0400	10	700.88	-0.0160	24	701.26	9.59	-0.0400	700.88				494+96.51	NORMAL CROWN

CALCULATED LBD
CHECKED JMB

SUPERELEVATION TABLE, CURVE#7
SR823, SOUTHBOUND

SCI-823-6.81

USER: CMahlbri PLOT DATE: 9/15/2011
FILE:...4\HDR.CU0000000045878
9:28:10 AM REVISION DATE: 9/5/2011
/1945ge006.dgn MODEL: Sheet

SUPERELEVATION TABLE

CURVE # TR234 RAMP D-1	P.I. STA. 403+66.60	DC = 2° 36'	EMAX = 0.065 FT/FT

RIGHT SHOULDER			RAMP			BASELINE CONTROL		LEFT SHOULDER			REMARKS
SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	RAMP SLOPE	RAMP WIDTH	STATION	PROFILE GRADE	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION	
714.29	-0.0400	3.00	714.41	0.0160	16.00	396+32.87	714.16	6.00	-0.0400	713.92	BEGIN TRANSITION
714.85	-0.0400	3.00	714.97	0.0207	16.00	396+50.00	714.64	6.00	-0.0400	714.40	
715.66	-0.0400	3.00	715.78	0.0275	16.00	396+75.00	715.34	6.00	-0.0400	715.10	
715.96	-0.0400	3.00	716.08	0.0300	16.00	396+84.30	715.60	6.00	-0.0400	715.36	
716.49	-0.0357	3.00	716.59	0.0343	16.00	397+00.00	716.04	6.00	-0.0400	715.80	
717.20	-0.0300	3.00	717.29	0.0400	16.00	397+21.03	716.65	6.00	-0.0400	716.41	
717.33	-0.0289	3.00	717.42	0.0411	16.00	397+25.00	716.76	6.00	-0.0411	716.52	
718.20	-0.0221	3.00	718.26	0.0479	16.00	397+50.00	717.50	6.00	-0.0479	717.21	
718.30	-0.0213	3.00	718.36	0.0487	16.00	397+52.87	717.58	6.00	-0.0487	717.29	PC, CURVE # TR234 RAMP D-1
719.07	-0.0153	3.00	719.12	0.0547	16.00	397+75.00	718.24	6.00	-0.0547	717.91	
719.76	-0.0100	3.00	719.79	0.0600	16.00	397+94.50	718.83	6.00	-0.0600	718.47	
720.17	0.0615	3.00	719.98	0.0615	16.00	398+00.00	719.00	6.00	-0.0615	718.63	
720.63	0.0650	3.00	720.43	0.0650	16.00	398+12.87	719.39	6.00	-0.0650	719.00	BLEND INTO SR823 SUPER FOR CURVE # 6

CALCULATED LBD
CHECKED JMB

SUPERELEVATION TABLE - TR234 INTERCHANGE RAMP D

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:28:17 AM REVISION DATE: 9/15/2011
FILE:...\MDR_CU000000000045878 /19415ge010.dgn MODEL: Sheet

CURVE # CR28 RAMP A-1	DC = 1°22'
P.I. STA. 519+73.56	EMAX = 0.038 FT/FT

SUPERELEVATION TABLE

CURVE # CR28 RAMP A-2	DC = 7° 30'
P.I. STA. 525+50.54	EMAX = 0.08 FT/FT

CURVE # CR28 RAMP A-3	DC = 6° 30'
P.I. STA. 531+98.00	EMAX = 0.063 FT/FT

CALCULATED BEE CHECKED LBD

LEFT SHOULDER			RAMP			BASELINE CONTROL		RIGHT SHOULDER						REMARKS
SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	PAVEMENT SLOPE	PAVEMENT WIDTH	STATION	PROFILE GRADE	SHOULDER WIDTH	SHOULDER SLOPE	POINT ON SHOULDER	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION	
			783.61	0.0160	12.00	516+80.70	783.42				8.00	-0.0400	783.10	PC, CURVE # CR28 RAMPA - 1
SEE SR823 AND			783.84	0.0214	12.04	517+00.00	783.58				8.00	-0.0400	783.26	
CR28 RAMP A			784.11	0.0283	12.23	517+25.00	783.76				8.00	-0.0400	783.44	
PAVEMENT DETAIL			784.35	0.0353	12.57	517+50.00	783.91				8.00	-0.0400	783.59	
			784.46	0.0380	12.75	517+59.90	783.98				8.00	-0.0400	783.66	BEGIN FULL SUPER
											FULL SUPER			
783.91	-0.0320	3.00	784.00	0.0380	16.00	521+55.85	783.40				8.00	-0.0400	783.08	BEGIN TRANSITION
783.73	-0.0267	3.00	783.81	0.0433	16.00	521+75.00	783.12				7.30	-0.0433	782.81	
783.47	-0.0197	3.00	783.53	0.0503	16.00	522+00.00	782.73				6.26	-0.0503	782.41	
783.17	-0.0128	3.00	783.21	0.0572	16.00	522+25.00	782.29				6.00	-0.0572	781.95	
783.04	0.0642	3.00	782.84	0.0642	16.00	522+50.00	781.82				6.00	-0.0642	781.43	
782.80	0.0685	3.00	782.60	0.0685	16.00	522+65.47	781.50				6.00	-0.0685	781.09	PCC
782.65	0.0711	3.00	782.44	0.0711	16.00	522+75.00	781.30				6.00	-0.0711	780.87	
782.22	0.0780	3.00	781.99	0.0780	16.00	523+00.00	780.74				6.00	-0.0780	780.27	
782.10	0.0800	3.00	781.86	0.0800	16.00	523+07.05	780.58				6.00	-0.0800	780.10	BEGIN FULL SUPER
											FULL SUPER			
769.11	0.0800	3.00	768.87	0.0800	16.00	526+71.11	767.59				6.00	-0.0800	767.11	CS, CURVE # CR28 RAMPA - 2
768.90	0.0788	3.00	768.66	0.0788	16.00	526+75.00	767.40				6.00	-0.0788	766.93	
767.53	0.0711	3.00	767.32	0.0711	16.00	527+00.00	766.18				6.00	-0.0711	765.75	
766.14	0.0634	3.00	765.95	0.0634	16.00	527+25.00	764.93				6.00	-0.0634	764.55	
764.53	-0.0143	3.00	764.57	0.0557	16.00	527+50.00	763.68				6.00	-0.0557	763.35	
763.14	-0.0220	3.00	763.20	0.0480	16.00	527+75.00	762.43				6.00	-0.0480	762.15	
761.74	-0.0297	3.00	761.83	0.0403	16.00	528+00.00	761.18				6.00	-0.0403	760.94	
760.35	-0.0373	3.00	760.46	0.0327	16.00	528+25.00	759.94				6.00	-0.0400	759.70	
758.97	-0.0400	3.00	759.09	0.0250	16.00	528+50.00	758.69				6.00	-0.0400	758.45	
757.59	-0.0400	3.00	757.71	0.0173	16.00	528+75.00	757.44				6.00	-0.0400	757.20	
756.22	-0.0400	3.00	756.34	0.0096	16.00	529+00.00	756.19				6.00	-0.0400	755.95	
754.85	-0.0400	3.00	754.97	0.0019	16.00	529+25.00	754.94				6.00	-0.0400	754.70	
754.51	-0.0400	3.00	754.63	0.0000	16.00	529+31.11	754.63				6.00	-0.0400	754.39	SRS, FLAT
753.46	-0.0400	3.00	753.58	-0.0068	16.00	529+50.00	753.69				6.00	-0.0400	753.45	
752.07	-0.0400	3.00	752.19	-0.0158	16.00	529+75.00	752.44				6.00	-0.0400	752.20	
750.68	-0.0400	3.00	750.80	-0.0248	16.00	530+00.00	751.19				6.00	-0.0400	750.95	
749.28	-0.0400	3.00	749.40	-0.0338	16.00	530+25.00	749.94				6.00	-0.0362	749.73	
747.88	-0.0428	3.00	748.01	-0.0428	16.00	530+50.00	748.69				6.00	-0.0272	748.53	
746.46	-0.0518	3.00	746.62	-0.0518	16.00	530+75.00	747.45				6.00	-0.0182	747.34	
745.04	-0.0608	3.00	745.22	-0.0608	16.00	531+00.00	746.20	2.00	0.0608	746.32	4.00	-0.0100	746.28	
744.69	-0.0630	3.00	744.88	-0.0630	16.00	531+06.11	745.89	2.00	0.0630	746.02	4.00	-0.0100	745.98	SC, CURVE # CR28 RAMPA - 3
											FULL SUPER			
						SEE NEXT SHEET								

USER: ldearnel PLOT DATE: 2/22/2012 11:33:44 AM REVISION DATE: 2/22/2012
FILE:...\MDR_CU\BR00000045878 /9415ge012.dgn MODEL: Sheet

SUPERELEVATION TABLE - CR28 INTERCHANGE RAMP A

SCI-823-6.81

CURVE # CR28 RAMP A-1	DC = 1°22'
P.I. STA. 519+73.56	EMAX = 0.038 FT/FT

SUPERELEVATION TABLE

CURVE # CR28 RAMP A-2	DC = 7°30'
P.I. STA. 525+50.54	EMAX = 0.08 FT/FT

CURVE # CR28 RAMP A-3	DC = 6°30
P.I. STA. 531+98.00	EMAX = 0.063 FT/FT

CALCULATED BEE
CHECKED LBD

LEFT SHOULDER			RAMP			BASELINE CONTROL		RIGHT SHOULDER						REMARKS
SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	PAVEMENT SLOPE	PAVEMENT WIDTH	STATION	PROFILE GRADE	SHOULDER WIDTH	SHOULDER SLOPE	POINT ON SHOULDER	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION	
						SEE PREVIOUS								
						FULL SUPER								
735.87	*-0.0630*	*3.00*	*736.06*	*-0.0630*	*16.00*	*532+84.55*	*737.07*	*2.00*	*0.0630*	*737.20*	*4.00*	*-0.0100*	*737.16*	*CS, CURVE # CR28 RAMPA - 3*
			735.48	*-0.0574*	*16.00*	*533+00.00*	*736.40*	*BEGIN TURN LANE*			*6.00*	*-0.0126*	*736.32*	
			734.62	*-0.0484*	*16.00*	*533+25.00*	*735.39*	*4.00*	*0.0484*	*735.59*	*6.00*	*-0.0216*	*735.46*	
			733.85	*-0.0394*	*16.00*	*533+50.00*	*734.48*	*8.00*	*0.0394*	*734.80*	*6.00*	*-0.0306*	*734.62*	
			733.19	*-0.0304*	*16.00*	*533+75.00*	*733.67*	*8.00*	*0.0304*	*733.92*	*6.00*	*-0.0396*	*733.68*	
SEE CR28 RAMP A			*732.62*	*-0.0214*	*16.00*	*534+00.00*	*732.96*	*8.00*	*0.0214*	*733.13*	*6.00*	*-0.0400*	*732.89*	
AND CR28 RAMP B			*732.14*	*-0.0124*	*16.00*	*534+25.00*	*732.34*	*8.00*	*0.0124*	*732.44*	*6.00*	*-0.0400*	*732.20*	
INTERSECTION DETAIL			*731.77*	*-0.0034*	*16.00*	*534+50.00*	*731.82*	*8.00*	*0.0034*	*731.85*	*6.00*	*-0.0400*	*731.61*	
			731.65	*0.0000*	*16.00*	*534+59.55*	*731.65*	*8.00*	*0.0000*	*731.65*	*6.00*	*-0.0400*	*731.41*	*ST, CURVE # CR28 RAMPA - 3, FLAT*
			731.49	*0.0056*	*16.00*	*534+75.00*	*731.40*	*8.00*	*-0.0056*	*731.35*	*6.00*	*-0.0400*	*731.11*	
			731.30	*0.0146*	*16.00*	*535+00.00*	*731.07*	*8.00*	*-0.0146*	*730.95*	*6.00*	*-0.0400*	*730.71*	
			731.28	*0.0160*	*16.00*	*535+03.99*	*731.03*	*8.00*	*-0.0160*	*730.90*	*6.00*	*-0.0400*	*730.66*	*NORMAL CROWN*

USER: ldearnel PLOT DATE: 2/22/2012 11:36:40 AM REVISION DATE: 2/22/2012
FILE:...\MDR_CU080000000045878 /79415ge012A.dgn MODEL: Sheet

SUPERELEVATION TABLE

CURVE # CR28 RAMP D-1	DC = 11° 30'
P.I. STA. 524+73.49	EMAX = 0.079 FT/FT

CURVE # CR28 RAMP D-2	DC = 11° 30'
P.I. STA. 534+17.71	EMAX = 0.079 FT/FT

RIGHT SHOULDER			RAMP			BASELINE CONTROL		LEFT SHOULDER						REMARKS
SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	PAVEMENT SLOPE	PAVEMENT WIDTH	STATION	PROFILE GRADE	SHOULDER WIDTH	SHOULDER SLOPE	POINT ON SHOULDER	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION	
			785.31	0.0160	16.00	520+70.16	785.05				8.00	-0.0400	784.73	TS, CURVE # CR28 RAMPD - 1
			785.30	0.0175	16.00	520+75.00	785.02				7.74	-0.0400	784.71	
			785.23	0.0254	16.00	521+00.00	784.82				6.89	-0.0400	784.54	
SEE SR823 AND			785.10	0.0333	16.00	521+25.00	784.57				6.00	-0.0400	784.33	
CR28 RAMP D			784.91	0.0412	16.00	521+50.00	784.25				6.00	-0.0412	784.00	
PAVEMENT DETAIL			784.66	0.0490	16.00	521+75.00	783.88				6.00	-0.0490	783.59	
			784.35	0.0569	16.00	522+00.00	783.44				6.00	-0.0569	783.10	
			783.99	0.0648	16.00	522+25.00	782.95				6.00	-0.0648	782.56	
			783.56	0.0727	16.00	522+50.00	782.40				6.00	-0.0727	781.96	
			783.17	0.0790	16.00	522+70.16	781.91				6.00	-0.0790	781.44	SC, CURVE # CR28 RAMPD - 1
										FULL SUPER				
771.89	0.0790	3.00	771.65	0.0790	16.00	526+01.19	770.39				6.00	-0.0790	769.92	CS, CURVE # CR28 RAMPD - 1
770.84	0.0705	3.00	770.63	0.0705	16.00	526+25.00	769.51				6.00	-0.0705	769.08	
769.75	0.0615	3.00	769.56	0.0615	16.00	526+50.00	768.58				6.00	-0.0615	768.21	
768.44	-0.0175	3.00	768.49	0.0525	16.00	526+75.00	767.65				6.00	-0.0525	767.34	
767.34	-0.0265	3.00	767.42	0.0435	16.00	527+00.00	766.73				6.00	-0.0435	766.47	
766.25	-0.0355	3.00	766.35	0.0345	16.00	527+25.00	765.80				6.00	-0.0400	765.56	
765.16	-0.0400	3.00	765.28	0.0256	16.00	527+50.00	764.87				6.00	-0.0400	764.63	
764.09	-0.0400	3.00	764.21	0.0166	16.00	527+75.00	763.95				6.00	-0.0400	763.71	
763.02	-0.0400	3.00	763.14	0.0076	16.00	528+00.00	763.02				6.00	-0.0400	762.78	
762.12	-0.0400	3.00	762.24	0.0000	16.00	528+21.19	762.24				6.00	-0.0400	762.00	SRS, FLAT
761.95	-0.0400	3.00	762.07	-0.0014	16.00	528+25.00	762.10				6.00	-0.0400	761.86	
760.88	-0.0400	3.00	761.00	-0.0103	16.00	528+50.00	761.17				6.00	-0.0400	760.93	
759.81	-0.0400	3.00	759.93	-0.0193	16.00	528+75.00	760.24				6.00	-0.0400	760.00	
758.74	-0.0400	3.00	758.86	-0.0283	16.00	529+00.00	759.32				6.00	-0.0400	759.08	
757.67	-0.0400	3.00	757.79	-0.0373	16.00	529+25.00	758.39				6.00	-0.0327	758.19	
756.58	-0.0463	3.00	756.72	-0.0463	16.00	529+50.00	757.46				6.00	-0.0237	757.32	
755.49	-0.0552	3.00	755.65	-0.0552	16.00	529+75.00	756.54				6.00	-0.0148	756.45	
754.39	-0.0642	3.00	754.58	-0.0642	16.00	530+00.00	755.61	2.00	0.0642	755.74	4.00	-0.0100	755.70	
753.29	-0.0732	3.00	753.51	-0.0732	16.00	530+25.00	754.69	2.00	0.0732	754.83	4.00	-0.0100	754.79	
752.59	-0.0790	3.00	752.83	-0.0790	16.00	530+41.19	754.09	2.00	0.0790	754.25	4.00	-0.0100	754.21	SC, CURVE # CR28 RAMPD - 2
										FULL SUPER				
			732.56	-0.0790	16.00	535+88.12	733.82	2.00	0.0790	733.98	4.00	-0.0100	733.94	CS, CURVE # CR28 RAMPD - 2
			732.18	-0.0747	16.00	536+00.00	733.38	2.00	0.0747	733.53	4.00	-0.0100	733.49	
			731.41	-0.0657	16.00	536+25.00	732.46	2.00	0.0657	732.59	4.00	-0.0100	732.55	
			730.62	-0.0568	16.00	536+50.00	731.53				6.00	-0.0132	731.45	
			729.84	-0.0478	16.00	536+75.00	730.60				6.00	-0.0222	730.47	
SEE CR28 RAMP C			729.06	-0.0388	16.00	537+00.00	729.68				6.00	-0.0312	729.49	
AND CR28 RAMP D			728.27	-0.0298	16.00	537+25.00	728.75				6.00	-0.0400	728.51	
PAVEMENT DETAIL			727.49	-0.0209	16.00	537+50.00	727.82				6.00	-0.0400	727.58	
			726.71	-0.0119	16.00	537+75.00	726.90				6.00	-0.0400	726.66	
			725.92	-0.0029	16.00	538+00.00	725.97				6.00	-0.0400	725.73	
			725.67	0.0000	16.00	538+08.12	725.67				6.00	-0.0400	725.43	ST, CURVE # CR28 RAMPD - 2
			725.15	0.0061	16.00	538+25.00	725.05				6.00	-0.0400	724.81	
			724.36	0.0150	16.00	538+50.00	724.12				6.00	-0.0400	723.88	
			724.28	0.0160	16.00	538+52.68	724.02				6.00	-0.0400	723.78	NORMAL CROWN

SUPERELEVATION TABLE - CR28 INTERCHANGE RAMP D

SCI-823-6.81

CALCULATED BEE CHECKED LBD

USER: CWohlbr PLOT DATE: 9/15/2011 9:28:37 AM REVISION DATE: 9/15/2011
FILE: ...\HDR.CU\0000000000045878 /19415ge015.dgn MODEL: Sheet

CURVE # CR28-2	DC = 1°45
P.I. STA. 15+41.99	EMAX = 0.040 FT/FT

SUPERELEVATION TABLE

CALCULATED	CHECKED
LBD	JMB

LEFT SHOULDER						WB LANE			CENTERLINE CONTROL		EB LANE			RIGHT SHOULDER			REMARKS
SHOULDER ELEVATION	SHOULDER SLOPE	SHOULDER WIDTH	POINT ON SHOULDER	SHOULDER SLOPE	SHOULDER WIDTH	EDGE OF PAVEMENT ELEVATION	PAVEMENT SLOPE	PAVEMENT WIDTH	STATION	PROFILE GRADE	PAVEMENT WIDTH	PAVEMENT SLOPE	EDGE OF PAVEMENT ELEVATION	SHOULDER WIDTH	SHOULDER SLOPE	SHOULDER ELEVATION	
715.07	-0.0600	2.00				715.19	-0.0390	10.90	10+85.00	715.62	11.58	-0.0230	715.35	8.00	-0.0600	714.87	
715.06	-0.0600	2.40				715.21	-0.0354	11.08	10+95.00	715.60	11.76	-0.0200	715.36	8.00	-0.0600	714.88	
715.05	-0.0600	2.60				715.21	-0.0333	11.17	11+00.00	715.58	11.84	-0.0200	715.34	8.00	-0.0600	714.86	
715.05	-0.0600	3.40				715.26	-0.0238	11.63	11+25.00	715.54	12.28	-0.0200	715.29	8.00	-0.0600	714.81	
715.05	-0.0600	3.20				715.29	-0.0200	11.81	11+35.00	715.53	12.45	-0.0200	715.28	8.00	-0.0600	714.80	
715.03	-0.0600	4.41				715.29	-0.0200	12.00	11+45.33	715.53	12.63	-0.0200	715.28	8.00	-0.0600	714.80	BEGIN TRANSITION
715.02	-0.0600	4.60				715.30	-0.0188	12.08	11+50.00	715.53	12.72	-0.0200	715.28	8.00	-0.0600	714.80	
715.06	-0.0600	5.60				715.40	-0.0126	12.54	11+75.00	715.55	13.15	-0.0200	715.29	8.00	-0.0600	714.81	
715.13	-0.0600	6.60				715.53	-0.0063	12.99	12+00.00	715.62	13.59	-0.0200	715.34	8.00	-0.0600	714.86	
715.24	-0.0600	7.60				715.70	-0.0001	13.44	12+25.00	715.70	20.05	-0.0200	715.30	8.00	-0.0600	714.82	
715.24	-0.0600	7.61				715.70	0.0000	13.45	12+25.33	715.70	20.13	-0.0200	715.30	8.00	-0.0600	714.82	FLAT, WB LANE
715.38	-0.0600	8.00				715.86	0.0062	13.90	12+50.00	715.78	26.50	-0.0200	715.25	8.00	-0.0600	714.77	
715.74	-0.0600	5.50	716.07	0.0124	2.50	716.04	0.0124	14.35	12+75.00	715.86	26.95	-0.0200	715.32	8.00	-0.0600	714.84	
715.93	-0.0600	5.50	716.26	0.0187	2.50	716.21	0.0187	14.81	13+00.00	715.94	27.41	-0.0200	715.39	8.00	-0.0600	714.91	
715.97	-0.0600	5.50	716.30	0.0200	2.50	716.25	0.0200	14.91	13+05.33	715.95	27.51	-0.0200	715.40	8.00	-0.0600	714.92	
716.13	-0.0600	5.50	716.46	0.0249	2.50	716.40	0.0249	15.26	13+25.00	716.02	27.86	-0.0249	715.32	8.00	-0.0600	714.84	
716.19	-0.0600	5.50	716.52	0.0267	2.50	716.45	0.0267	15.39	13+32.00	716.04	27.99	-0.0267	715.29	8.00	-0.0600	714.81	PC, CURVE # CR28-2
716.34	-0.0600	5.50	716.67	0.0312	2.50	716.59	0.0312	15.72	13+50.00	716.10	28.32	-0.0312	715.21	8.00	-0.0600	714.73	
716.54	-0.0600	5.50	716.87	0.0374	2.50	716.78	0.0374	16.17	13+75.00	716.18	28.77	-0.0374	715.10	8.00	-0.0600	714.62	
716.64	-0.0600	5.50	716.97	0.0400	2.50	716.87	0.0400	16.36	13+85.33	716.21	28.96	-0.0400	715.05	8.00	-0.0600	714.57	BEGIN FULL SUPER
717.09	-0.0600	5.50	717.42	0.0400	2.50	717.32	0.0400	18.00	16+98.08	716.60	18.00	-0.0400	715.88	8.00	-0.0600	715.40	END FULL SUPER
717.07	-0.0600	5.50	717.40	0.0395	2.50	717.30	0.0395	18.00	17+00.00	716.59	18.00	-0.0395	715.88	8.00	-0.0600	715.40	
716.79	-0.0600	5.50	717.12	0.0333	2.50	717.04	0.0333	18.00	17+25.00	716.44	18.00	-0.0333	715.84	8.00	-0.0600	715.36	
716.49	-0.0600	5.50	716.82	0.0270	2.50	716.75	0.0270	18.00	17+50.00	716.26	18.00	-0.0270	715.77	8.00	-0.0600	715.29	
716.47	-0.0600	5.50	716.80	0.0267	2.50	716.73	0.0267	18.00	17+51.41	716.25	18.00	-0.0267	715.77	8.00	-0.0600	715.29	PT, CURVE # CR28 - 2
716.18	-0.0600	5.50	716.51	0.0208	2.50	716.46	0.0208	18.00	17+75.00	716.08	18.00	-0.0208	715.71	8.00	-0.0600	715.23	
716.14	-0.0600	5.50	716.47	0.0200	2.50	716.42	0.0200	18.00	17+78.08	716.06	18.00	-0.0200	715.70	8.00	-0.0600	715.22	
715.92	-0.0600	5.50	716.25	0.0145	2.50	716.21	0.0145	18.00	18+00.00	715.95	18.00	-0.0200	715.59	8.00	-0.0600	715.11	
715.53	-0.0600	8.00				716.01	0.0083	18.00	18+25.00	715.86	18.00	-0.0200	715.50	8.00	-0.0600	715.02	
715.38	-0.0600	8.00				715.86	0.0020	18.00	18+50.00	715.82	18.00	-0.0200	715.46	8.00	-0.0600	714.98	
715.34	-0.0600	8.00				715.82	0.0000	18.00	18+58.08	715.82	18.00	-0.0200	715.46	8.00	-0.0600	714.98	FLAT, WB LANE
715.27	-0.0600	8.00				715.75	-0.0042	18.00	18+75.00	715.82	18.00	-0.0200	715.46	8.00	-0.0600	714.98	
715.20	-0.0600	8.00				715.68	-0.0105	18.00	19+00.00	715.87	18.00	-0.0200	715.51	8.00	-0.0600	715.03	
715.18	-0.0600	8.00				715.66	-0.0167	18.00	19+25.00	715.96	18.00	-0.0200	715.60	8.00	-0.0600	715.12	
715.19	-0.0600	8.00				715.67	-0.0200	18.00	19+38.08	716.03	18.00	-0.0200	715.67	8.00	-0.0600	715.19	NORMAL CROWN
715.26	-0.0600	8.00				715.74	-0.0200	18.00	19+50.00	716.10	18.00	-0.0200	715.74	8.00	-0.0600	715.26	

FULL SUPER

SUPERELEVATION TABLE - CR28 (LUCASVILLE-MINFORD RD

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:28:51 AM REVISION DATE: 9/15/2011
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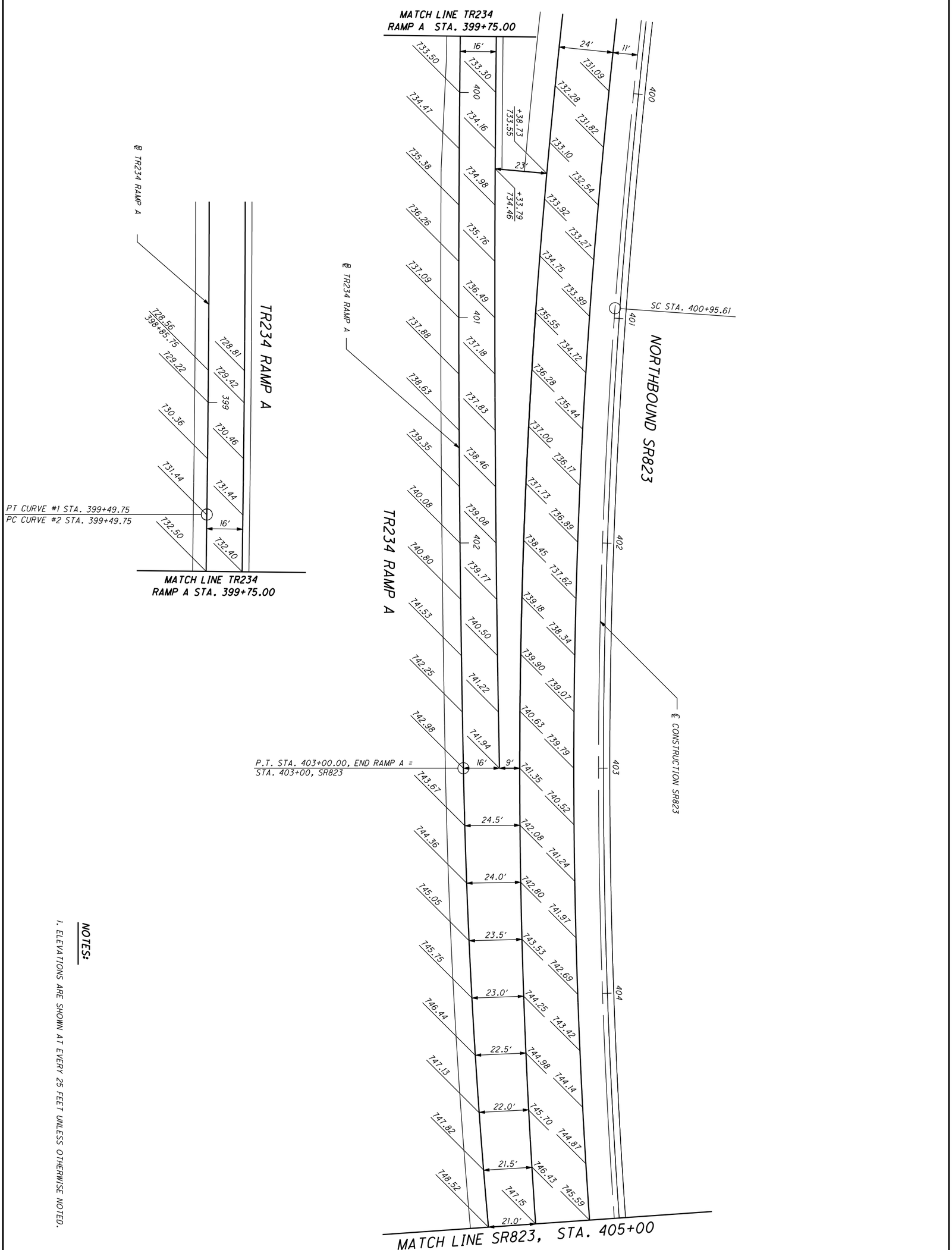
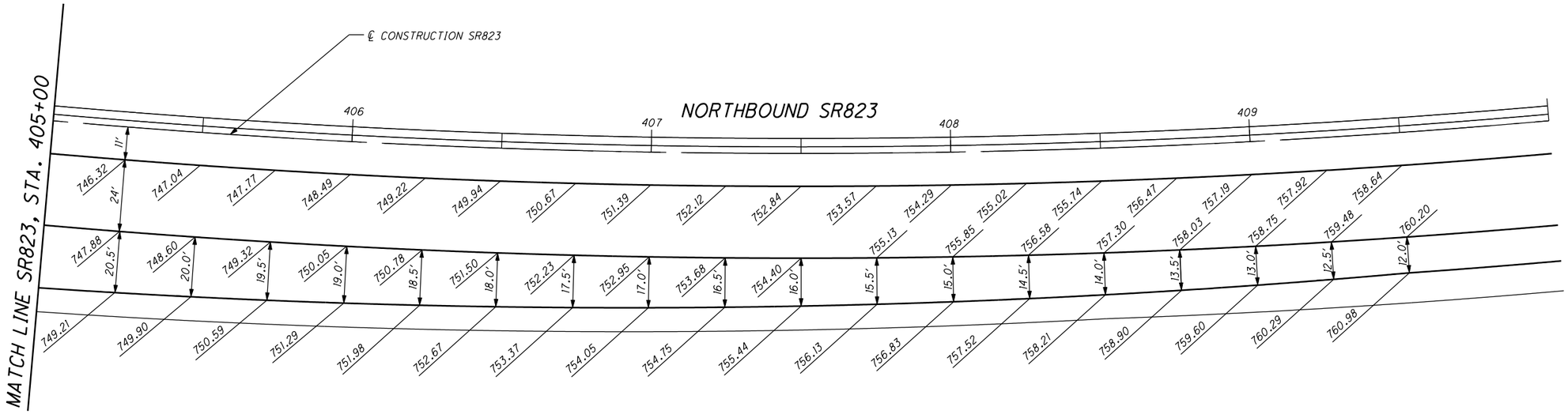


NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTED.

209 / 119	**SCI-823-6.81**	**TR234 INTERCHANGE RAMP A PAVEMENT ELEVATIONS SPEED CHANGE LANE AT SR823**	CALCULATED LBD / CHECKED JMB	0 20 / 10 40 HORIZONTAL SCALE IN FEET



NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTED.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

TR234 INTERCHANGE RAMP A PAVEMENT ELEVATIONS SPEED CHANGE LANE AT SR823

SCI-823-6.81

USER: Cmahlbri PLOT DATE: 9/15/2011 9:28:55 AM REVISION DATE: 9/15/2011
FILES...ANDR_CU(BB)0000004878 /7941Sgd004.dgn MODEL: Sheet1

USER: CWahlbri PLOT DATE: 9/15/2011 9:29:00 AM REVISION DATE: 9/15/2011
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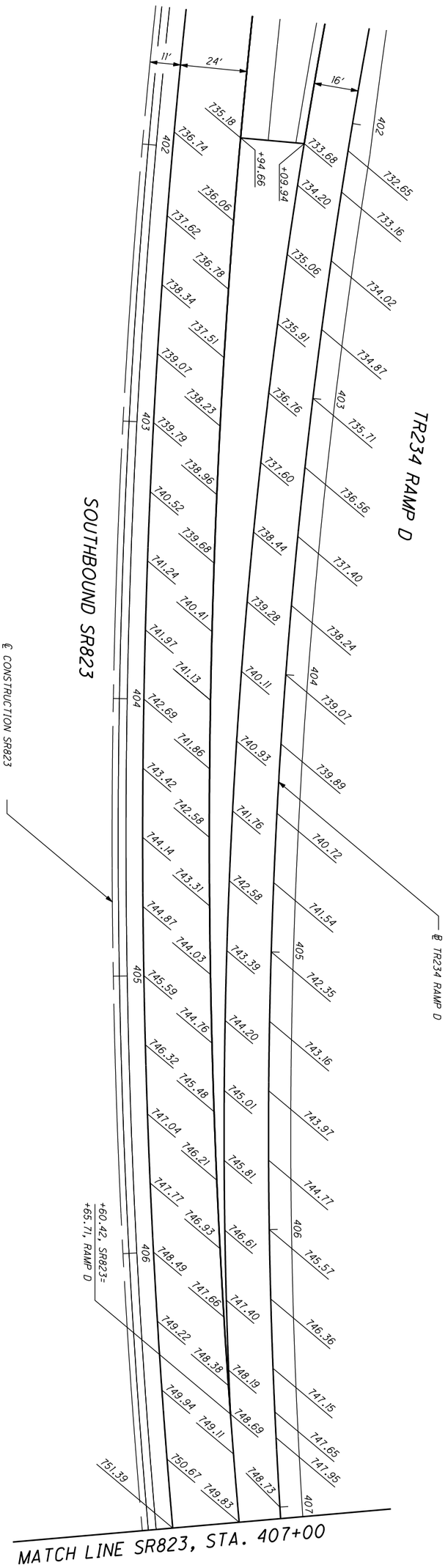

NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTED.

121 / 209	**SCI-823-6.81**	**TR234 INTERCHAGE RAMP D PAVEMENT ELEVATIONS SPEED CHANGE LANE AT SR823**	CALCULATED LBD / CHECKED JMB	0 02 10 40 HORIZONTAL SCALE IN FEET

USER: CWahlbri PLOT DATE: 9/15/2011 9:29:05 AM REVISION DATE: 9/15/2011
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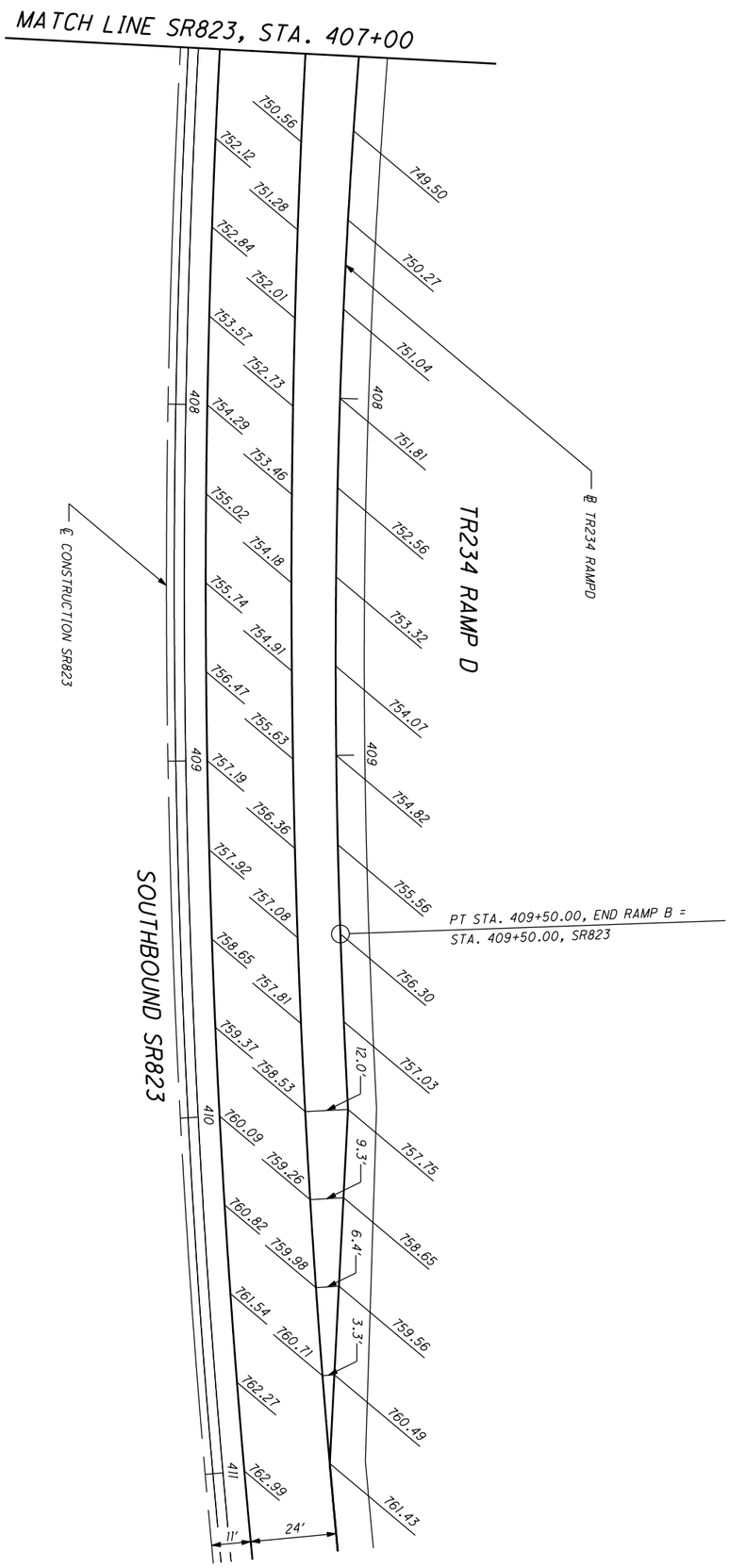

NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTED.

SCI-823-6.81

TR234 INTERCHANGE RAMP D PAVEMENT ELEVATIONS
SPEED CHANGE LANE AT SR823

CALCULATED LBD
CHECKED JMB

0 10 20 40
HORIZONTAL SCALE IN FEET

USER: CWahlbri PLOT DATE: 9/15/2011 9:29:10 AM REVISION DATE: 9/15/2011
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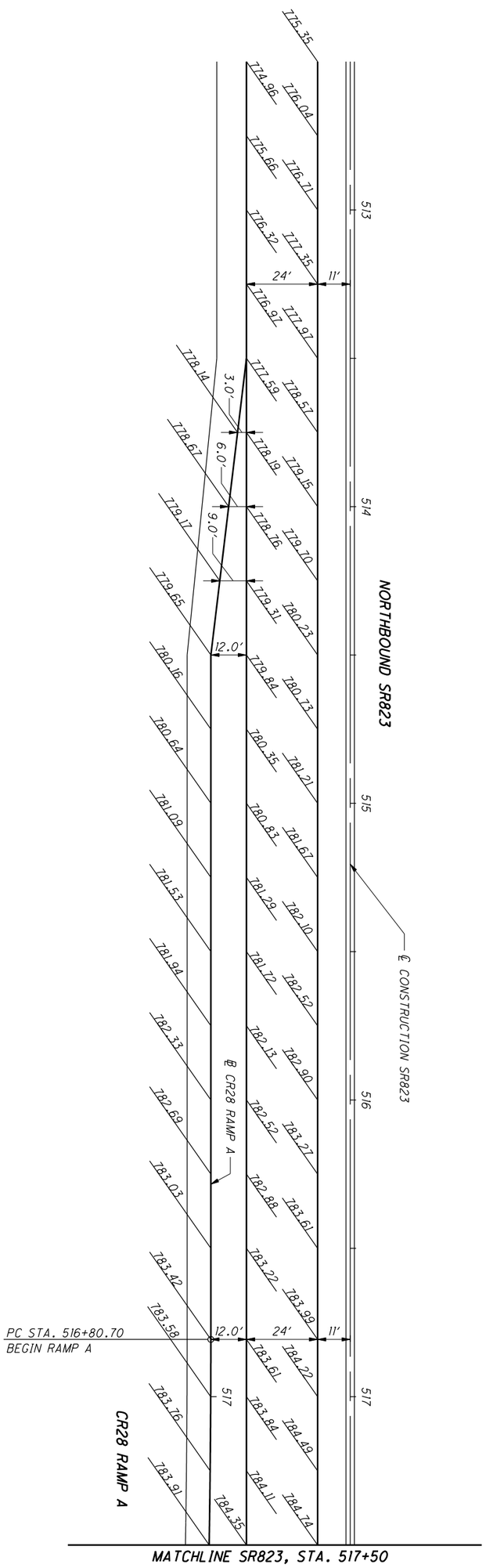
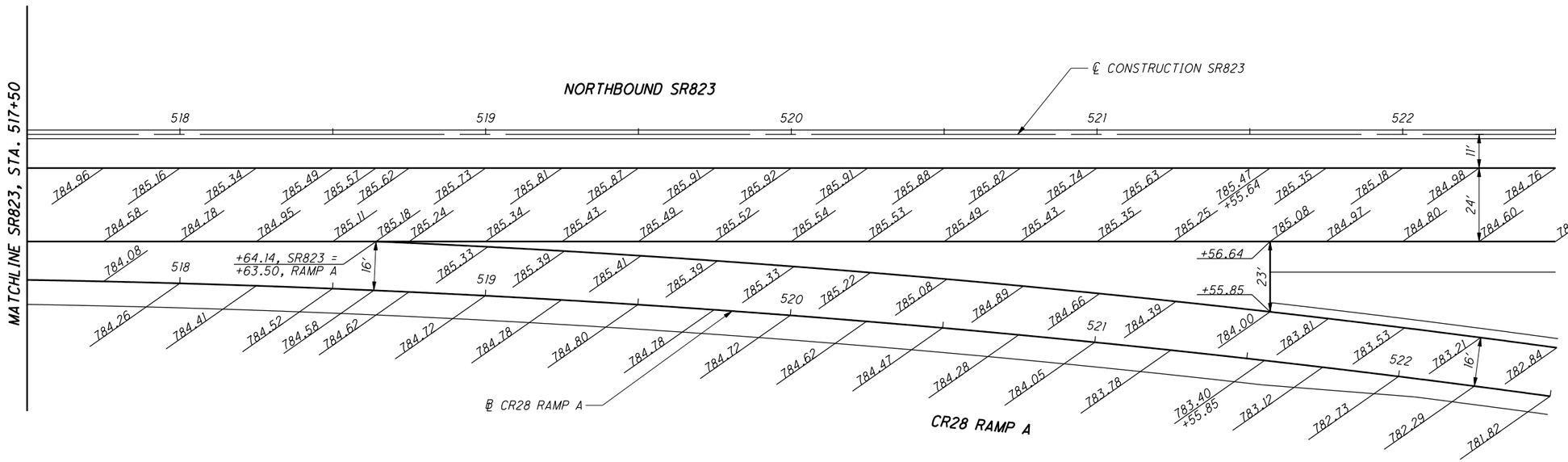


NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTED.

123/209	SCI-823-6.81	CR28 INTERCHANGE RAMP A PAVEMENT ELEVATIONS SPEED CHANGE LANE AT SR823	CALCULATED LBD CHECKED JMB	0 20 10 40 HORIZONTAL SCALE IN FEET



NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTE.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

CR28 INTERCHANGE RAMP A PAVEMENT ELEVATIONS
SPEED CHANGE LANE AT SR823

SCI-823-6.81

USER: CWohlbr; PLOT DATE: 9/15/2011 9:29:14 AM REVISION DATE: 9/15/2011
FILE...4HOR.Cu0000000000045878 /19415gc004.dgn MODEL: Sheet

USER: CWahlbri PLOT DATE: 9/15/2011 9:29:18 AM REVISION DATE: 9/15/2011
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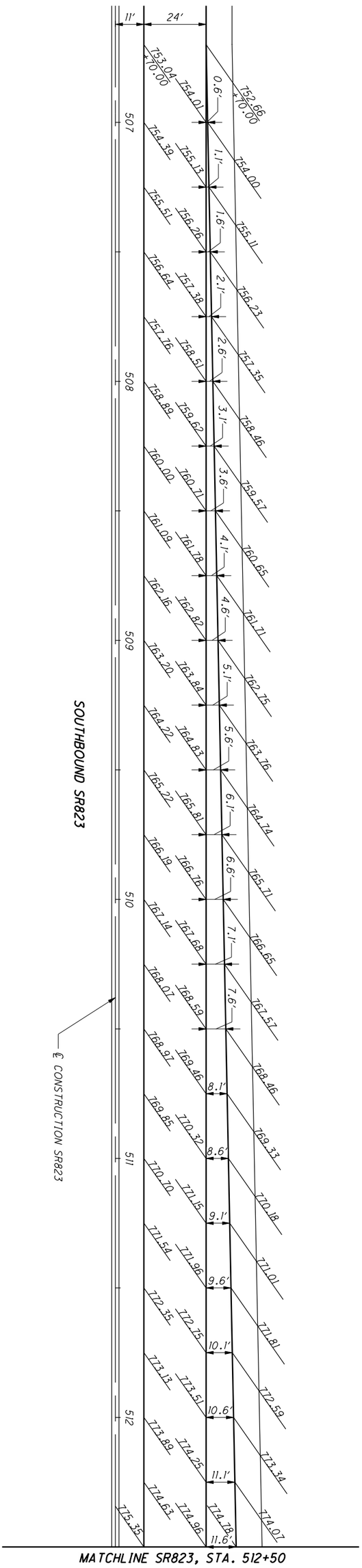

NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTED.

125 / 209	SCI-823-6.81	CR28 INTERCHANGE RAMP D PAVEMENT ELEVATIONS SPEED CHANGE LANE AT SR823	CALCULATED LBD CHECKED JMB	0 20 10 40 HORIZONTAL SCALE IN FEET	

USER: CWahlbri PLOT DATE: 9/15/2011 9:29:23 AM REVISION DATE: 9/15/2011
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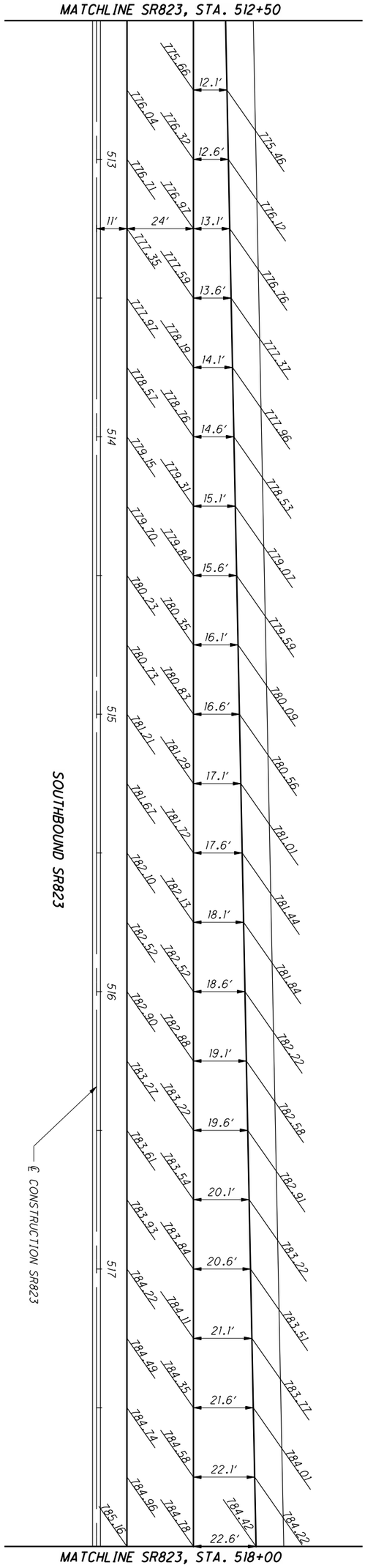

NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWSIE NOTED.

126 / 209	SCI-823-6.81	CR28 INTERCHANGE RAMP D PAVEMENT ELEVATIONS SPEED CHANGE LANE AT SR823	CALCULATED LBD CHECKED JMB	0 20 10 40 HORIZONTAL SCALE IN FEET

USER: CWahlbri PLOT DATE: 9/15/2011 9:29:27 AM REVISION DATE: 9/15/2011
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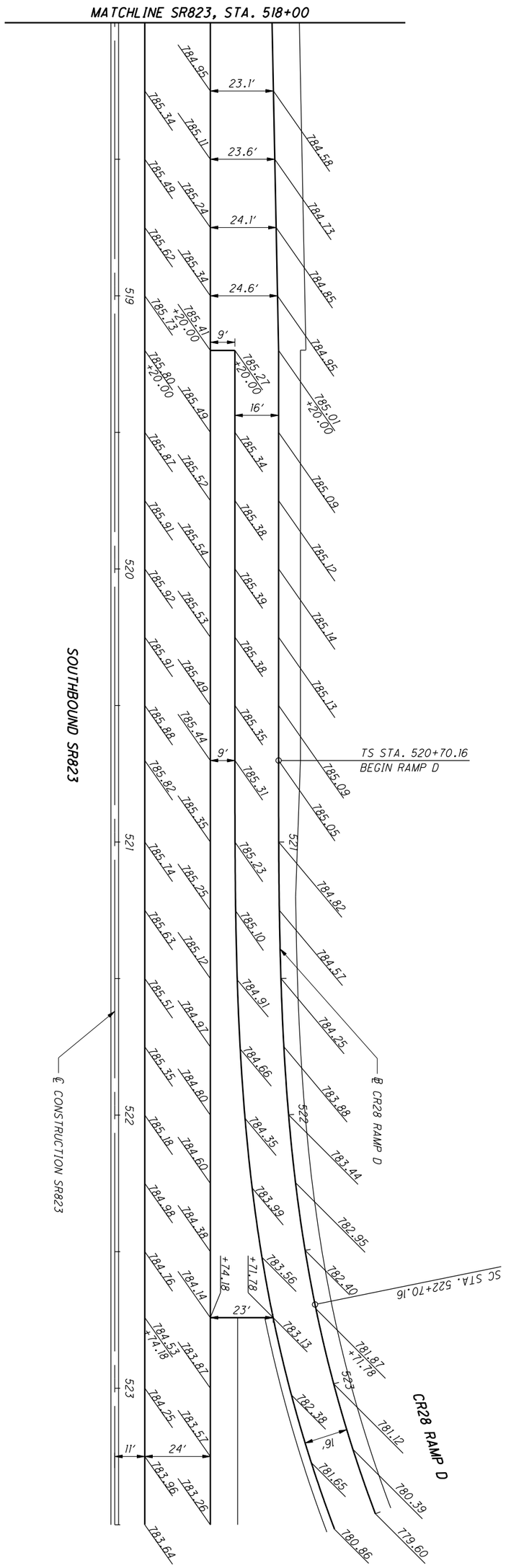


NOTES:

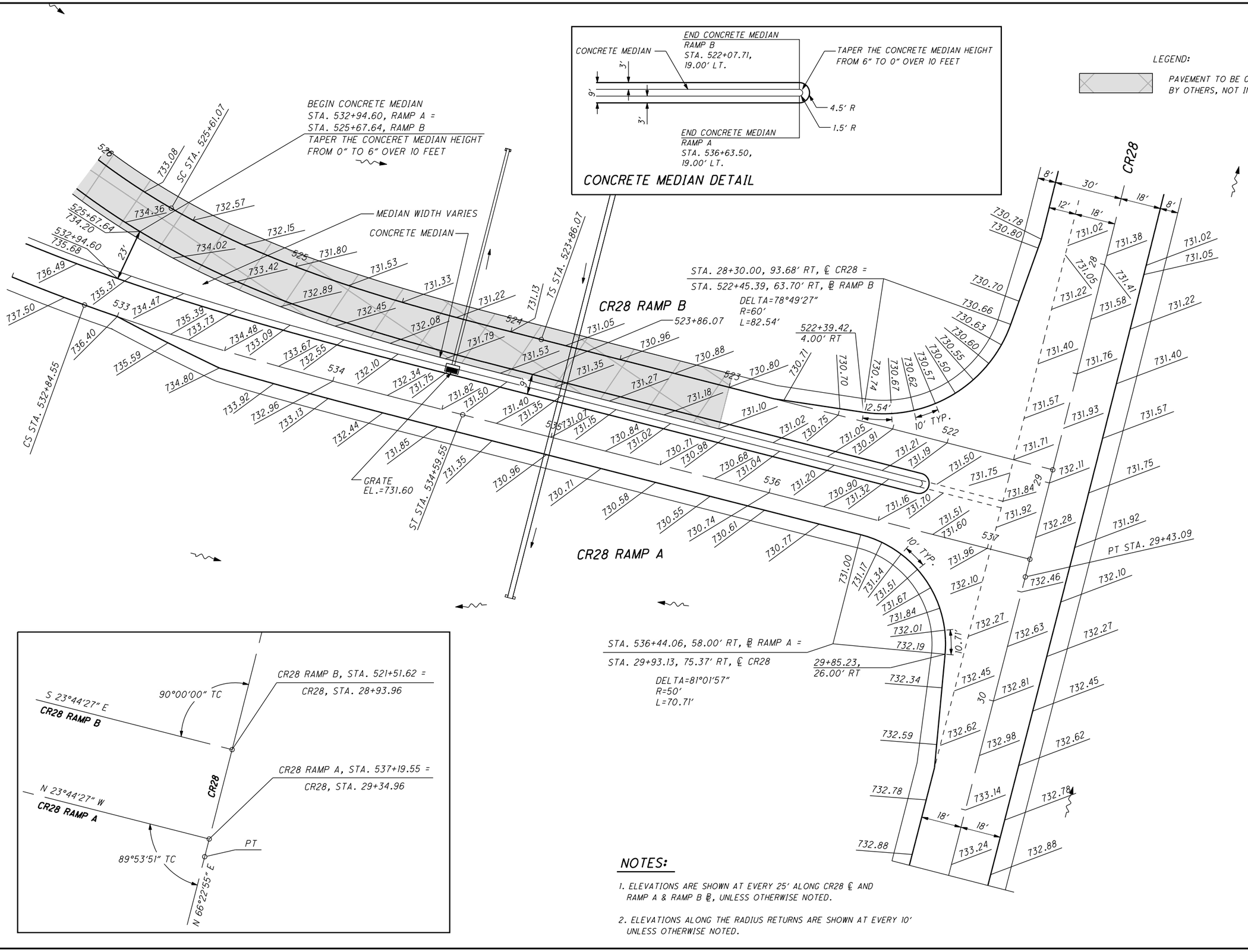
1. ELEVATIONS ARE SHOWN AT EVERY 25 FEET UNLESS OTHERWISE NOTED.

SCI-823-6.81

CR28 INTERCHANGE RAMP D PAVEMENT ELEVATIONS
SPEED CHANGE LANE AT SR823

CALCULATED LBD
CHECKED JMB

0 20
10 40
HORIZONTAL SCALE IN FEET



NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25' ALONG CR28 ℄ AND RAMP A & RAMP B ℄, UNLESS OTHERWISE NOTED.

2. ELEVATIONS ALONG THE RADIUS RETURNS ARE SHOWN AT EVERY 10' UNLESS OTHERWISE NOTED.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

INTERSECTION DETAIL
CR28 AND RAMP A & RAMP B

SCI-823-6.81

USER: CWohlbr1 PLOT DATE: 9/15/2011 9:29:33 AM REVISION DATE: 9/15/2011
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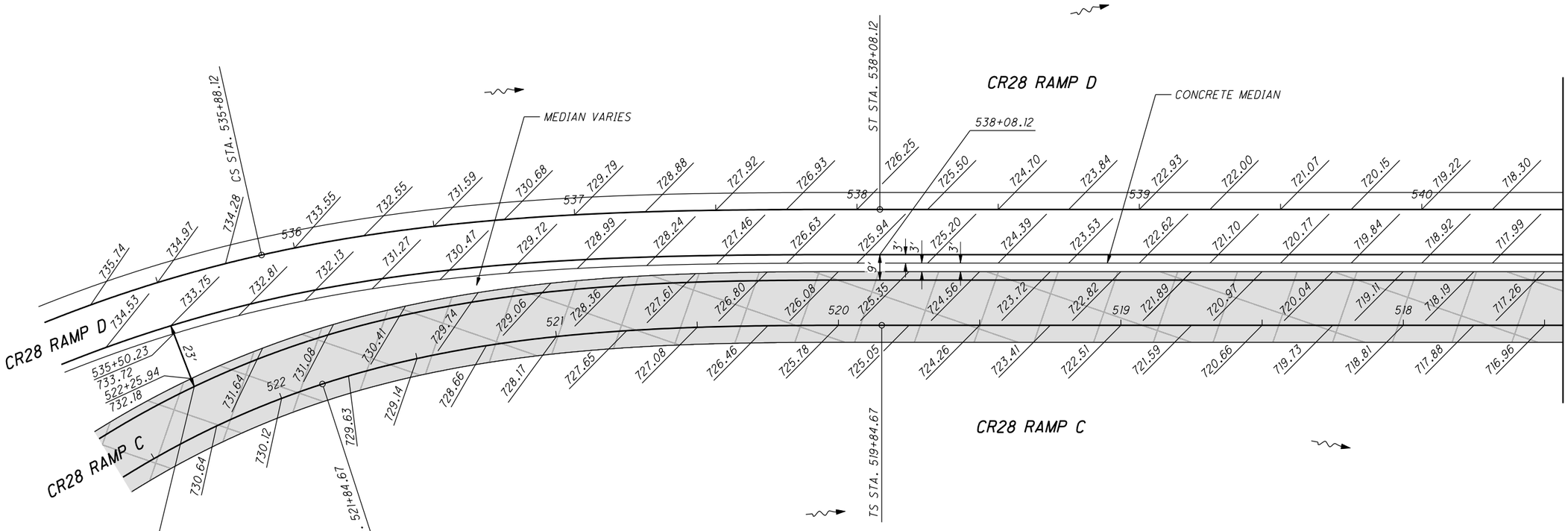
LEGEND:

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT



NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25' ALONG RAMP C AND RAMP D Ⓛ, UNLESS OTHERWISE NOTED.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

INTERSECTION DETAIL
CR28 INTERCHANGE, RAMP C & RAMP D

SCI-823-6.81

USER: CWohlbr PLOT DATE: 9/15/2011 9:29:43 AM REVISION DATE: 9/15/2011
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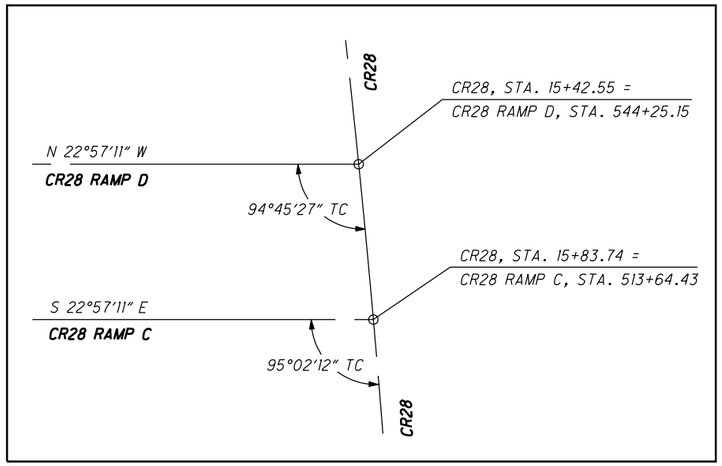
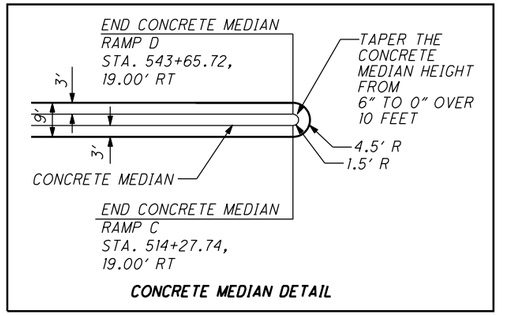
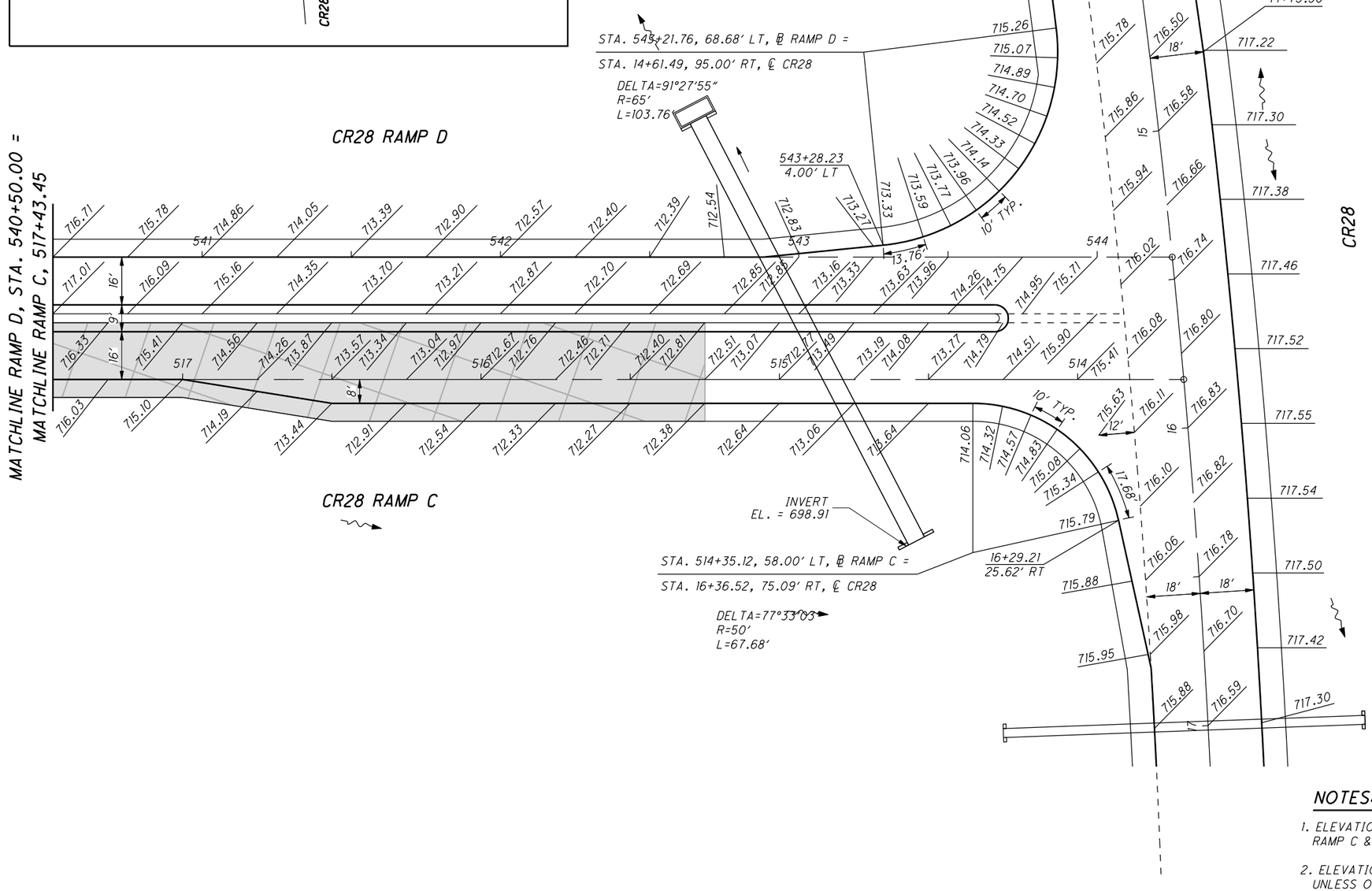




CONCRETE MEDIAN DETAIL

LEGEND:

PAVEMENT TO BE CONSTRUCTED BY OTHERS, NOT IN CONTRACT



NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25' ALONG CR28 ℄ AND RAMP C & RAMP D ℄, UNLESS OTHERWISE NOTED.
2. ELEVATIONS ALONG THE RADIUS RETURNS ARE SHOWN AT EVERY 10' UNLESS OTHERWISE NOTED.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

INTERSECTION DETAIL
CR28 AND RAMP C & RAMP D

SCI-823-6.81

USER: cwahlbri PLOT DATE: 9/15/2011 9:29:55 AM REVISION DATE: 9/15/2011
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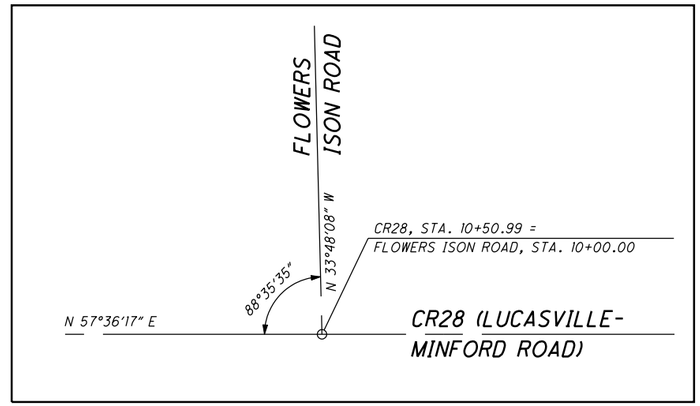
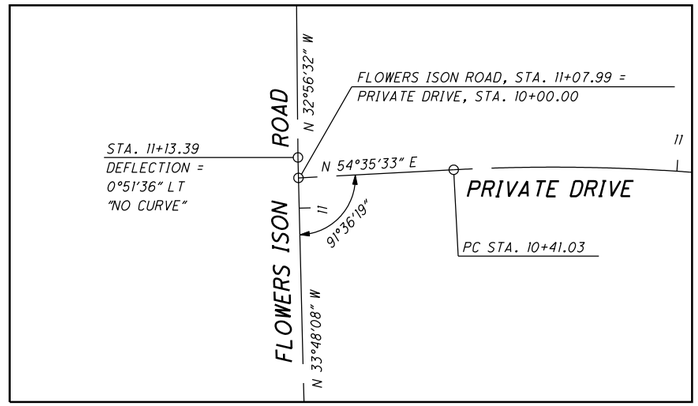




1 STA. 10+77.85,
℄ FLOWERS ISON ROAD, 33.63 RT =
STA. 10+32.77,
℄ DRIVE, 31.07' RT
DELTA = 86°47'24"
R = 25.00'
L = 37.87'

2 STA. 11+40.44,
℄ FLOWERS ISON ROAD, 33.82' RT =
STA. 10+35.10,
℄ DRIVE, 30.97' LT
DELTA = 92°43'00"
R = 25.00'
L = 40.46'

NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25', UNLESS OTHERWISE NOTED.
2. ELEVATIONS ALONG THE RADIUS RETURNS ARE SHOWN AT EVERY 10' UNLESS OYHERWISE NOTED.

HORIZONTAL SCALE IN FEET
0 10 20 40

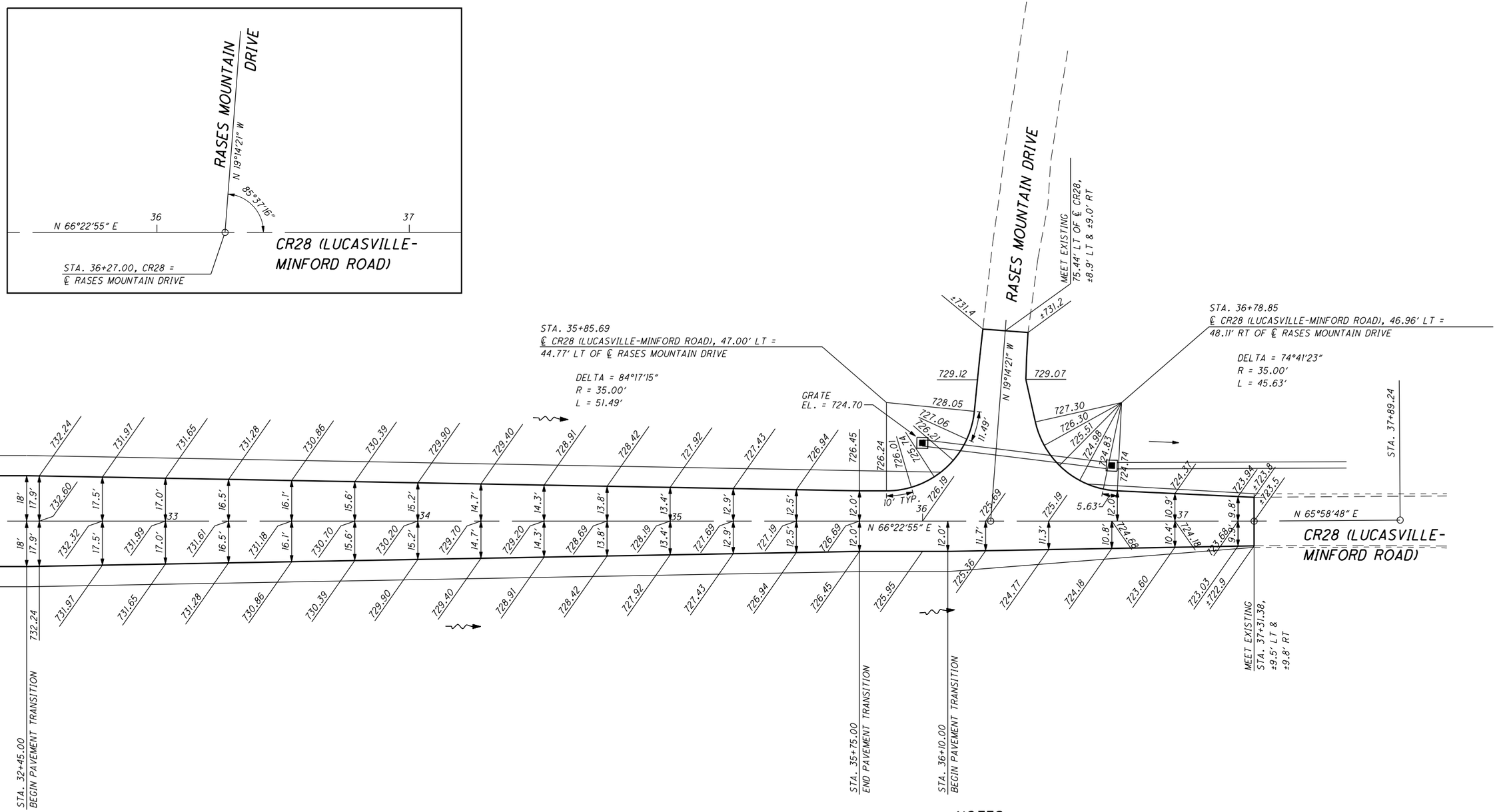
CALCULATED LBD
CHECKED JMB

INTERSECTION DETAIL
CR28 AND FLOWERS ISON ROAD

SCI-823-6.81

131
209

USER: CMahlbri PLOT DATE: 9/15/2011 9:30:04 AM REVISION DATE: 9/15/2011
FILE:...4\HDR.CU\000000000045878 /1945g10b.dgn MODEL: Sheet



NOTES:

1. ELEVATIONS ARE SHOWN AT EVERY 25', UNLESS OTHERWISE NOTED.
2. ELEVATIONS ALONG THE RADIUS RETURNS ARE SHOWN AT EVERY 10' UNLESS OTHERWISE NOTED.
3. FOR DRIVE PLAN AND PROFILES SEE DRIVE DETAIL SHEETS.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

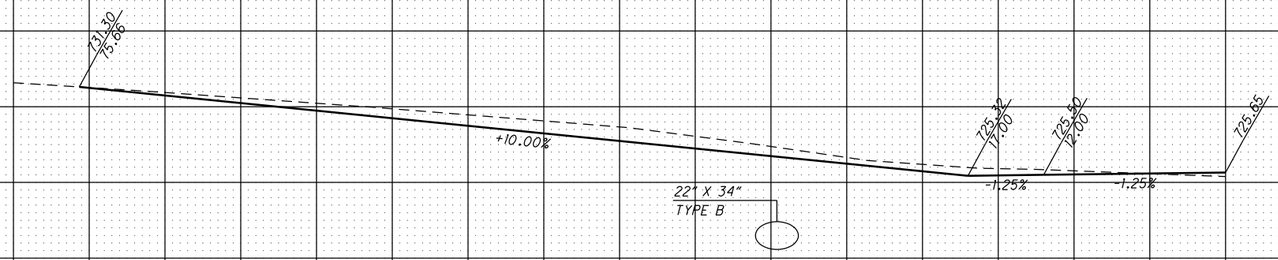
INTERSECTION DETAIL
CR28 AND RASES MOUNTAIN DRIVE

SCI-823-6.81

USER: Cmahbri PLOT DATE: 9/15/2011 9:30:10 AM REVISION DATE: 9/15/2011
FILE:...\MHDR_C\000000000045878 /19415g016.dgn MODEL: Sheet

85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45

735
730
725
720
715



RASES MOUNTAIN DRIVE

CALCULATED LBD
CHECKED JMB

RASES MOUNTAIN DRIVE PROFILE

SCI-823-6.81

133
209

USER: Cwahlbri PLOT DATE: 9/15/2011 9:30:20 AM REVISION DATE: 9/15/2011
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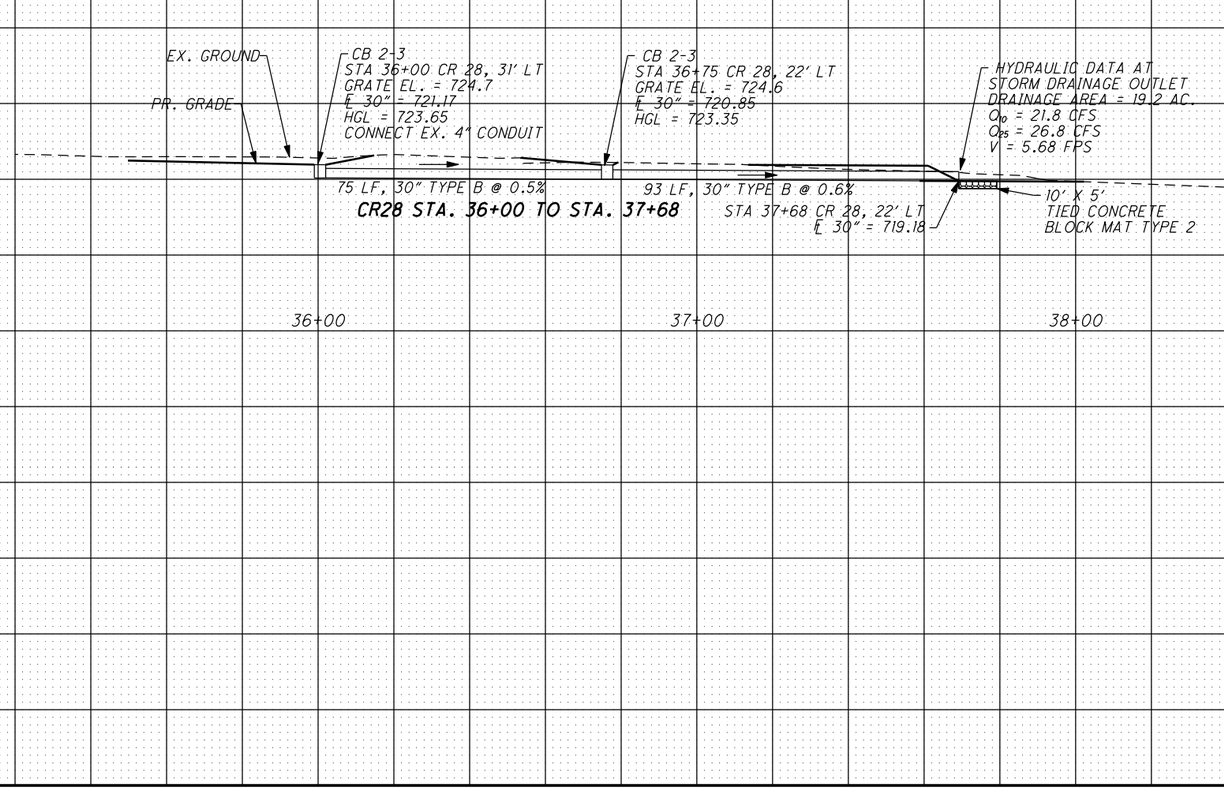


CR28 STA. 36+00 TO STA. 37+68

STORM SEWER PROFILES

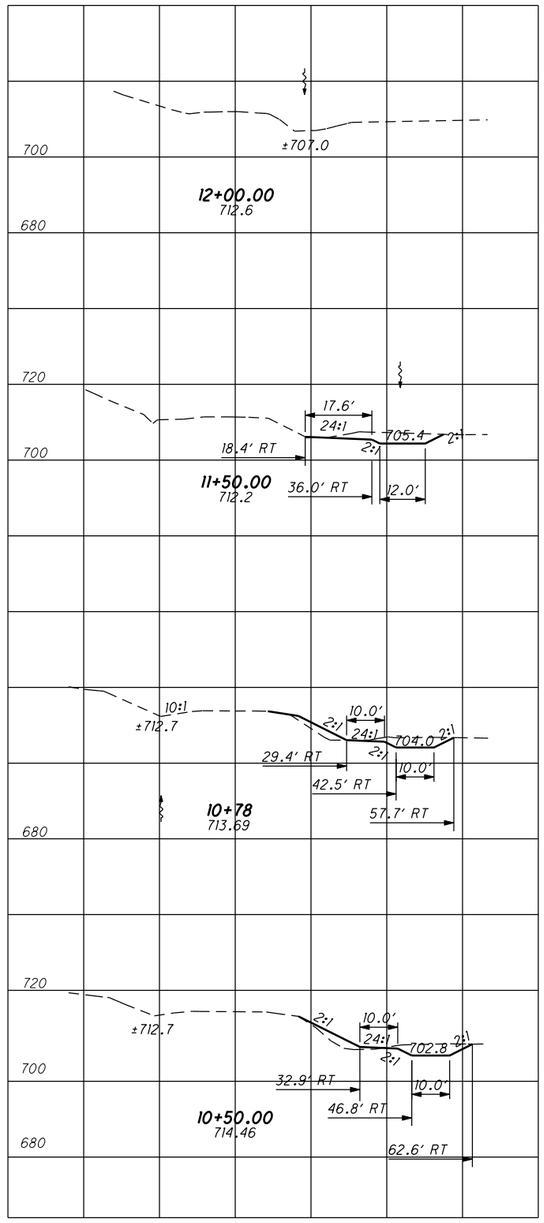
CALCULATED BEE
CHECKED KAG

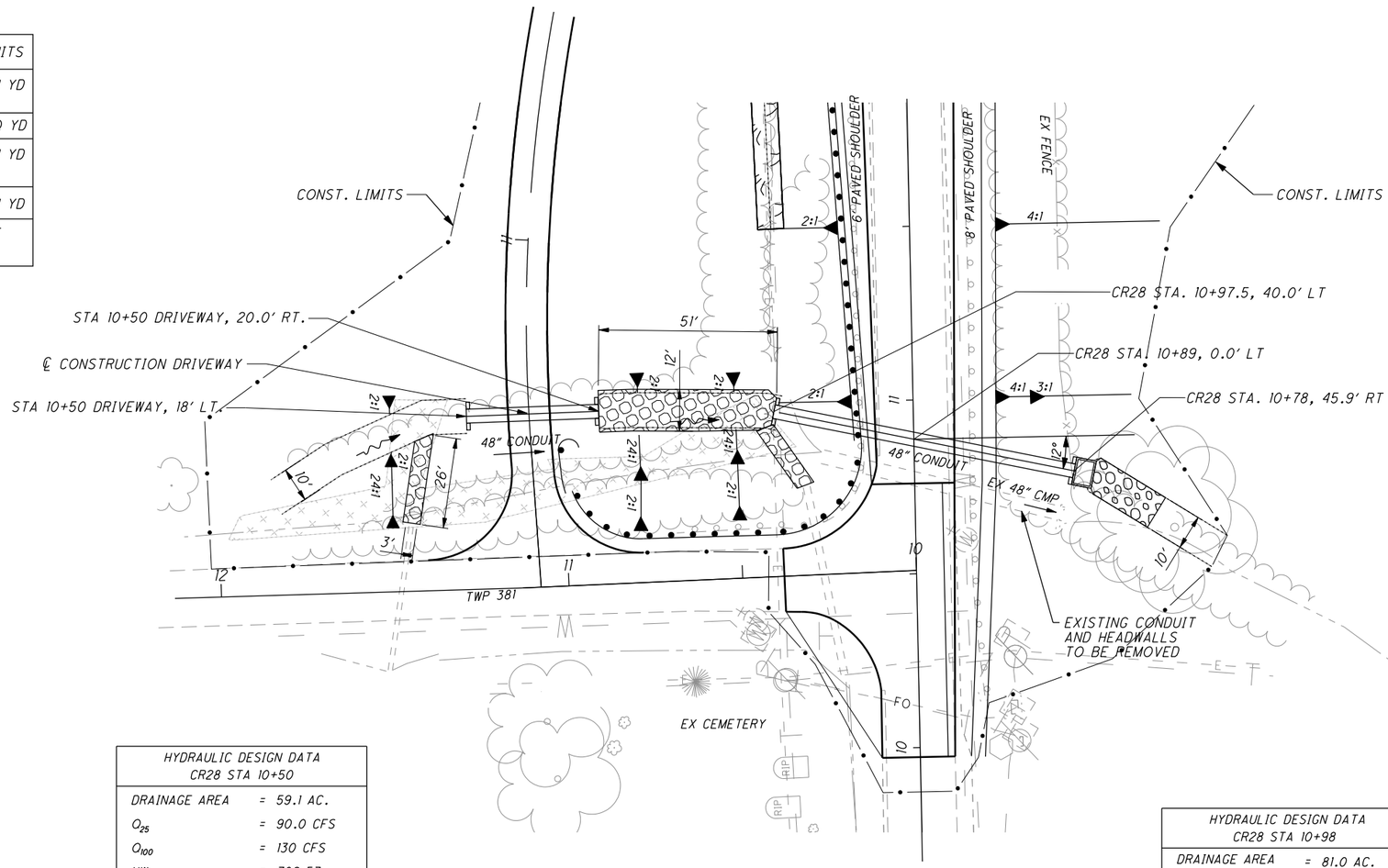
SCI-823-6.81

USER: CWohlbr; PLOT DATE= 9/15/2011 9:30:43 AM REVISION DATE= 9/15/2011
FILE...AHGR.Cu0000000045878 /1945df004.dgn MODEL: Sheet

ITEM	DESCRIPTION	QUANTITY	UNITS
601	RIPRAP USING 6" REINFORCED CONCRETE SLAB	4	CU YD
601	TIED CONCRETE BLOCK MAT, TYPE 2	68	SQ YD
601	ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER	30	CU YD
602	CONCRETE MASONRY	4.4	CU YD
603	48" CONDUIT TYPE A, 706.02 (1000 D-LOAD)	126	FT

QUANTITIES CARRIED TO SHEET 33

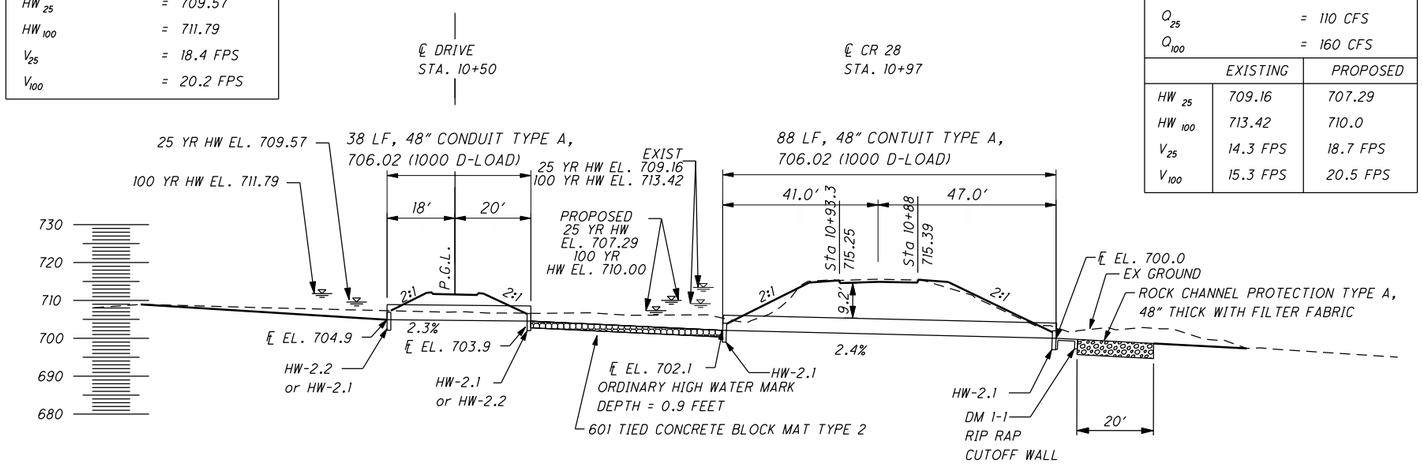




HYDRAULIC DESIGN DATA CR28 STA 10+50		
DRAINAGE AREA	=	59.1 AC.
Q_{25}	=	90.0 CFS
Q_{100}	=	130 CFS
HW_{25}	=	709.57
HW_{100}	=	711.79
V_{25}	=	18.4 FPS
V_{100}	=	20.2 FPS

HYDRAULIC DESIGN DATA CR28 STA 10+98		
DRAINAGE AREA	=	81.0 AC.
Q_{25}	=	110 CFS
Q_{100}	=	160 CFS

	EXISTING	PROPOSED
HW_{25}	709.16	707.29
HW_{100}	713.42	710.0
V_{25}	14.3 FPS	18.7 FPS
V_{100}	15.3 FPS	20.5 FPS



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KAG
CHECKED LBD

CULVERT DETAIL
CR28 STA. 10+90

SCI-823-6.81

135
209

USER: Cwahlbri PLOT DATE: 9/15/2011 9:31:03 AM REVISION DATE: 9/15/2011
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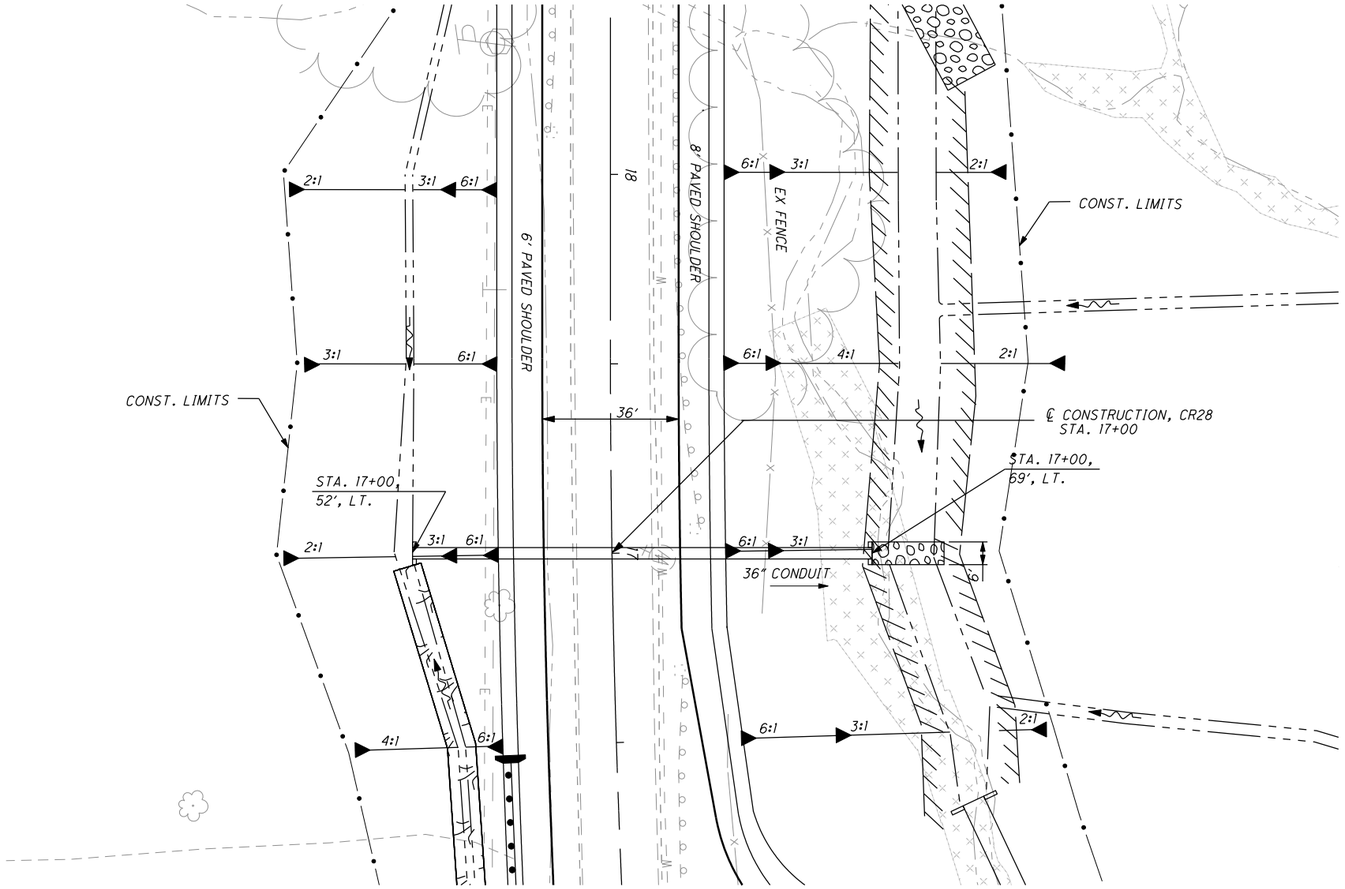
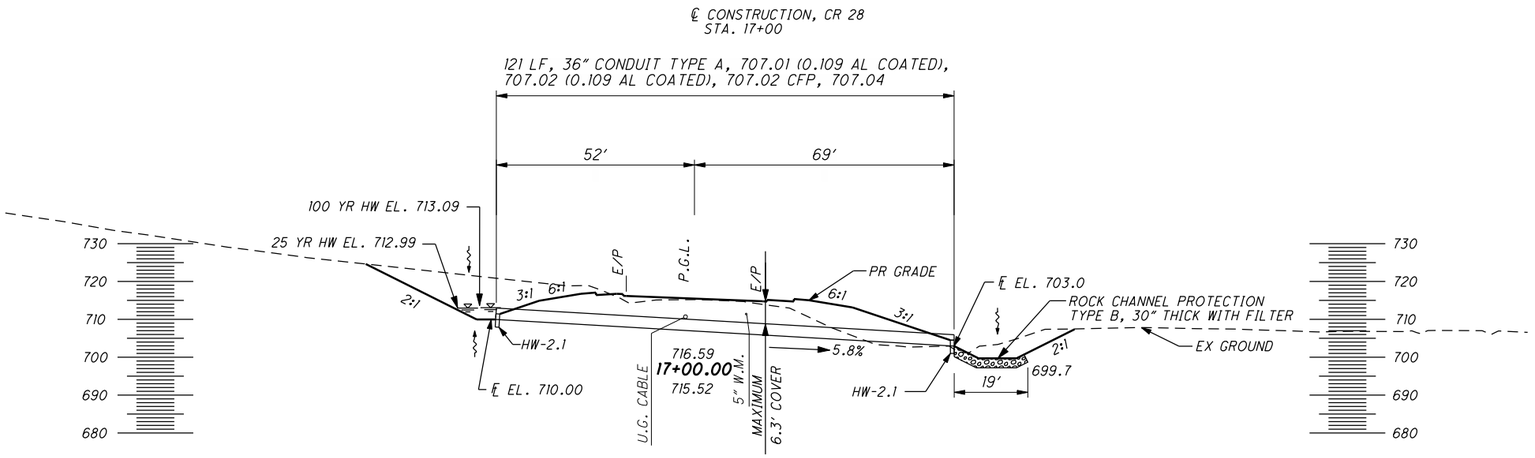


ITEM	DESCRIPTION	QUANTITY	UNITS
601	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	11	CU YD
602	CONCRETE MASONRY	1.5	CU YD
603	36" CONDUIT TYPE A, 707.01 (0.109 AL COATED), 707.02 (0.109 AL COATED), 707.02 CFP, 707.04	121	FT

QUANTITIES CARRIED TO SHEET 33



HYDRAULIC DESIGN DATA CR28 STA 17+00		
DRAINAGE AREA	=	12.2 AC.
Q_{25}	=	37 CFS
Q_{100}	=	46 CFS
HW_{25}	=	712.99
HW_{100}	=	713.09
V_{25}	=	10.5 FPS
V_{100}	=	11.2 FPS

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KAG
CHECKED JIF

CULVERT DETAIL
CR28 STA. 17+00

SCI-823-6.81

USER: Cwahlbri PLOT DATE: 9/15/2011 9:31:09 AM REVISION DATE: 9/15/2011
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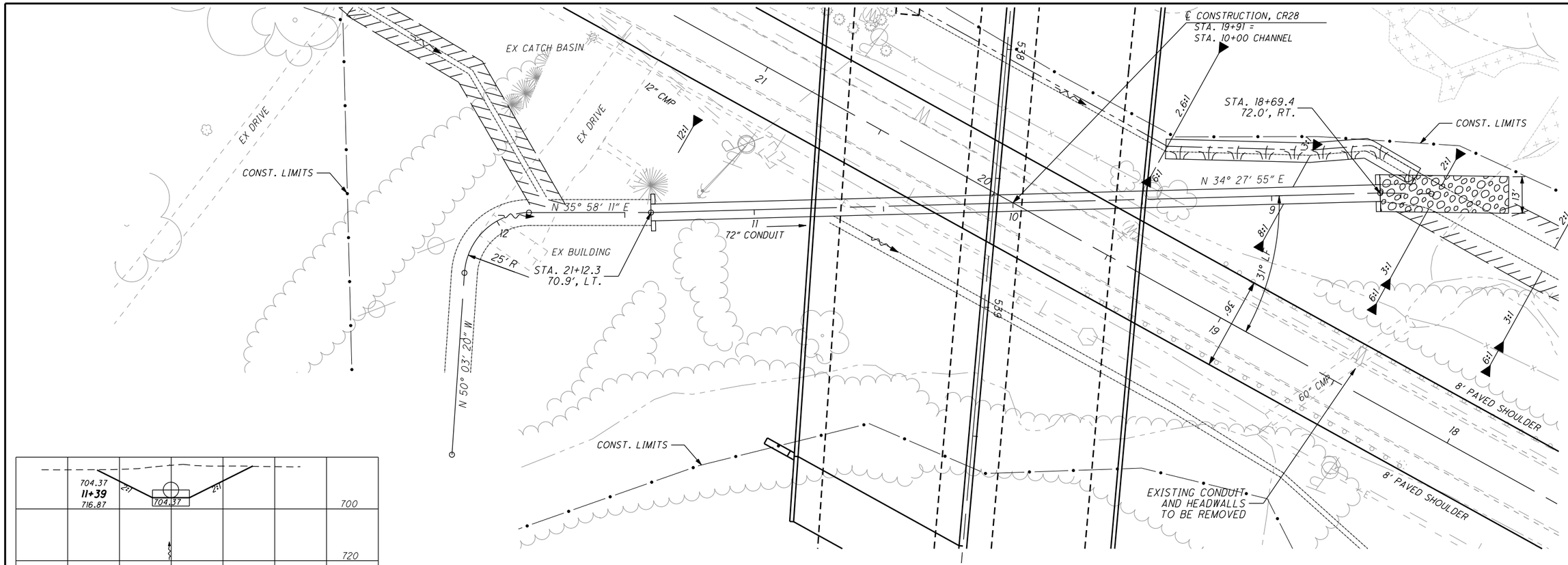
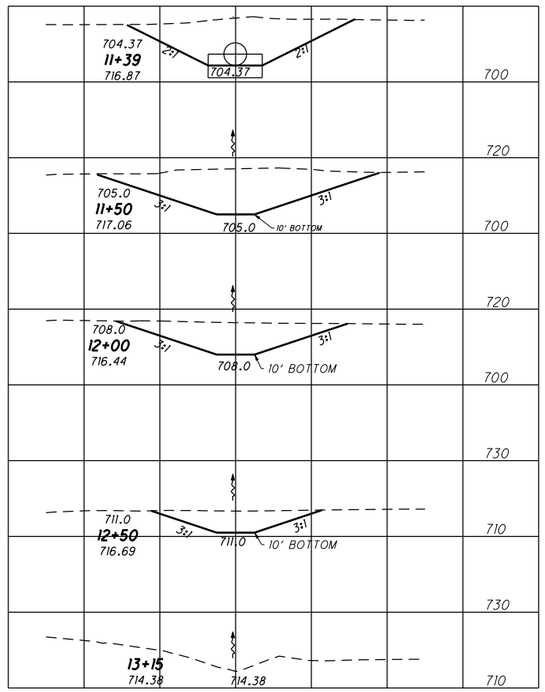
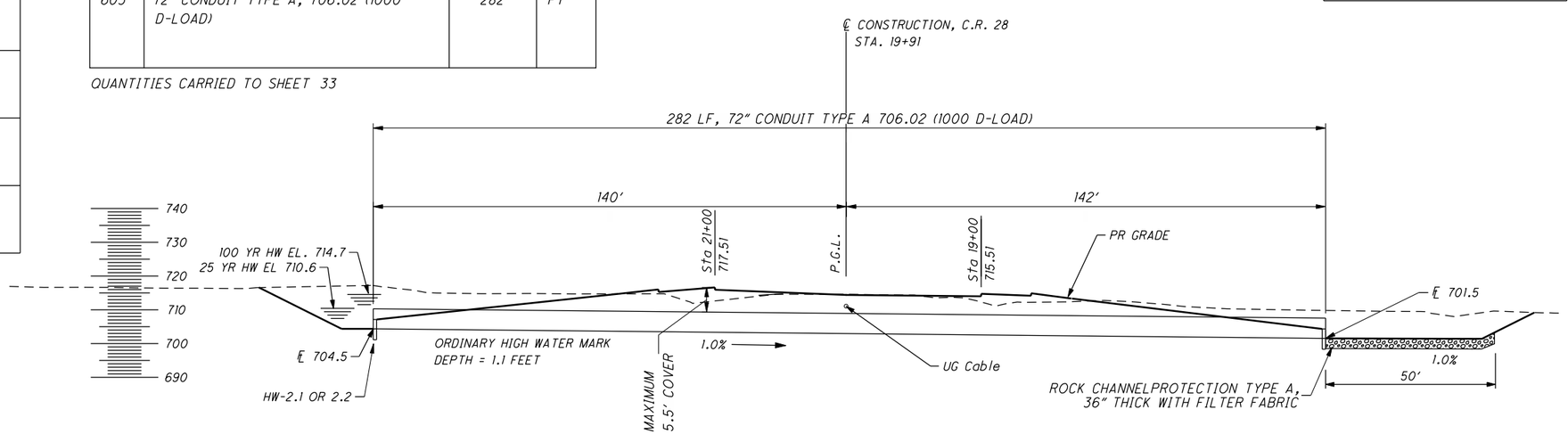




ITEM	DESCRIPTION	QUANTITY	UNITS
601	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	72	CU YD
602	CONCRETE MASONRY	5.5	CU YD
603	72" CONDUIT TYPE A, 706.02 (1000 D-LOAD)	282	FT

QUANTITIES CARRIED TO SHEET 33

HYDRAULIC DESIGN DATA	
DRAINAGE AREA	= 193.3 AC.
Q_{25}	= 201 CFS
Q_{100}	= 291 CFS
HW_{25}	= 710.6
HW_{100}	= 714.7
V_{25}	= 8.8 FPS
V_{100}	= 12.3 FPS



CALCULATED KAG CHECKED JLF

HORIZONTAL SCALE IN FEET
0 10 20 40

CULVERT DETAIL
CR28 STA. 19+91

SCI-823-6.81

137
209

USER: CWohlbri PLOT DATE: 9/15/2011 9:31:15 AM REVISION DATE: 9/15/2011
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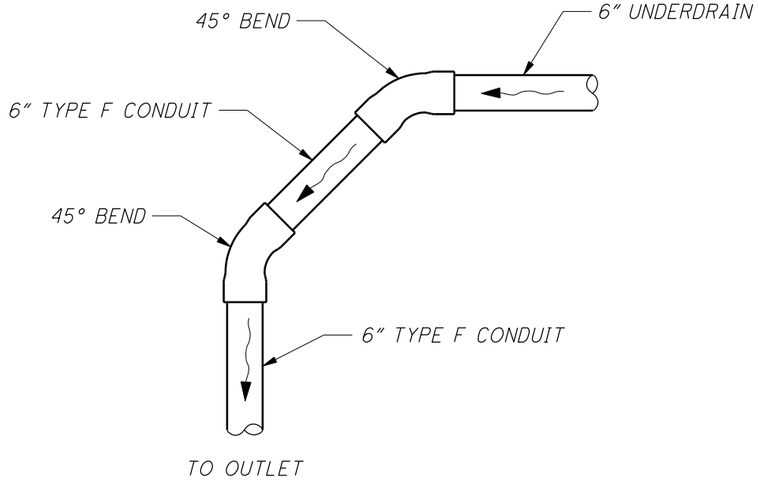
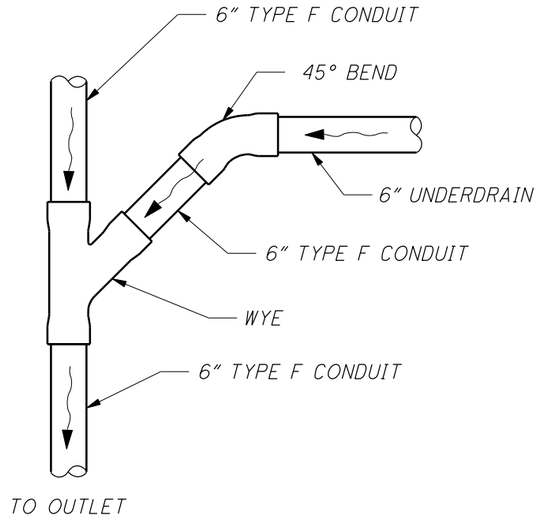
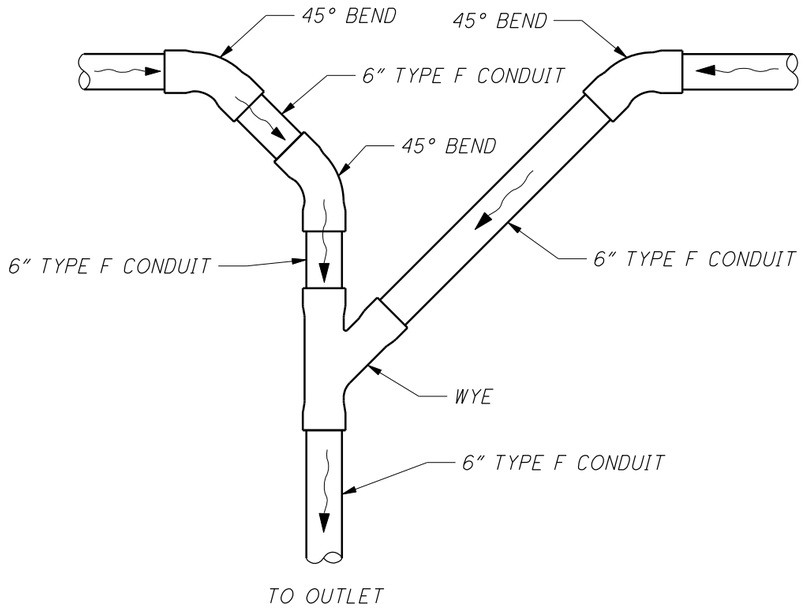


UNDERDRAIN DETAIL (A) (PLAN)
N.T.S.

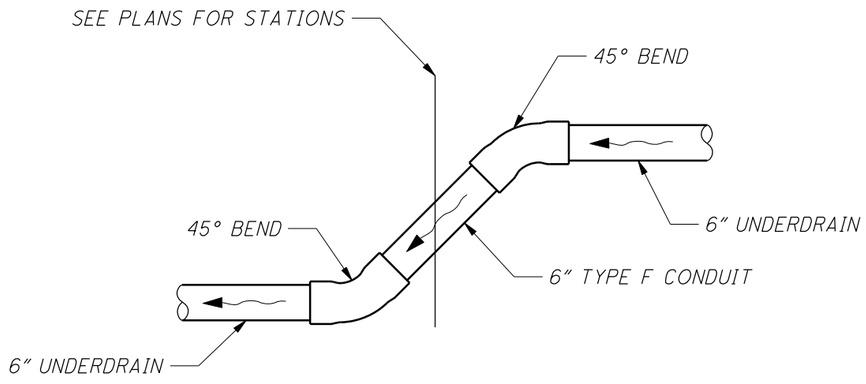


UNDERDRAIN DETAIL (B) (PLAN)
N.T.S.



UNDERDRAIN DETAIL (A) & (B) (PLAN)
N.T.S.

UNDERDRAIN DETAIL (C)
N.T.S.



UNDERDRAIN DEPTH TRANSITION DETAIL (PROFILE)
N.T.S.

NOTE: SEE PLANS FOR LOCATIONS OF DETAILS (A), (B) AND (C)

CALCULATED CTM
CHECKED JMB

TYPICAL UNDERDRAIN DETAILS

SCI-823-6.81

USER: Cwahibi PLOT DATE: 9/15/2011 9:31:21 AM REVISION DATE: 9/15/2011
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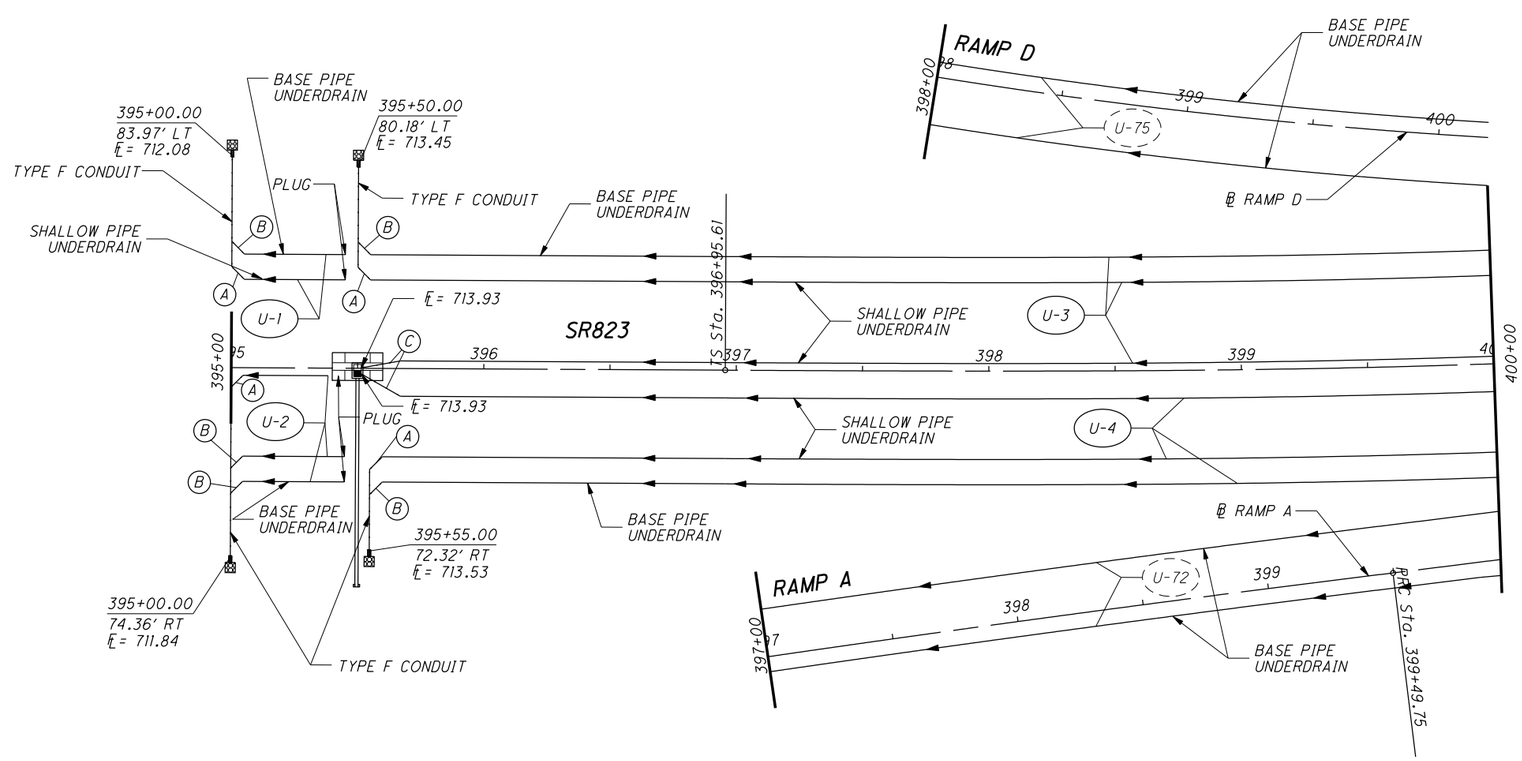


LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

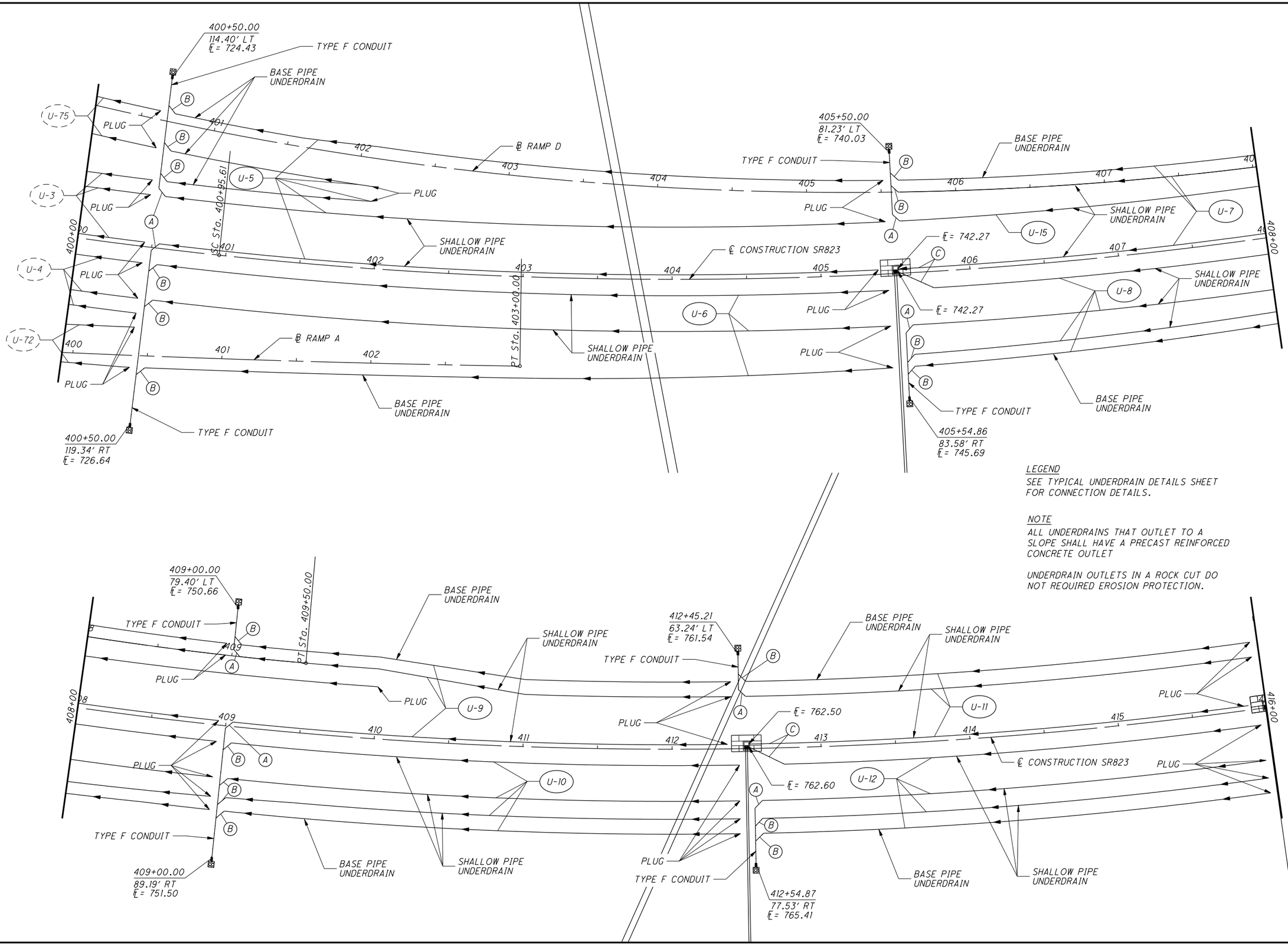
HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823 STA. 384+00 TO STA. 400+00

SCI-823-6.81

USER: CMohlbri PLOT DATE: 9/15/2011 9:31:25 AM REVISION DATE: 9/15/2011
FILE: ...&HOR_CU\0000000004878 /19415dm03.dgn MODEL: Sheet



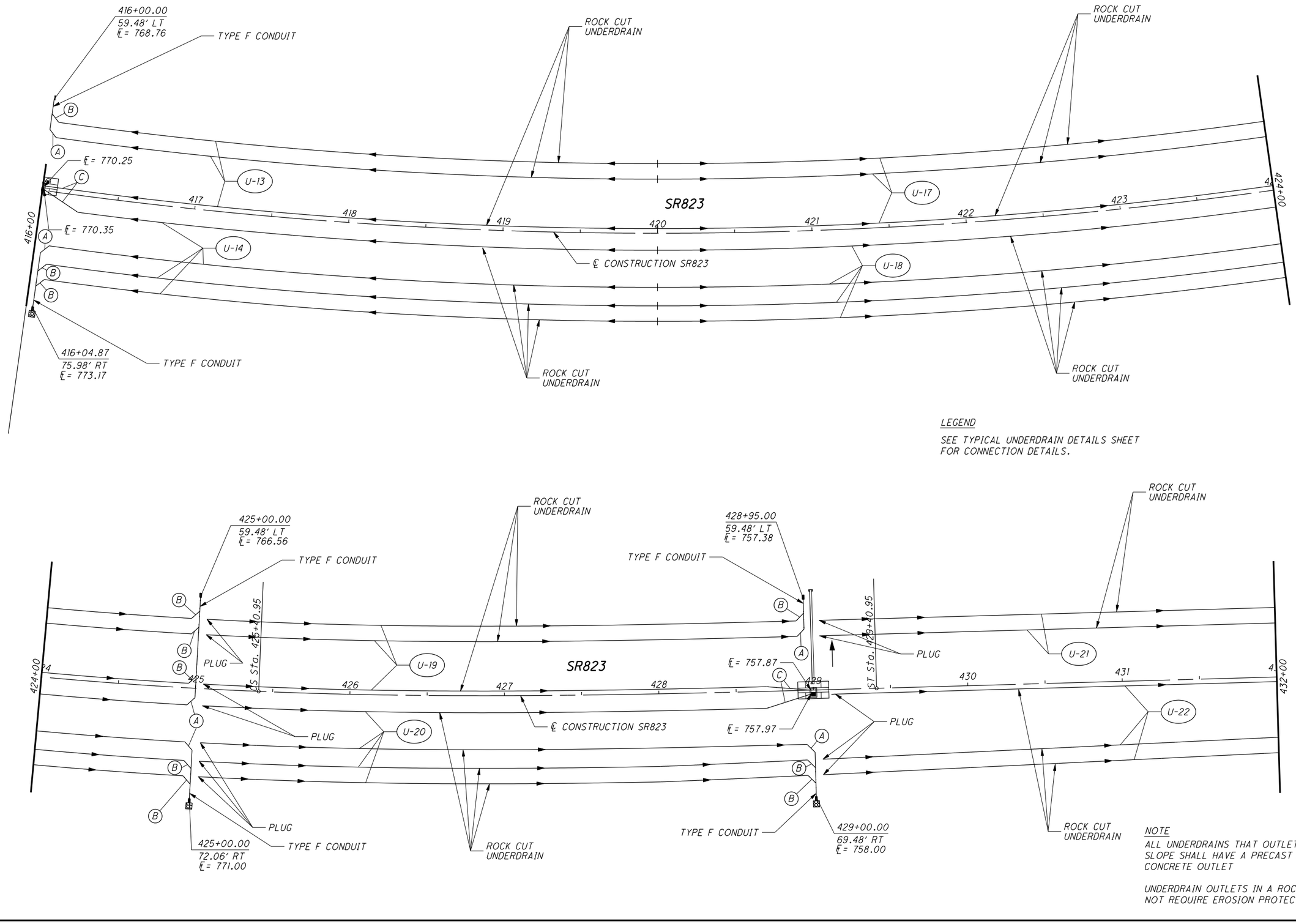
HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823
STA. 400+00 TO STA. 416+00

SCI-823-6.81

USER: Cwahlbri PLOT DATE: 9/15/2011 9:31:30 AM REVISION DATE: 9/15/2011
FILES: ...\HDR_C\BRIDGE\000000045878 /9415dm004.dgn MODEL: Sheet



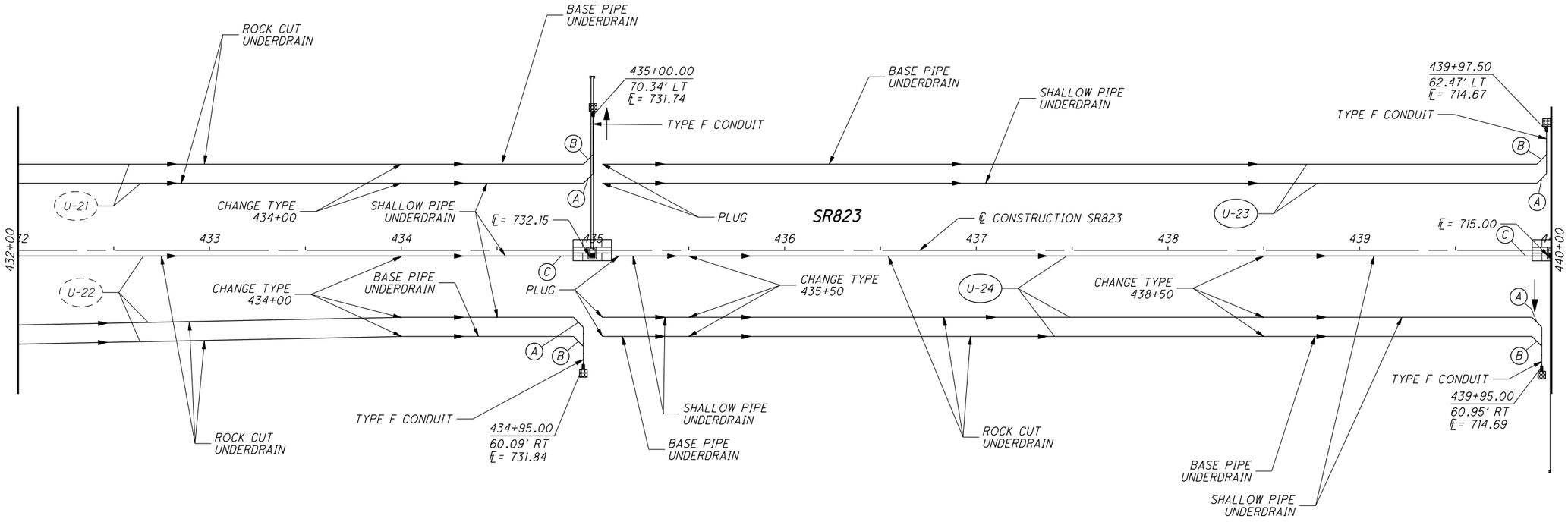
HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823
STA. 416+00 TO STA. 432+00

SCI-823-68.1

USER: CMahlbr PLOT DATE: 9/15/2011 9:39:36 AM REVISION DATE: 9/15/2011
FILE...4HOR.Cu0000000004587B /1945dm005.dgn MODEL: Sheet



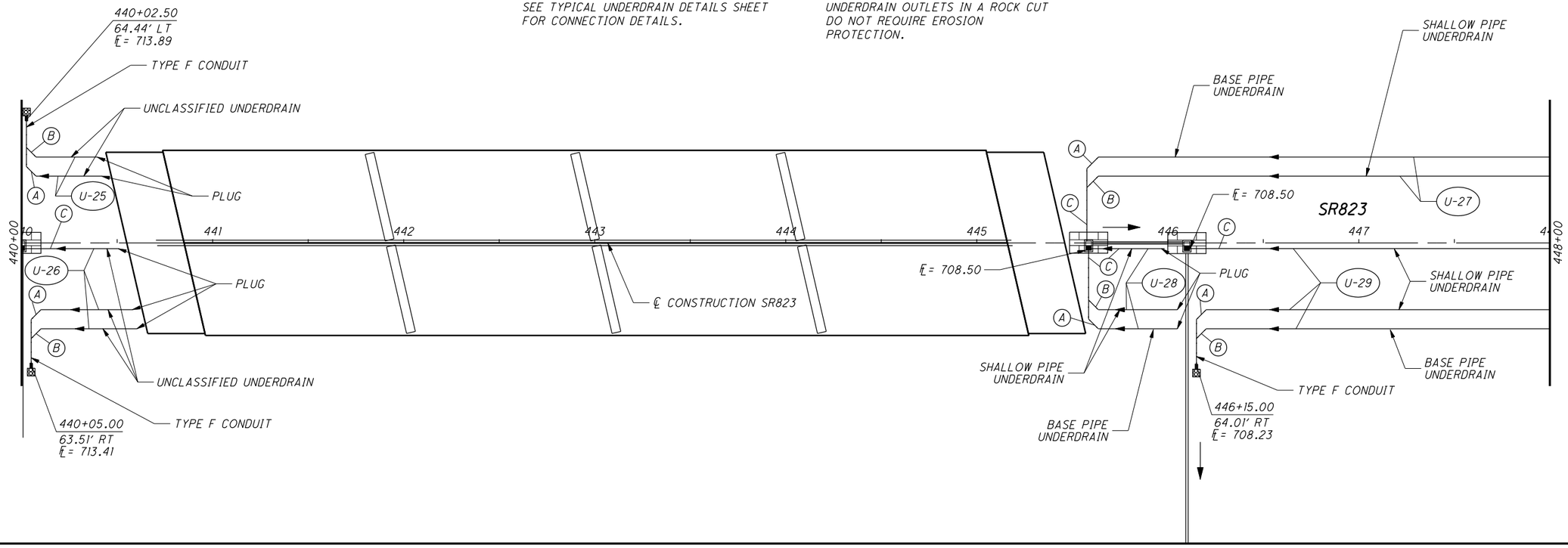
NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.



HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823
STA. 432+00 TO STA. 448+00

SCI-823-6.81

142
209

USER: CMahlbri PLOT DATE: 9/15/2011 9:31:41 AM REVISION DATE: 9/15/2011
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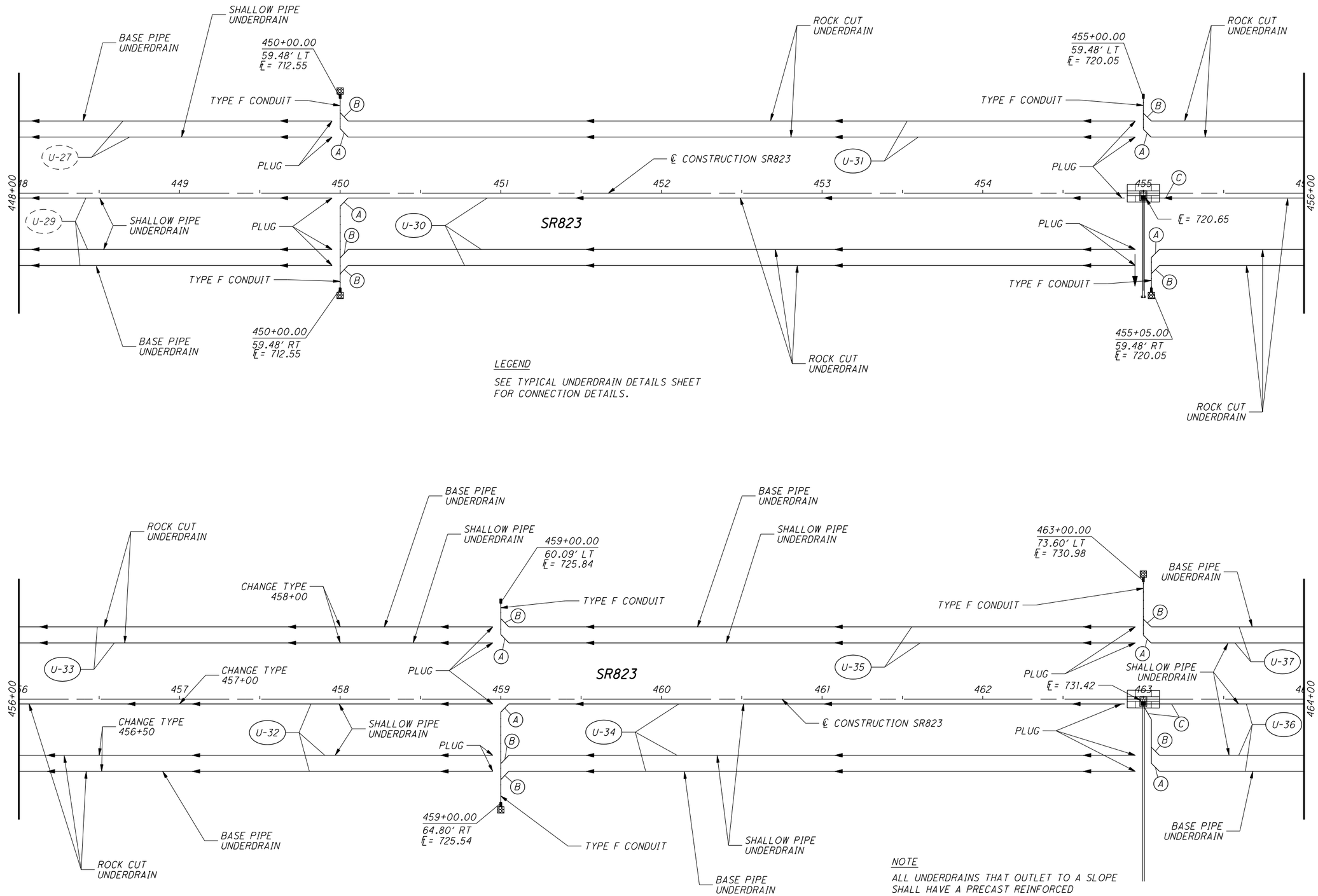

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823 STA. 448+00 TO STA. 464+00

SCI-823-6.81

USER: CMahlbr PLOT DATE: 9/15/2011 9:31:46 AM REVISION DATE: 9/15/2011 MODEL: Sheet
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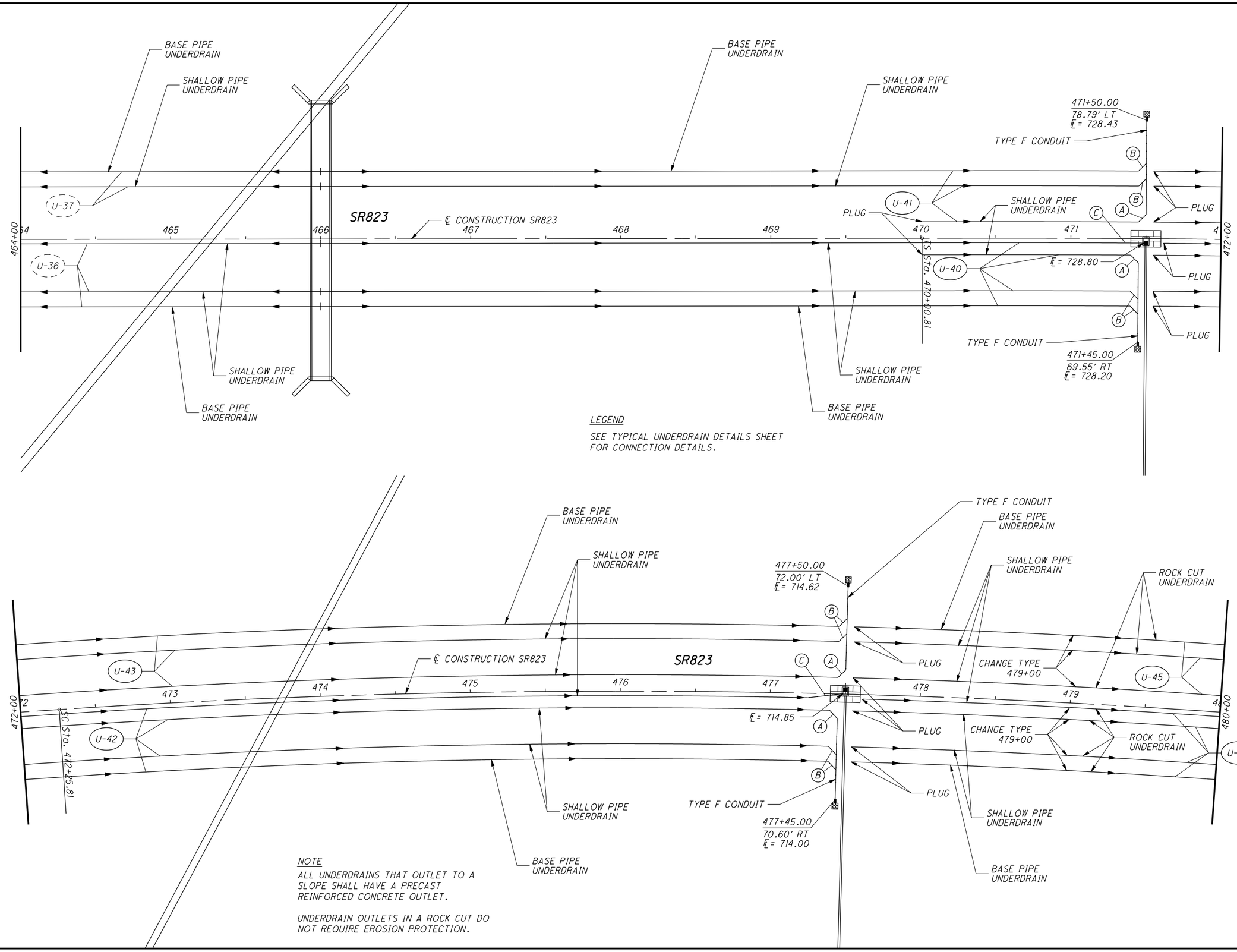

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823
STA. 464+00 TO STA. 480+00

SCI-823-6.81

144
209

USER: CMahlbri PLOT DATE: 9/15/2011 9:31:52 AM REVISION DATE: 9/15/2011
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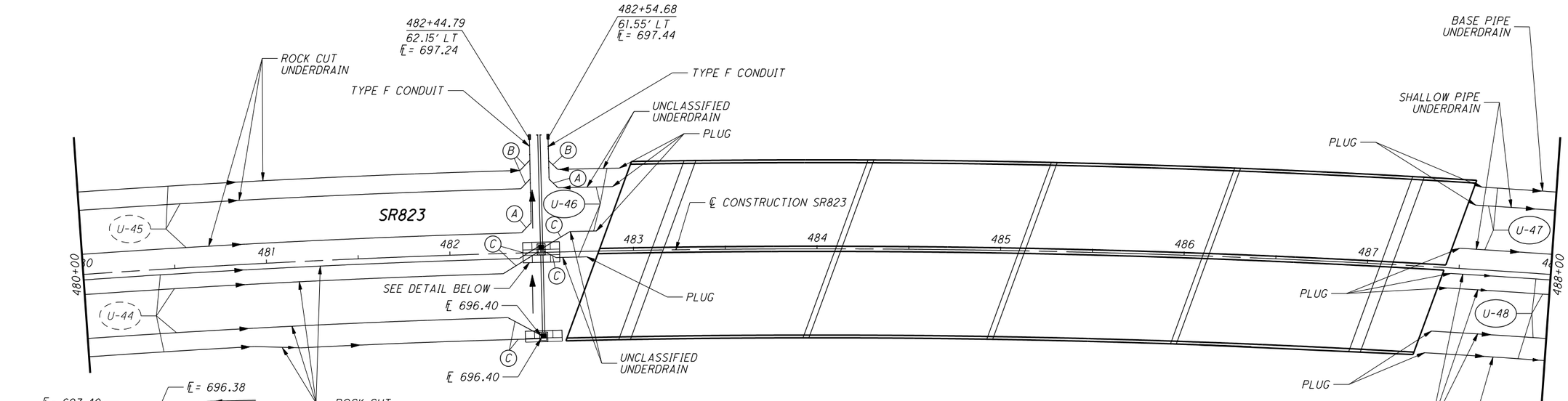
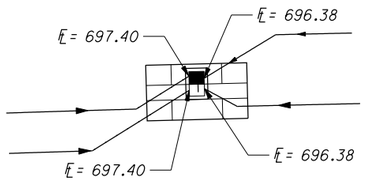
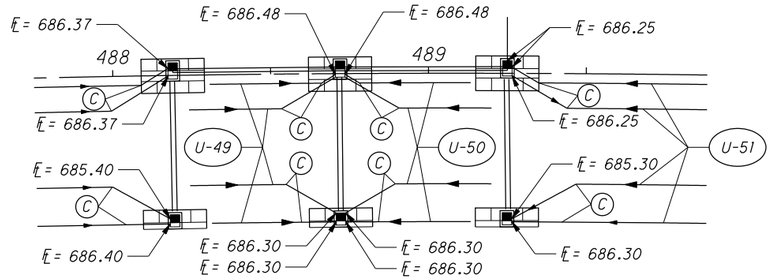




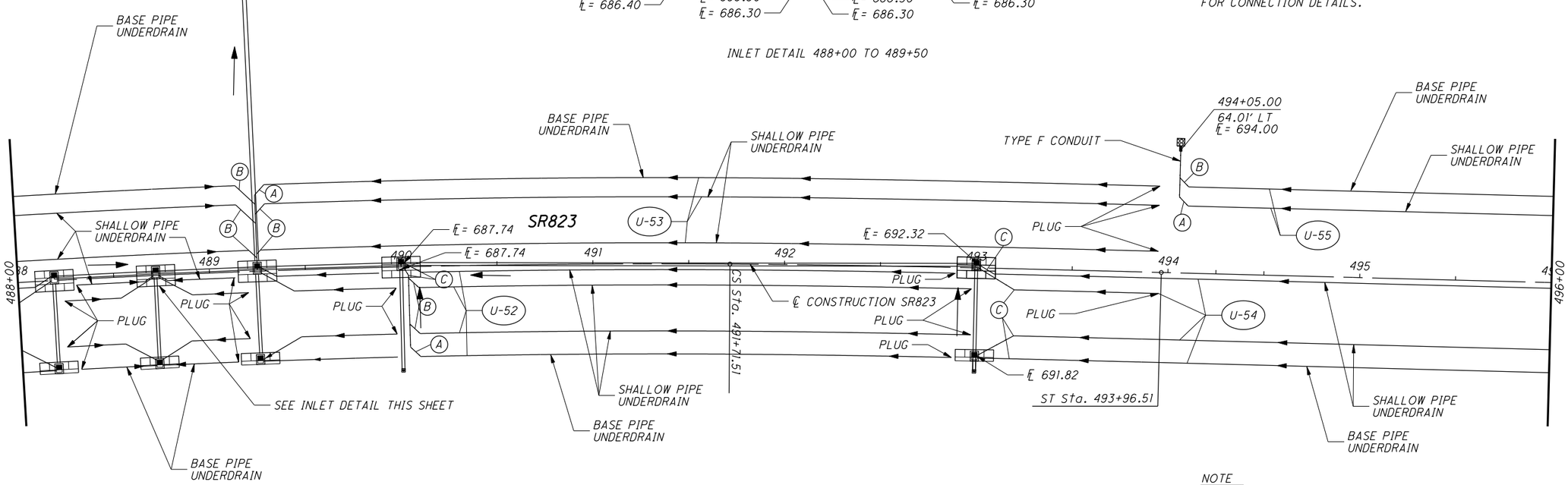
INLET DETAIL 482+50



INLET DETAIL 488+00 TO 489+50

LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.



NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRED EROSION PROTECTION.

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823
STA. 480+00 TO STA. 496+00

SCI-823-6.81

USER: CWohlbr; PLOT DATE: 9/15/2011 9:31:57 AM REVISION DATE: 9/15/2011 MODEL: Sheet
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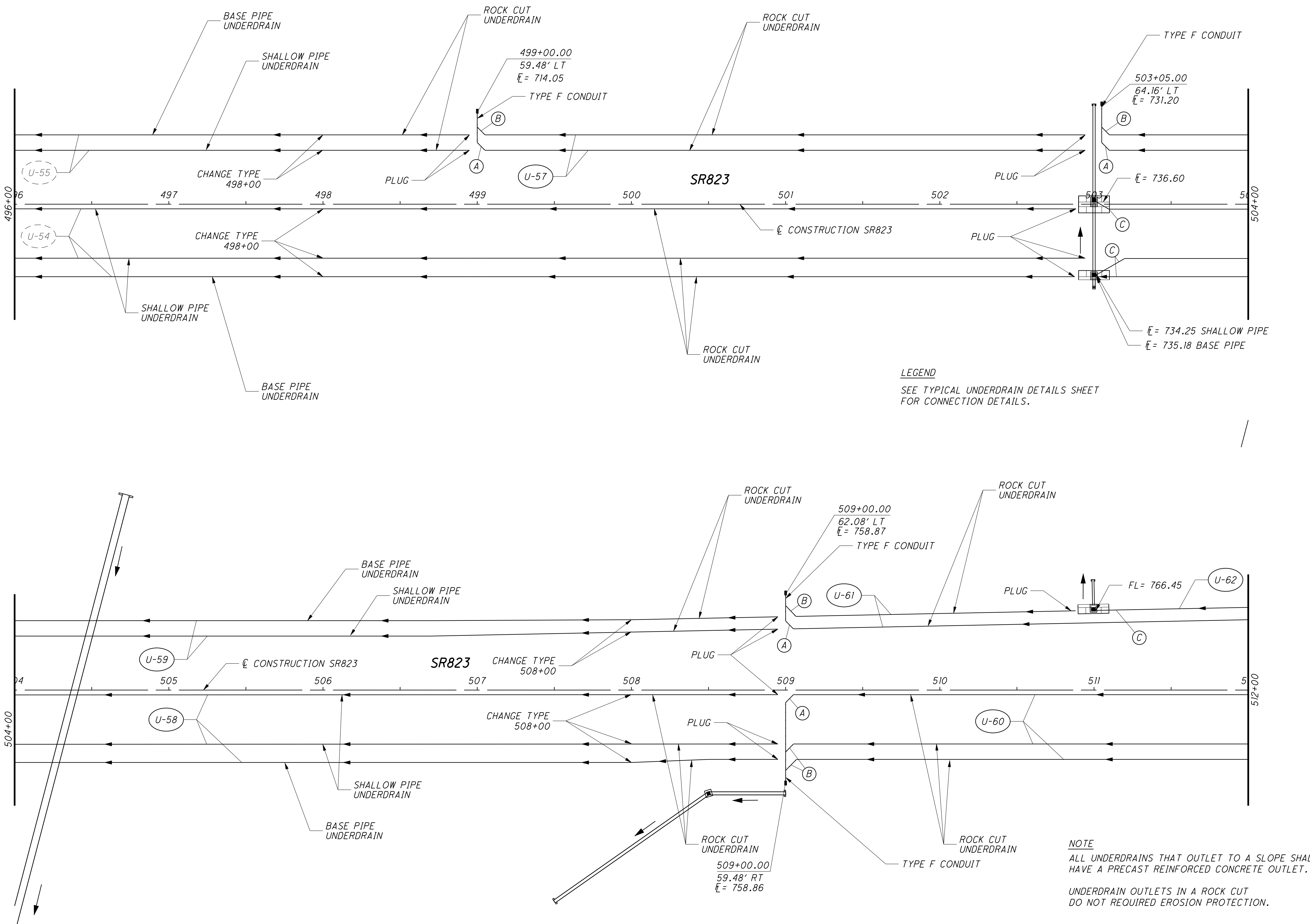


LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRED EROSION PROTECTION.

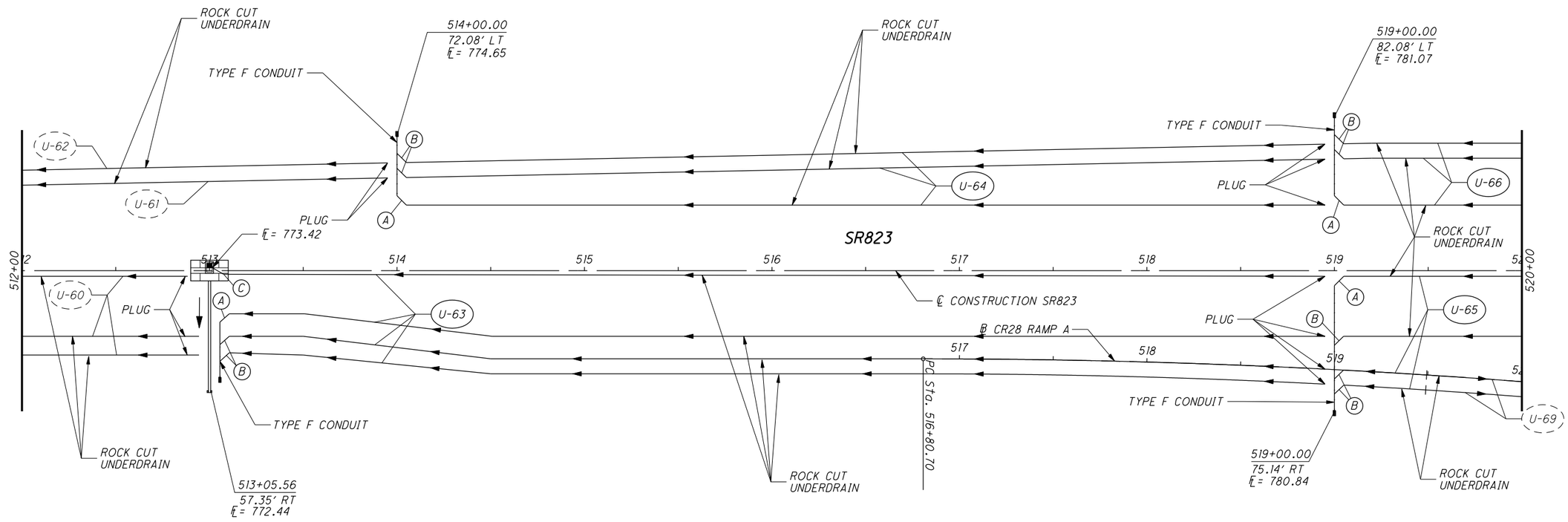
HORIZONTAL SCALE IN FEET 0 15 30 60

CALCULATED CTM CHECKED JMB

UNDERDRAIN DETAILS - SR823
STA. 496+00 TO STA. 512+00

SCI-823-6.81

USER: CWohlbr: PLOT DATE: 9/15/2011 9:32:03 AM REVISION DATE: 9/15/2011
FILE: ...\HDR_CL\... /19415dm010.dgn MODEL: Sheet



LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823 STA. 512+00 TO STA. 520+00

SCI-823-6.81

USER: CWohlbri PLOT DATE: 9/15/2011 9:32:08 AM REVISION DATE: 9/15/2011
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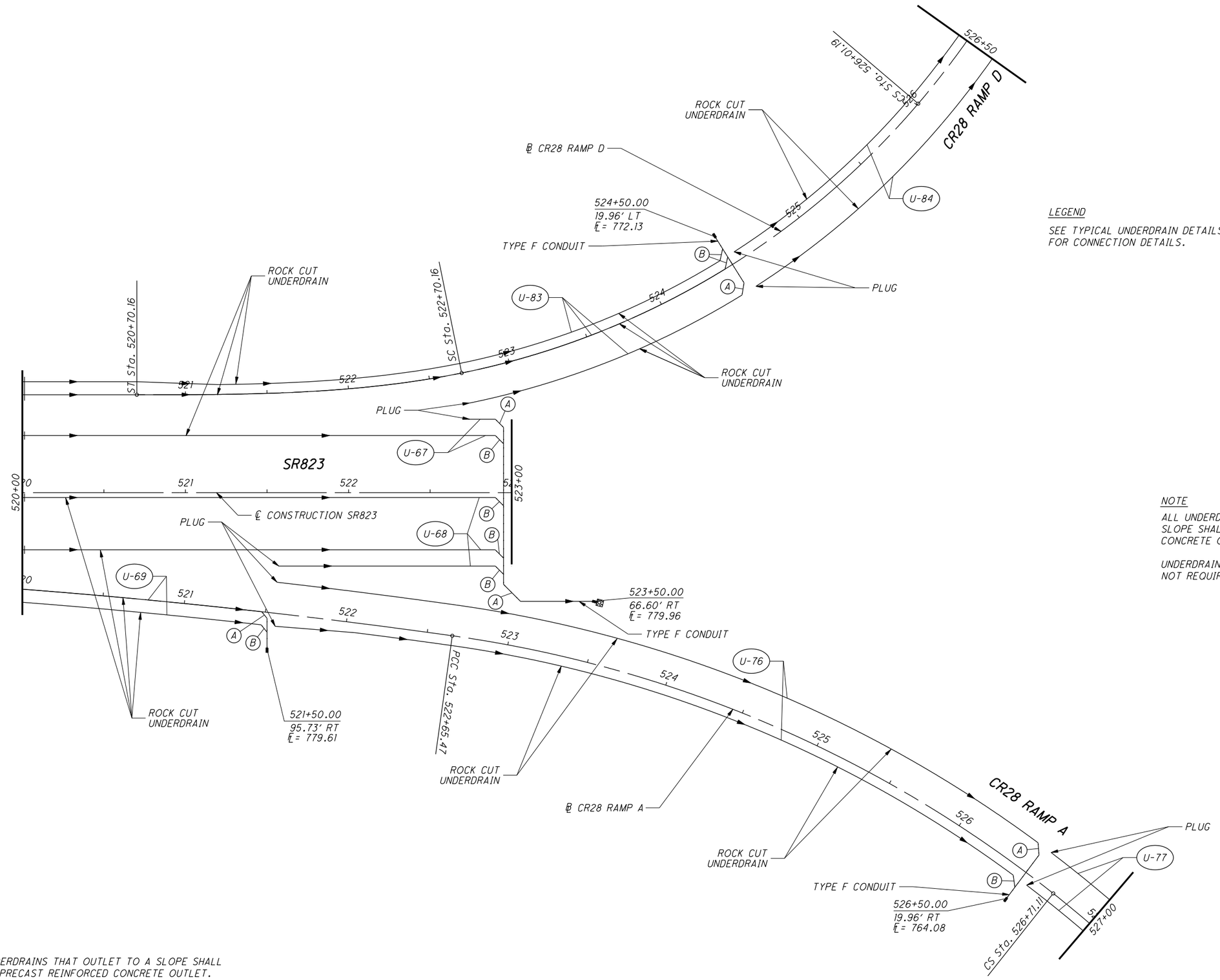

LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRED EROSION PROTECTION.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - SR823
STA. 520+00 TO STA. 528+00

SCI-823-6.81

148
209

USER: CWohlbr; PLOT DATE: 9/15/2011 9:32:13 AM REVISION DATE: 9/15/2011
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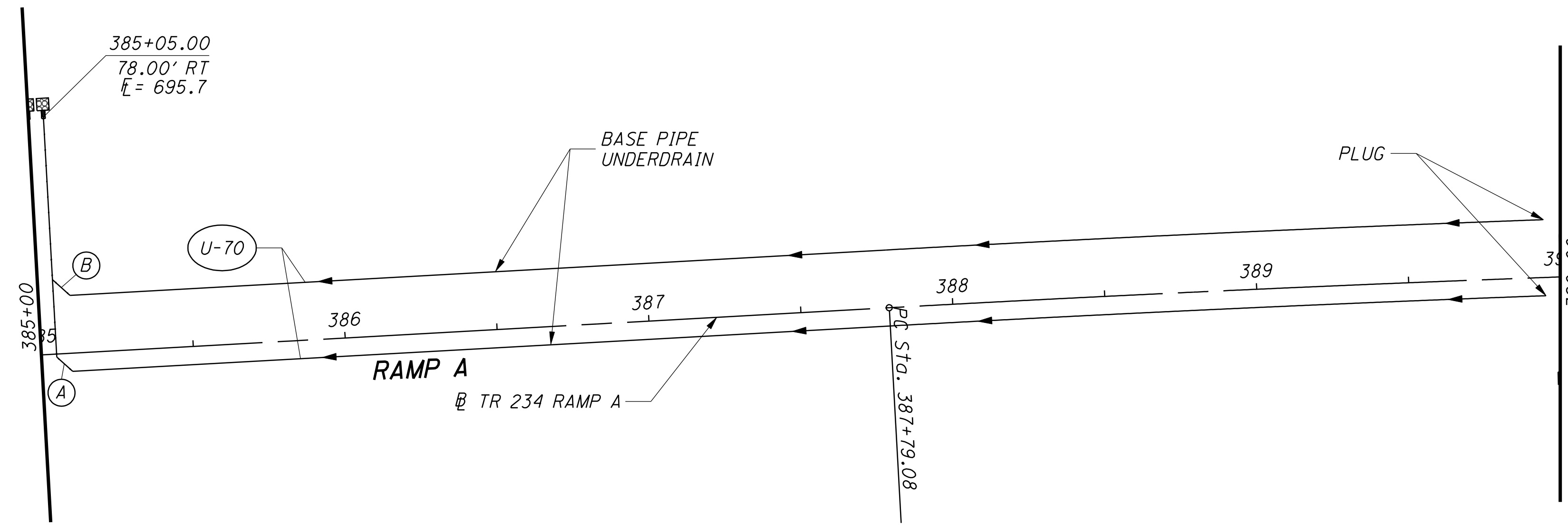
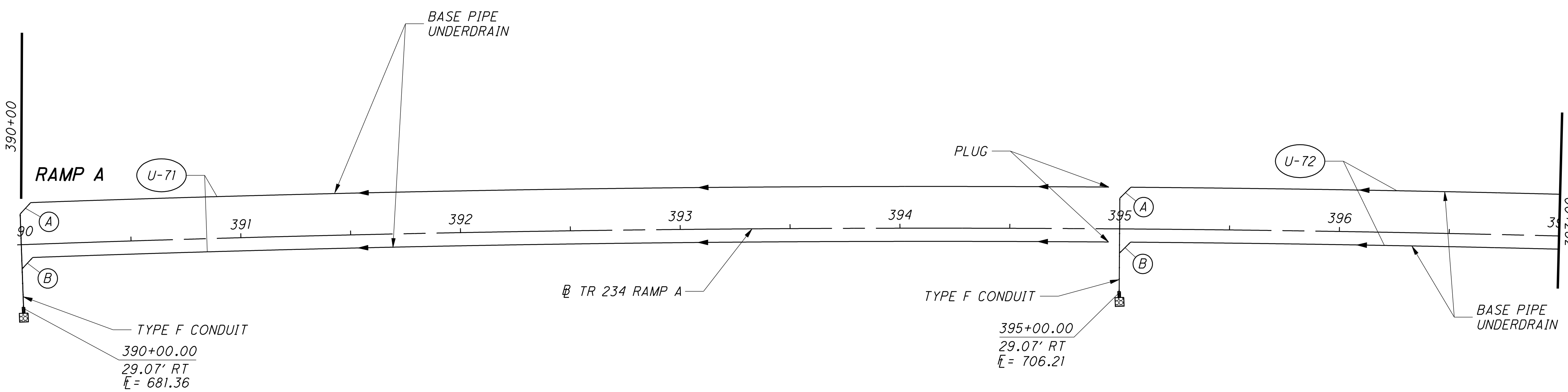
UNDERDRAIN DETAILS - TR 234 RAMP A
STA. 386+00 TO STA. 397+00



LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET
FOR CONNECTION DETAILS.



NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

HORIZONTAL SCALE IN FEET: 0, 15, 30, 60

CALCULATED: CTM
CHECKED: JMB

SCI-823-6.81

USER: CWohlbr PLOT DATE: 9/15/2011 9:32:17 AM REVISION DATE: 9/15/2011
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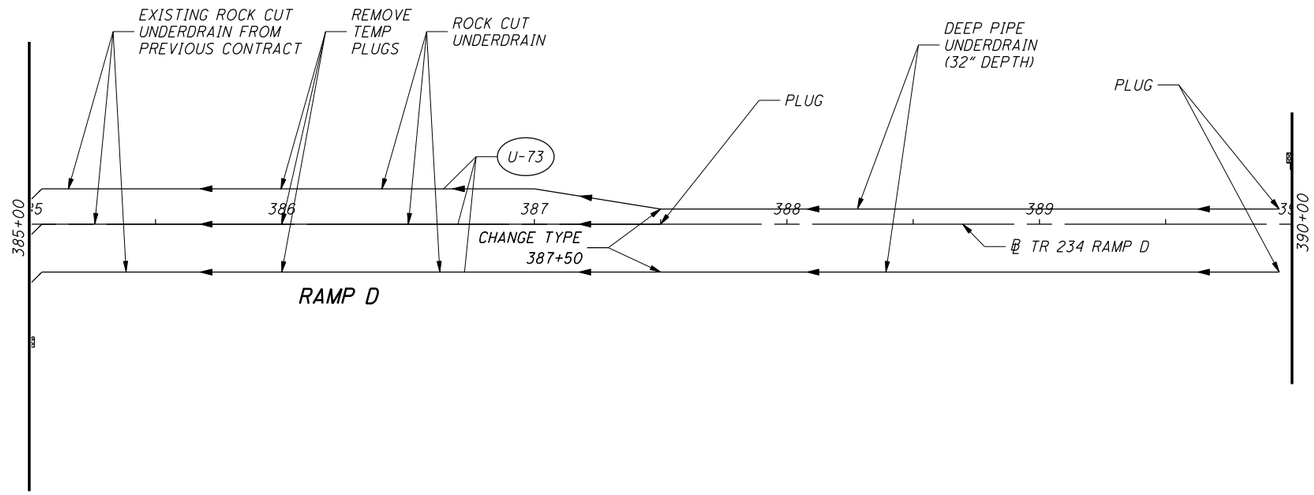
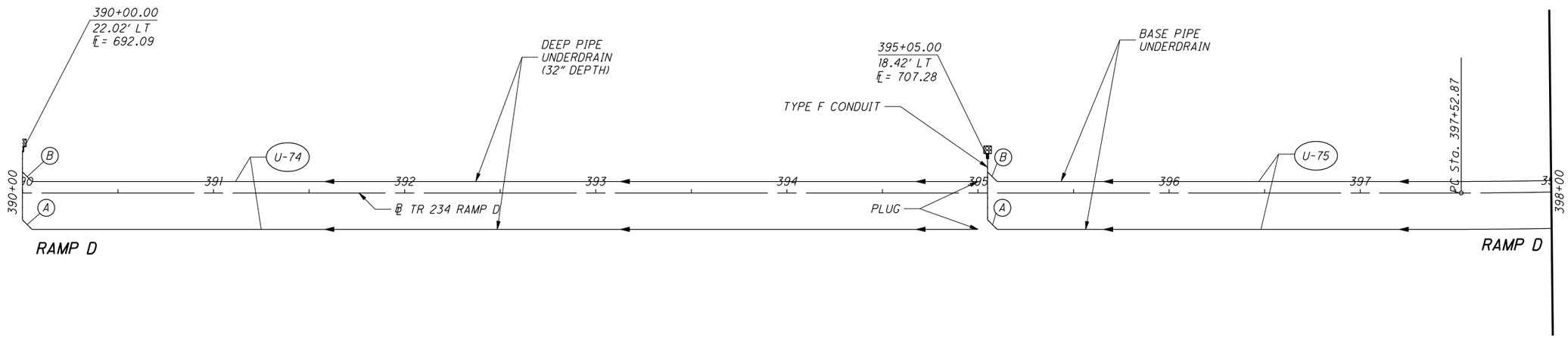


LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.



NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRED EROSION PROTECTION.

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - TR 234 RAMP D
STA. 386+00 TO STA. 398+00

SCI-823-68.1

150
209

USER: cmohibri PLOT DATE: 9/15/2011 9:32:22 AM REVISION DATE: 9/15/2011
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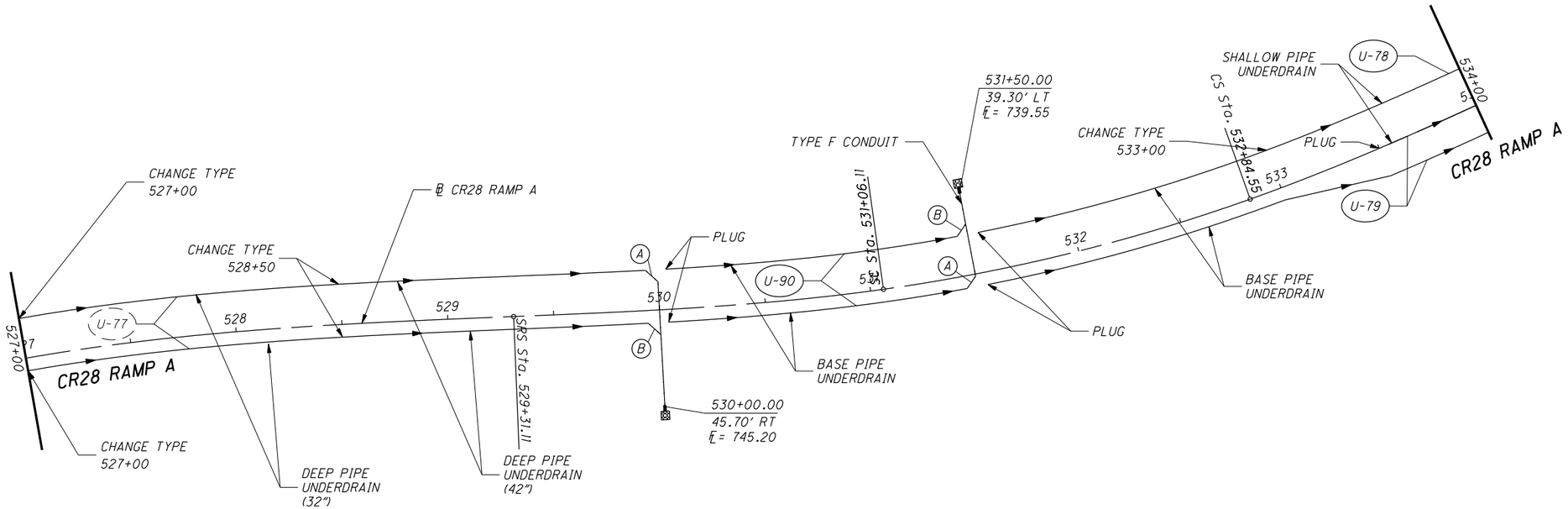


LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

UNDERDRAIN DETAILS - CR 28 RAMPS A & B
STA. 527+00 TO STA. 534+00

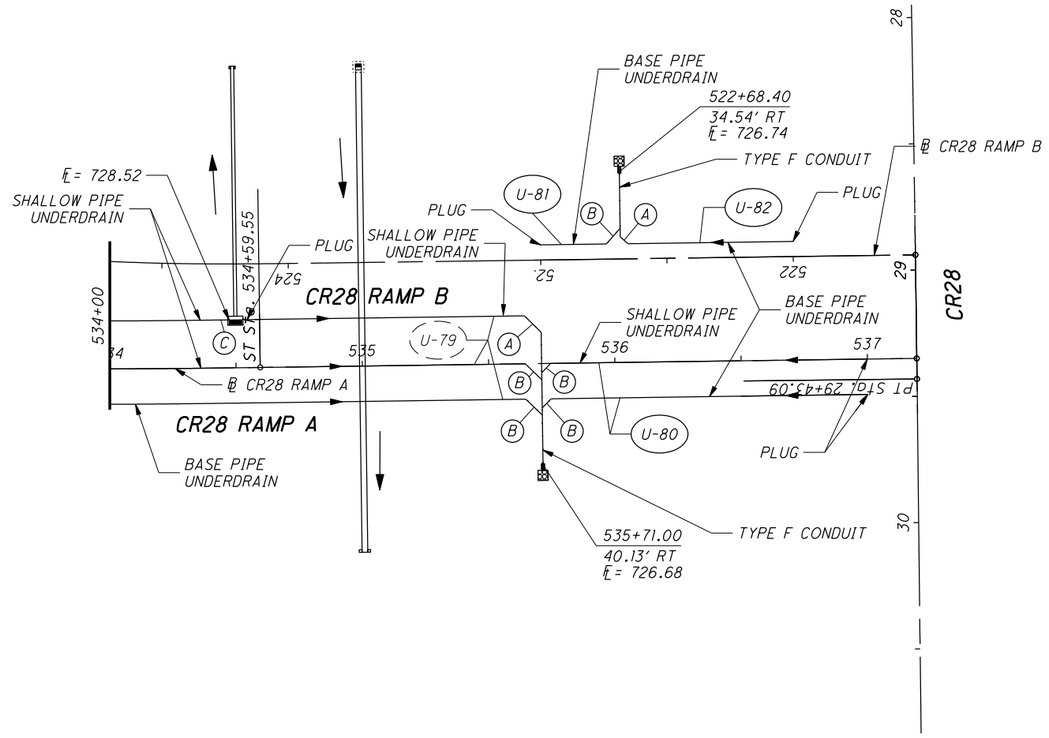
CALCULATED CTM
CHECKED JMB

HORIZONTAL SCALE IN FEET
0 15 30 60

SCI-823-6.81

151
209

USER: CWohlbr PLOT DATE: 9/15/2011 9:32:27 AM REVISION DATE: 9/15/2011
FILE:...\MHDR.C\0000000045878 /1845dm020.dgn MODEL: Sheet



LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - CR28 RAMPS A & B STA. 534+00 TO STA. 537+19

SCI-823-6.81

USER: CMahlbri PLOT DATE: 9/15/2011 9:32:32 AM REVISION DATE: 9/15/2011
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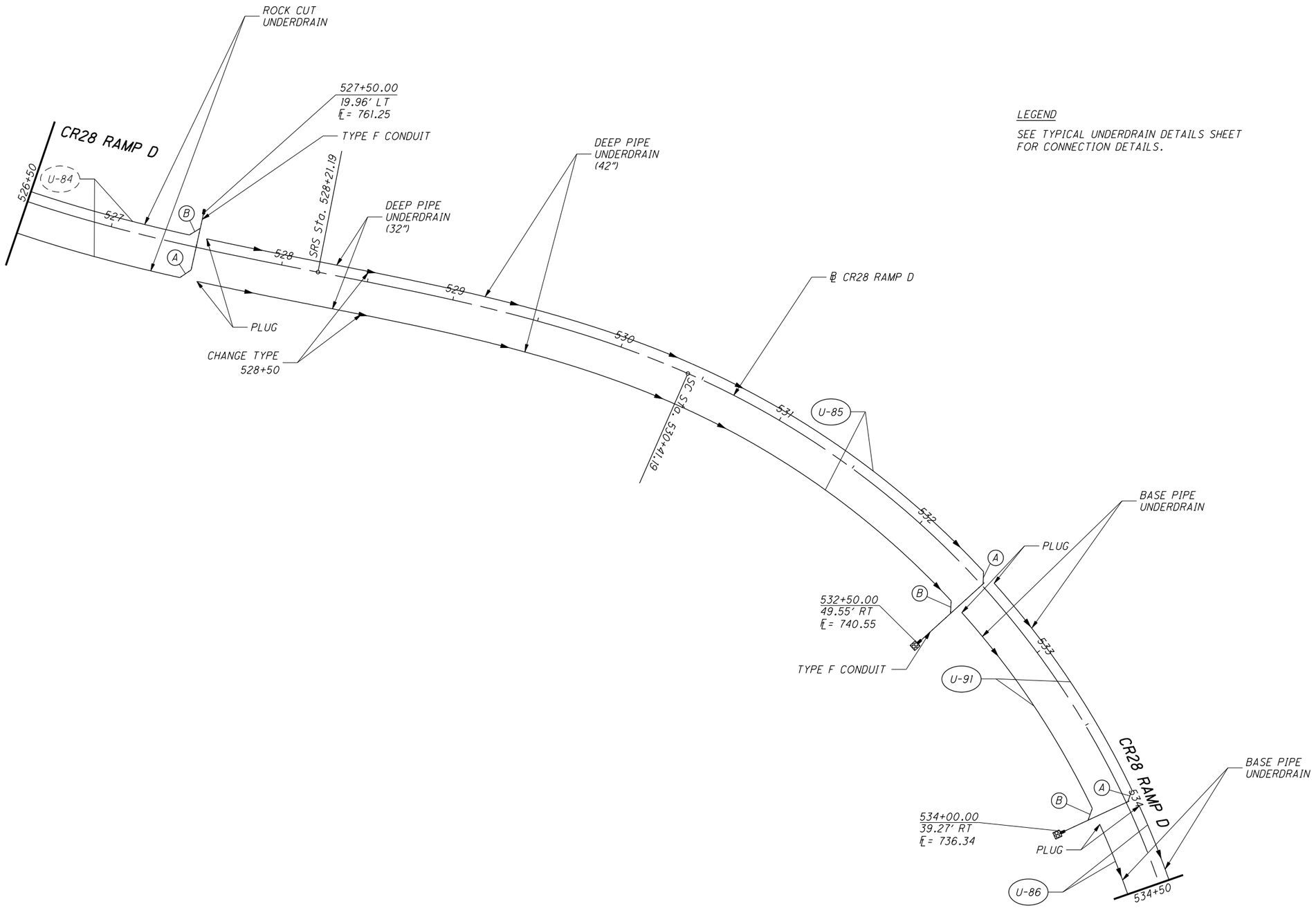

LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - CR28 RAMPS C & D
STA. 526+50 TO STA. 534+50

SCI-823-6.81

USER: CMohlbr PLOT DATE: 9/15/2011 9:32:36 AM REVISION DATE: 9/15/2011
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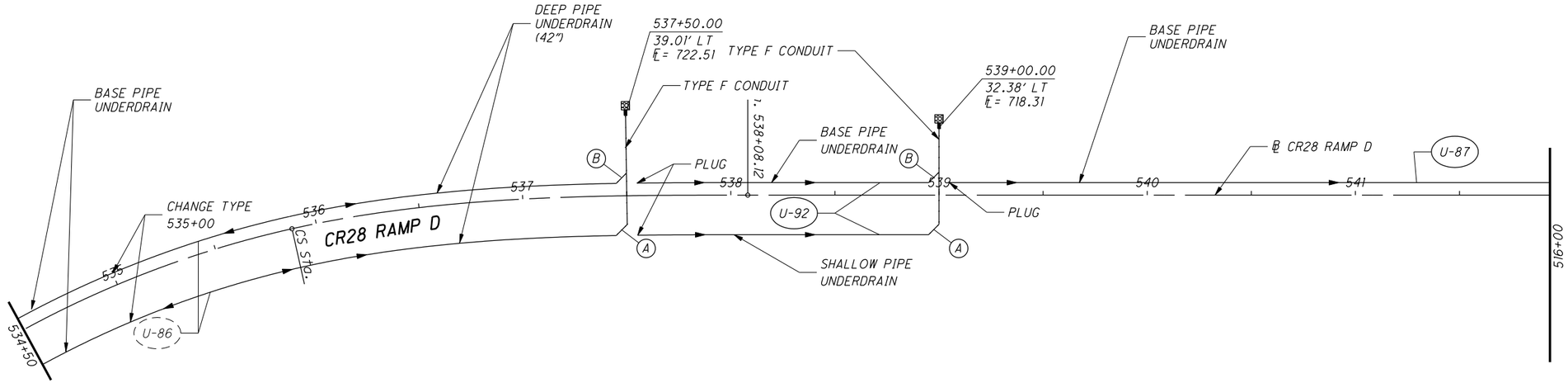

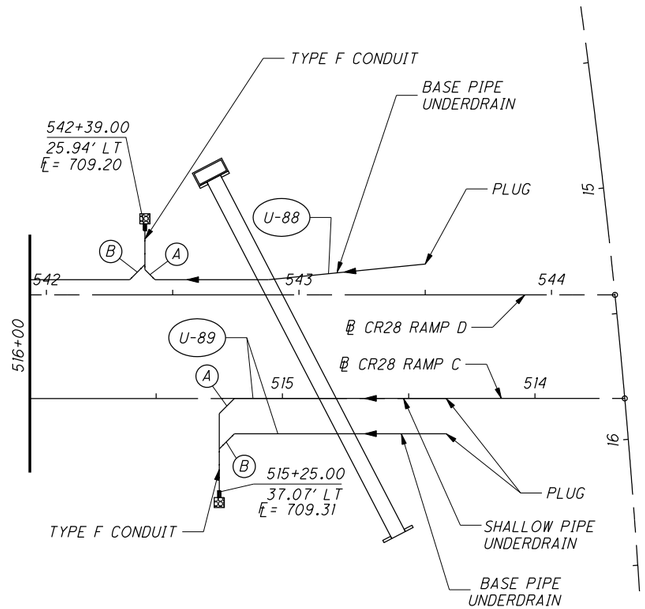

LEGEND

SEE TYPICAL UNDERDRAIN DETAILS SHEET FOR CONNECTION DETAILS.

NOTE

ALL UNDERDRAINS THAT OUTLET TO A SLOPE SHALL HAVE A PRECAST REINFORCED CONCRETE OUTLET.

UNDERDRAIN OUTLETS IN A ROCK CUT DO NOT REQUIRE EROSION PROTECTION.

HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CTM
CHECKED JMB

UNDERDRAIN DETAILS - CR28 RAMPS C & D STA. 534+50 TO STA. 544+25

SCI-823-6.81

USER: CMahlbr PLOT DATE: 9/15/2011 9:32:40 AM REVISION DATE: 9/15/2011 MODEL: Sheet
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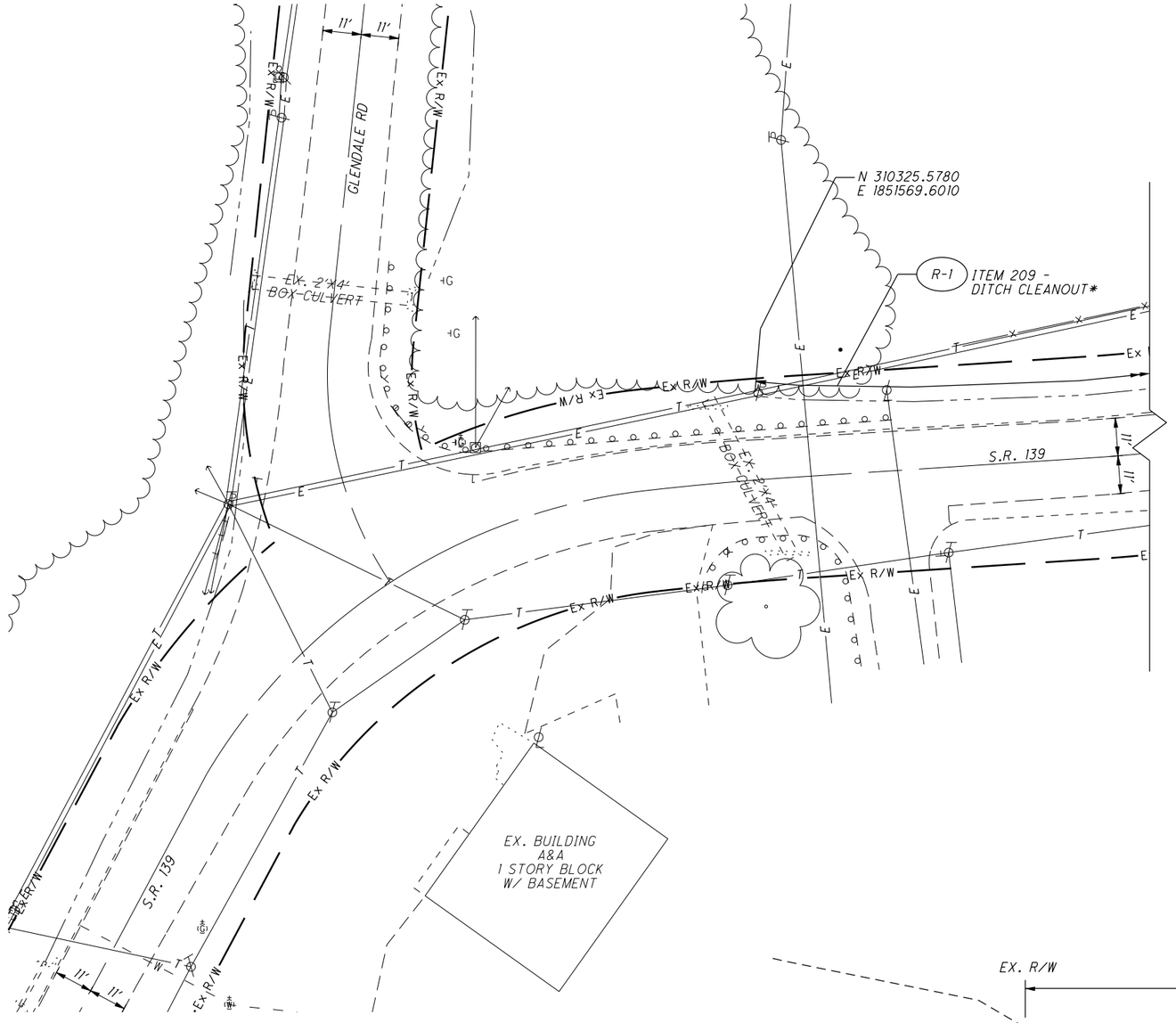
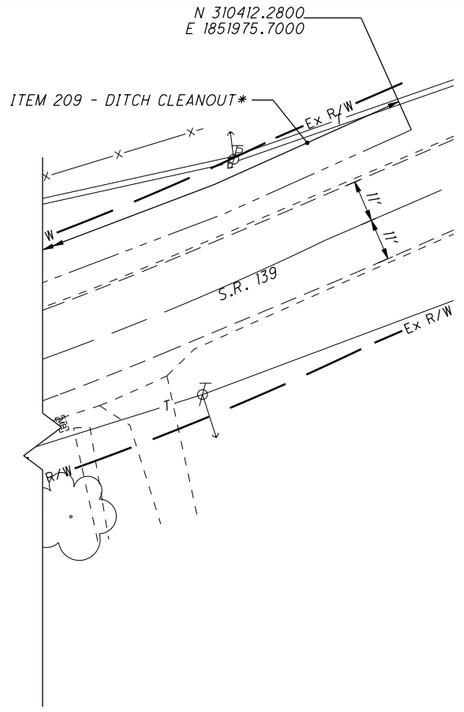
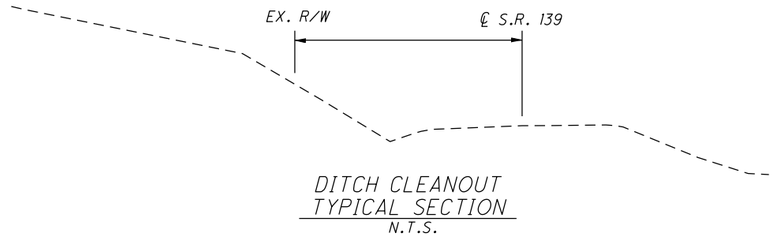






DITCH CLEANOUT
TYPICAL SECTION
N.T.S.

* RESTORE DITCH BACKSLOPE TO 2:1 WHERE POSSIBLE WITHIN RIGHT OF WAY.

REF NO.	STATION NORTHING	STATION EASTING	SIDE		
				209	DITCH CLEANOUT
				FT	
R-1	310325.5780	1851569.6010		420	
TOTALS CARRIED TO GENERAL SUMMARY				420	

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CDR
CHECKED JBH

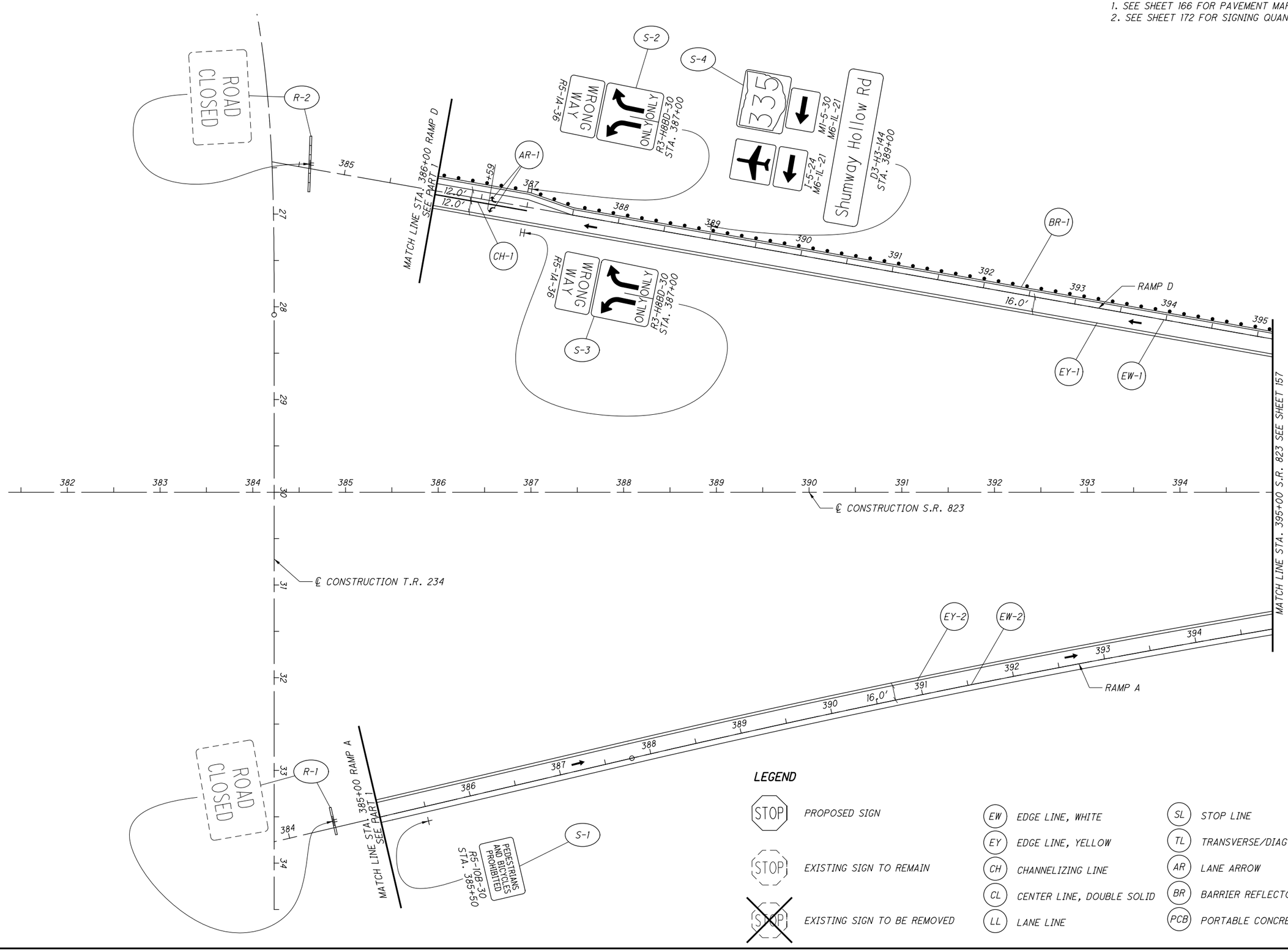
PLAN - S.R. 139 AND GLENDALE RD

SCI-823-6.81

c:\pwworking\pitt\d0304857\19415gp500.dgn

NOTES

1. SEE SHEET 166 FOR PAVEMENT MARKING QUANTITIES
2. SEE SHEET 172 FOR SIGNING QUANTITIES



LEGEND

STOP	PROPOSED SIGN
STOP	EXISTING SIGN TO REMAIN
STOP	EXISTING SIGN TO BE REMOVED
EW	EDGE LINE, WHITE
EY	EDGE LINE, YELLOW
CH	CHANNELIZING LINE
CL	CENTER LINE, DOUBLE SOLID
LL	LANE LINE
SL	STOP LINE
TL	TRANSVERSE/DIAGONAL LINE, YELLOW
AR	LANE ARROW
BR	BARRIER REFLECTOR
PCB	PORTABLE CONCRETE BARRIER

HORIZONTAL SCALE IN FEET
0 25 50 100

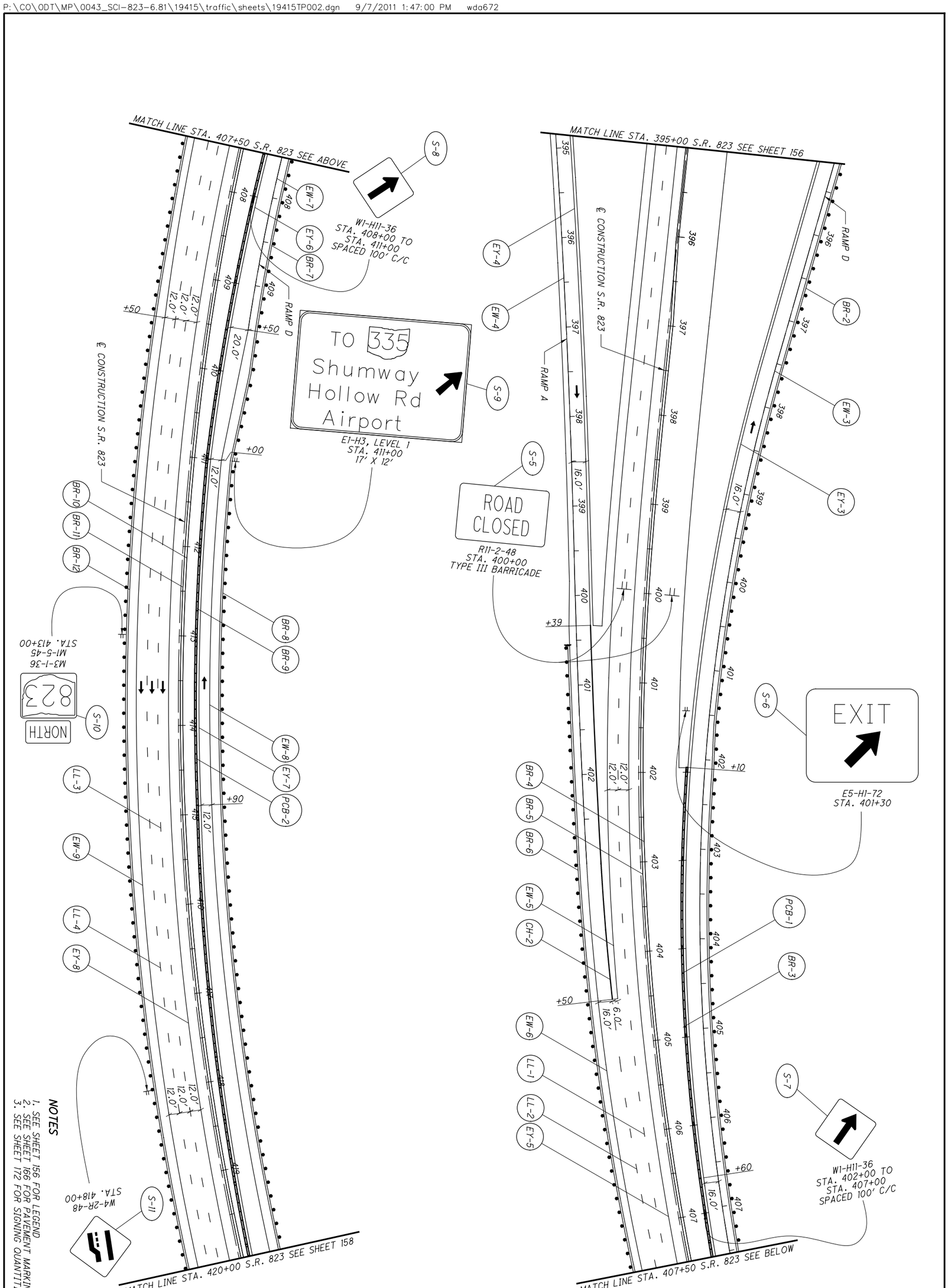
CALCULATED MMB
CHECKED TWG

SIGNING AND PAVEMENT MARKING PLAN
S.R. 823 - STA. 382+50 TO STA. 395+00

SCI-823-6.81

156
209

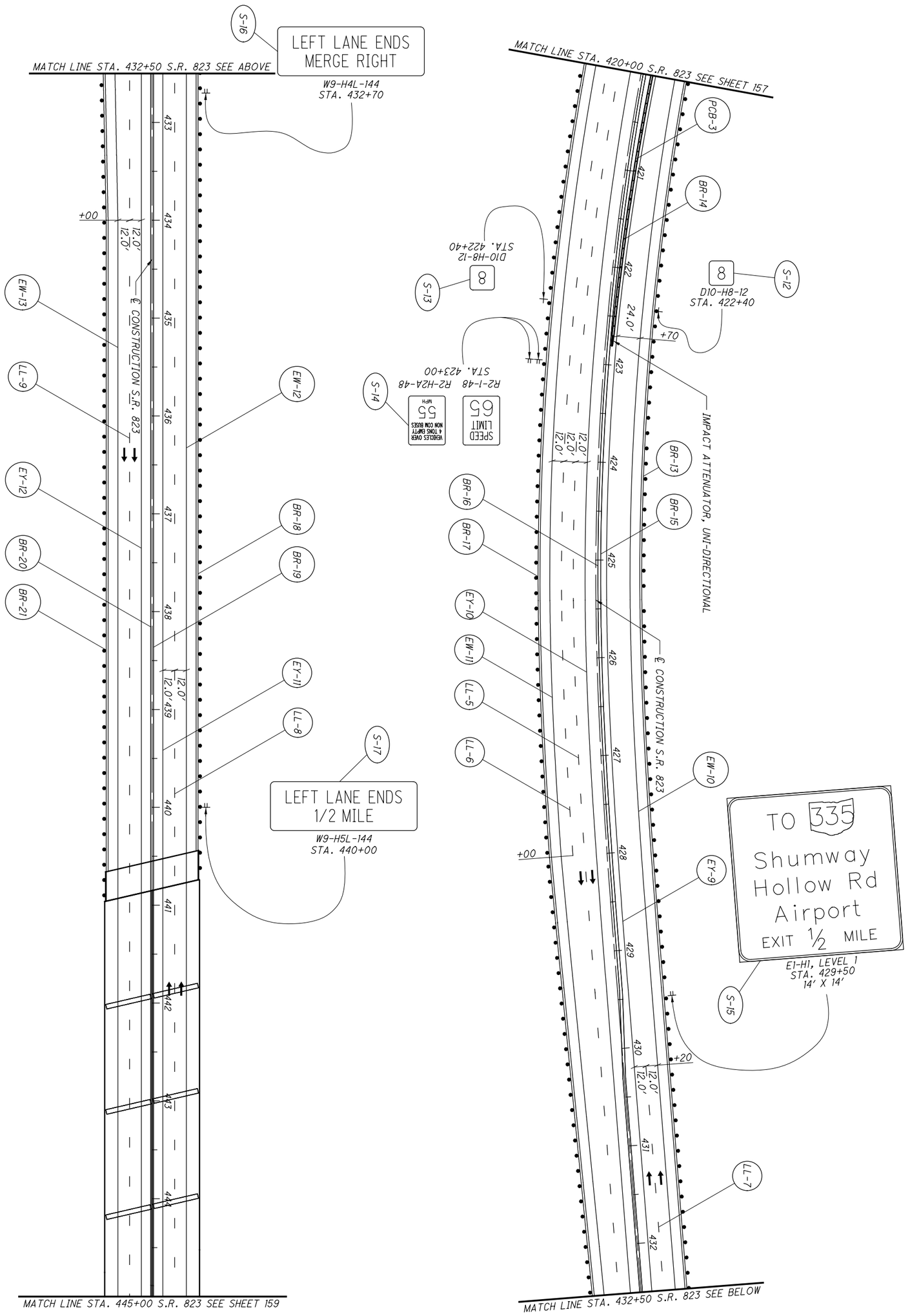
P:\CO\ODT\WP\0043_SCI-823-6.81\19415\traffic\sheets\19415TP001.dgn 9/7/2011 1:46:58 PM wda672



NOTES

1. SEE SHEET 156 FOR LEGEND
2. SEE SHEET 166 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 172 FOR SIGNING QUANTITIES

157 / 209	SCI-823-6.81	SIGNING AND PAVEMENT MARKING PLAN S.R. 823 - STA. 395+00 TO STA. 420+00	CALCULATED MMB CHECKED TWG	0 50 25 100 HORIZONTAL SCALE IN FEET



NOTES

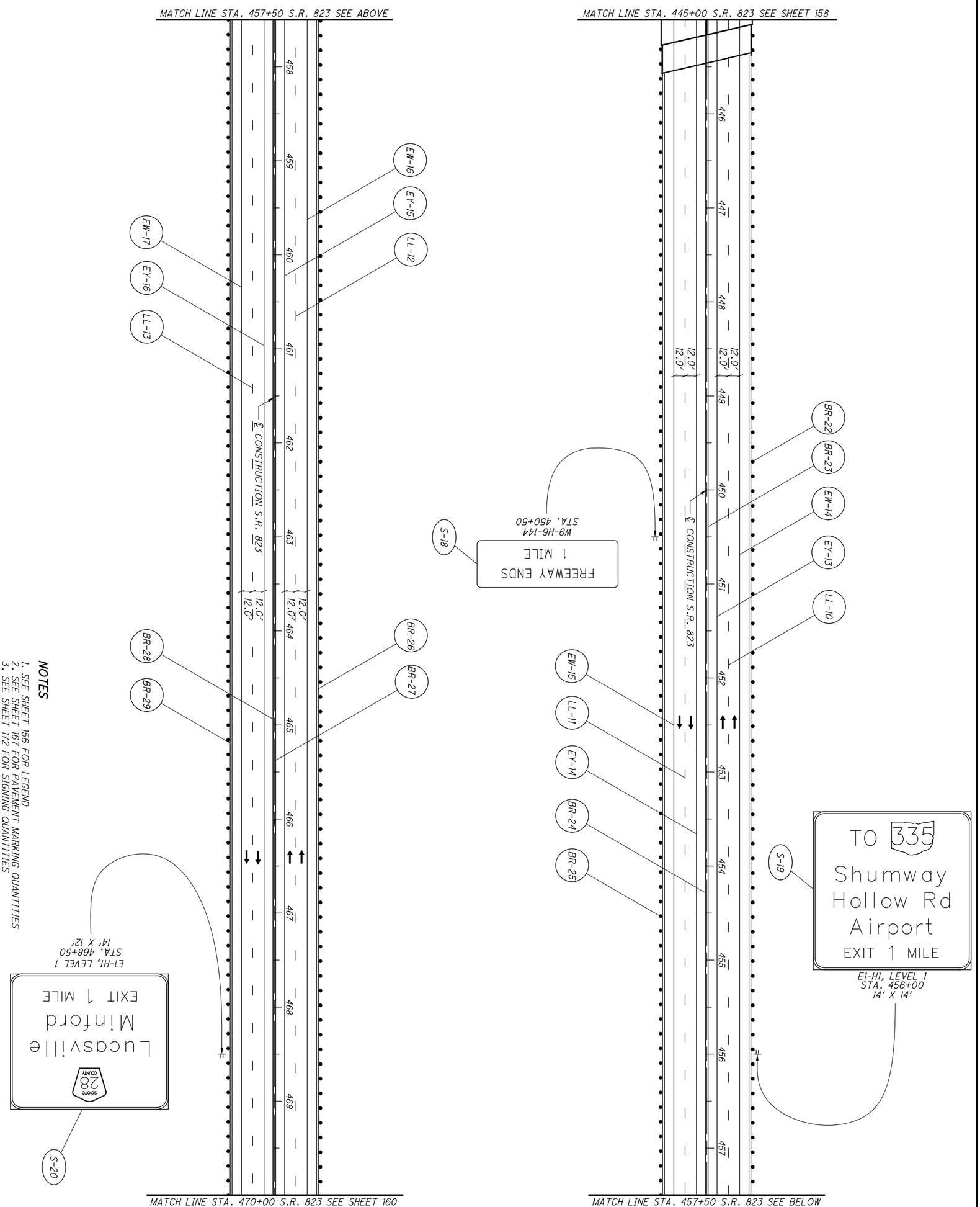
1. SEE SHEET 156 FOR LEGEND.
2. SEE SHEET 166 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 172 FOR SIGNING QUANTITIES

SCI-823-6.81

SIGNING AND PAVEMENT MARKING PLAN
S.R. 823 - STA. 420+00 TO STA. 445+00

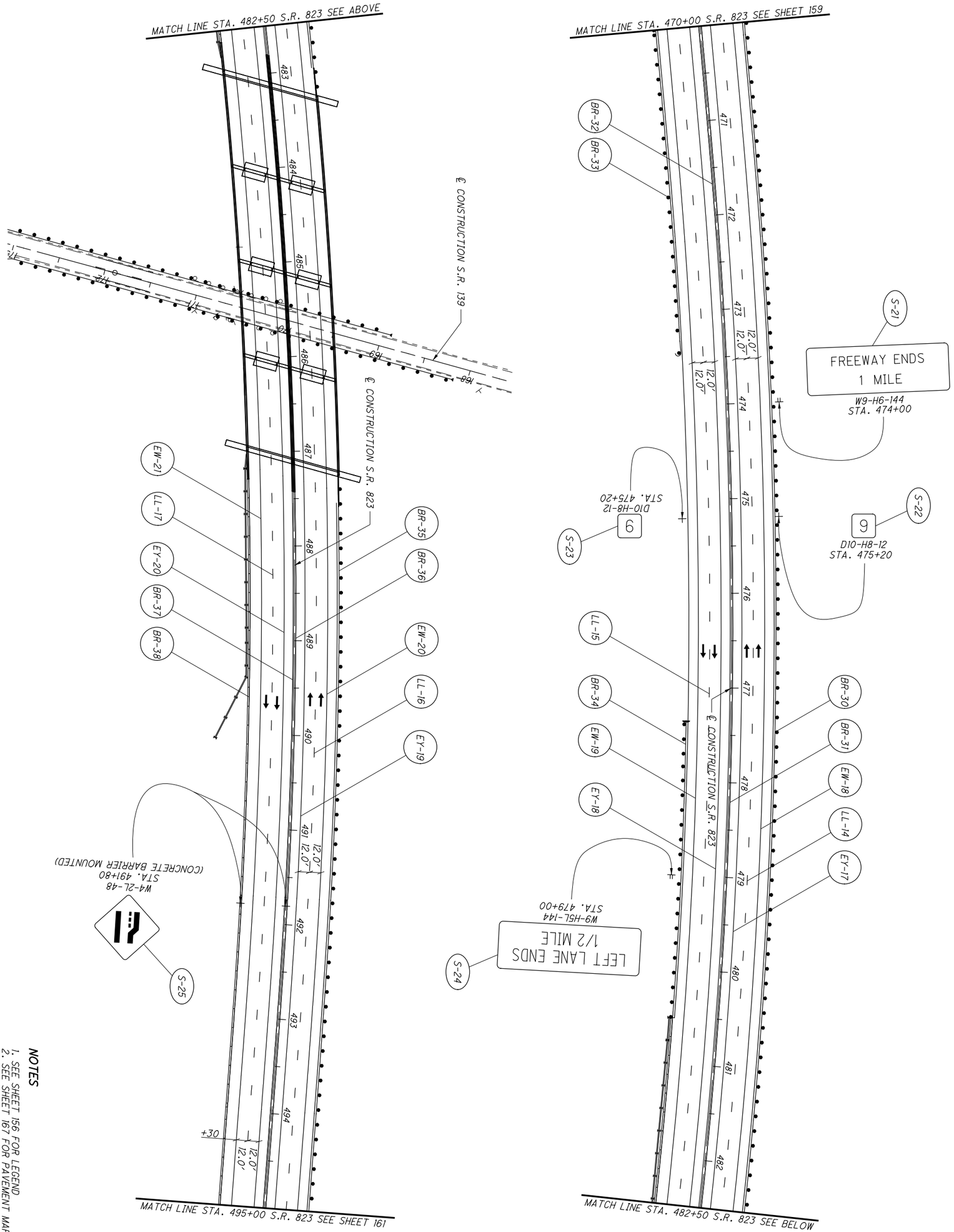
CALCULATED MMB
CHECKED TWG

0 50
25 100
HORIZONTAL SCALE IN FEET



NOTES

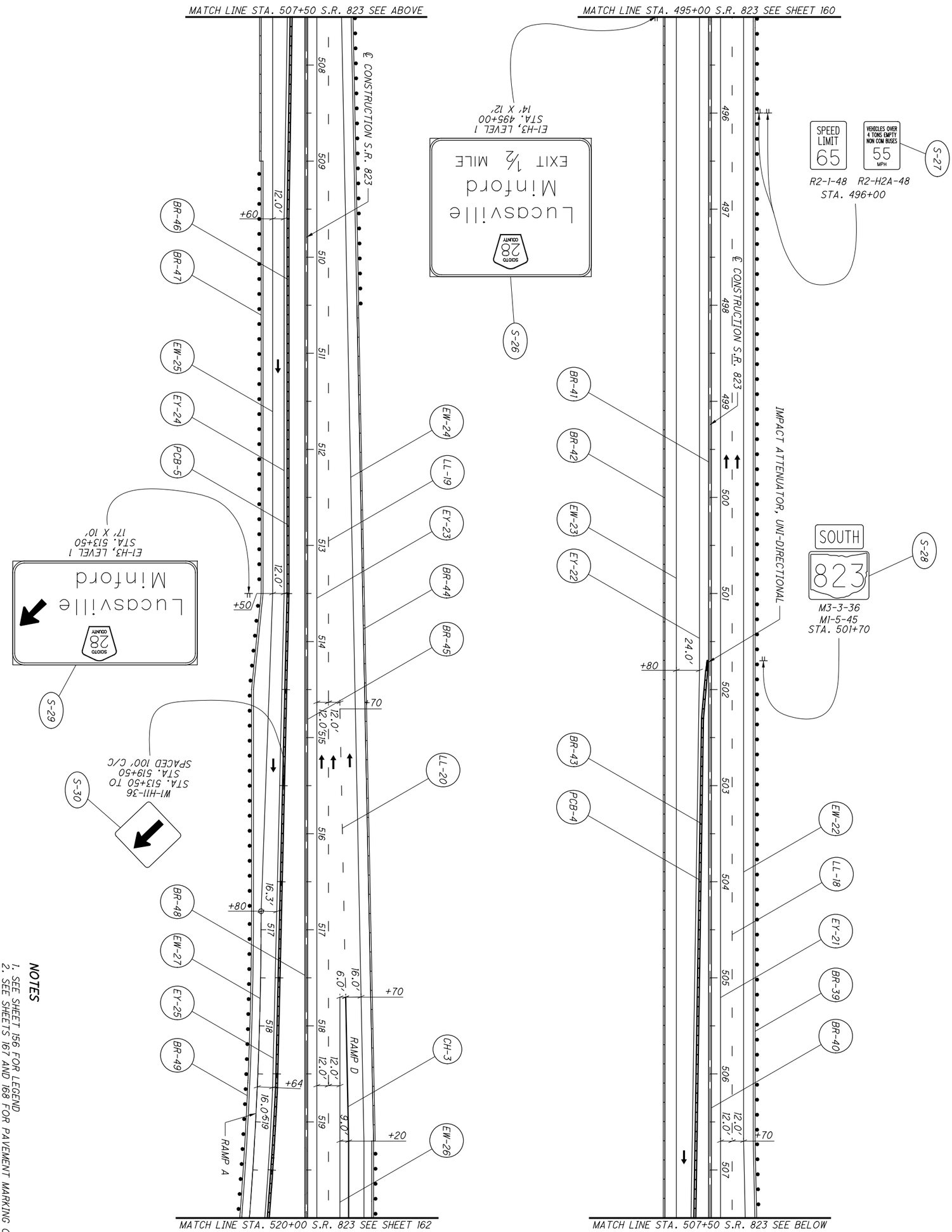
1. SEE SHEET 156 FOR LEGEND
2. SEE SHEET 167 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 172 FOR SIGNING QUANTITIES



NOTES

1. SEE SHEET 156 FOR LEGEND
2. SEE SHEET 167 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 172 FOR SIGNING QUANTITIES

160 / 209	SCI-823-6.81	SIGNING AND PAVEMENT MARKING PLAN S.R.823 - STA. 470+00 TO STA. 495+00	CALCULATED MMB CHECKED TWG	0 50 25 100 HORIZONTAL SCALE IN FEET



NOTES

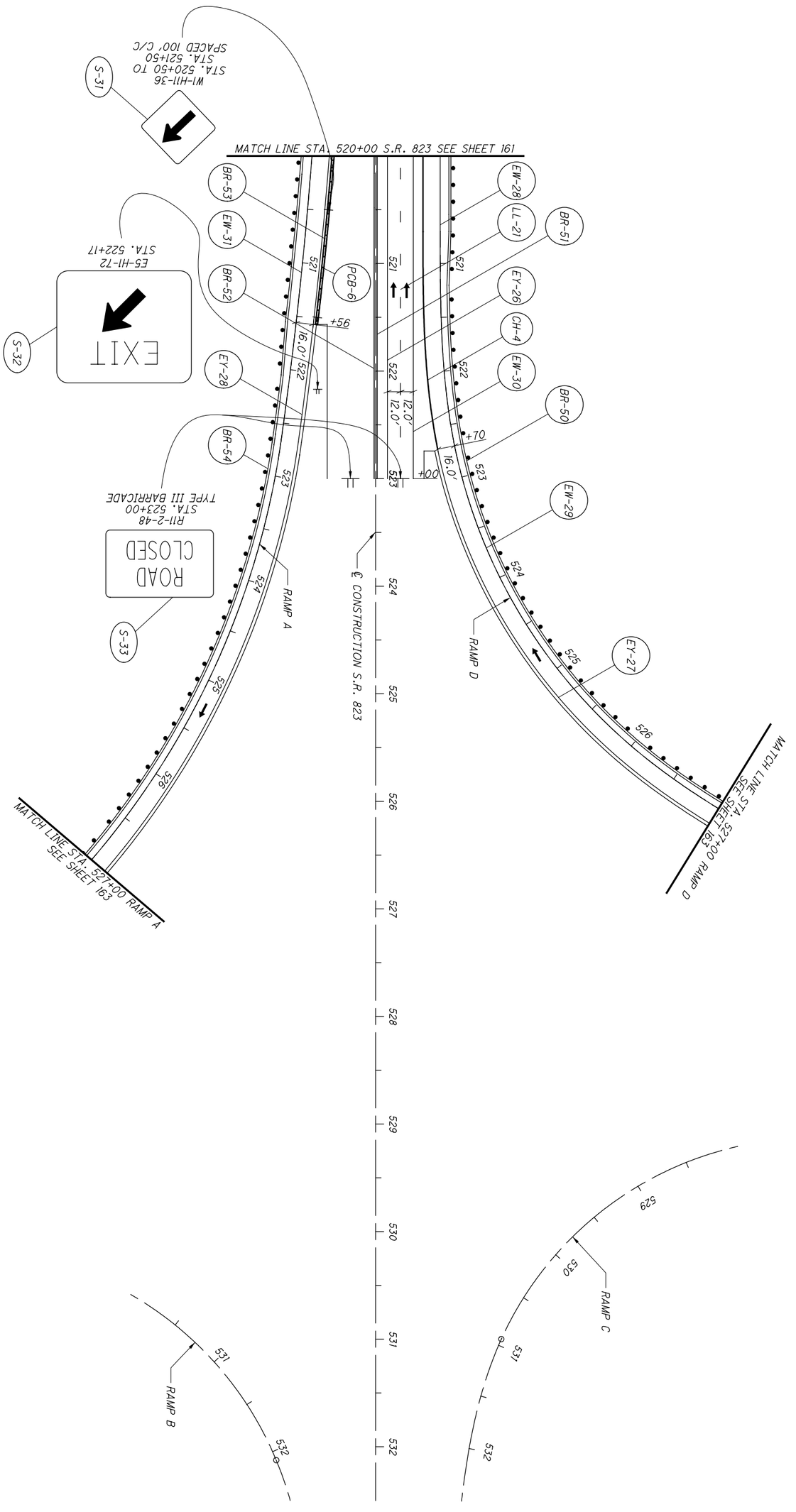
1. SEE SHEET 156 FOR LEGEND
2. SEE SHEETS 167 AND 168 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 173 FOR SIGNING QUANTITIES

SCI-823-6.81

SIGNING AND PAVEMENT MARKING PLAN
S.R. 823 - STA. 495+00 TO STA. 520+00

CALCULATED MMB
CHECKED TWG

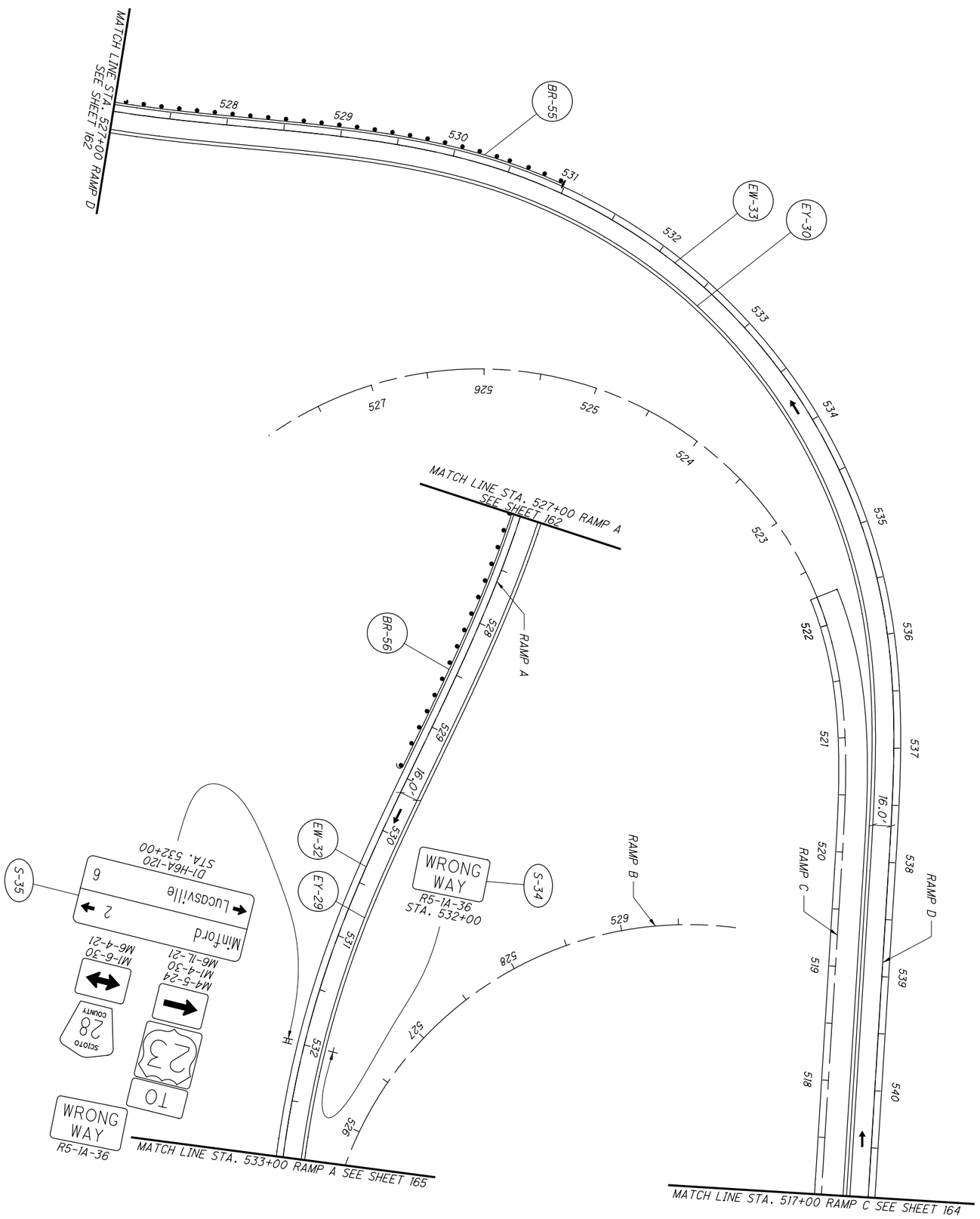
0 25 50 100
HORIZONTAL SCALE IN FEET



NOTES

1. SEE SHEET 156 FOR LEGEND
2. SEE SHEET 168 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 173 FOR SIGNING QUANTITIES

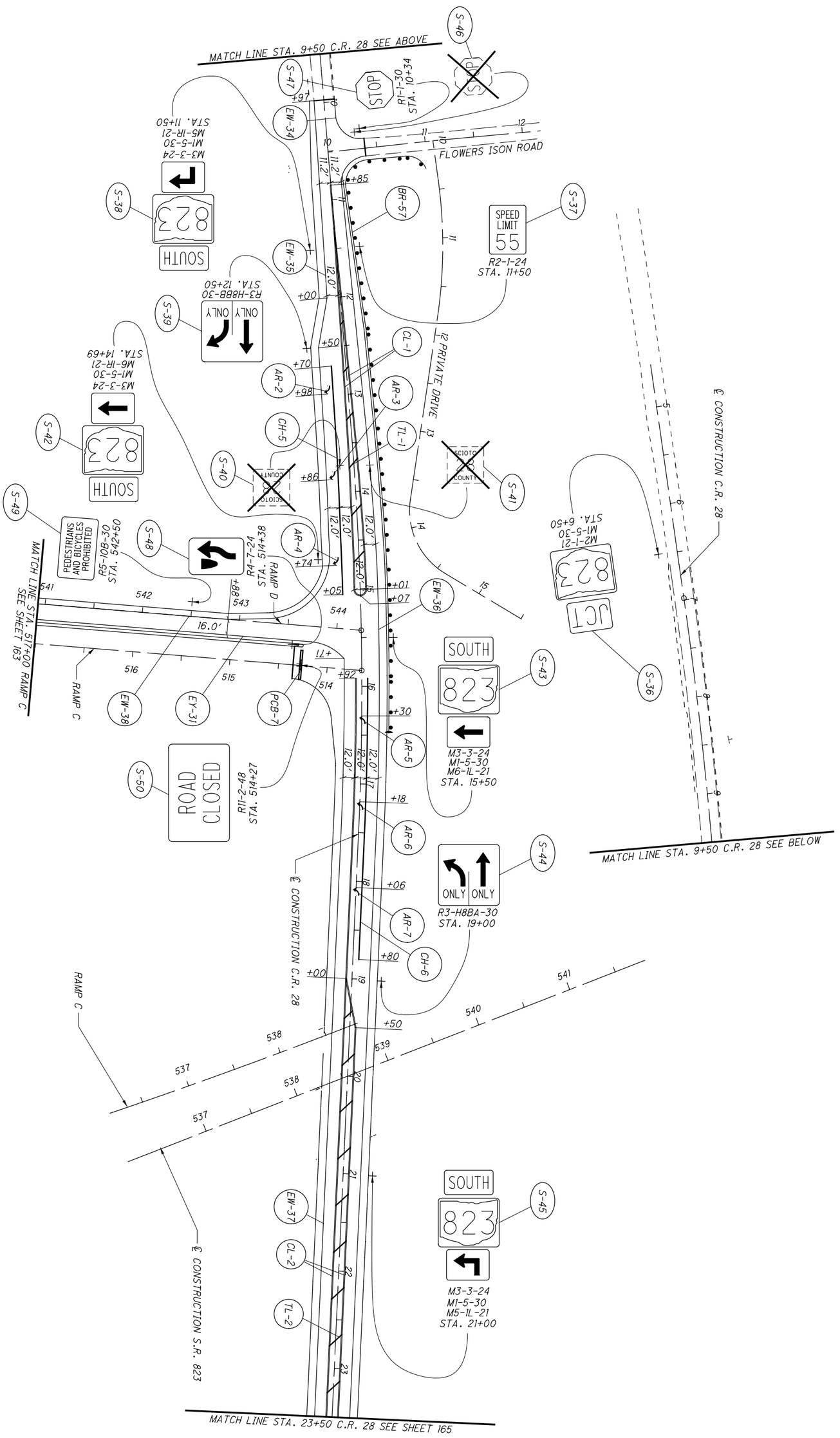
162 / 209	SCI-823-6.81	SIGNING AND PAVEMENT MARKING PLAN S.R. 823 - STA. 520+00 TO STA. 532+50	CALCULATED MMB CHECKED TWG	0 50 25 100 HORIZONTAL SCALE IN FEET



NOTES

1. SEE SHEET 156 FOR LEGEND
2. SEE SHEET 168 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 173 FOR SIGNING QUANTITIES

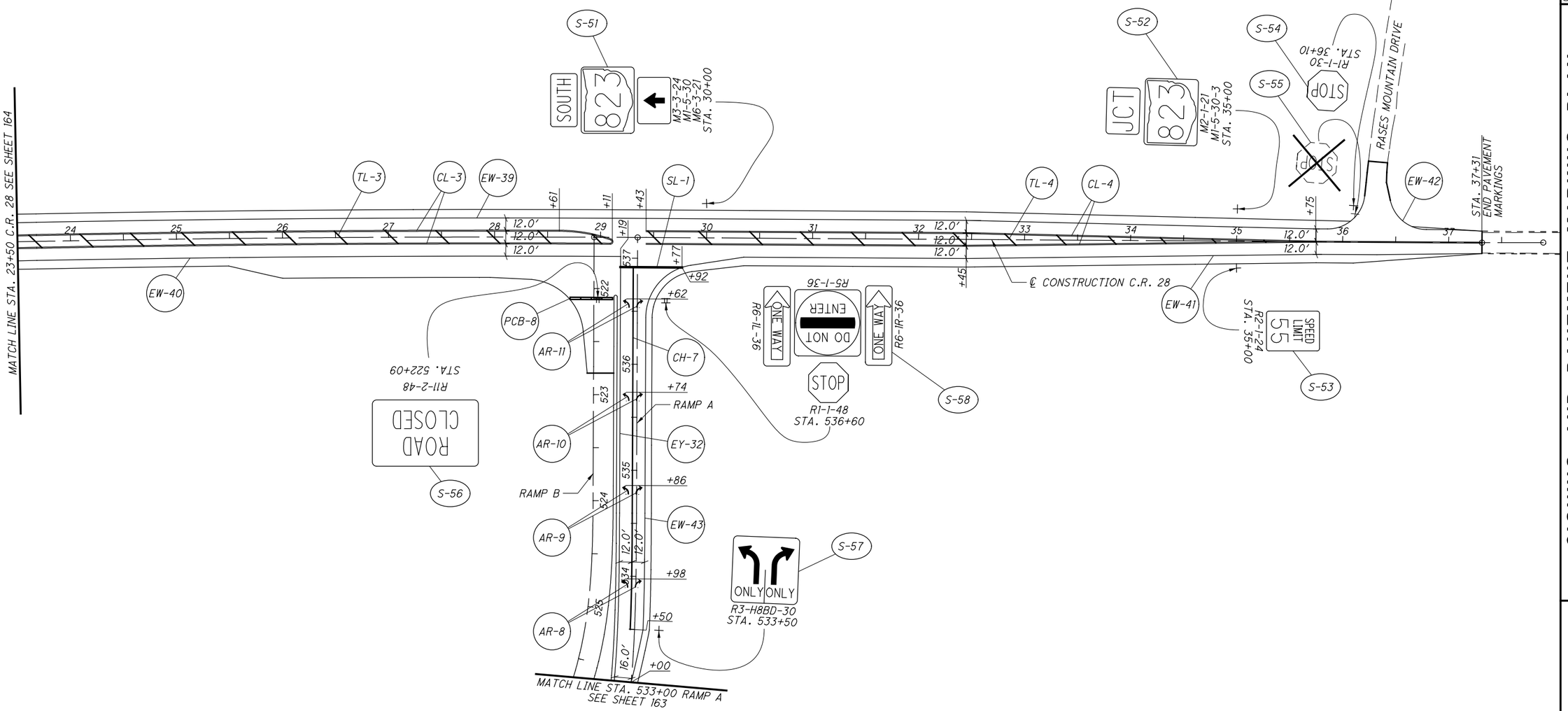
163 / 209	SCI-823-6.81	SIGNING AND PAVEMENT MARKING PLAN C.R. 28 RAMPS A, B, C AND D	CALCULATED MMB CHECKED TWG	0 50 25 100 HORIZONTAL SCALE IN FEET



NOTES

1. SEE SHEET 156 FOR LEGEND
2. SEE SHEET 168 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 174 FOR SIGNING QUANTITIES

164 / 209	SCI-823-6.81	SIGNING AND PAVEMENT MARKING PLAN C.R. 28 - STA. 5+00 TO STA. 23+50	CALCULATED MMB CHECKED TWG	0 50 25 100 HORIZONTAL SCALE IN FEET



NOTES

1. SEE SHEET 156 FOR LEGEND
2. SEE SHEET 169 FOR PAVEMENT MARKING QUANTITIES
3. SEE SHEET 174 FOR SIGNING QUANTITIES

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MMB
CHECKED TWG

SIGNING AND PAVEMENT MARKING PLAN
C.R. 28 - STA. 23+50 TO STA. 37+00

SCI-823-6.81

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL) EACH	621 RPM, 1 WAY (WHITE) EACH	621 RPM, 2 WAY (WHITE/RED) EACH	621 RPM, 2 WAY (YELLOW/RED) EACH	622 PORTABLE CONCRETE BARRIER, 32" FT	644 EDGE LINE (WHITE) MILE	644 EDGE LINE (YELLOW) MILE	644 LANE LINE MILE	644 CHANNELIZING LINE FT	644 LANE ARROW EACH
156	EW-1	RAMP D	STA. 386+00	STA. 395+17	℄		11				0.17				
	EW-2	RAMP A	STA. 385+00	STA. 394+84	℄						0.19				
	EY-1	RAMP D	STA. 386+00	STA. 395+20	RT.				11			0.17			
	EY-2	RAMP A	STA. 385+00	STA. 394+87	LT.				13			0.19			
	CH-1	RAMP D	STA. 386+00	STA. 387+00	RT.			3						100	
156	AR-1	RAMP D	STA. 386+59	STA. 386+59	LT./RT.										2
157	EW-3	RAMP D	STA. 395+17	STA. 407+50	℄						0.23				
	EW-4	RAMP A	STA. 394+84	STA. 403+00	℄						0.15				
	EW-5	S.R. 823	STA. 395+00	STA. 404+50	RT.						0.18				
	EW-6	S.R. 823	STA. 403+00	STA. 407+50	RT.						0.09				
	EW-7	RAMP D	STA. 407+50	STA. 409+50	℄						0.04				
	EW-8	S.R. 823	STA. 409+50	STA. 420+00	LT.						0.20				
	EW-9	S.R. 823	STA. 407+50	STA. 420+00	RT.						0.24				
	EY-3	RAMP D	STA. 395+20	STA. 407+50	RT.				15			0.23			
	EY-4	RAMP A	STA. 394+87	STA. 400+39	LT.				6			0.10			
	EY-5	S.R. 823	STA. 395+00	STA. 407+50	RT.							0.24			
	EY-6	RAMP D	STA. 407+50	STA. 409+50	RT.				2			0.04			
	EY-7	S.R. 823	STA. 409+50	STA. 420+00	LT.				13			0.20			
	EY-8	S.R. 823	STA. 407+50	STA. 420+00	RT.							0.24			
	LL-1	S.R. 823	STA. 395+00	STA. 407+50	RT.		11						0.24		
	LL-2	S.R. 823	STA. 404+50	STA. 407+50	RT.		2						0.06		
	LL-3	S.R. 823	STA. 407+50	STA. 420+00	RT.		10						0.24		
	LL-4	S.R. 823	STA. 407+50	STA. 420+00	RT.		11						0.24		
	CH-2	S.R. 823	STA. 400+39	STA. 404+50	RT.			11						411	
	PCB-1	RAMP D	STA. 402+10	STA. 407+50	RT.					540					
157	PCB-2	S.R. 823	STA. 407+50	STA. 420+00	LT.					1250					
158	EW-10	S.R. 823	STA. 420+00	STA. 432+50	LT.						0.24				
	EW-11	S.R. 823	STA. 420+00	STA. 432+50	RT.						0.24				
	EW-12	S.R. 823	STA. 432+50	STA. 445+00	LT.						0.24				
	EW-13	S.R. 823	STA. 432+50	STA. 445+00	RT.						0.24				
	EY-9	S.R. 823	STA. 420+00	STA. 432+50	LT.				12			0.24			
	EY-10	S.R. 823	STA. 420+00	STA. 432+50	RT.							0.24			
	EY-11	S.R. 823	STA. 432+50	STA. 445+00	LT.							0.24			
	EY-12	S.R. 823	STA. 432+50	STA. 445+00	RT.							0.24			
	LL-5	S.R. 823	STA. 420+00	STA. 432+50	RT.		11						0.24		
	LL-6	S.R. 823	STA. 420+00	STA. 428+00	RT.		6						0.15		
	LL-7	S.R. 823	STA. 430+20	STA. 432+50	LT.		2						0.04		
	LL-8	S.R. 823	STA. 432+50	STA. 445+00	LT.		11						0.24		
	LL-9	S.R. 823	STA. 432+50	STA. 445+00	RT.		10						0.24		
158	PCB-3	S.R. 823	STA. 420+00	STA. 422+70	LT.	1				270					
SUB TOTALS CARRIED TO SHEET 169						1	85	14	72	2060	2.45	2.37	1.69	511	2

CALCULATED AWN
CHECKED TWG

PAVEMENT MARKING SUBSUMMARY

SCI-823-6.81

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	621 RPM, 1 WAY (WHITE) EACH	621 RPM, 2 WAY (WHITE/RED) EACH	621 RPM, 2 WAY (YELLOW/RED) EACH	644 EDGE LINE (WHITE) MILE	644 EDGE LINE (YELLOW) MILE	644 LANE LINE MILE	644 CHANNELIZING LINE FT
159	EW-14	S.R. 823	STA. 445+00	STA. 457+50	LT.				0.24			
	EW-15	S.R. 823	STA. 445+00	STA. 457+50	RT.				0.24			
	EW-16	S.R. 823	STA. 457+50	STA. 470+00	LT.				0.24			
	EW-17	S.R. 823	STA. 457+50	STA. 470+00	RT.				0.24			
	EY-13	S.R. 823	STA. 445+00	STA. 457+50	LT.					0.24		
	EY-14	S.R. 823	STA. 445+00	STA. 457+50	RT.					0.24		
	EY-15	S.R. 823	STA. 457+50	STA. 470+00	LT.					0.24		
	EY-16	S.R. 823	STA. 457+50	STA. 470+00	RT.					0.24		
	LL-10	S.R. 823	STA. 445+00	STA. 457+50	LT.	10					0.24	
	LL-11	S.R. 823	STA. 445+00	STA. 457+50	RT.	11					0.24	
	LL-12	S.R. 823	STA. 457+50	STA. 470+00	LT.	10					0.24	
159	LL-13	S.R. 823	STA. 457+50	STA. 470+00	RT.	10					0.24	
160	EW-18	S.R. 823	STA. 470+00	STA. 482+50	LT.				0.24			
	EW-19	S.R. 823	STA. 470+00	STA. 482+50	RT.				0.24			
	EW-20	S.R. 823	STA. 482+50	STA. 495+00	LT.				0.24			
	EW-21	S.R. 823	STA. 482+50	STA. 495+00	RT.				0.24			
	EY-17	S.R. 823	STA. 470+00	STA. 482+50	LT.					0.24		
	EY-18	S.R. 823	STA. 470+00	STA. 482+50	RT.					0.24		
	EY-19	S.R. 823	STA. 482+50	STA. 495+00	LT.					0.24		
	EY-20	S.R. 823	STA. 482+50	STA. 495+00	RT.					0.24		
	LL-14	S.R. 823	STA. 470+00	STA. 482+50	LT.	10					0.24	
	LL-15	S.R. 823	STA. 470+00	STA. 482+50	RT.	10					0.24	
	LL-16	S.R. 823	STA. 482+50	STA. 495+00	LT.	11					0.24	
160	LL-17	S.R. 823	STA. 482+50	STA. 494+30	RT.	10					0.22	
161	EW-22	S.R. 823	STA. 495+00	STA. 507+50	LT.				0.24			
	EW-23	S.R. 823	STA. 495+00	STA. 507+50	RT.				0.24			
	EW-24	S.R. 823	STA. 507+50	STA. 520+00	LT.				0.24			
	EW-25	S.R. 823	STA. 507+50	STA. 516+80	RT.				0.18			
	EW-26	S.R. 823	STA. 517+70	STA. 520+00	LT.				0.04			
	EW-27	RAMP A	STA. 516+80	STA. 520+00	℄				0.06			
	EY-21	S.R. 823	STA. 495+00	STA. 507+50	LT.					0.24		
	EY-22	S.R. 823	STA. 495+00	STA. 507+50	RT.			16		0.24		
	EY-23	S.R. 823	STA. 507+50	STA. 520+00	LT.					0.24		
	EY-24	S.R. 823	STA. 507+50	STA. 516+80	RT.			15		0.18		
	EY-25	RAMP A	STA. 516+80	STA. 520+00	LT.					0.06		
	LL-18	S.R. 823	STA. 495+00	STA. 507+50	LT.	10					0.24	
	LL-19	S.R. 823	STA. 507+50	STA. 520+00	LT.	10					0.24	
	LL-20	S.R. 823	STA. 514+70	STA. 517+70	LT.	2					0.06	
161	CH-3	S.R. 823	STA. 517+70	STA. 520+00	LT.		6					230
SUB TOTALS CARRIED TO SHEET 169						104	6	31	2.92	2.88	2.44	230

CALCULATED AWN CHECKED TWG

PAVEMENT MARKING SUBSUMMARY

SCI-823-6.81

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL) EACH	621 RPM, 1 WAY (WHITE) EACH	621 RPM, 2 WAY (WHITE/RED) EACH	621 RPM, 2 WAY (YELLOW/RED) EACH	621 RPM, 2 WAY (YELLOW/YELLOW) EACH	622 PORTABLE CONCRETE BARRIER, 32" FT	644 EDGE LINE (WHITE) MILE	644 EDGE LINE (YELLOW) MILE	644 LANE LINE MILE	644 CENTER LINE (DOUBLE SOLID) MILE	644 CHANNELIZING LINE FT	644 TRANSVERSE/DIAGONAL LINE (YELLOW) FT	644 LANE ARROW EACH				
161	PCB-4	S.R. 823	STA. 501+80	STA. 507+50	RT.	1					570											
161	PCB-5	S.R. 823	STA. 507+50	STA. 520+00	RT.						1250											
162	EW-28	S.R 823	STA. 520+00	STA. 520+70	LT.							0.01										
	EW-29	RAMP D	STA. 520+70	STA. 527+00	℄							0.12										
	EW-30	S.R 823	STA. 520+00	STA. 523+00	LT.							0.06										
	EW-31	RAMP A	STA. 520+00	STA. 527+00	℄							0.13										
	EY-26	S.R. 823	STA. 520+00	STA. 523+00	LT.								0.06									
	EY-27	RAMP D	STA. 522+70	STA. 527+00	RT.				5				0.08									
	EY-28	RAMP A	STA. 520+00	STA. 527+00	LT.				9				0.13									
	LL-21	S.R. 823	STA. 520+00	STA. 523+00	LT.		2							0.06								
	CH-4	RAMP D	STA. 520+00	STA. 522+70	RT.			7								273						
162	PCB-6	RAMP A	STA. 520+00	STA. 521+56	LT.						160											
163	EW-32	RAMP A	STA. 527+00	STA. 533+00	℄		5					0.11										
	EW-33	RAMP D	STA. 527+00	STA. 540+93	℄							0.26										
	EY-29	RAMP A	STA. 527+00	STA. 533+00	LT.				7				0.11									
163	EY-30	RAMP D	STA. 527+00	STA. 540+93	RT.				17				0.26									
164	EW-34	C.R. 28	STA. 9+97	STA. 10+40	LT.							0.01										
	EW-35	C.R. 28	STA. 9+97	STA. 15+28	RT.							0.10										
	EW-36	C.R. 28	STA. 10+58	STA. 23+50	LT.							0.24										
	EW-37	C.R. 28	STA. 15+71	STA. 23+50	RT.							0.15										
	EW-38	RAMP D	STA. 540+93	STA. 543+28	LT.							0.04										
	EY-31	RAMP D	STA. 540+93	STA. 544+10	RT.				4				0.06									
	CL-1	C.R. 28	STA. 10+85	STA. 15+07	LT./RT.					11					0.15							
	CL-2	C.R. 28	STA. 15+92	STA. 23+50	LT./RT.					17					0.23							
	CH-5	C.R. 28	STA. 12+70	STA. 15+05	RT.			6								235						
	CH-6	C.R. 28	STA. 15+92	STA. 18+80	LT.			8								288						
	TL-1	C.R. 28	STA. 12+00	STA. 15+07	℄												64					
	TL-2	C.R. 28	STA. 19+00	STA. 23+50	℄												147					
	AR-2	C.R. 28	STA. 12+98	STA. 12+98	RT.													1				
	AR-3	C.R. 28	STA. 13+86	STA. 13+86	RT.													1				
	AR-4	C.R. 28	STA. 14+74	STA. 14+74	RT.													1				
	AR-5	C.R. 28	STA. 16+30	STA. 16+30	℄													1				
	AR-6	C.R. 28	STA. 17+18	STA. 17+18	℄													1				
	AR-7	C.R. 28	STA. 18+06	STA. 18+06	℄													1				
164	PCB-7	RAMP C	STA. 514+27	STA. 514+27	LT./RT.						30											
SUB TOTALS CARRIED TO SHEET 169						1	7	21	42	28	2010	1.23	0.70	0.06	0.38	796	211	6				

CALCULATED AWN CHECKED TWG

PAVEMENT MARKING SUBSUMMARY

SCI-823-6.81

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL) EACH	621 RPM, 1 WAY (WHITE) EACH	621 RPM, 2 WAY (WHITE/RED) EACH	621 RPM, 2 WAY (YELLOW/RED) EACH	621 RPM, 2 WAY (YELLOW/YELLOW) EACH	622 PORTABLE CONCRETE BARRIER, 32" FT	644 EDGE LINE (WHITE) MILE	644 EDGE LINE (YELLOW) MILE	644 LANE LINE MILE	644 CENTER LINE (DOUBLE SOLID) MILE	644 CHANNELIZING LINE FT	644 STOP LINE FT	644 TRANSVERSE/DIAGONAL LINE (YELLOW) FT	644 LANE ARROW EACH			
165	EW-39	C.R. 28	STA. 23+50	STA. 36+21	LT.							0.24										
	EW-40	C.R. 28	STA. 23+50	STA. 29+19	RT.							0.11										
	EW-41	C.R. 28	STA. 29+43	STA. 37+31	RT.							0.15										
	EW-42	C.R. 28	STA. 36+45	STA. 37+31	LT.							0.02										
	EW-43	RAMP A	STA. 533+00	STA. 537+02	RT.		11					0.08										
	EY-32	RAMP A	STA. 533+00	STA. 537+02	LT.				6				0.08									
	CL-3	C.R. 28	STA. 23+50	STA. 29+11	LT./RT.					14					0.21							
	CL-4	C.R. 28	STA. 29+43	STA. 37+31	LT./RT.					18					0.27							
	CH-7	RAMP A	STA. 533+50	STA. 536+92	LT.			9								342						
	SL-1	RAMP A	STA. 536+92	STA. 536+92	LT./RT.												58					
	TL-3	C.R. 28	STA. 23+50	STA. 29+11	℄													199				
	TL-4	C.R. 28	STA. 29+43	STA. 35+75	℄													171				
	AR-8	RAMP A	STA. 533+98	STA. 533+98	LT./RT.														2			
	AR-9	RAMP A	STA. 534+86	STA. 534+86	LT./RT.														2			
	AR-10	RAMP A	STA. 535+74	STA. 535+74	LT./RT.														2			
	AR-11	RAMP A	STA. 536+62	STA. 536+62	LT./RT.														2			
165	PCB-8	RAMP B	STA. 522+09	STA. 522+09	LT./RT.						40											
		SUBTOTALS CARRIED BELOW					11	9	6	32	40	0.60	0.08		0.48	342	58	370	8			
		SUBTOTALS THIS SHEET					11	9	6	32	40	0.60	0.08		0.48	342	58	370	8			
		SUBTOTALS FROM SHEET 166				1	85	14	72		2060	2.45	2.37	1.69		511			2			
		SUBTOTAL FROM SHEET 167					104	6	31			2.92	2.88	2.44		230						
		SUBTOTALS FROM SHEET 168				1	7	21	42	28	2010	1.23	0.70	0.06	0.38	796		211	6			
		SUBTOTAL				2	207	50	151	60	4110	7.20	6.03	4.19	0.86	1879	58	581	16			
TOTALS CARRIED TO GENERAL SUMMARY						2	468				4110	13.23		4.19	0.86	1879	58	581	16			

CALCULATED AWN CHECKED TWG

PAVEMENT MARKING SUBSUMMARY

SCI-823-6.81

ROADWAY	SHEET NO.	STATION FROM	STATION TO	SIDE	INTERVAL	620 DELINEATOR, TYPE C, POST MOUNTED EACH	620 DELINEATOR, TYPE D, POST MOUNTED EACH	620 DELINEATOR, TYPE C, BRACKET MOUNTED EACH	620 DELINEATOR, TYPE D, BRACKET MOUNTED EACH
RAMP A	156	385+00	389+00	RT.	200′	3			
RAMP A	156-157	388+00	400+00	LT.	200′		7		
RAMP D	156-157	385+50	397+50	LT.	200′	7			
RAMP A	157-158	401+00	433+00	RT.	160′	20			
RAMP D	157	397+10	409+70	RT.	140′		4		6
RAMP D	157-158	409+00	433+00	LT.	160′	16			
SR 823	158	433+00	441+00	RT.	400′	2			
SR 823	158	433+00	441+00	LT.	400′	2			
SR 823	159	462+00	470+00	RT.	400′	3			
SR 823	159	462+00	470+00	LT.	400′	3			
SR 823	160	470+00	492+00	RT.	200′	5		6	
SR 823	160	470+00	492+00	LT.	200′	9		2	
SR 823	160-161	492+00	512+00	RT.	400′	1		4	
SR 823	160-161	492+00	516+00	LT.	400′	6			
RAMP A	161-162	512+00	522+00	RT.	200′	5			
RAMP D	161	516+00	520+00	LT.	200′	2			
RAMP A	162-165	522+00	536+40	RT.	80′	18			
RAMP A	162	522+00	530+80	LT.	80′		11		
RAMP D	162	520+00	521+40	LT.	140′	1			
RAMP D	162-163	521+40	536+80	LT.	70′	22			
RAMP D	163-487	522+80	528+40	RT.	70′		8		
RAMP D	163	530+50	537+50	RT.	70′		10		
RAMP D	163	536+80	538+20	LT.	140′	1			
RAMP D	163-164	538+20	542+20	LT.	200′	2			
						128	40	12	6
TOTALS CARRIED TO GENERAL SUMMARY						168		18	

CALCULATED MMB
CHECKED TWG

DELINEATOR SUBSUMMARY

SCI-823-6.81

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	626 BARRIER REFLECTOR (TYPE A) EACH	626 BARRIER REFLECTOR (TYPE B) EACH		
156	BR-1	RAMP D	STA. 386+00	STA. 395+00	LT.	10			
157	BR-2	RAMP D	STA. 395+00	STA. 407+50	LT.	13			
	BR-3	S.R. 823	STA. 401+95	STA. 407+50	LT.		6		
	BR-4	S.R. 823	STA. 395+00	STA. 407+50	LT.		13		
	BR-5	S.R. 823	STA. 395+00	STA. 407+50	LT.		13		
	BR-6	RAMP A	STA. 400+54	STA. 407+50	RT.	8			
	BR-7	RAMP D	STA. 407+50	STA. 409+50	LT.	2			
	BR-8	S.R. 823	STA. 409+50	STA. 420+00	LT.	11			
	BR-9	S.R. 823	STA. 407+50	STA. 420+00	LT.		13		
	BR-10	S.R. 823	STA. 407+50	STA. 420+00	LT.		13		
	BR-11	S.R. 823	STA. 407+50	STA. 420+00	LT.		13		
157	BR-12	S.R. 823	STA. 407+50	STA. 420+00	RT.	13			
158	BR-13	S.R. 823	STA. 420+00	STA. 432+50	LT.	12			
	BR-14	S.R. 823	STA. 420+00	STA. 421+70	LT.		2		
	BR-15	S.R. 823	STA. 420+00	STA. 432+50	LT.		12		
	BR-16	S.R. 823	STA. 420+00	STA. 432+50	LT.		12		
	BR-17	S.R. 823	STA. 420+00	STA. 432+50	RT.	12			
	BR-18	S.R. 823	STA. 432+50	STA. 445+00	LT.	8	5		
	BR-19	S.R. 823	STA. 432+50	STA. 445+00	LT.		13		
	BR-20	S.R. 823	STA. 432+50	STA. 445+00	RT.		13		
158	BR-21	S.R. 823	STA. 432+50	STA. 445+00	RT.	8	5		
159	BR-22	S.R. 823	STA. 445+00	STA. 457+50	LT.	12			
	BR-23	S.R. 823	STA. 445+00	STA. 457+50	LT.		12		
	BR-24	S.R. 823	STA. 445+00	STA. 457+50	RT.		12		
	BR-25	S.R. 823	STA. 445+00	STA. 457+50	RT.	12			
	BR-26	S.R. 823	STA. 457+50	STA. 470+00	LT.	13			
	BR-27	S.R. 823	STA. 457+50	STA. 470+00	LT.		13		
	BR-28	S.R. 823	STA. 457+50	STA. 470+00	RT.		13		
159	BR-29	S.R. 823	STA. 457+50	STA. 470+00	RT.	13			
160	BR-30	S.R. 823	STA. 470+00	STA. 482+50	LT.	12			
	BR-31	S.R. 823	STA. 470+00	STA. 482+50	LT.		12		
	BR-32	S.R. 823	STA. 470+00	STA. 482+50	RT.		12		
	BR-33	S.R. 823	STA. 470+00	STA. 473+43	RT.	3			
	BR-34	S.R. 823	STA. 477+35	STA. 482+50	RT.	4	2		
	BR-35	S.R. 823	STA. 482+50	STA. 495+00	LT.	9	4		
	BR-36	S.R. 823	STA. 482+50	STA. 495+00	LT.		13		
	BR-37	S.R. 823	STA. 482+50	STA. 495+00	RT.		13		
160	BR-38	S.R. 823	STA. 482+50	STA. 495+00	RT.		13		
SUBTOTALS CARRIED TO THIS SHEET						175	252		

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	626 BARRIER REFLECTOR (TYPE A) EACH	626 BARRIER REFLECTOR (TYPE B) EACH		
161	BR-39	S.R. 823	STA. 495+00	STA. 507+50	LT.	12			
	BR-40	S.R. 823	STA. 495+00	STA. 507+50	LT.		12		
	BR-41	S.R. 823	STA. 495+00	STA. 507+50	RT.		12		
	BR-42	S.R. 823	STA. 495+00	STA. 507+50	RT.		12		
	BR-43	S.R. 823	STA. 501+80	STA. 507+50	RT.		6		
	BR-44	S.R. 823	STA. 507+50	STA. 520+00	LT.	4	9		
	BR-45	S.R. 823	STA. 507+50	STA. 520+00	LT.		13		
	BR-46	S.R. 823	STA. 507+50	STA. 520+00	RT.		13		
	BR-47	S.R. 823	STA. 507+50	STA. 516+80	RT.	7	2		
	BR-48	S.R. 823	STA. 507+50	STA. 520+00	RT.		13		
161	BR-49	RAMP A	STA. 516+80	STA. 520+00	RT.	4			
162	BR-50	RAMP D	STA. 520+00	STA. 527+00	LT.	13			
	BR-51	S.R. 823	STA. 520+00	STA. 523+00	LT.		3		
	BR-52	S.R. 823	STA. 520+00	STA. 523+00	RT.		3		
	BR-53	RAMP A	STA. 520+00	STA. 521+56	LT.		3		
162	BR-54	RAMP A	STA. 520+00	STA. 527+00	RT.	12			
163	BR-55	RAMP D	STA. 527+00	STA. 530+99	LT.	9			
163	BR-56	RAMP A	STA. 527+00	STA. 529+42	RT.	4			
164	BR-57	C.R. 28	STA. 10+62	STA. 16+48	LT.	9			
				SUBTOTAL THIS COLUMN		74	101		
				SUBTOTAL LEFT COLUMN		175	252		
				SUBTOTAL		249	353		
TOTALS CARRIED TO GENERAL SUMMARY						602			

CALCULATED AWN CHECKED TWG

BARRIER REFLECTOR SUBSUMMARY

SCI-823-6.81

171
209

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	202 REMOVAL MISC.: PORTABLE CONCRETE BARRIER	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 GROUND MOUNTED SUPPORT, NO. 4 POST	630 GROUND MOUNTED SUPPORT, NO. 6 POST	630 GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	630 GROUND MOUNTED SUPPORT, W6 X 9 BEAM	630 GROUND MOUNTED SUPPORT, W12 X 30 BEAM	630 SIGN POST REFLECTOR (RED)	630 BREAKAWAY STRUCTURAL BEAM CONNECTION	630 SIGN, FLAT SHEET	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL			
							FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	SQ FT	SQ FT	EACH	EACH			
156	R-1	RAMP A	STA. 384+50	LT./RT.			30													1			
	R-2	RAMP D	STA. 384+62	LT./RT.			60													1			
	S-1	RAMP A	STA. 385+50	RT.	R5-10B	30 X 18		12									3.75						
	S-2	RAMP D	STA. 387+00	LT.	R3-H8BD	30 X 30			13								6.25						
					R5-1A	36 X 24									1		6.0						
	S-3	RAMP D	STA. 387+00	RT.	R3-H8BD	30 X 30			13								6.25						
					R5-1A	36 X 24									1		6.0						
156	S-4	RAMP D	STA. 389+00	LT.	D3-H3	144 x 24			14		17/17							24.0					
					M1-5	30 X 24											5.00						
					M6-1L	21 X 15											2.19						
					I-5	24 X 24											4.0						
					M6-1L	21 X 15											2.19						
157	S-5	S.R. 823	STA. 400+00	LT.	R11-2	48 X 30											10.0						
				RT.	R11-2	48 X 30											10.0						
	S-6	S.R. 823	STA. 401+30	LT.	E5-H1	72 X 60						34.3				2		30.0	2				
	S-7	S.R. 823	STA. 402+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 403+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 404+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 405+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 406+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 407+00	LT.	W1-H11	36 X 36			8								9.0						
	S-8	S.R. 823	STA. 408+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 409+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 410+00	LT.	W1-H11	36 X 36			8								9.0						
			STA. 411+00	LT.	W1-H11	36 X 36			8								9.0						
	S-9	S.R. 823	STA. 411+00	LT.	E1-H3	17' X 12'								60.0				204.0	2				
	S-10	S.R. 823	STA. 413+00	RT.	M3-1	36 X 18			16/16								4.5						
					M1-5	45 X 36											11.25						
157	S-11	S.R. 823	STA. 418+00	RT.	W4-2R	48 X 48			15/15								16.0						
158	S-12	S.R. 823	STA. 422+40	LT.	D10-H8	12 X 12		9									1.0						
	S-13	S.R. 823	STA. 422+40	RT.	D10-H8	12 X 12		9									1.0						
	S-14	S.R. 823	STA. 423+00	RT.	R2-1	48 X 60				16/16							20.0						
					R2-H2A	48 X 60				16/16							20.0						
	S-15	S.R. 823	STA. 429+50	LT.	E1-H1	14' X 14'								64.9				196.0	2				
	S-16	S.R. 823	STA. 432+70	LT.	W9-H4L	144 X 48							37.8					48.0	2				
158	S-17	S.R. 823	STA. 440+00	LT.	W9-H5L	144 X 48							36.2					48.0	2				
159	S-18	S.R. 823	STA. 450+50	RT.	W9-H6	144 X 48							37.8					48.0	2				
	S-19	S.R. 823	STA. 456+00	LT.	E1-H1	14' X 14'								64.9				196.0	2				
159	S-20	S.R. 823	STA. 468+50	RT.	E1-H1	14' X 12'								58.1				168.0	2				
160	S-21	S.R. 823	STA. 474+00	LT.	W9-H6	144 X 48							36.0					48.0	2				
	S-22	S.R. 823	STA. 475+20	LT.	D10-H8	12 X 12		9									1.0						
	S-23	S.R. 823	STA. 475+20	RT.	D10-H8	12 X 12		9									1.0						
	S-24	S.R. 823	STA. 479+00	RT.	W9-H5L	144 X 48							34.8					48.0	2				
160	S-25	S.R. 823	STA. 491+80	℄/RT.	W4-2L	48 X 48			15/15								32.0						
SUB TOTALS CARRIED TO SHEET 174							90	48	212	64	34	35	183	248	2	2	259	1058	20	2			

CALCULATED AWN CHECKED TWG

SIGNING SUBSUMMARY

SCI-823-6.81

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST FT		630 GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM FT	630 GROUND MOUNTED SUPPORT, W10 X 22 BEAM FT	630 GROUND MOUNTED SUPPORT, W12 X 30 BEAM FT	630 SIGN POST REFLECTOR (RED) EACH	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 SIGN, FLAT SHEET SQ FT	630 SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH						
161	S-26	S.R. 823	STA. 495+00	RT.	E1-H3	14' X 12'					53.9					168.0	2							
	S-27	S.R. 823	STA. 496+00	LT.	R2-1	48 X 60		16/16							20.0									
					R2-H2A	48 X 60		16/16							20.0									
	S-28	S.R. 823	STA. 501+70	LT.	M3-3	36 X 18	16/16								4.5									
					M1-5	45 X 36									11.25									
	S-29	S.R. 823	STA. 513+50	RT.	E1-H3	17' X 10'						57.9				170.0	2							
161	S-30	S.R. 823	STA. 513+50	RT.	W1-H11	36 X 36	8								9.0									
			STA. 514+50	RT.	W1-H11	36 X 36	8								9.0									
			STA. 515+50	RT.	W1-H11	36 X 36	8								9.0									
			STA. 516+50	RT.	W1-H11	36 X 36	8								9.0									
			STA. 517+50	RT.	W1-H11	36 X 36	8								9.0									
			STA. 518+50	RT.	W1-H11	36 X 36	8								9.0									
			STA. 519+50	RT.	W1-H11	36 X 36	8								9.0									
162	S-31	S.R. 823	STA. 520+50	RT.	W1-H11	36 X 36	8								9.0									
			STA. 521+50	RT.	W1-H11	36 X 36	8								9.0									
	S-32	S.R. 823	STA. 522+17	RT.	E5-H1	72 X 60				34.3				2		30.0	2							
162	S-33	S.R. 823	STA. 523+00	LT.	R11-2	48 X 30									10.0									
				RT.	R11-2	48 X 30									10.0									
163	S-34	RAMP A	STA. 532+00	LT.	R5-1A	36 X 24	13						1		6.0									
163	S-35	RAMP A	STA. 532+00	RT.	D1-H6A	120 X 48	15			31.6				2		40.0	2							
				RT.	M4-5	24 X 12									2.0									
				RT.	M1-4	30 X 30									6.25									
				RT.	M6-1L	21 X 15									2.19									
				RT.	M1-6	30 X 30									6.25									
				RT.	M6-4	21 X 15									2.19									
				RT.	R5-1A	36 X 24							1		6.0									
SUB TOTALS CARRIED TO SHEET 174							132	64		66	54	58	2	4	188	408	8							

CALCULATED AWN CHECKED TWG

SIGNING SUBSUMMARY

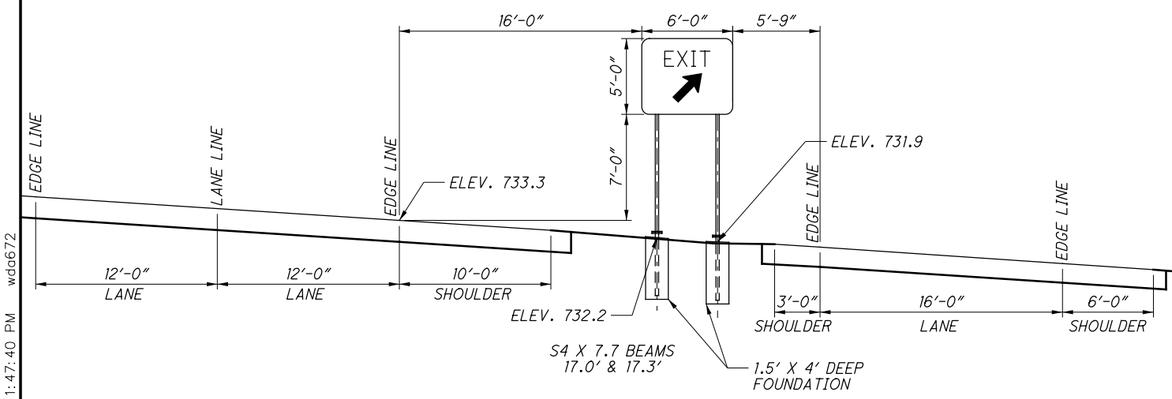
SCI-823-6.81

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	202 REMOVAL MISC.: PORTABLE CONCRETE BARRIER	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 GROUND MOUNTED SUPPORT, NO. 4 POST	630 GROUND MOUNTED SUPPORT, NO. 6 POST	630 ONE WAY SUPPORT, NO. 3 POST	630 GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	630 GROUND MOUNTED SUPPORT, W6 X 9 BEAM	630 GROUND MOUNTED SUPPORT, W10 X 22 BEAM	630 GROUND MOUNTED SUPPORT, W12 X 30 BEAM	630 SIGN POST REFLECTOR (RED)	630 BREAKAWAY STRUCTURAL BEAM CONNECTION	630 SIGN, FLAT SHEET	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST AND DISPOSAL
							FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	SQ FT	SQ FT	EACH	EACH	EACH
164	S-36	C.R. 28	STA. 6+50	RT.	M2-1	21 X 15			13										2.19				
				RT.	M1-5	30 X 24													5.0				
	S-37	C.R. 28	STA. 11+50	LT.	R2-1	24 X 30			13										5.0				
	S-38	C.R. 28	STA. 11+50	RT.	M3-3	24 X 12			15										2.0				
				RT.	M1-5	30 X 24													5.0				
				RT.	M5-1R	21 X 15													2.19				
	S-39	C.R. 28	STA. 12+50	RT.	R3-H8BB	30 X 30			13										6.25				
	S-40	C.R. 28	STA. 13+73	RT.	M1-H6A	30 X 30																1	1
	S-41	C.R. 28	STA. 13+74	LT.	M1-H6A	30 X 30																1	1
	S-42	C.R. 28	STA. 14+69	RT.	M3-3	24 X 12			15										2.0				
				RT.	M1-5	30 X 24													5.0				
				RT.	M6-1R	21 X 15													2.19				
	S-43	C.R. 28	STA. 15+50	LT.	M3-3	24 X 12			15										2.0				
				LT.	M1-5	30 X 24													5.0				
				LT.	M6-1L	21 X 15													2.19				
	S-44	C.R. 28	STA. 19+00	LT.	R3-H8BA	30 X 30			13										6.25				
	S-45	C.R. 28	STA. 21+00	LT.	M3-3	24 X 12			15										2.0				
				LT.	M1-5	30 X 24													5.0				
				LT.	M5-1L	21 X 15													2.19				
	S-46	FLOWERS ISON RD.	STA. 10+29	LT.	R1-1	30 X 30																1	1
	S-47	FLOWERS ISON RD.	STA. 10+34	LT.	R1-1	30 X 30			13								1		6.25				
	S-48	RAMP C	STA. 514+38	RT.	R4-7	24 X 30			13										5.0				
	S-49	RAMP D	STA. 542+50	LT.	R5-10B	30 X 18		12											3.75				
164	S-50	RAMP C	STA. 514+27	RT.	R11-2	48 X 30													10.0				
165	S-51	C.R. 28	STA. 30+00	LT.	M3-3	24 X 12			15										2.0				
				LT.	M1-5	30 X 24													5.0				
				LT.	M6-3	21 X 15													2.19				
	S-52	C.R. 28	STA. 35+00	LT.	M2-1	21 X 15			13										2.19				
				LT.	M1-5	30 X 24													5.0				
	S-53	C.R. 28	STA. 35+00	RT.	R2-1	24 X 30			13										5.0				
	S-54	C.R. 28	STA. 36+10	LT.	R1-1	30 X 30			13								1		6.25				
	S-55	C.R. 28	STA. 36+12	LT.	R1-1	30 X 30																1	1
	S-56	RAMP B	STA. 522+09	LT.	R11-2	48 X 30													10.0				
	S-57	RAMP A	STA. 533+50	RT.	R3-H8BD	30 X 30			13										6.25				
165	S-58	RAMP A	STA. 536+60	RT.	R1-1	48 X 48			14/14								2		16.0				
				RT.	R6-1L	36 X 12						2							3.0				
				RT.	R5-1	36 X 36											2		9.0				
				RT.	R6-1R	36 X 12													3.0				
			SUBTOTALS CARRIED BELOW					12	233			2					6		162			4	4
			SUBTOTALS THIS SHEET					12	233			2					6		162			4	4
			SUBTOTALS FROM SHEET 172				90	48	212	64	34		35	183		248	2	2	259	1058	20	2	
			SUBTOTAL FROM SHEET 173						132	64			66		54	58	2	4	188	408	8		
TOTALS CARRIED TO GENERAL SUMMARY							90	60	577	128	34	2	101	183	54	306	10	6	609	1466	28	6	4

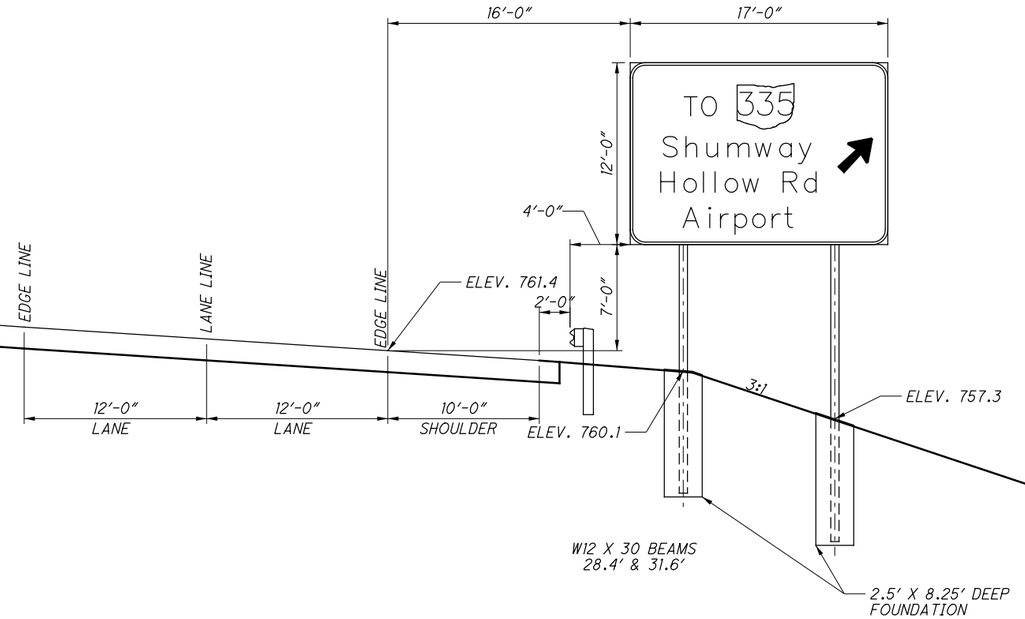
CALCULATED AWN
CHECKED TWG

SIGNING SUBSUMMARY

SCI-823-6.81



SIGN NUMBER 6
SOUTHBOUND S.R. 823/T.R. 234 RAMP D
STA. 401+30



SIGN NUMBER 9
SOUTHBOUND S.R. 823
STA. 411+00

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED MMB
CHECKED TWG

SIGN ELEVATIONS
STA. 401+30 TO STA. 411+00

SCI-823-6.81

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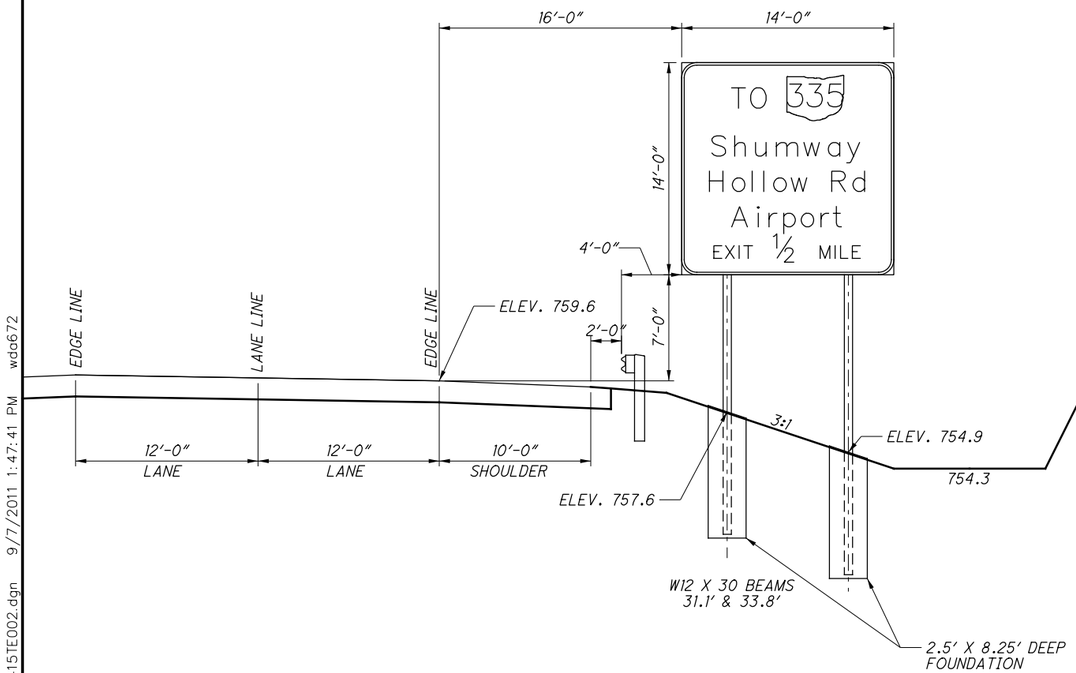
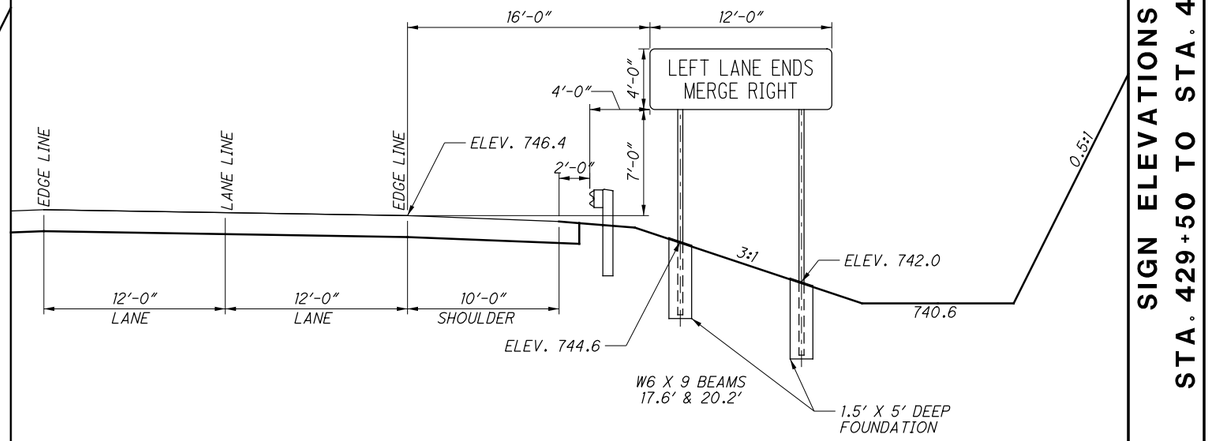


SIGN NUMBER 15
SOUTHBOUND S.R. 823
STA. 429+50



SIGN NUMBER 16
SOUTHBOUND S.R. 823
STA. 432+70

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED MMB
CHECKED TWG

SIGN ELEVATIONS
STA. 429+50 TO STA. 432+70

SCI-823-6.81

176
209

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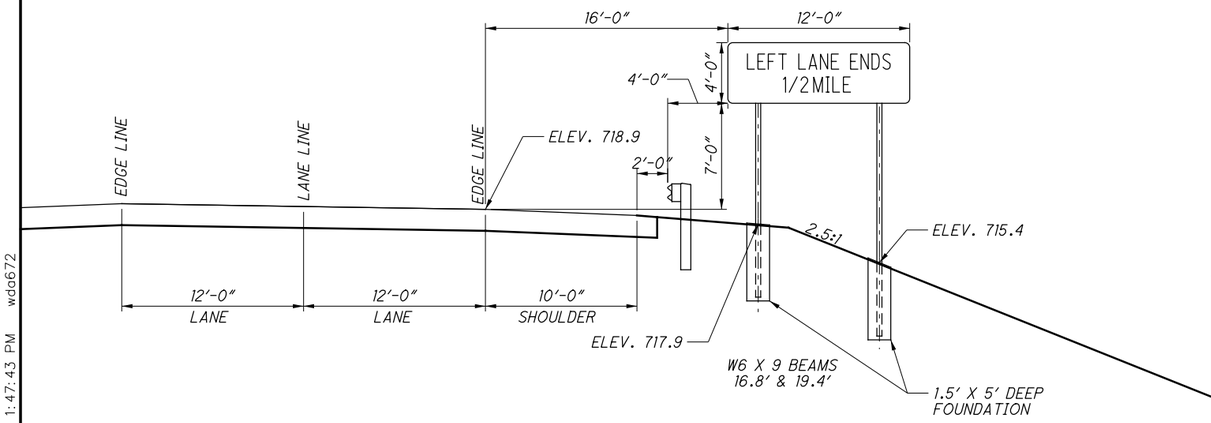
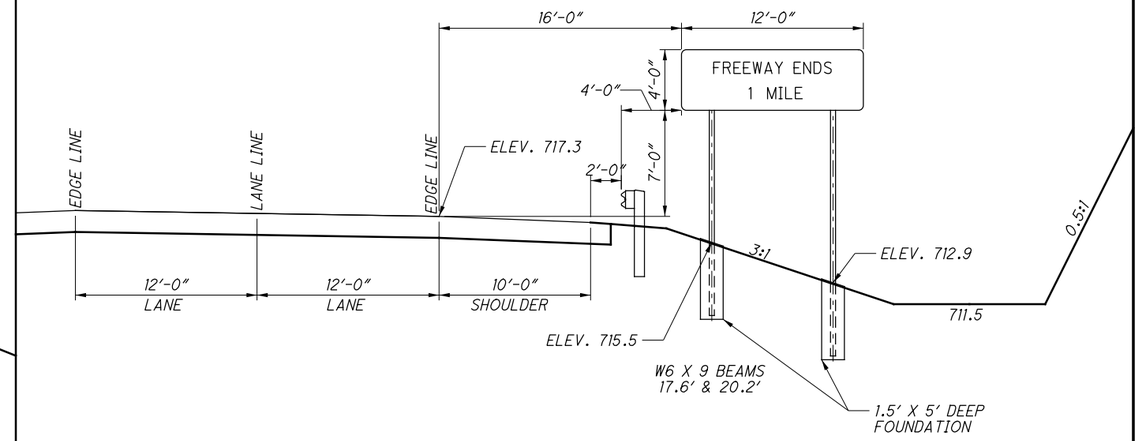


SIGN NUMBER 17
SOUTHBOUND S.R. 823
STA. 440+00



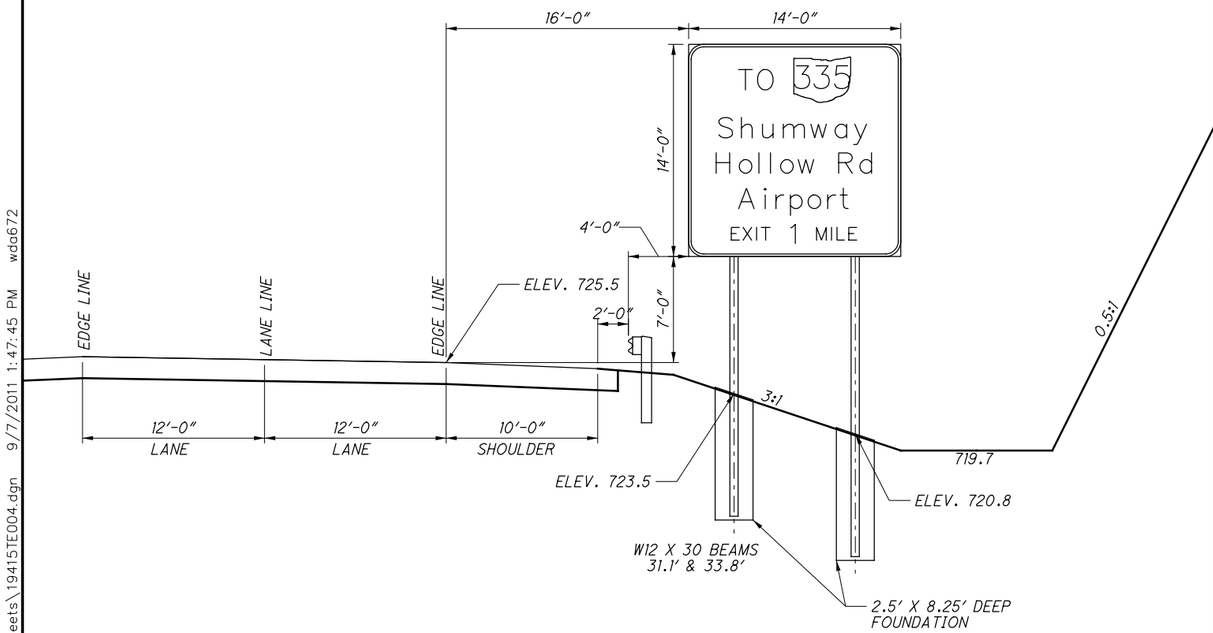
SIGN NUMBER 18
NORTHBOUND S.R. 823
STA. 450+50

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED MMB
CHECKED TWG

SIGN ELEVATIONS
STA. 440+00 TO STA. 450+50

SCI-823-6.81



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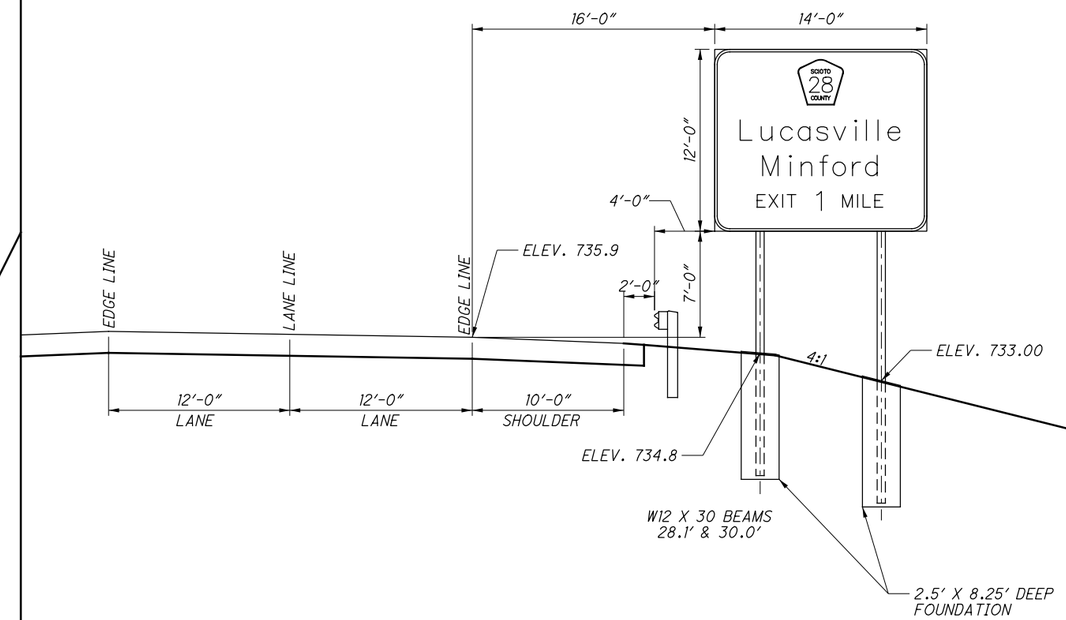
SOUTHBOUND S.R. 823
STA. 456+00



SIGN NUMBER 20
NORTHBOUND S.R. 823
STA. 468+50

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED MMB
CHECKED TWG

SIGN ELEVATIONS
STA. 456+00 TO STA. 468+50

SCI-823-6.81

178
209

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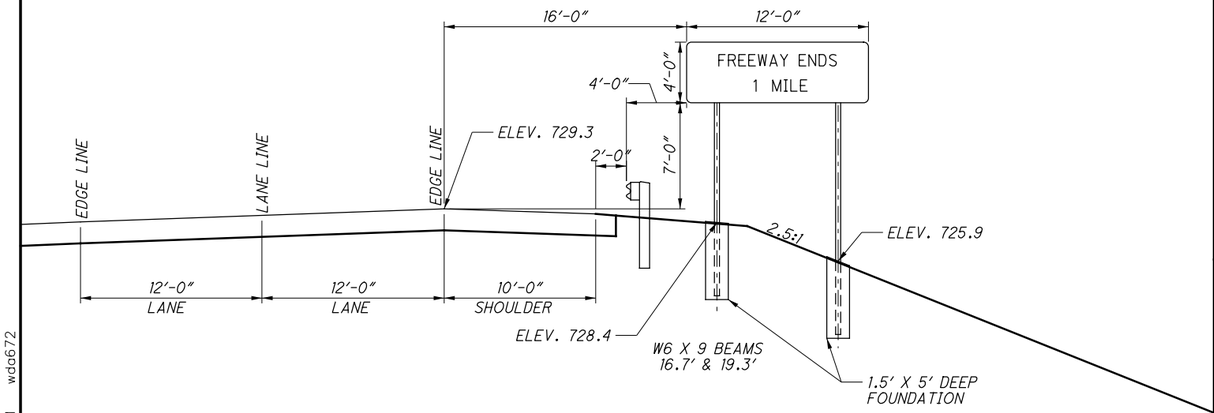
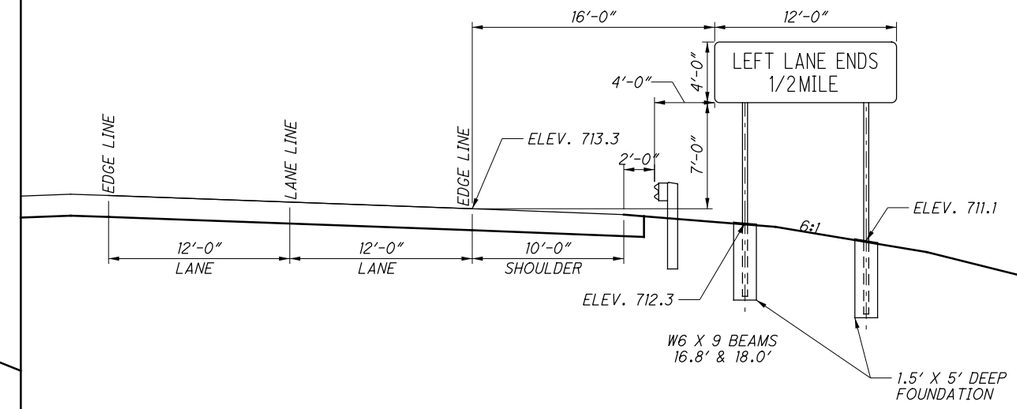


SIGN NUMBER 21
SOUTHBOUND S.R. 823
STA. 474+00



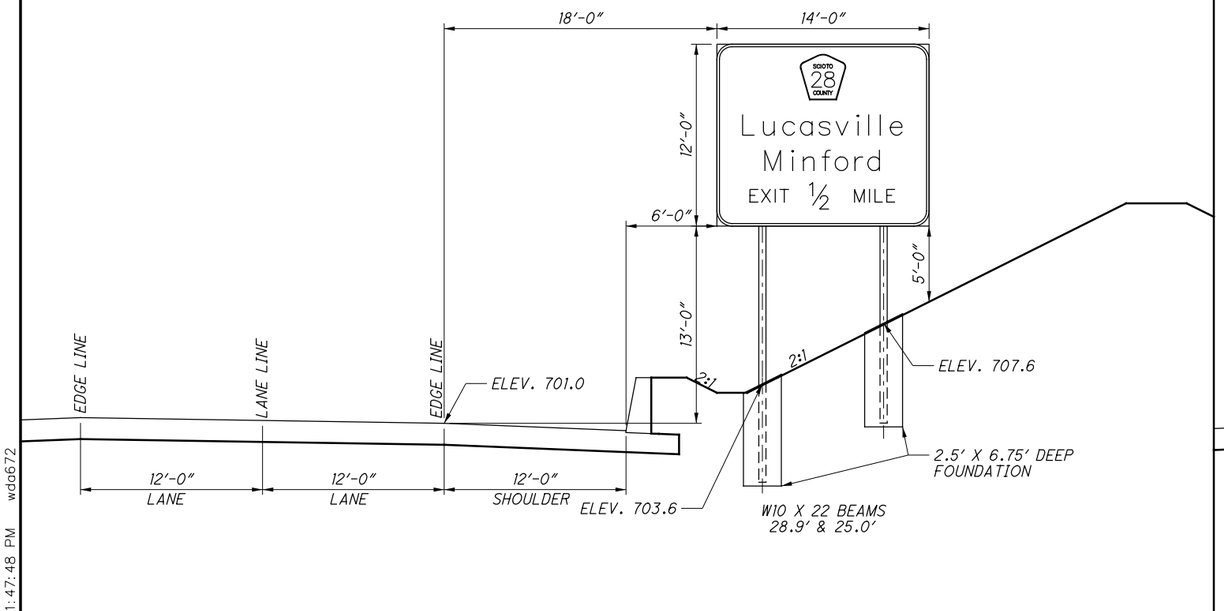
SIGN NUMBER 24
NORTHBOUND S.R. 823
STA. 479+00

HORIZONTAL SCALE IN FEET
0 2.5 5 10

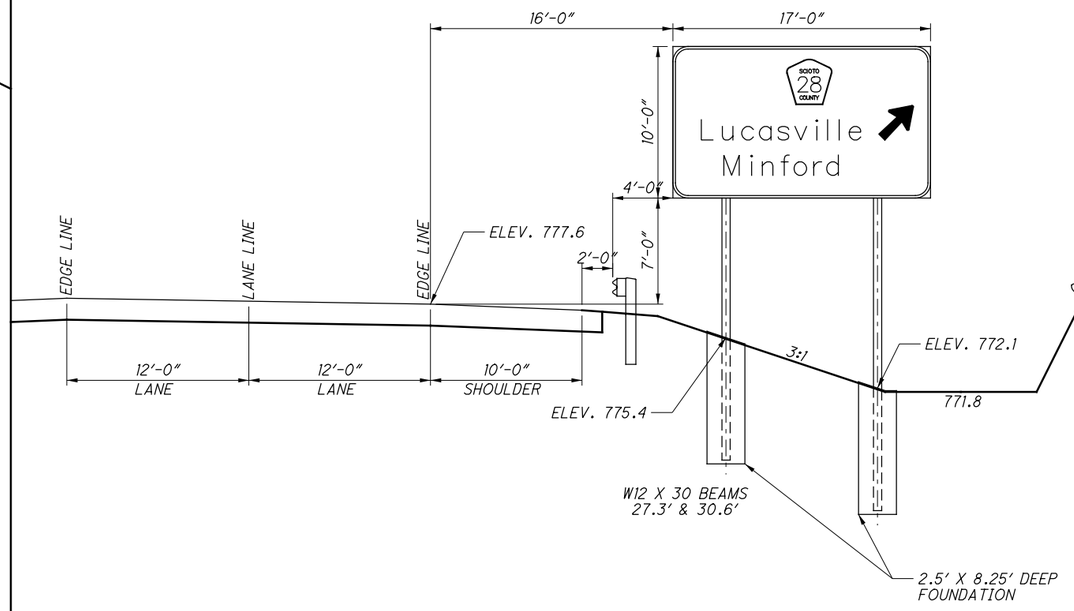
CALCULATED MMB
CHECKED TWG

SIGN ELEVATIONS
STA. 474+00 TO STA. 479+00

SCI-823-6.81



SIGN NUMBER 26
NORTHBOUND S.R. 823
STA. 495+00



SIGN NUMBER 29
NORTHBOUND S.R. 823
STA. 513+50

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED MMB
CHECKED TWG

SIGN ELEVATIONS
STA. 495+00 TO STA. 513+50

SCI-823-6.81

180
209

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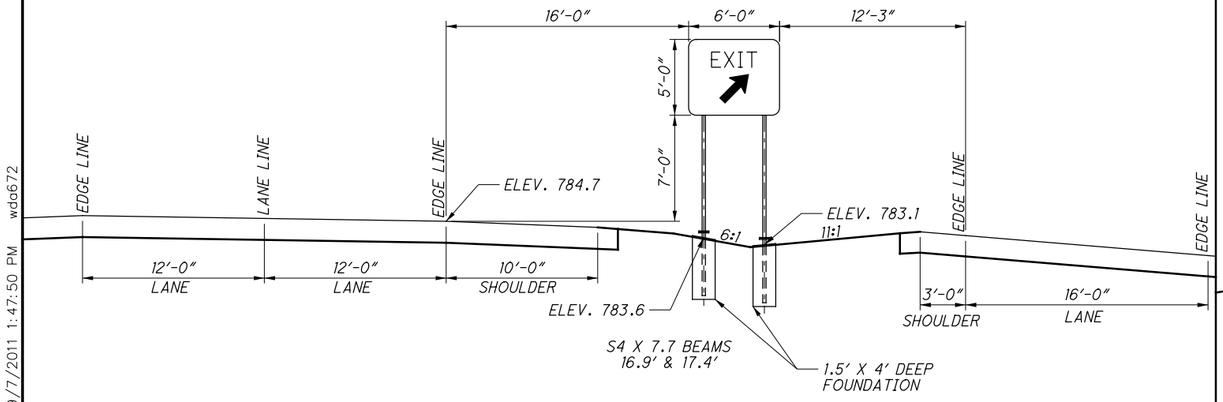
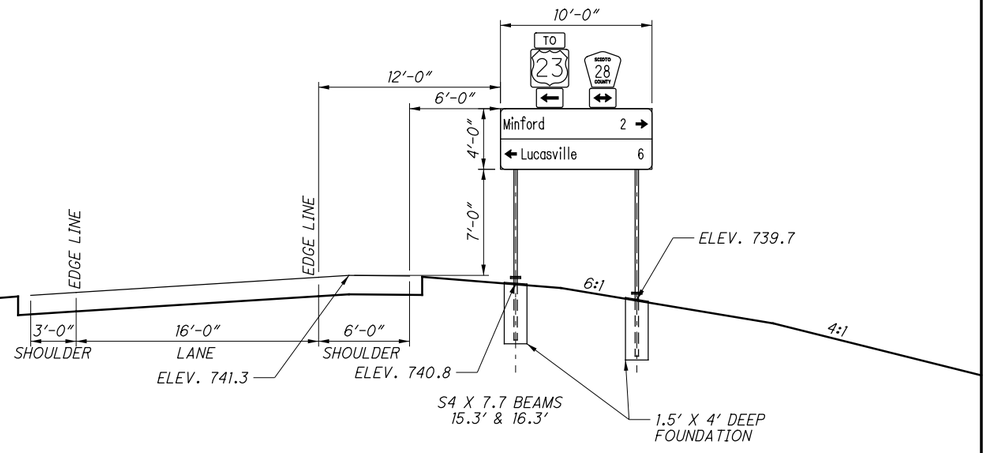


SIGN NUMBER 32
NORTHBOUND S.R. 823/C.R. 28 RAMP A
STA. 522+17



SIGN NUMBER 35
C.R. 28 RAMP A
STA. 532+00

SIGN ELEVATIONS
STA. 522+17

SCI-823-6.81

181
209

CALCULATED MMB
CHECKED TWG

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

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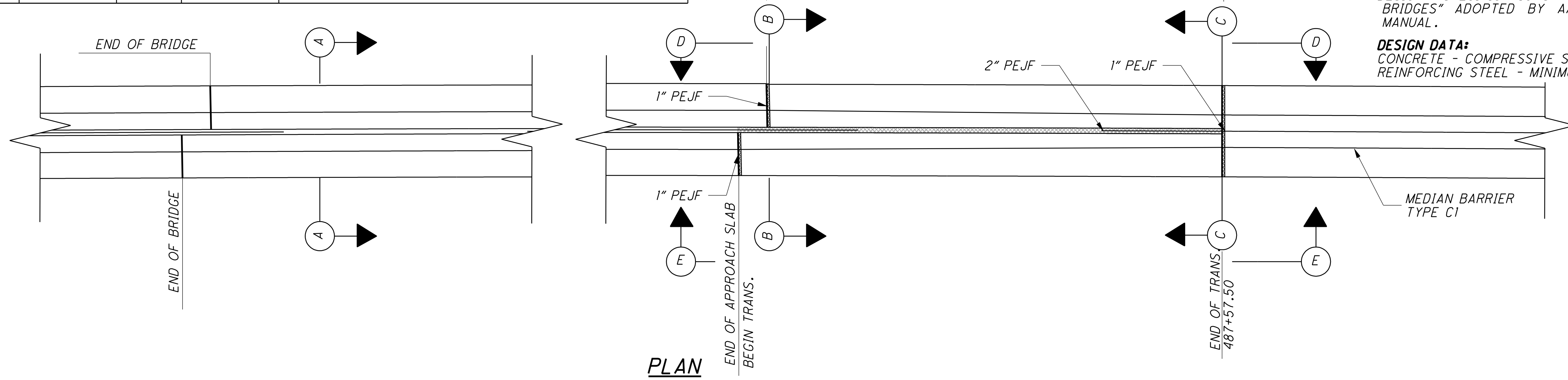
ESTIMATED QUANTITIES				
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
516	13600	12	SQ FT	1" PREFORMED EXPANSION JOINT FILLER
516	13900	30	SQ FT	2" PREFORMED EXPANSION JOINT FILLER
622	10161	62	SQ FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN



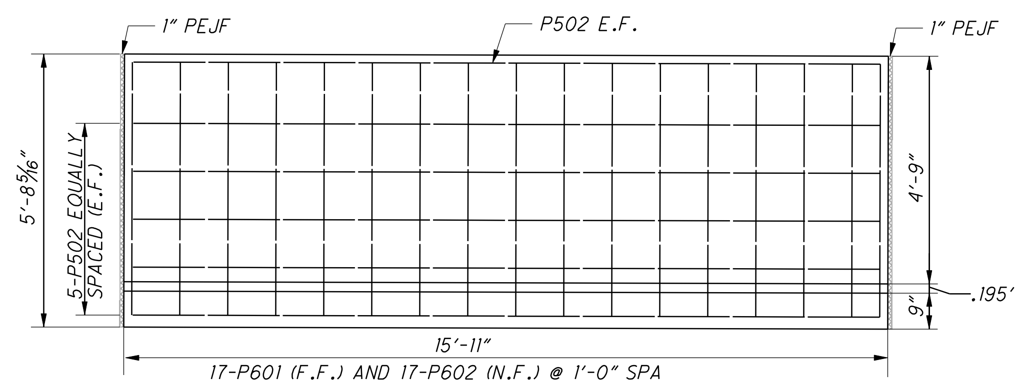
PLAN

NOTES:

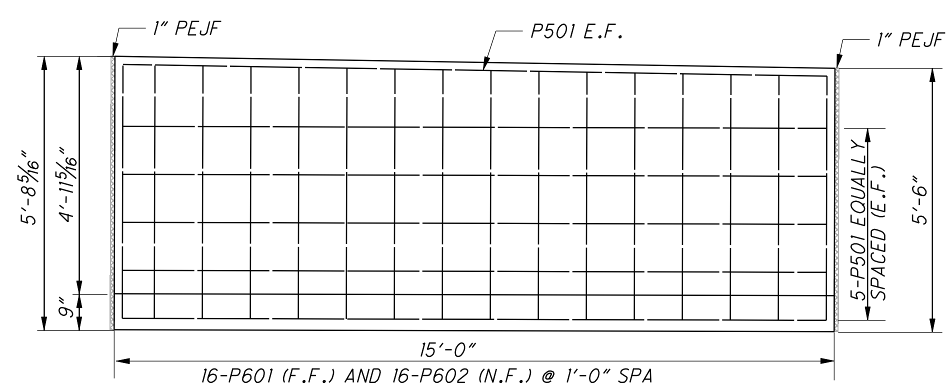
1. BRIDGE AND APPROACH SLAB PARAPET TO BE PERFORMED IN OTHER PART (NIP)
2. FOR MEDIAN BARRIER TYPE C1 REFER TO STD DRAWINGS. RM-4.3, RM-4.5
3. PEJF = PREFORMED EXPANSION JOINT MATERIAL
4. N.F. = NEAR FACE
   F.F. = FAR FACE
   E.F. = EACH FACE

DESIGN SPECIFICATIONS: "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY AASHTO, 1996, AND THE ODOT BRIDGE DESIGN MANUAL.

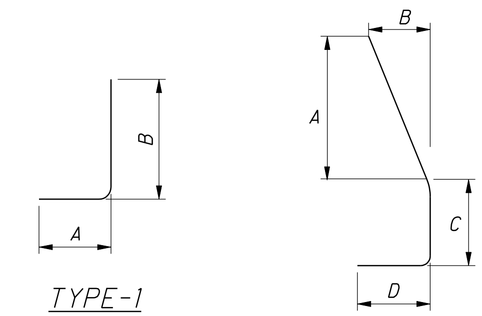
DESIGN DATA:
CONCRETE - COMPRESSIVE STRENGTH 4500 PSI.
REINFORCING STEEL - MINIMUM YIELD STRENGTH = 60,000 PSI.



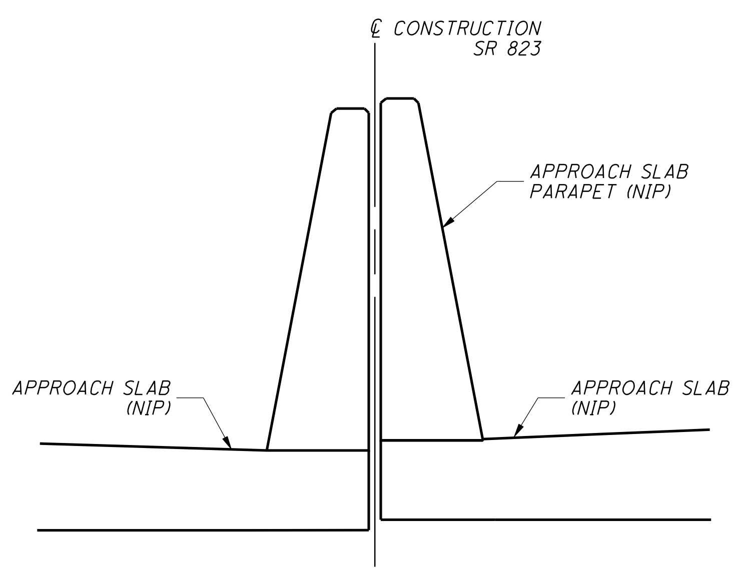
SECTION E-E



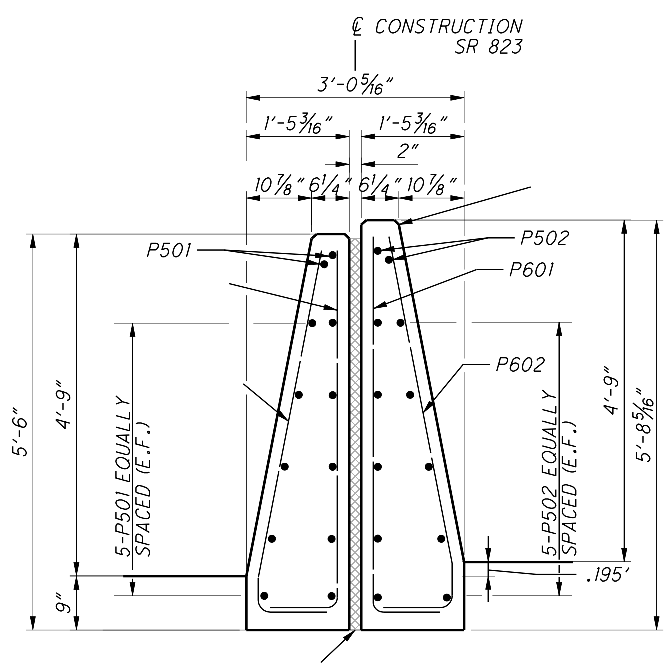
SECTION D-D



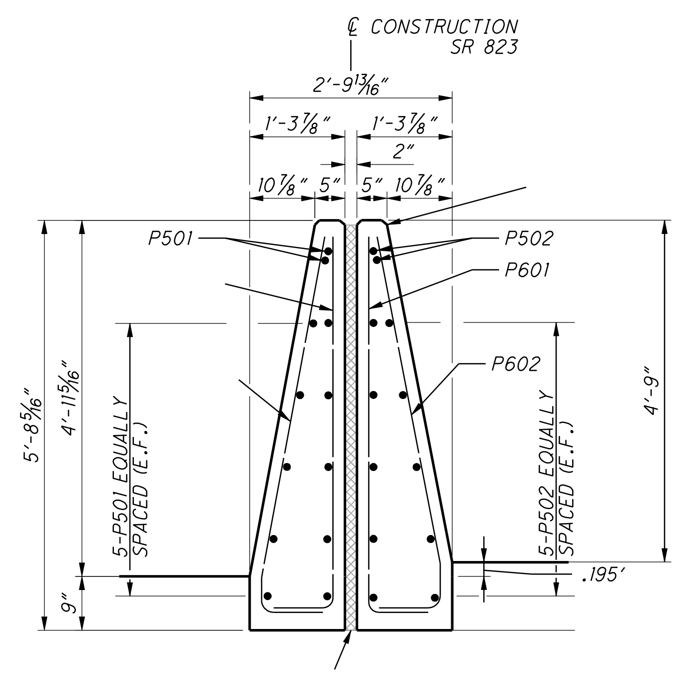
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D
P501	24	14'- 8"	367	STR				
P502	24	15'- 7"	392	STR				
P601	66	6'- 0"	595	1	1'-0"	5'-2"		
P602	66	6'- 2"	611	10	1'-0"	4'-10"	0'-6"	1'-0"
		SUB-TOTAL	1965					



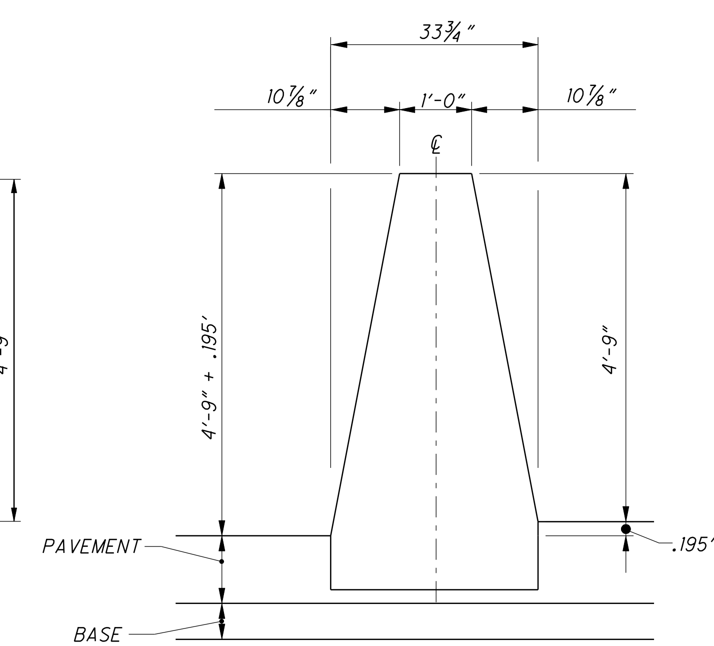
SECTION A-A



SECTION B-B



SECTION C-C



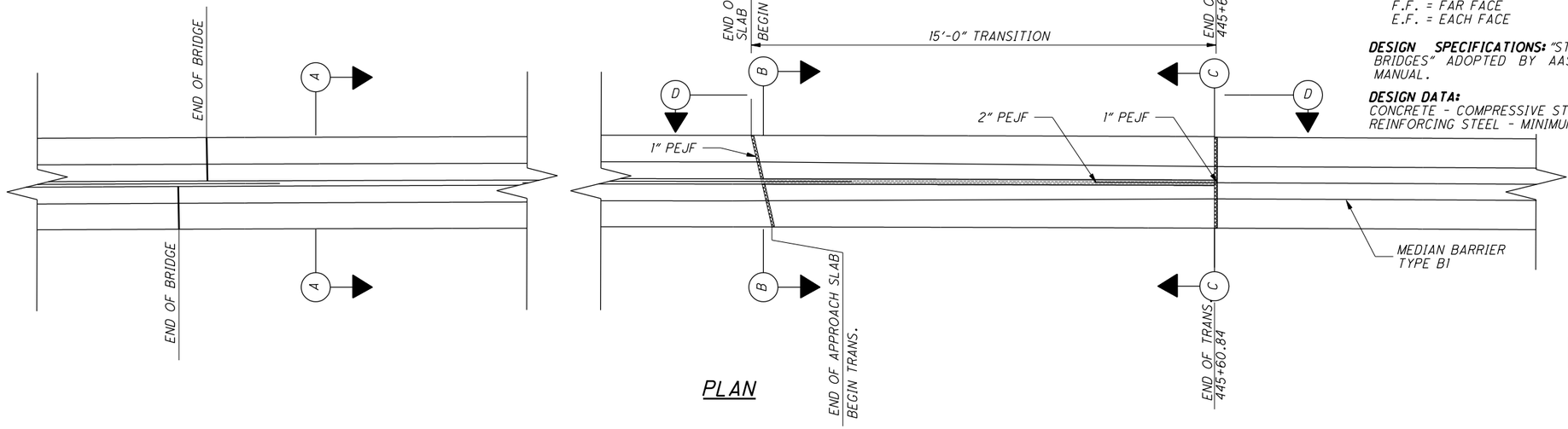
MEDIAN BARRIER TYPE C1

CALCULATED SRD
CHECKED DAT

BARRIER TRANSITION DETAIL BRIDGE SCI-823-0917

SCI-823-6.81

USER: CWohlbr1 PLOT DATE: 9/15/2011 9:32:55 AM REVISION DATE: 9/15/2011 MODEL: Sheet

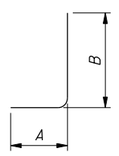


PLAN

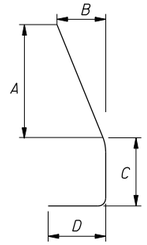
NOTES:
1. BRIDGE AND APPROACH SLAB PARAPET TO BE PERFORMED IN OTHER PART (NIP)
2. FOR MEDIAN BARRIER TYPE C1 REFER TO STD DRAWINGS. RM-4.3,RM-4.5
3. PEJF = PREFORMED EXPANSION JOINT MATERIAL
4. N.F. = NEAR FACE
   F.F. = FAR FACE
   E.F. = EACH FACE

DESIGN SPECIFICATIONS: "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY AASHTO, 1996, AND THE ODOT BRIDGE DESIGN MANUAL.

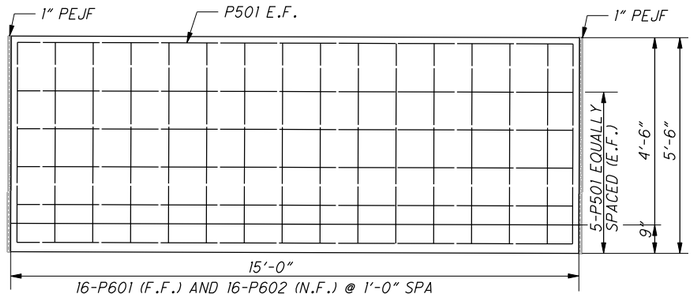
DESIGN DATA:
CONCRETE - COMPRESSIVE STRENGTH 4500 PSI.
REINFORCING STEEL - MINIMUM YIELD STRENGTH = 60,000 PSI.



TYPE-1



TYPE-10

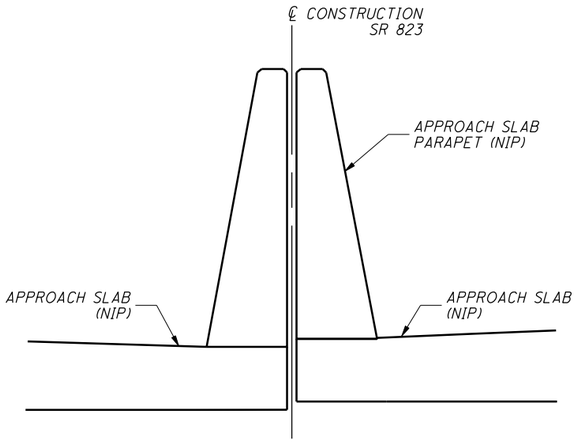


SECTION D-D

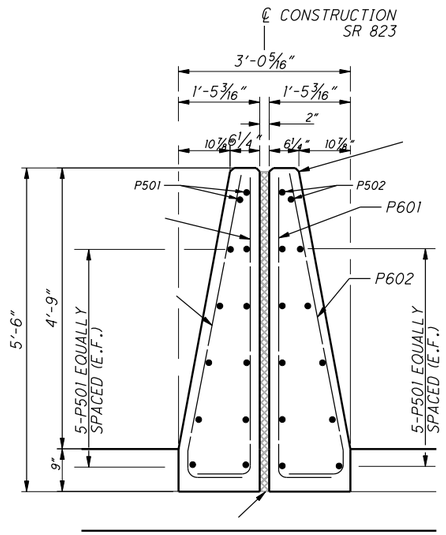
ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
516	13600	12	SQ FT	1" PREFORMED EXPANSION JOINT FILLER
516	13900	30	SQ FT	2" PREFORMED EXPANSION JOINT FILLER
622	10161	62	SQ FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN

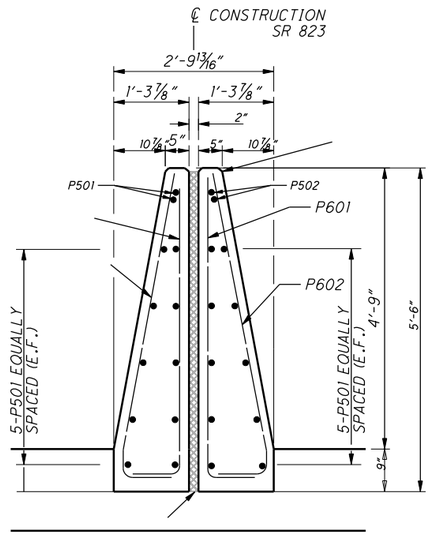
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D
P501	24	14'- 8"	367	STR				
P502	24	14'- 8"	367	STR				
P601	66	6'- 0"	595	1	1'-0"	5'-2"		
P602	66	6'- 2"	611	10	1'-0"	4'-10"	0'-6"	1'-0"
SUB-TOTAL		1940						



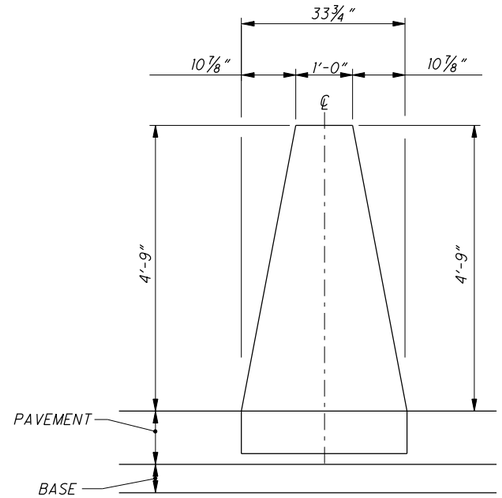
SECTION A-A



SECTION B-B



SECTION C-C



MEDIAN BARRIER TYPE B1

CALCULATED SRD
CHECKED DAT

BARRIER TRANSITION DETAIL BRIDGE SCI-823-0837

SCI-823-6.81

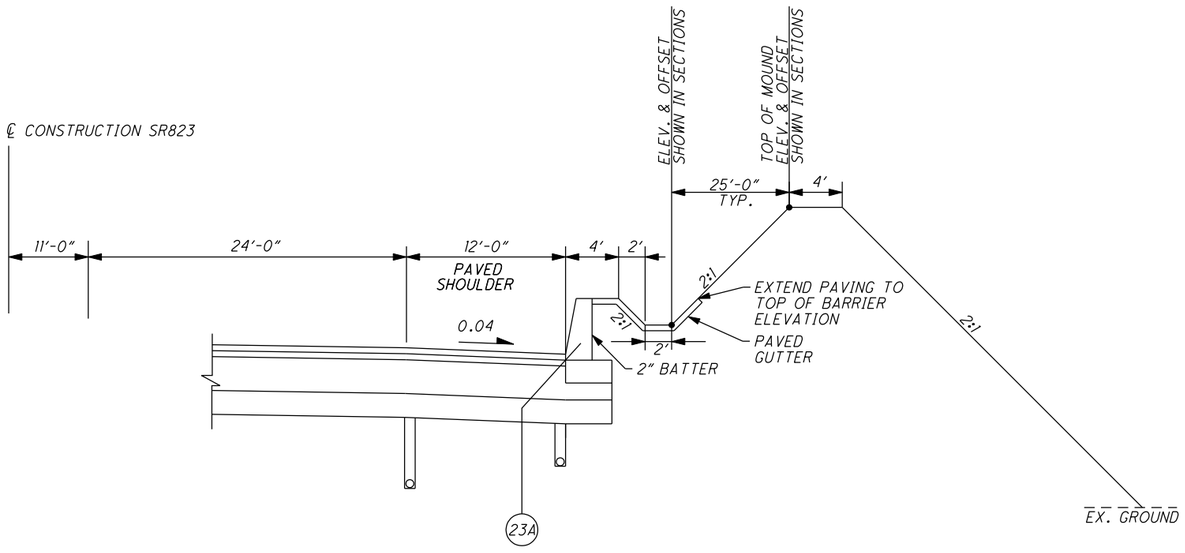
USER: Cmanbri PLOT DATE: 9/6/2011 9:13:13 AM REVISION DATE: 9/6/2011
FILE: C:\Users\Cmanbri\Desktop\Documents\Projects\105106\Sheets\105102.DGN MODEL: Sheet

LEGEND

(23) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

(23A) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN

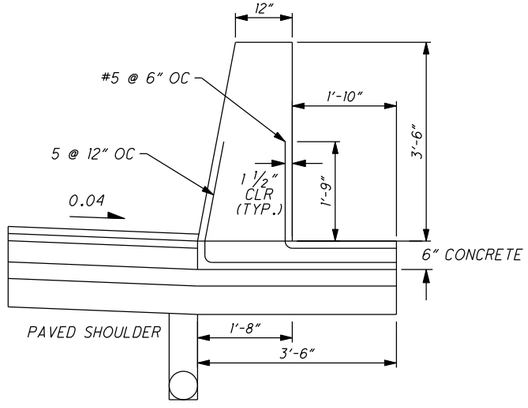
(25) ITEM SPECIAL - NOISE BARRIER

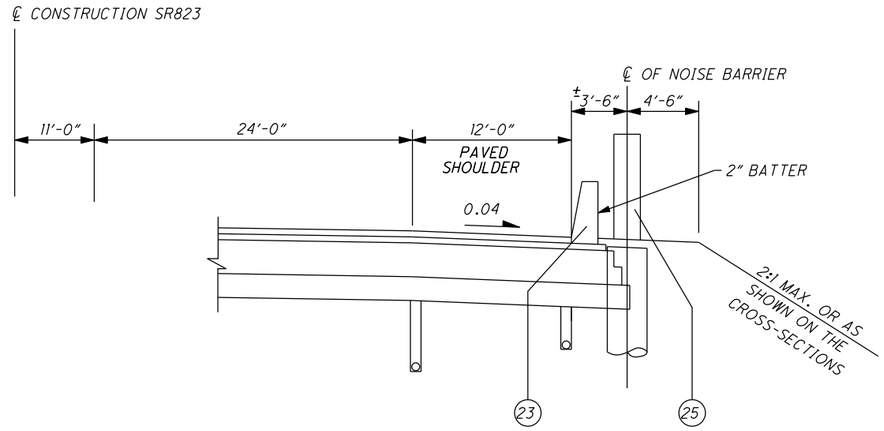


DETAIL A-2 (NOISE MOUND FILL SECTION)

SR823: STA. 489+55.00 RT. TO STA. 499+00.00 RT. = 945.00 LF
SR823: STA. 502+75.00 RT. TO STA. 508+20.00 RT. = 545.00 LF

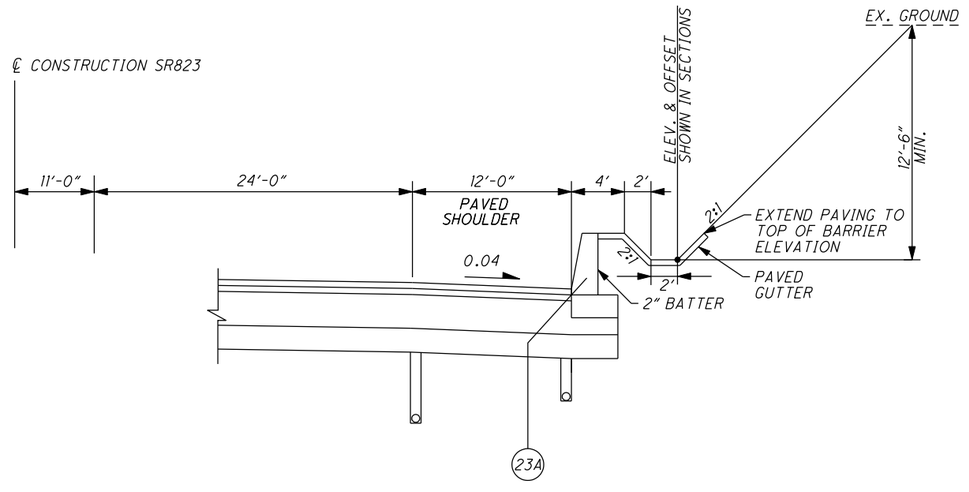
CONCRETE BARRIER, SINGLE SLOPE, TYPE D AS PER PLAN





DETAIL A-1 (NOISE BARRIER SECTION)

SR823: STA. 480+51.79 RT. TO STA. 482+61.65 RT. = 209.86 LF
SR823: STA. 487+16.97 RT. TO STA. 489+55.00 RT. = 238.03 LF



DETAIL A-3 (NOISE MOUND CUT SECTION)

SR823: STA. 499+00.00 RT. TO STA. 502+75.00 RT. = 375.00 LF

CALCULATED LBD CHECKED JMB

NOISE BARRIER TYPICAL SECTIONS

SCI-823-6.81

USER: Cmahlbri PLOT DATE: 9/15/2011 9:39:25 AM REVISION DATE: 9/15/2011
FILES: ..\MDR_CU\BRIDGE\000000045878 /79415wn001.dgn MODEL: Sheet

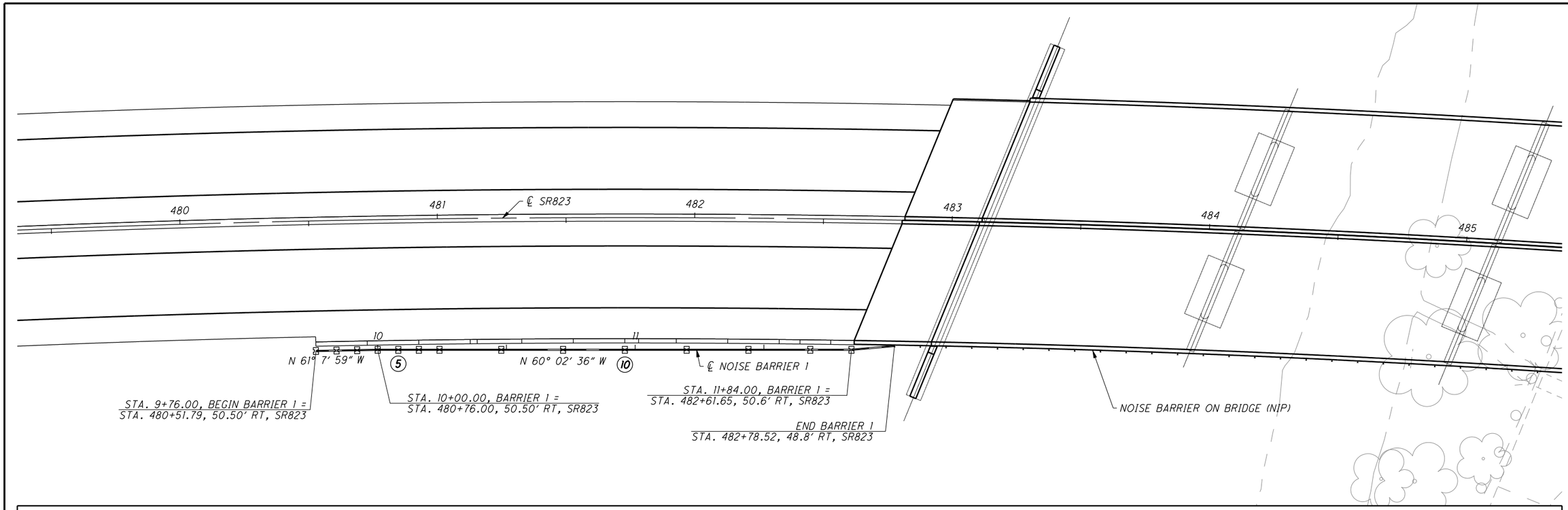
PANEL NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	PANEL HEIGHT	606 SPECIAL - NOISE BARRIER SQ FT	606 SPECIAL - NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER SQ FT	606 SPECIAL - NOISE BARRIER (REFLECTIVE), OVER 10' TO 14' HEIGHT SQ FT	606 SPECIAL - NOISE BARRIER (REFLECTIVE), OVER 14' TO 20' HEIGHT SQ FT
		NOISE BARRIER 1							
1	186	9+76.00	9+84.00	RT	8		64		
2	186	9+84.00	9+92.00	RT	9		72		
3	186	9+92.00	10+00.00	RT	10		80		
4	186	10+00.00	10+08.00	RT	11			88	
5	186	10+08.00	10+16.00	RT	12			96	
6	186	10+16.00	10+24.00	RT	13			104	
7	186	10+24.00	10+48.00	RT	13			312	
8	186	10+48.00	10+72.00	RT	13			312	
9	186	10+72.00	10+96.00	RT	13			312	
10	186	10+96.00	11+20.00	RT	14			336	
11	186	11+20.00	11+44.00	RT	14			336	
12	186	11+44.00	11+68.00	RT	14			336	
13	186	11+68.00	11+84.00	RT	14			224	
14	186	11+84.00	12+00.75	RT	14	235			
		NOISE BARRIER 2							
1	187	9+93.25	10+08.00	RT	14	207			
2	187	10+08.00	10+24.00	RT	14			224	
3	187	10+24.00	10+48.00	RT	14			336	
4	187	10+48.00	10+72.00	RT	14			336	
5	187	10+72.00	10+96.00	RT	14			336	
6	187	10+96.00	11+20.00	RT	14			336	
7	187	11+20.00	11+44.00	RT	14			336	
8	187	11+44.00	11+68.00	RT	14			336	
9	187	11+68.00	11+92.00	RT	14			336	
10	187	11+92.00	12+16.00	RT	15				360
11	187	12+16.00	12+28.00	RT	15				180
12	187	12+28.00	12+40.00	RT	15				180
13	187	12+40.00	12+52.00	RT	12			144	
14	187	12+52.00	12+64.00	RT	10		120		
15	187	12+64.00	12+76.00	RT	8		96		
16	187	12+76.00	12+88.00	RT	6		72		
17	187	12+88.00	13+00.00	RT	3		36		
TOTALS CARRIED TO GENERAL SUMMARY						441	540	5176	720

*STATIONING IS ALONG THE CENTERLINE OF THE NOISE BARRIER, IT DOES NOT MATCH SR823 STATIONING

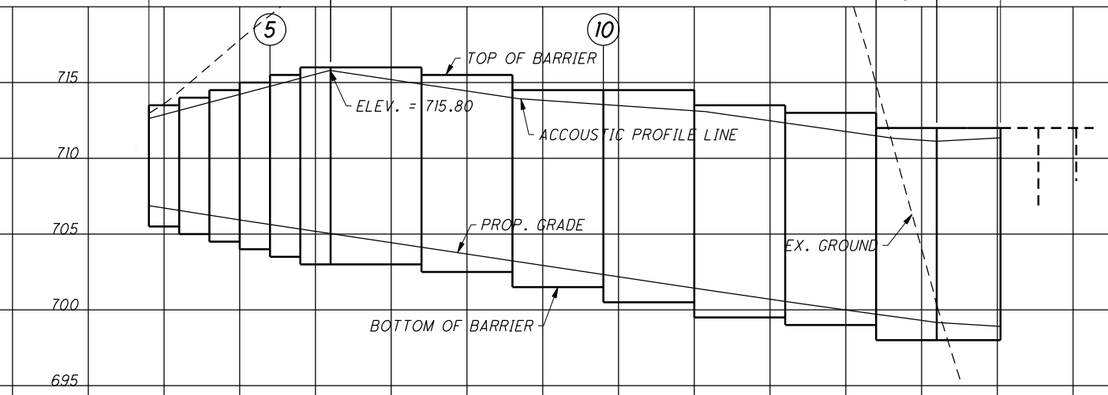
CALCULATED LBD
CHECKED JMB

NOISE BARRIER SUBSUMMARY

SCI-823-6.81



TOP OF BARRIER ELEV.					713.50	714.00	714.50	715.00	715.50	716.00	716.00	715.50	714.50	714.50	713.50	713.00	712.00	712.00
ACCOUSTIC PROFILE ELEV.					712.90		714.22		715.55	715.19	714.44	713.82	713.48	713.14	712.48	711.77	711.19	
BOTTOM OF BARRIER ELEV.					705.50	705.00	704.50	704.00	703.50	703.00	703.00	702.50	701.50	700.50	699.50	699.00	698.00	
PANEL NO.					1	2	3	4	5	6	7	8	9	10	11	12	13	14
					6 PANELS @ 8′ = 48′						6 PANELS @ 24′ = 144′						1 PANEL 16′-9″ 16′	BRIDGE PANELS @ 10′ SPACING (NIP)
PROP. GRADE ELEV.					706.72		705.93		705.18		704.43	703.68	702.93	702.18	701.44	700.70	699.99	699.31
EXIST. GRADE ELEV.					713.61		717.82		721.31		724.22	727.64	732.20	737.94	743.35	738.63	721.67	704.04



10+00 11+00 12+00

HORIZONTAL SCALE IN FEET
0 10 20 40

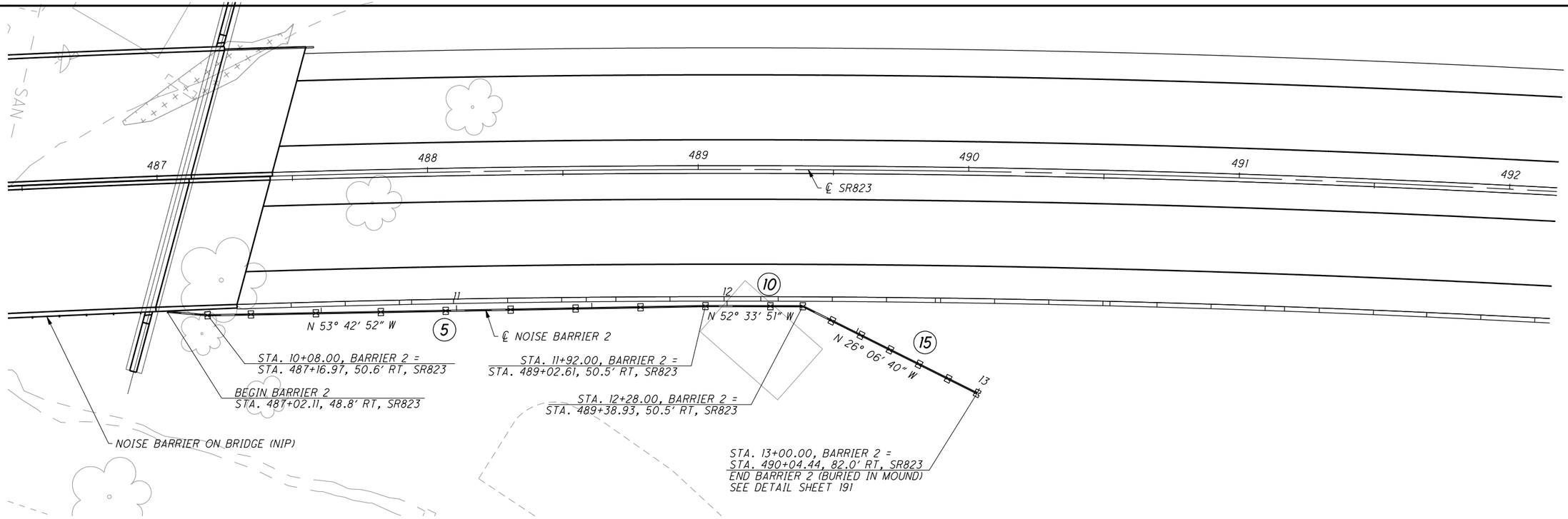
CALCULATED LBD
CHECKED JMB

PLAN AND PROFILE - NOISE BARRIER 1
STA. 9+76 TO STA. 12+01

SCI-823-6.81

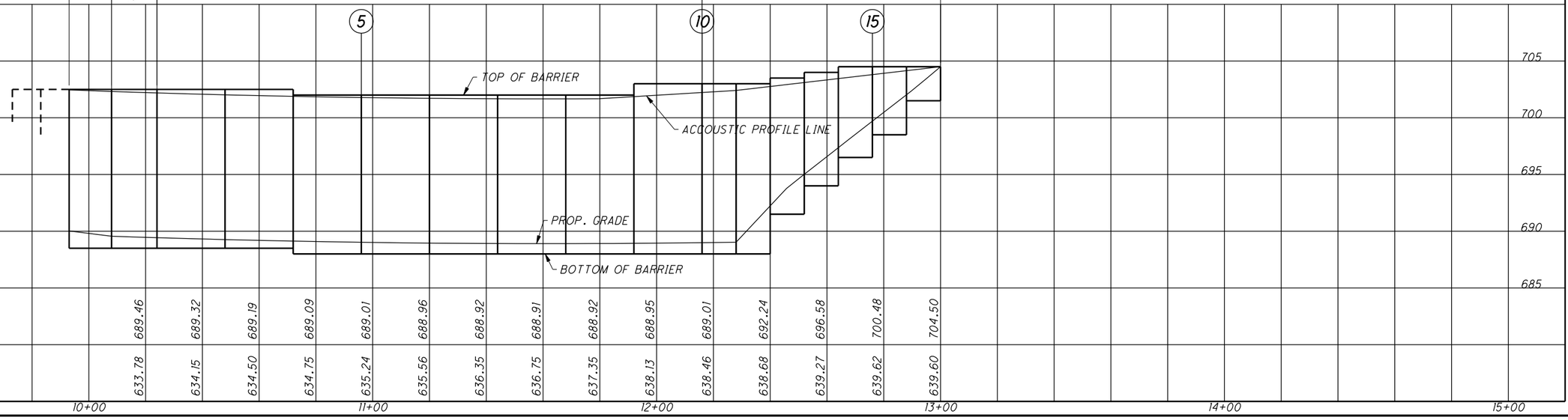
186
209

USER: CWahlbri PLOT DATE: 9/15/2011 9:33:35 AM REVISION DATE: 9/15/2011
FILE...\HDR.CADD\0000000045878 /9x18xp001.dgn MODEL: Sheet



TOP OF BARRIER ELEV.	702.50	702.50	702.50	702.50	702.00	702.00	702.00	702.00	702.00	703.00	703.00	703.00	703.50	704.00	704.50	704.50	704.50
ACCOUSTIC PROFILE ELEV.		702.22	702.08	701.95	701.85	701.77	701.72	701.68	701.67	701.68	701.99	702.29	702.76	703.34	703.92	704.50	
BOTTOM OF BARRIER ELEV.		688.50	688.50	688.50	688.00	688.00	688.00	688.00	688.00	688.00	688.00	688.00	688.00	691.50	694.00	696.50	698.50	701.50
PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	

BRIDGE PANELS @ 10′ SPACING (NIP) 14′-9″ 1 PANEL 16′ | 8 PANELS @ 24′ = 192′ | 7 PANELS @ 12′ = 84′



PROP. GRADE ELEV.		689.46	689.32	689.19	689.09	689.01	688.96	688.92	688.91	688.92	688.95	689.01	692.24	696.58	700.48	704.50	
EXIST. GRADE ELEV.		633.78	634.15	634.50	634.75	635.24	635.56	636.35	636.75	637.35	638.13	638.46	638.68	639.27	639.62	639.60	

10+00 11+00 12+00 13+00 14+00 15+00

CALCULATED LBD CHECKED JMB

HORIZONTAL SCALE IN FEET 0 10 20 40

PLAN AND PROFILE - NOISE BARRIER 2
STA. 9+93 TO STA. 13+00

SCI-823-6.81

USER: CWahlbri PLOT DATE: 9/15/2011 9:33:41 AM REVISION DATE: 9/15/2011
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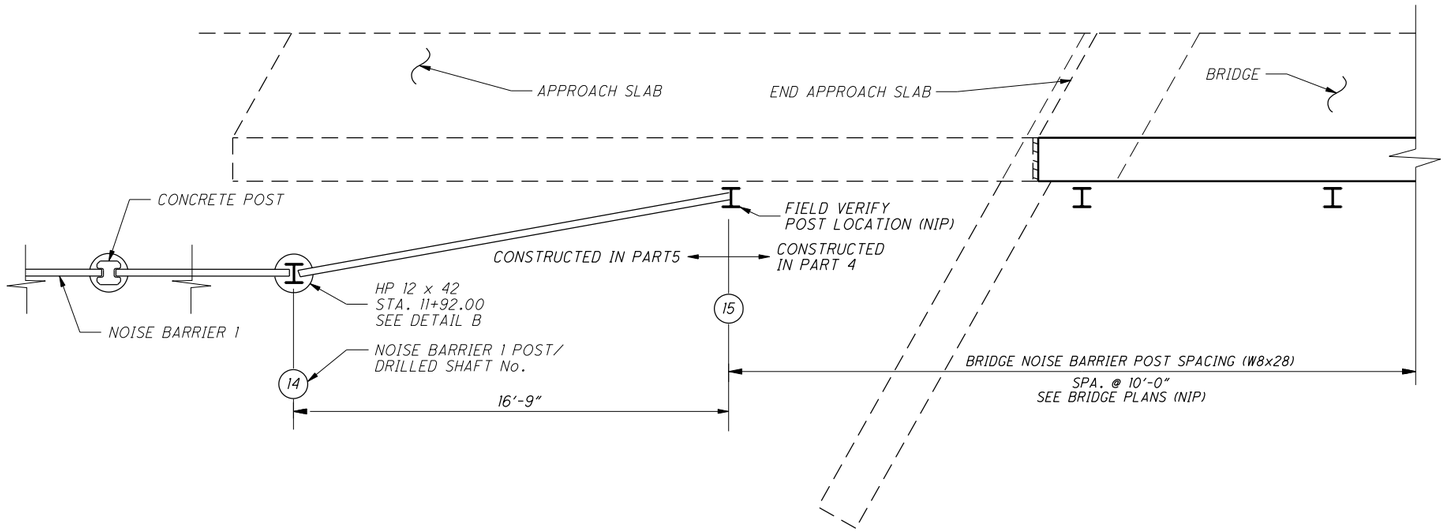
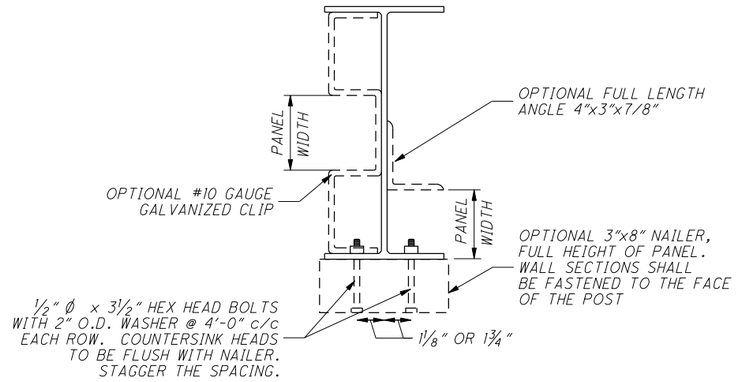
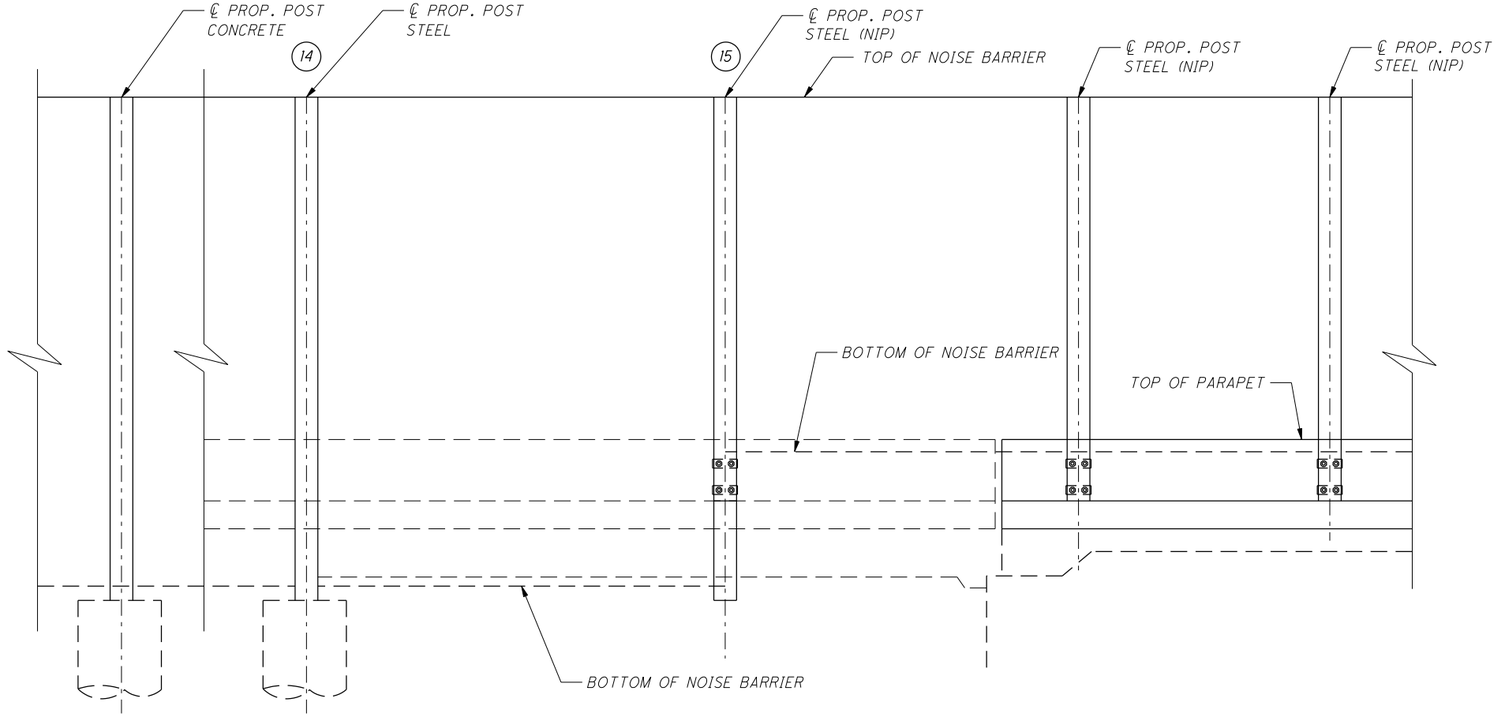


PLAN



DETAIL B

SHOWING CONNECTION
OPTIONS FOR STEEL POST



ELEVATION

NOTE:
PANEL FABRICATOR SHALL FABRICATE SPECIAL PANELS TO BE PLACED BETWEEN POST 14 AND 15. THE LENGTH OF THESE PANELS SHALL BE MEASURED IN THE FIELD AND AS DIRECTED BY THE ENGINEER WITH ENOUGH OVERLAP TO COVER ADJACENT PANELS. SLOTTED HOLES SHALL BE PROVIDED OVER POST NO. 15 TO PROVIDE A FREE END FOR ANY MOVEMENTS CAUSED BY BRIDGE EXPANSION OR CONTRACTION. THESE HOLES SHALL BE 1" x 3" IN SIZE AND BOLTS SHALL BE ½" DIA. x 1¼" BUTTON HEAD WITH NUTS AND WASHER. ALL OTHER PANEL ATTACHMENTS SHALL USE STANDARD DETAILS. PAYMENTS FOR ALL ABOVE MATERIAL AND LABOR SHALL BE INCLUDED WITH ITEM SPECIAL - NOISE BARRIER.

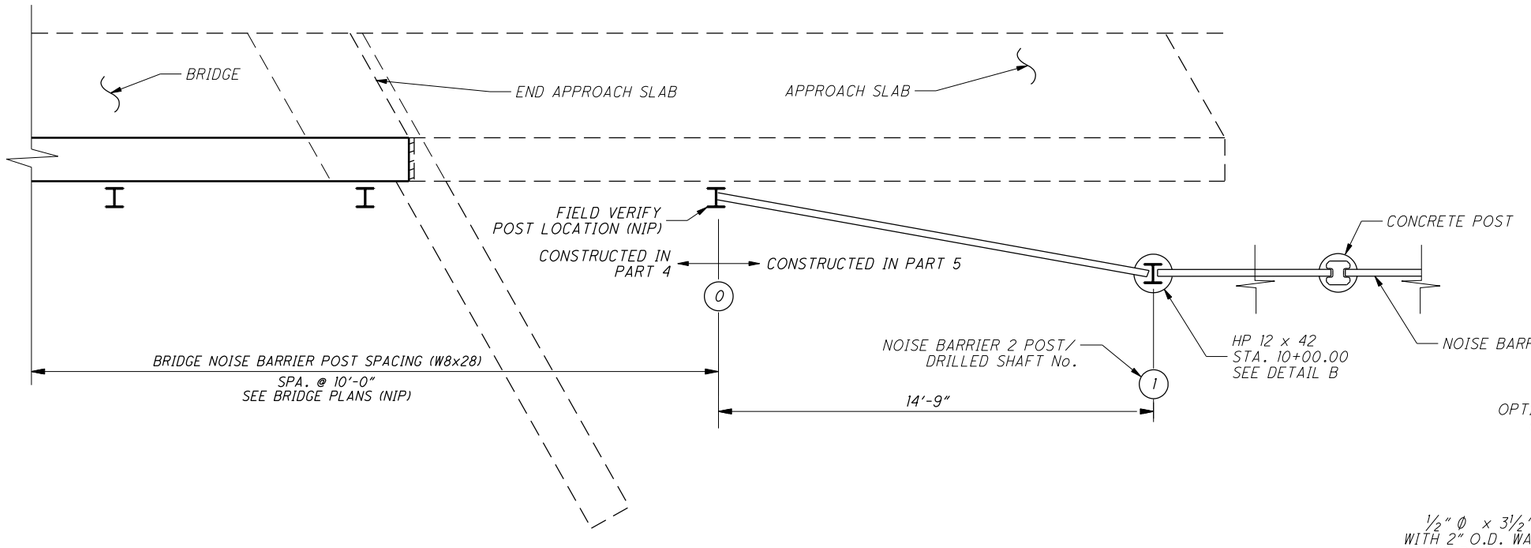
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

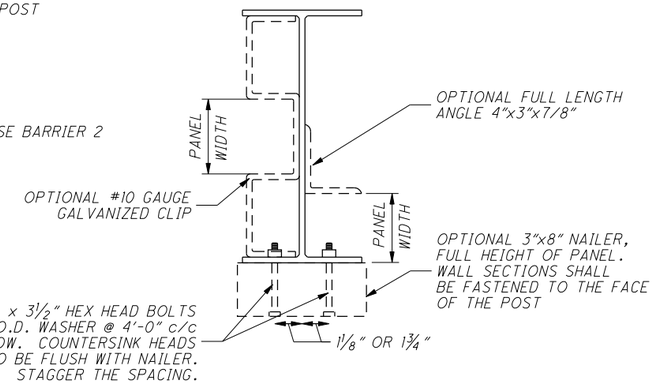
NOISE BARRIER 1 DETAILS

SCI-823-6.81

USER: Cknihbri PLOT DATE: 9/15/2011 9:33:46 AM REVISION DATE: 9/15/2011
FILES:...\MNDR_CU\BRIDGE\000000045878 /79415w001.dgn MODEL: Sheet

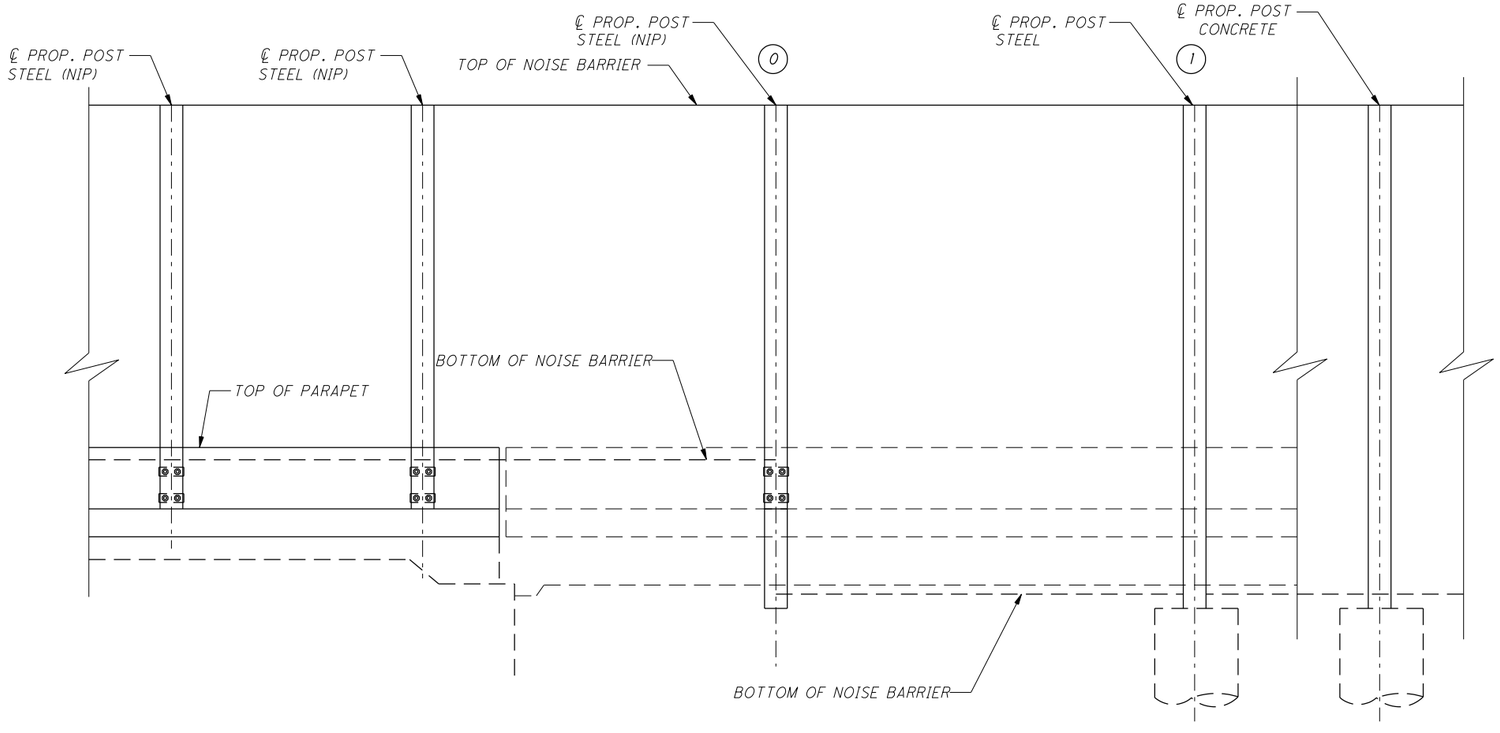


PLAN



DETAIL B

SHOWING CONNECTION
OPTIONS FOR STEEL POST



ELEVATION

NOTE:
PANEL FABRICATOR SHALL FABRICATE SPECIAL PANELS TO BE PLACED BETWEEN POST 1 AND 0. THE LENGTH OF THESE PANELS SHALL BE MEASURED IN THE FIELD AND AS DIRECTED BY THE ENGINEER WITH ENOUGH OVERLAP TO COVER ADJACENT PANELS. SLOTTED HOLES SHALL BE PROVIDED OVER POST NO. 0 TO PROVIDE A FREE END FOR ANY MOVEMENTS CAUSED BY BRIDGE EXPANSION OR CONTRACTION. THESE HOLES SHALL BE 1" x 3" IN SIZE AND BOLTS SHALL BE ½" DIA. x 1¼" BUTTON HEAD WITH NUTS AND WASHER. ALL OTHER PANEL ATTACHMENTS SHALL USE STANDARD DETAILS. PAYMENTS FOR ALL ABOVE MATERIAL AND LABOR SHALL BE INCLUDED WITH ITEM SPECIAL - NOISE BARRIER.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

NOISE BARRIER 2 DETAILS

SCI-823-6.81

189
209

USER: CMahbri PLOT DATE: 9/15/2011 9:33:51 AM REVISION DATE: 9/15/2011
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NOISE BARRIER GENERAL NOTES

NOISE BARRIER PANELS, POSTS, CAPS AND CLADDING SHALL BE CONCRETE.

NOISE BARRIER PANELS SHALL BE CAST WITH A DRY-STACKED ROCK PATTERN FORM LINER ON BOTH FACES.

NOISE BARRIER POSTS, CAPS AND CLADDING SHALL HAVE A SMOOTH FINISH.

NOISE BARRIERS SHALL BE SOUND REFLECTIVE.

ALL NOISE BARRIER PANELS, POSTS, CLADDING, AND CAPS SHALL BE PAINTED TO MATCH FEDERAL COLOR NUMBER 16515 (GRAY).

REINFORCED CONCRETE CAP FOR POSTS AND PANELS: THE CONTRACTOR SHALL SUBMIT THE DESIGN OF THE REINFORCED CONCRETE CAP TO THE OFFICE OF STRUCTURAL ENGINEERING FOR REVIEW AND SUBSEQUENT APPROVAL BEFORE FABRICATION CAN BEGIN. THE CAP SHALL HAVE A VISUAL DEPTH OF 4 TO 6 INCHES AND EXTEND A MINIMUM OF 2 INCHES BEYOND THE FACE OF THE PANEL ON BOTH SIDES.

APPROVED CAP DESIGN PLANS SHALL BE INCLUDED IN CONSTRUCTION PLANS WITH THE MANUFACTURER'S DRAWINGS.

SEE NOISE BARRIER SPECIFICATIONS SHEETS 193 TO 205

NOISE BARRIER 1

DRILLED SHAFT NO.	WORKPOINT STATION	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)
1	9+76	705.27	7
2	9+84	704.72	7
3	9+92	704.22	7
4	10+00	703.72	7
5	10+08	703.22	7
6	10+16	702.72	7
7	10+24	702.69	7
8	10+48	702.19	7
9	10+72	701.19	7
10	10+96	700.19	7
11	11+20	699.19	7
12	11+44	698.69	7
13	11+68	697.69	7
14	11+84	697.69	12

NOISE BARRIER 2

DRILLED SHAFT NO.	WORKPOINT STATION	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)
1	10+08	688.22	19
2	10+24	688.19	19
3	10+48	688.19	19
4	10+72	687.69	19
5	10+96	687.69	19
6	11+20	687.69	19
7	11+44	687.69	19
8	11+68	687.69	19
9	11+92	687.69	19
10	12+16	687.69	19
11	12+28	687.71	19
12	12+40	687.72	19
13	12+52	691.22	12
14	12+64	693.72	12
15	12+76	696.22	12
16	12+88	698.22	12
17	13+00	701.27	12

CALCULATED LBD
CHECKED JMB

NOISE BARRIER NOTES AND DATA TABLES

SCI-823-6.81

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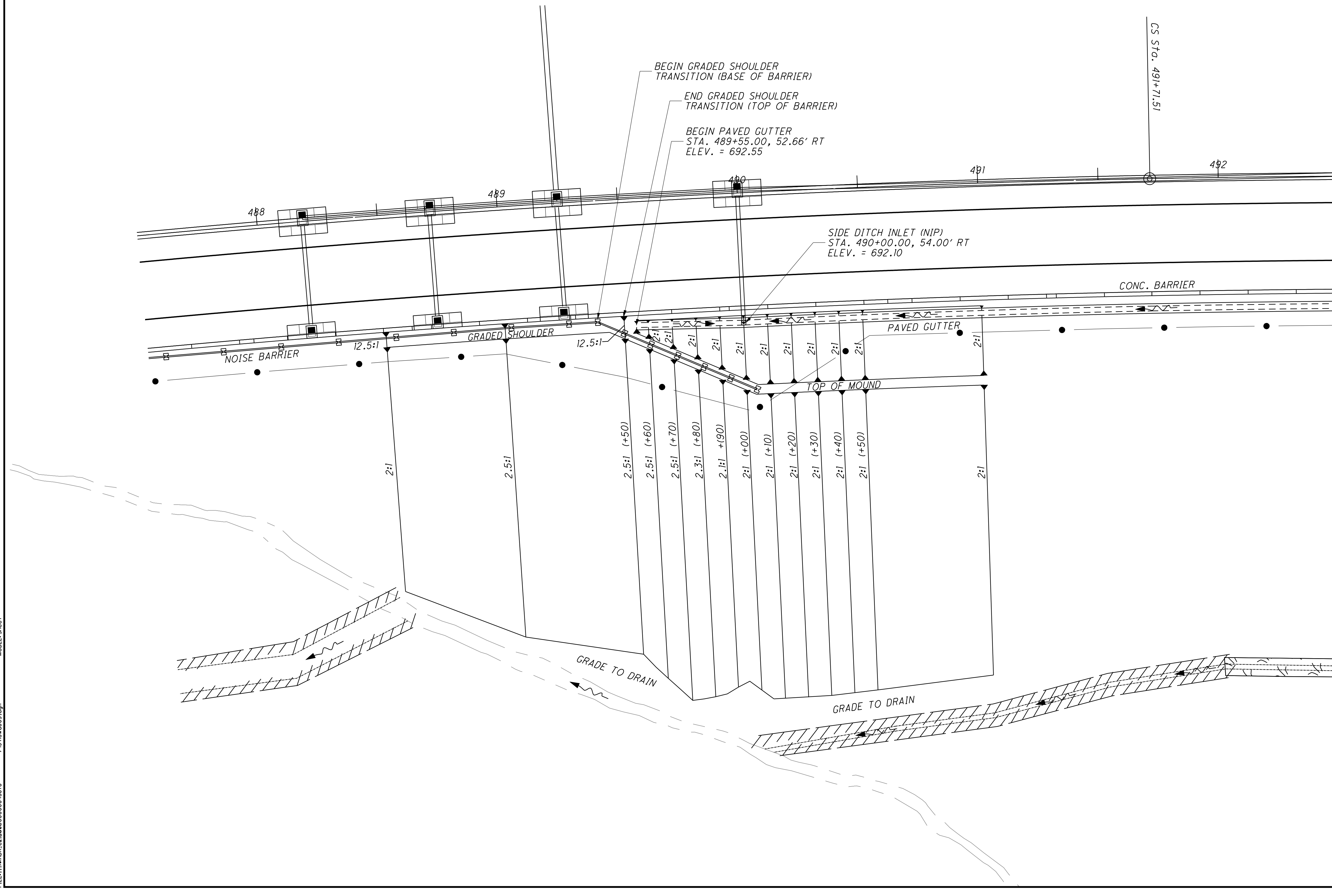
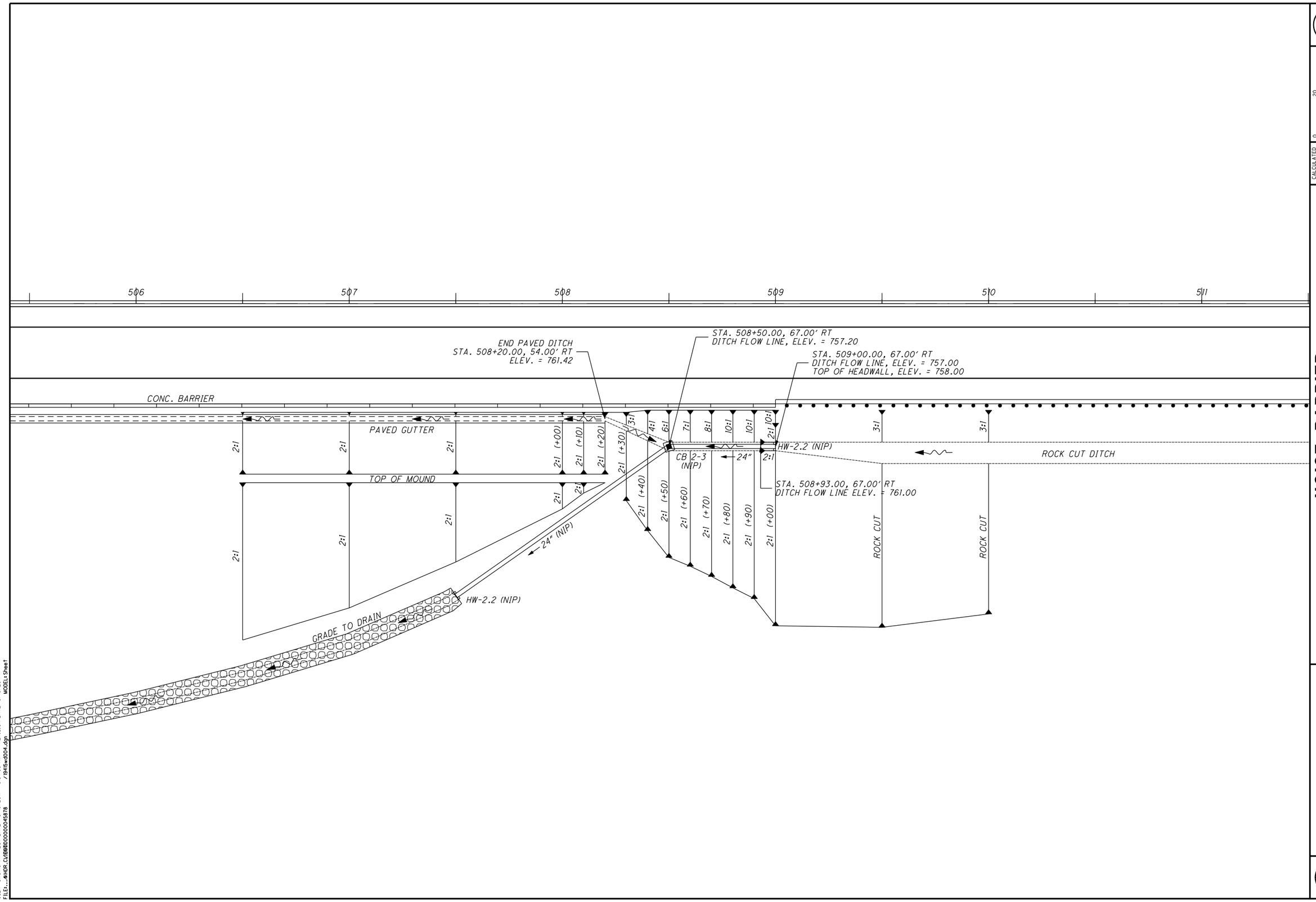


HORIZONTAL
SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

NOISE BARRIER TRANSITION DETAIL

SCI-823-6.81



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LBD
CHECKED JMB

NOISE BARRIER TRANSITION DETAIL

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192
209

USER: CWohlbri PLOT DATE: 9/15/2011 9:34:06 AM REVISION DATE: 9/15/2011
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ITEM SPECIAL - NOISE BARRIERS
GENERAL

1. DESCRIPTION:
THIS WORK CONSISTS OF PREPARING ANY NECESSARY SHOP DRAWINGS, AND MANUFACTURING, TESTING, TRANSPORTING, STORING, AND INSTALLING NOISE BARRIERS; FURNISHING AND INSTALLING DRILLED SHAFTS; EXCAVATING AND BACKFILLING; AND RESTORING THE WORK AREA IN ACCORDANCE WITH THESE PROVISIONS AND IN CONFORMITY WITH THE DIMENSIONS, LINES AND GRADES SHOWN ON THE PROJECT PLANS.

2. DESIGN SPECIFICATIONS:
ODOT BRIDGE DESIGN MANUAL, 2007
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, 2007
AASHTO "GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS", 1989, INCLUDING THE 1992 AND 2002 INTERIMS
PCI DESIGN HANDBOOK, FIFTH EDITION
ACI STANDARD 318-05, APPENDIX D

3. CONSTRUCTION SPECIFICATIONS AND WORKMANSHIP:
PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE CURRENT VERSION OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THESE STANDARD DRAWINGS.

4. DESIGN LOADS:
WIND LOAD:
APPLIED WIND LOAD ON POSTS IS 25 PSF (14' < BH < 25'), AND 20 PSF (0' < BH < 14')
APPLIED WIND LOAD ON ALL PANELS IS 25 PSF
THE WIND LOAD IS BASED ON AN 80 MPH BASE WIND VELOCITY.
WIND LOAD IS FROM TABLE 1-2.1.2C OF THE AASHTO GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS.
ICE LOAD:
APPLIED ICE LOAD IS 3 INCHES AT 57.3 PCF = 14.32 PSF

5. DESIGN LOAD CASES:
"STRENGTH III" LOAD CASE
=1.25*(DEAD LOAD) + 1.40*(WIND LOAD)

"EXTREME EVENT II" LOAD CASE
=1.25*(DEAD LOAD) + 1.00*(ICE LOAD)

"SERVICE I" LOAD CASE
=1.00*(DEAD LOAD) + 0.30*(WIND LOAD)

PCI STRIPPING LOAD CASE
=1.4*(DEAD LOAD) - FOR PANELS
=1.3*(DEAD LOAD) - FOR POSTS

PCI TRANSPORTING LOAD CASE
=1.5*(DEAD LOAD)

6. MATERIAL SPECIFICATIONS:

REINFORCING STEEL:
REINFORCING STEEL SHALL BE EPOXY-COATED AS PER CMS 709.00 OR GALVANIZED AS PER CMS 709.16
REINFORCING STEEL SHALL CONFORM TO CMS 709.01, GRADE 60
WELDED WIRE FABRIC SHALL CONFORM TO CMS 709.10 OR 709.12 AND SHALL BE EPOXY-COATED PER CMS 709.14.

CONCRETE:
COMPRESSIVE STRENGTH = 5,000 PSI (PANELS AND POSTS)
COMPRESSIVE STRENGTH AT STRIPPING = 3,100 PSI (PANELS AND POSTS)
CONCRETE CLASS S (MODIFIED) = 4,000 PSI (DRILLED SHAFTS)
CONCRETE SHALL CONFORM TO CMS 499 AND 511, EXCEPT FOR DRILLED SHAFT CONCRETE WHICH SHALL CONFORM TO CMS 524.
THE CONCRETE MIX DESIGN FOR PANELS SHALL CONTAIN A WATER REPELLANT ADMIXTURE AND 15% BY WEIGHT FLY ASH OR 15-30% GROUND GRANULATED BLAST FURNACE SLAG (GGBF).

STRUCTURAL STEEL: ASTM A709, GRADE 50 AS PER CMS 711.01

FASTENERS:
ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105
THREADED RODS SHALL BE ASTM A449
NUTS SHALL BE ASTM A563, GRADE DH
WASHERS SHALL BE ASTM F436

GALVANIZING: GALVANIZE ALL STRUCTURAL STEEL, BASE PLATES, ANCHOR BOLTS, THREADED RODS, NUTS, AND WASHERS AS PER CMS 711.02. ENSURE THAT THE ENTIRE LENGTH OF ANCHOR BOLTS AND THREADED RODS ARE GALVANIZED.

FOAM BACKER ROD:
THE BACKER ROD SHALL BE AN EXPANDED, CLOSED CELL POLYETHYLENE FOAM. THE BACKER ROD DIAMETER WILL BE AS SHOWN ON SHEET 6/13. OTHER BACKUP MATERIALS (PAPER, ROPE AND OPEN CELL FOAM) ARE NOT ACCEPTABLE. FURNISH FOAM BACKER ROD FROM ONE OF THE SUPPLIERS ON THE QUALIFIED PRODUCT LIST MAINTAINED BY THE OFFICE OF MATERIALS MANAGMENT (OMM), OR ACCEPTED BY OMM IN ACCORDANCE WITH THEIR WRITTEN PROCEDURES.

SOUND ABSORPTIVE MATERIAL:
THE SOUND ABSORPTIVE MATERIAL SHALL BE INTEGRAL WITH THE PRECAST CONCRETE PANELS. SELECT A PREAPPROVED SOUND ABSORPTIVE MATERIAL FROM THE LIST BELOW OR EQUAL AS APPROVED BY THE ODOT OFFICE OF ENVIRONMENTAL SERVICES. FOR APPROVED EQUAL CONSIDERATION, PROVIDE CERTIFIED LABORATORY TEST DATA DOCUMENTING THE ACOUSTICAL, FREEZE THAW, FIRE RATING AND SALT SCALING REQUIREMENTS LISTED BELOW. ALSO PROVIDE DOCUMENTATION OF A MINIMUM 10-YEAR PERFORMANCE HISTORY OF NO DETERIORATION OR DELAMINATING FOR ALL NON-PREAPPROVED MATERIALS.

ACOUSTICAL:
ASTM E90 AND ASTM E413
MINIMUM TL (TRANSMISSION LOSS) = 22dBA
ASTM C423 AND ASTM E795
MINIMUM NRC (NOISE REDUCTION COEFFICIENT) = 0.70
FREEZE THAW:
ASTM C666 PROCEDURE A
MAXIMUM MASS LOSS = 5% @ 300 CYCLES
FIRE RATING:
ASTM E84 CLASS A FLAME SPREAD RATING
SALT SCALING:
ASTM C672 VISUAL RATING = 0 AFTER 5 CYCLES; 1 AFTER 25 CYCLES; AND 2.5 AFTER 50 CYCLES

PREAPPROVED SOUND ABSORPTIVE MATERIALS:

A. ACOUSTACRETE
FADDIS CONCRETE PRODUCTS
3515 KINGS HWY.
DOWNINGTOWN, PA 19335

B. DURISOL
DURISOL INC.
67 FRID STREET
HAMILTON, ONTARIO
CANADA, L8P 4M3

C. WHISPER-WALL
CONCRETE INNOVATIONS SERVICES
4215 LAFAYETTE CENTER DRIVE, SUITE 1-A
CHANTILLY, VIRGINIA 20151

PROVIDE THE ENGINEER A LETTER FROM THE SOUND ABSORPTIVE MATERIAL SUPPLIER CERTIFYING THAT THE PANEL MANUFACTURER'S STRUCTURAL CONCRETE MIX DESIGN AND COMPOSITE PANEL PRODUCTION PROCESS ARE COMPATIBLE WITH THE SOUND ABSORPTIVE MATERIAL TO PREVENT DELAMINATION AT THE STRUCTURAL CONCRETE/ABSORPTIVE MATERIAL INTERFACE.

7. NOISE BARRIER HEIGHTS SHALL EQUAL OR EXCEED THE ACOUSTIC PROFILE.

8. PANEL HEIGHTS:
PANEL HEIGHTS PROVIDED IN THIS STANDARD RANGE FROM 2'-0" TO 8'-0" INCLUSIVE, IN 1'-0" INCREMENTS. PROVIDE STACKED PANELS TO A MAXIMUM BARRIER HEIGHT OF 25'-0". THE MINIMUM BOTTOM PANEL HEIGHT SHALL BE 4'-0".

9. POST SPACINGS:
POST SPACINGS PROVIDED IN THIS STANDARD RANGE FROM 8'-0" MINIMUM TO 24'-0" MAXIMUM.

10. HORIZONTAL PANEL JOINTS:
MINIMIZE THE NUMBER OF PANEL JOINTS
PROVIDE UNIFORM STEPS
IF STEPS ARE REQUIRED, THE ELEVATION DIFFERENCE BETWEEN ADJACENT PANELS IS NOT PERMITTED TO BE LESS THAN 3" OR GREATER THAN 1'-0", EXCEPT AT ANGLE BREAKS GREATER THAN 30°.

11. SHOP DRAWINGS:
INCLUDE THE FABRICATION SCHEDULE FOR ALL NOISE BARRIER WALL COMPONENTS IN THE PROJECT PROGRESS SCHEDULE AS REQUIRED BY C&MS 108.02. PROVIDE SHOP DRAWINGS FOR ALL NOISE WALL COMPONENTS THAT REQUIRE SHOP FABRICATION.

THE SHOP DRAWINGS SHALL BE SIGNED, SEALED AND DATED BY AN OHIO REGISTERED ENGINEER. ALSO, THE CONTRACTOR SHALL PROVIDE A WRITTEN ACCEPTANCE LETTER THAT DOCUMENTS ACCEPTANCE OF THE SHOP DRAWINGS INCLUDING CONFIRMATION OF FIELD VERIFICATION, AS REQUIRED, AND DESCRIPTIONS OF ISSUES RESOLVED BETWEEN THE CONTRACTOR, THE FABRICATOR AND THE DEPARTMENT. BY ACCEPTING THESE DRAWINGS, THE CONTRACTOR REPRESENTS TO THE DEPARTMENT THAT ALL DIMENSIONS AND ELEVATIONS OF CONDITIONS SHOWN ON THE PLANS HAVE BEEN FIELD MEASURED AND VERIFIED, AND THAT THESE SHOP DRAWINGS COMPLY WITH ALL THE MATERIALS REQUIREMENTS, CONSTRUCTION REQUIREMENTS AND CONTRACT REQUIREMENTS. THE CONTRACTOR FURTHER REPRESENTS THAT THESE DRAWINGS HAVE BEEN COORDINATED AND VERIFIED WITH THE DETAILS OF THE WORK TO BE PERFORMED BY OTHER FABRICATORS AND ENTITIES ON THE PROJECT. DELAYS TO THE CONTRACTOR FOR INCORRECT FABRICATION AS A RESULT OF FAILURE TO COORDINATE OR PERFORM THIS ACCEPTANCE ARE NON-EXCUSABLE ACCORDING TO C&MS 108.06.E.

AT LEAST 30 DAYS BEFORE FABRICATION BEGINS, SUBMIT FOUR COPIES OF THE PREPARED SHOP DRAWINGS AND THE WRITTEN ACCEPTANCE LETTER TO THE ENGINEER FOR DEPARTMENT REVIEW IN ACCORDANCE WITH C&MS 105.02. DEPARTMENT ACCEPTANCE OF THE SUBMITTAL DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS AND OMISSIONS FOUND AFTER ACCEPTANCE OF THE SUBMITTAL.

IDENTIFY AND DATE ALL REVISIONS ON RESUBMITTED SHOP DRAWINGS THAT RESOLVE "ACCEPTED AS NOTED" OR "NOT ACCEPTED" DRAWINGS. DELAYS RESULTING FROM "ACCEPTED AS NOTED" OR "NOT ACCEPTED" DRAWINGS ARE NON-EXCUSABLE ACCORDING TO C&MS 108.06.E.

12. CONCRETE NOISE BARRIER PANELS AND POSTS:
EVERY PRODUCER OF PRECAST CONCRETE NOISE BARRIER COMPONENTS SUPPLIED TO THE PROJECT SHALL BE CERTIFIED IN ACCORDANCE WITH SUPPLEMENT 1073. THE DEPARTMENT WILL NOT ACCEPT PRECAST COMPONENTS FROM NON-CERTIFIED PLANTS. THE CONCRETE SUPPLIED FOR CONCRETE POSTS AND PANELS SHALL MEET THE REQUIREMENTS SPECIFIED ABOVE UNDER SECTION 6, MATERIAL SPECIFICATIONS.

NOISE BARRIERS REQUIRE A REINFORCED INTEGRAL CAP ON THE TOP OF THE TOP PANELS AND EITHER INTEGRAL OR NON-INTEGRAL REINFORCED CONCRETE CAP ON TOP OF THE POSTS. FOR GENERAL DIMENSION REQUIREMENTS REFER TO DETAIL "A" ON SHEET 6/13 FOR PANEL CAPS AND DETAILS "C" & "D" ON SHEET 7/13 FOR POST CAPS. CAPS SHALL NOT BE CAST WITH SOUND ABSORPTIVE MATERIAL.

THE NOISE BARRIER PANELS SHALL BE CAST WITH AN ASHLAR STONE PATTERN FORM LINER ON BOTH FACES IF NOT OTHERWISE SHOWN IN THE PLANS. OTHER FORM LINERS OR ARCHITECTURAL SURFACE TREATMENTS MAY BE USED UPON THE APPROVAL OF THE DISTRICT AESTHETIC COORDINATOR.

SEAL THE CONCRETE NOISE BARRIER PANELS AND POSTS WITH AN APPROVED COATING FROM A SUPPLIER LISTED IN THE NOISE BARRIER SEALER SPECIFICIATION ON SHEET 3/13. COAT ALL SURFACES OF THE PANELS, POSTS, AND CAPS; APPLY THE SEALER/COATING AT THE FABRICATION PLANT. FURNISH THE SEALER/COATING MATERIAL FROM A SINGLE SUPPLIER FOR AN ENTIRE PROJECT. THE SEALER/COATING COLOR(S) SHALL BE AS NOTED IN THE PROJECT PLANS.

FOR AESTHETIC PURPOSES, HORIZONTAL JOINT LINES BETWEEN PANELS SHALL MATCH FOR A MINIMUM DISTANCE OF 96 FEET, EXCEPT AT ANGLE BREAKS GREATER THAN 30°.

REMOVE LEACHING OR EFFLORESCENCE THAT OCCURS PRIOR TO FINAL ACCEPTANCE OF THE ENTIRE PROJECT AND RESEAL THE AREA AT NO EXPENSE TO THE DEPARTMENT. THIS SHALL ALSO APPLY IN AREAS WHERE A PARTIAL ACCEPTANCE OF THE COMPLETED WALLS MAY HAVE BEEN GRANTED.

13. BEARING PADS:
ALL BOTTOM NOISE BARRIER PANELS REQUIRE A NEOPRENE PREFORMED BEARING PAD BETWEEN THE BOTTOM OF THE NOISE PANEL AND THE BEARING SURFACE. THE BEARING PADS SHALL BE A MINIMUM ½" THICK AND COVER A MINIMUM OF 25 SQUARE INCHES. THE BEARING PADS SHALL CONFORM TO ODOT CMS SECTION 711.21, PREFORMED BEARING PADS. USE A MAXIMUM OF 2 BEARING PADS AT EACH END OF THE PANEL.

14. DRILLED SHAFTS:
THE NOISE BARRIER POSTS SHALL BE SUPPORTED BY 30" DIAMETER DRILLED SHAFT FOUNDATIONS UNLESS ANOTHER DRILLED SHAFT SIZE OR FOUNDATION TYPE IS APPROVED BY THE OFFICE OF STRUCTURAL ENGINEERING IN ORDER TO ACCOMMODATE POOR SOIL CONDITIONS AND/OR AVOID CONFLICTS WITH UTILITIES, DRAINAGE FACILITES, MSE WALL COMPONENTS, OR SOME OTHER OBSTRUCTION.

CONSTRUCT DRILLED SHAFTS ACCORDING TO C&MS ITEM 524.

THE CENTER OF DRILLED SHAFTS FOR TYPE C, D AND E POSTS ARE OFFSET FROM THE CENTERLINE OF NOISE BARRIER ALIGNMENT. REFER TO SHEETS 8 & 9 OF 13.

15. NOISE BARRIER FOUNDATION IN BEDROCK:
IN AREAS WHERE BEDROCK IS UNEXPECTEDLY ENCOUNTERED, THE DRILLED SHAFT LENGTH MAY BE DECREASED BY EMBEDDING IT A MINIMUM OF 3'-0" INTO STRONG BEDROCK OR 5'-0" INTO WEAKER BEDROCK. THE ENGINEER WILL DETERMINE THE BEDROCK TYPE ACCORDING TO THE ODOT PUBLICATION "SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS". FIELD CUT THE REINFORCING CAGE TO FIT THE SHORTENED DRILLED SHAFT.

16. NOISE BARRIER FOUNDATION IN POOR SOIL:
IN AREAS WHERE POOR SOIL CONDITIONS ARE ENCOUNTERED THAT WERE NOT REVEALED BY THE BORINGS, CONTACT THE ODOT OFFICE OF STRUCTURAL ENGINEERING TO DETERMINE IF THE DRILLED SHAFT EMBEDMENT SHOULD BE EXTENDED OR IF ANOTHER FOUNDATION TYPE SHOULD BE CONSTRUCTED.

A POOR SOIL CONDITION SHALL BE CONSIDERED TO EXIST WHEN OVER ONE-THIRD *1*3* OF THE EXCAVATED DEPTH SHOWS AN UNEXPECTED WEAK SOIL TYPE AS DETERMINED BY THE ENGINEER.

THE REINFORCEMENT FOR THE EXTENDED DRILLED SHAFT FOUNDATION SHALL BE DEVELOPED BY USING A MINIMUM 5'-0" LAP SPLICE WITHIN THE CAGE TO ATTACH THE ADDITIONAL LONGITUDINAL BARS. PROVIDE ADDITIONAL #4 TIES AT 1'-0" MAXIMUM SPACING.

17. AVOIDANCE OF UNEXPECTED OBSTRUCTIONS:
IF THE AVOIDANCE OF UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS REQUIRES THE USE OF CLOSER POST SPACINGS THAN WHAT WAS SHOWN ON THE PROJECT PLANS, FURNISH AND INSTALL ADDITIONAL FOUNDATIONS, POSTS, AND PANELS AS DIRECTED BY THE ENGINEER. THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS SHALL CONFORM TO THESE STANDARD DRAWINGS AND PROVISIONS. THE TOP AND BOTTOM ELEVATIONS OF THE ADDITIONAL POSTS AND PANELS, AND PANEL JOINT LOCATIONS SHALL CONFORM TO THE ORIGINAL DETAILS SHOWN IN THE PROJECT PLANS. THE DEPARTMENT WILL NOT ACCEPT FIELD CUTTING OF POSTS OR PANELS TO MATCH THE NEW POST LOCATIONS.

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
01-16-09 DATE
ADMINISTRATOR

REVISIONS
07-17-09

NBS-1-09

STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS

CONSTRUCTION METHODS

1. LAYOUT AND STAKE EACH NOISE BARRIER IN THE FIELD AND VERIFY THE PROPOSED WALL GEOMETRY AND DIMENSIONS OF THE POSTS AND THE PANELS PRIOR TO DEVELOPING ANY NECESSARY SHOP DRAWINGS AND ORDERING FABRICATION OF THE BARRIER COMPONENTS.

2. CLEAR BRUSH AND NEATLY TRIM AND/OR REMOVE TREES IN CONFLICT WITH THE PROPOSED NOISE BARRIER LOCATIONS. REMOVE ONLY THOSE TREES THAT ARE ABSOLUTELY NECESSARY TO PERFORM THE WORK. OBTAIN APPROVAL FROM THE PROJECT ENGINEER PRIOR TO REMOVING ANY ORNAMENTAL TREES. CAREFULLY PERFORM THE TRIMMING SO THE TREES ARE NOT HARMED AND FUTURE GROWTH IS NOT HINDERED. MARK ALL TREES SCHEDULED TO BE TRIMMED OR REMOVED AND OBTAIN APPROVAL FROM THE PROJECT ENGINEER PRIOR TO PERFORMING THE WORK. FOR CLARIFICATION, TREES SHALL BE INTERPRETED AS ANY GROWTH WITH A MINIMUM TRUNK DIAMETER OF 3".

3. DO NOT SHIP CONCRETE PANELS, POSTS, OR CAPS UNTIL THE CONCRETE OBTAINS ITS 28-DAY DESIGN STRENGTH. DO NOT SUPPORT OR PICK-UP PANELS OR POSTS AT LOCATIONS OTHER THAN THOSE SHOWN IN THE STANDARD DRAWINGS. TRANSPORT AND STORE PANELS IN AN UPRIGHT POSITION; PROVIDE UNYIELDING SUPPORTS CAPABLE OF MAINTAINING THE PANELS IN AN UPRIGHT POSITION.

   WHEN TRANSPORTING, HANDLING, STORING, OR INSTALLING THE CONCRETE POSTS, CAPS, AND PANELS, USE EXTREME CARE TO NOT CAUSE SPALLING OF THE CONCRETE DUE TO MISHANDLING OR OVERLOADING OF THE COMPONENTS. DO NOT USE LIFTING DEVICES THAT CHIP OR SPALL THE CONCRETE.

   DO NOT INSTALL COMPONENTS THAT ARE DEFECTIVE. THE DEPARTMENT WILL CONSIDER COMPONENTS THAT ARE MARRED, CHIPPED, SCRATCHED, SPALLED, CRACKED, DELAMINATED OR HAVE ANY OTHER DAMAGE DEEMED DETRIMENTAL TO THE NOISE BARRIERS BY THE ENGINEER PRIOR TO FINAL ACCEPTANCE AS DEFECTIVE WORK IN ACCORDANCE WITH C&MS 105.11.

4. INSTALL NOISE BARRIERS IN ACCORDANCE WITH THE PROJECT PLANS. SECURE JOINTS AND CONNECTIONS IN SUCH A MANNER AS TO BE STRUCTURALLY ADEQUATE WITH NO VISIBLE OPENINGS FOR SOUND TRANSMISSION. NOISE PANEL ATTACHMENTS TO POSTS AND INSTALLATION METHODS SHALL BE STRUCTURALLY ADEQUATE, GIVE SUFFICIENT SUPPORT TO THE NOISE PANELS, AND BE SECURED TO THE POST OR ADEQUATELY BLOCKED BETWEEN THE POST'S FLANGES TO ELIMINATE MOVEMENT AT THE SUPPORT AND ELIMINATE ANY POSSIBLE VIBRATION. THE TOP OF INSTALLED NOISE BARRIERS SHALL MATCH THE TOP OF WALL DESIGN ELEVATIONS, WITH NO VARIATION BETWEEN POSTS, UNLESS THE PROJECT PLANS REQUIRE AN ELEVATION CHANGE.

5. PROTECTION OF EXISTING SEWERS AND CULVERTS:
   BEFORE EXCAVATING FOR THE DRILLED SHAFTS, FIELD VERIFY THE LOCATION OF ALL EXISTING SEWERS AND CULVERTS SHOWN IN THE PROJECT PLANS.

   SHOULD A SEWER OR CULVERT BE DAMAGED BY THE CONTRACTOR'S NEGLIGENCE IN THE ABOVE MENTIONED WORK, REPLACE THE DAMAGED SECTIONS OF THE SEWER OR CULVERT AT NO ADDITIONAL COST TO THE DEPARTMENT.

   REFER TO CMS 105.07 FOR REQUIREMENTS TO COOPERATE WITH UTILITIES.

6. DISPOSE OF ALL EXCESS EXCAVATION IN A MANNER SATISFACTORY TO THE ENGINEER.

7. FOR NOISE BARRIERS THAT ARE BUILT ON TOP OF EARTH BERMS, CONSTRUCT THE BERMS OF EMBANKMENT MATERIAL IN ACCORDANCE WITH ITEM 203 OF THE CMS.

8. INSTALL TEMPORARY FENCE WHEN THE TIME BETWEEN THE REMOVAL OF THE EXISTING FENCE AND THE INSTALLATION OF THE PROPOSED FENCE OR NOISE BARRIER WILL EXCEED ONE DAY. INSTALL THIS FENCE IMMEDIATELY AFTER THE EXISTING FENCE IS REMOVED. THE TEMPORARY FENCE SHALL BE A WOOD SNOW FENCE, PLASTIC NYLON CONSTRUCTION FENCE OR EXISTING FENCE FABRIC MOUNTED ON DRIVEN POSTS. FOR EACH NOISE BARRIER SECTION, DO NOT REMOVE THE EXISTING FENCE EARLIER THAN 3 MONTHS PRIOR TO THE COMPLETED INSTALLATION OF THE NOISE BARRIER PANELS.

9. RESTORATION OF WORK AREA:
   UPON COMPLETION OF NOISE BARRIER INSTALLATION, RESTORE ALL AREAS DISTURBED BY THE NOISE BARRIER CONSTRUCTION TO THEIR ORIGINAL CONDITION. RESTORATION SHALL INCLUDE SEEDING AND MULCHING IN ACCORDANCE WITH CMS ITEM 659 USING A CROWN VETCH TYPE SEED MIXTURE AS DEFINED IN SECTION 659.09. THE DEPARTMENT WILL WAIVE THE RESTRICTION FROM SOWING CROWN VETCH DURING THE MONTHS OF SEPTEMBER AND OCTOBER, BUT ALL OTHER RESTRICTIONS AND REQUIREMENTS OF 659 SHALL APPLY.

   IN THE AREA BETWEEN THE BACK OF THE NOISE BARRIER AND EXISTING FENCE, WHERE THE FENCE IS TO BE REMOVED AND THE ADJOINING PROPERTY IS GRASSED RESIDENTIAL, FINISH THIS AREA TO A STATE COMPARABLE TO THE ADJOINING PROPERTY IN ACCORDANCE WITH THE RESIDENTIAL PROVISIONS OF 659.

TOLERANCES

CONSTRUCT ALL MEMBERS TO CONFORM TO THE FOLLOWING TOLERANCES.

1. POST DIMENSIONAL TOLERANCES:
   A. POST HEIGHT = ±1/2"
   B. FLANGE AND WEB WIDTH AND DEPTH = ±1/4"
   C. SLOT DEPTH AND LOCATION = ±1/8"
   D. POST VERTICAL SWEEP:
      1/8" FOR POSTS LESS THAN OR EQUAL TO 16' TALL
      1/4" FOR POSTS GREATER THAN 16' TALL
   E. POSITION OF LIFTING INSERTS = ±1 "
   F. POSITION OF POST WORKING POINT TO CENTER OF STEEL BASE PLATE = ±1/4" IN ANY DIRECTION

2. PANEL DIMENSIONAL TOLERANCES :
   A. PANEL LENGTH AND HEIGHT = ±1/4"
   B. PANEL STRUCTURAL THICKNESS = +1/4", - 0"
   C. PANEL ARCHITECTURAL/ABSORPTIVE MATERIAL THICKNESS = ±1/4"
   D. PANEL HORIZONTAL SWEEP:
      1/8" FOR PANELS LESS THAN OR EQUAL TO 16' LONG
      1/8" FOR PANELS GREATER THAN 16' LONG
   E. PANEL VERTICAL SWEEP = 1/8"
   F. POSITION OF LIFTING INSERTS:
      ±1 " ALONG PANEL LENGTH
      ±1/4" ALONG PANEL THICKNESS

3. REINFORCING STEEL TOLERANCES:
   A. CLEAR COVER = +1/8", -0"
   B. SPLICE LENGTHS = -1" FROM STANDARD LAP SPLICE REQUIREMENT

4. BASE PLATE DIMENSIONAL TOLERANCES:
   A. FURNISH STEEL BASE PLATES ACCORDING TO CMS 513.

5. NOISE BARRIER CONSTRUCTION TOLERANCES:
   A. POSITION AN INDIVIDUAL DRILLED SHAFT WITHIN ±1" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT.
   B. POSITION ADJACENT DRILLED SHAFTS WITHIN ±1/2" OF THE CENTER-TO-CENTER SPACING SHOWN IN THE PLANS, MEASURED IN THE HORIZONTAL PLANE AT THE TOP ELEVATION OF THE HIGHER SHAFT.
   C. POSITION AN INDIVIDUAL DRILLED SHAFT WITHIN ±1" OF THE PLAN ELEVATION SHOWN IN THE PLANS.
   D. FROM THE CENTER OF THE DRILLED SHAFT, POSITION BASE PLATE ANCHOR BOLTS WITHIN:
      ±1/8" IN THE DIRECTION PARALLEL TO THE SHORT SLOT
      ±1/16" IN THE DIRECTION NORMAL TO THE SHORT SLOT
   E. POSTS SHALL BE PLUMB.
   F. INSTALL NOISE BARRIERS SO THE FINAL TOP OF BARRIER ELEVATION IS WITHIN ±0.04 INCH/FT. OF HEIGHT FROM THE PLAN ELEVATION.

ACCEPTANCE REQUIREMENTS

IN ADDITION TO CONFORMING WITH THE STRUCTURAL REQUIREMENTS AS SHOWN IN THESE STANDARDS, NOISE BARRIERS SHALL ALSO COMPLY WITH THE FOLLOWING AESTHETIC REQUIREMENTS.

1. THE CONTRACTOR SHALL DELIVER TO THE JOB SITE ONE FULL SIZE NOISE BARRIER PANEL AND ONE FULL SIZE POST REPRESENTATIVE OF THE PRODUCT THE CONTRACTOR IS GOING TO SUPPLY. THE ENGINEER WILL EVALUATE WHETHER BOTH THE PANEL AND POST MEET ALL SPECIFIED FEDERAL COLOR STANDARDS, TEXTURE, TRIM, AND/OR COATING REQUIREMENTS. TO FACILITATE THIS COMPARISON, THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A COPY OF "FEDERAL STANDARD 595B-COLORS USED IN GOVERNMENT PROCUREMENT".

   IF EITHER THE NOISE BARRIER PANEL OR POST DOES NOT MEET THE SPECIFIED REQUIREMENTS, THE CONTRACTOR SHALL HAVE ANOTHER PANEL OR POST MANUFACTURED AND DELIVERED TO THE JOB SITE FOR APPROVAL BY THE ENGINEER. IF THE PROJECT PLANS DO NOT SPECIFY A COLOR, TEXTURE, OR TRIM REQUIREMENT, IT WILL STILL BE NECESSARY TO DELIVER THE SAMPLE POST AND PANEL TO THE JOB SITE FOR APPROVAL PRIOR TO THE PRODUCTION OF ANY ADDITIONAL NOISE BARRIER PANELS OR POSTS.

2. THE SAMPLE POST AND PANEL WILL BECOME THE CONTROL POST AND PANEL AGAINST WHICH THE ENGINEER WILL COMPARE ALL SUBSEQUENT POSTS AND PANELS. MOVE THE CONTROL POST AND PANEL TO DIFFERENT LOCATIONS AS NECESSARY TO FACILITATE COMPARISONS WITH THE REMAINING POSTS AND PANELS. REMOVE AND REPLACE ANY DELIVERED AND/OR ERECTED POSTS AND PANELS THAT DO NOT MATCH THE CONTROL POST AND PANEL OR DO NOT CONFORM TO THE STRUCTURAL REQUIREMENTS AS SHOWN IN THESE STANDARDS AT NO ADDITIONAL COST TO THE DEPARTMENT.

   ALL NOISE BARRIER PANELS SHALL BE MANUFACTURED USING THE SAME METHOD OF CONSTRUCTION SO AS TO PRODUCE A UNIFORM PANEL FINISH.

METHOD OF MEASUREMENT

THE DEPARTMENT WILL MEASURE THE NOISE BARRIER BY THE NUMBER OF SQUARE FEET.

THE DEPARTMENT WILL DETERMINE THE AREA OF INDIVIDUAL NOISE BARRIER SEGMENTS FROM PROJECT PLAN DIMENSIONS USING A HEIGHT FROM THE BOTTOM OF THE BOTTOM PANEL TO THE TOP OF THE CAP ON THE TOP PANEL, AND SPAN LENGTHS MEASURED AS SHOWN IN POST DETAILS ON SHEETS 8 & 9/13.

THE CALCULATED NOISE BARRIER AREA IN THE PROJECT PLANS IS BASED UPON 1'-0" INCREMENTAL PANEL HEIGHTS. THE DEPARTMENT WILL NOT ADJUST PAY QUANTITIES FOR NOISE BARRIER HEIGHTS OR LENGTHS GREATER THAN PROJECT PLAN REQUIREMENTS.

BASIS OF PAYMENT

PAYMENT FOR NOISE BARRIERS IS FULL COMPENSATION FOR FURNISHING AND INSTALLING FOUNDATIONS, POSTS, PANELS, CAPS, STEEL BASE PLATES AND CONNECTIONS, CONCRETE SEALER/COATING, FORM LINERS OR OTHER ARCHITECTURAL SURFACE TREATMENTS, SAMPLE POST(S) AND PANEL(S), BEARING PADS, EXCAVATION, DRAINAGE AND BACKFILL, AND OTHER ITEMS THAT DO NOT HAVE SEPARATE PAY ITEMS BUT ARE NECESSARY TO COMPLETE THE NOISE BARRIER.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL LENGTH OF DRILLED SHAFTS CONSTRUCTED AT THE DIRECTION OF THE ENGINEER IN UNEXPECTED AREAS OF POOR SOIL AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS FURNISHED AND INSTALLED AT THE DIRECTION OF THE ENGINEER TO AVOID UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

THE DEPARTMENT WILL PAY FOR CLEARING AND GRUBBING AND TRIMMING TREES UNDER ITEM 201 - CLEARING AND GRUBBING.

THE DEPARTMENT WILL PAY FOR CONSTRUCTING EARTH BERMS UNDER ITEM 203 - EMBANKMENT.

THE DEPARTMENT WILL PAY FOR FURNISHING, ERECTING, MAINTAINING, AND REMOVING TEMPORARY FENCE UNDER ITEM 607 - FENCE, MISC.

THE DEPARTMENT WILL PAY FOR LAYING OUT AND STAKING THE NOISE BARRIER UNDER ITEM 623 - CONSTRUCTION LAYOUT STAKES.

IF THE CONTRACT INCLUDES A QUANTITY FOR ITEM 659 - SEEDING AND MULCHING, THE DEPARTMENT WILL PAY FOR RESTORING THE WORK AREA UNDER ITEM 659. IF THE CONTRACT DOES NOT INCLUDE A QUANTITY FOR ITEM 659, THE DEPARTMENT WILL NOT PAY FOR THIS WORK DIRECTLY BUT WILL CONSIDER IT INCIDENTAL TO PAYMENT FOR THE NOISE BARRIER.

WHERE THE DRILLED SHAFT LENGTH WAS DECREASED FROM THE PROJECT PLAN DIMENSION DUE TO INTERFERENCE WITH UNEXPECTED BEDROCK, THE DEPARTMENT WILL NON-PERFORM THE SHAFT LENGTH BELOW THE BEDROCK ELEVATION AND PAY FOR THE ROCK SOCKET AND INCIDENTALS AS EXTRA WORK ACCORDING TO C&MS 109.05.

THE DEPARTMENT WILL NOT PAY FOR REPAIRED OR REPLACED COMPONENTS DAMAGED BY IMPROPER HANDLING, TRANSPORTING, STORING, OR ERECTING.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. FT.	NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER
SPECIAL	SQ. FT.	NOISE BARRIER (REFLECTIVE), OVER 10' TO 14' HEIGHT
SPECIAL	SQ. FT.	NOISE BARRIER (REFLECTIVE), OVER 14' TO 20' HEIGHT
SPECIAL	SQ. FT.	NOISE BARRIER (REFLECTIVE), OVER 20' TO 25' HEIGHT
SPECIAL	SQ. FT.	NOISE BARRIER (ABSORPTIVE), 10' HEIGHT AND UNDER
SPECIAL	SQ. FT.	NOISE BARRIER (ABSORPTIVE), OVER 10' TO 14' HEIGHT
SPECIAL	SQ. FT.	NOISE BARRIER (ABSORPTIVE), OVER 14' TO 20' HEIGHT
SPECIAL	SQ. FT.	NOISE BARRIER (ABSORPTIVE), OVER 20' TO 25' HEIGHT

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
01-16-09 DATE
ADMINISTRATOR

REVISIONS
07-17-09

NBS-1-09

STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS

NOISE BARRIER SEALER

DESCRIPTION:
APPLY A SEALER TO ALL CONCRETE SURFACE AREAS OF NOISE BARRIER PANELS AND CONCRETE POSTS, INCLUDING CONCRETE TO CONCRETE CONTACT SURFACES.

APPLY THE COLOR DEFINED BY THE FEDERAL COLOR STANDARD IDENTIFICATION NUMBER IN THE NOISE WALL PLANS. IF THERE IS NO NUMBER, THE ENGINEER WILL SPECIFY THE COLOR.

MATERIALS:
ONE COAT OF THE SEALER SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

1. FREEZE-THAW TEST SUBJECT THE APPLIED FINISH COATING TO FREEZE-THAW CYCLE TESTS AS FOLLOWS:
   a. CAST THREE CONCRETE SPECIMENS, NOT LESS THAN 4" X 6" BY 6", MINIMUM 5000 PSI @ 28 DAYS. MOIST CURE SPECIMENS FOR FOURTEEN DAYS WITH A DRYING PERIOD AT ROOM TEMPERATURE, 60 DEGREES TO 80 DEGREES F, FOR 24 HOURS BEFORE COATING THE SPECIMENS WITH THE APPLIED FINISH. REMOVE EXCESSIVE OIL ON SPECIMEN FORMS. APPLY THE FINISH COATING TO THE SIDES OF SPECIMENS AT A SPREADING RATE OF 50 +/- 10 SQUARE FEET PER GALLON. BRUSH APPLICATION IS PERMITTED. CURE CEMENTITIOUS COATING AT ROOM TEMPERATURE WITH 50 PERCENT RELATIVE HUMIDITY FOR 24 HOURS; AT ROOM TEMPERATURE WITH 90 PERCENT RELATIVE HUMIDITY FOR 48 HOURS; AND AT ROOM TEMPERATURE WITH 50 PERCENT RELATIVE HUMIDITY FOR FOUR DAYS. TOTAL CURING TIME SHALL BE SEVEN DAYS. CURE OTHER COATINGS AT ROOM TEMPERATURE FOR 48 HOURS AFTER COMPLETION OF CURING.
   b. IMMERSE THE SPECIMENS IN WATER AT ROOM TEMPERATURE FOR THREE HOURS, THEN REMOVE.
   c. PLACE THE SPECIMENS IN COLD STORAGE AT -15 DEGREES F FOR ONE HOUR, THEN REMOVE.
   d. THAW THE SPECIMENS AT ROOM TEMPERATURE FOR ONE HOUR.
   e. REPEAT STEPS c AND d ABOVE FOR A TOTAL OF 300 CYCLES. AT THE END OF 300 CYCLES THE SPECIMENS SHALL SHOW NO VISIBLE DEFECTS.
2. ACCELERATED WEATHERING SUBJECT THE APPLIED COATING TO A 5,000 HOUR EXPOSURE TEST IN A TWIN-CARBON-ARC-WEATHEROMETER, ASTM G 23, TYPE D, AT AN OPERATING TEMPERATURE OF 145 DEGREES F. PERFORM THE TEST AT 20-MINUTE CYCLES CONSISTING OF 17 MINUTES OF LIGHT AND 3 MINUTES OF WATER SPRAY PLUS LIGHT. AT THE END OF THE EXPOSURE TEST, THE EXPOSED SAMPLES SHALL SHOW NO CHIPPING, FLAKING OR PEELING. PREPARE THE PANELS FOR THIS TEST BY APPLYING THE COATING AT A SPREADING RATE OF 50 +/- 10 SQ FEET PER GALLON TO BOTH SIDES AND EDGES OF PANELS CUT FROM ASBESTOS CEMENT SHINGLES IN ACCORDANCE WITH FEDERAL SPECIFICATION SS-S-346, TYPE I. CURING TIME SHALL BE IN ACCORDANCE WITH (1).
3. FUNGUS GROWTH RESISTANCE THE APPLIED FINISH COATING SHALL PASS THE FUNGUS RESISTANCE TEST IN ACCORDANCE WITH FEDERAL SPECIFICATIONS TT-P-29G. FUNGUS GROWTH SHALL NOT BE INDICATED AFTER A MINIMUM INCUBATION PERIOD OF 21 DAYS.
4. IMPACT RESISTANCE APPLY THE COATING TO A CONCRETE PANEL PREPARED ACCORDING TO FEDERAL TEST METHOD STANDARD 141S, METHOD 2051, AT A SPREADING RATE OF 50 +/- 10 SQUARE FEET PER GALLON AND CURE FOR 21 DAYS AT ROOM TEMPERATURE. PERFORM THE TEST USING THE GARDNER MANDREL IMPACT TESTER IN ACCORDANCE WITH ASTM D 2794 USING A ONE-HALF INCH INDENTER WITH AN IMPACT LOAD OF 6 INCH-POUNDS. THE COATING SHALL SHOW NO CHIPPING UNDER THIS IMPACT LOAD.
5. SALT-SPRAY RESISTANCE TEST COAT A CONCRETE SPECIMEN AT THE RATE OF 50 +/- SQUARE FEET PER GALLON AND CURE FOR 21 DAYS AT ROOM TEMPERATURE. EXPOSE THE COATED SPECIMEN TO A 5% SALT SOLUTION IN ACCORDANCE WITH ASTM B117 FOR 2000 HOURS WHERE THE ATMOSPHERIC TEMPERATURE IS MAINTAINED AT 90 DEGREES +/- 2 DEGREES F. AT THE END OF THE 2000 HOURS OF EXPOSURE, THE COATING SHALL SHOW NO ILL EFFECTS, LOSS OF ADHESION OR DETERIORATION.
6. FLEXIBILITY TEST CAST A SHEET METAL SPECIMEN WITH THE APPLIED FINISH COATING AT A RATE OF 50 +/- 10 SQUARE FEET PER GALLON AND CURE FOR 48 HOURS AT ROOM TEMPERATURE. BEND THE COATED SPECIMEN 180 DEGREES OVER A ONE (1)-INCH ROUND MANDREL. AFTER BENDING, THE COATING SHALL SHOW NO BREAKING.
7. ABSORPTION THE ABSORPTION OF TREATED CONCRETE UNDER TOTAL IMMERSION SHALL NOT EXCEED 1.0% AFTER 48 HOURS OR 2.0% AFTER 50 DAYS (ASTM C642, NON-AIR ENTRAINED CONCRETE). PROPORTION AND MIX CONCRETE N ACCORDANCE WITH ASTM C672.
8. SCALING RESISTANCE TREATED CONCRETE SHALL PASS ASTM C672, SCALING RESISTANCE TEST WITH A RATING OF "NO SCALING" AFTER 50 CYCLES (NON-AIR ENTRAINED CONCRETE) AS COMPARED TO "SEVERE SCALING" ON UNTREATED CONCRETE.
9. NCHRP 244 SERIES IV - SOUTHERN EXPOSURE
   4.1 ABSORBED CHLORIDE - NOT TO EXCEED 10% OF UNTREATED CONCRETE

MATERIALS APPROVAL: SUBMIT CERTIFIED TEST DATA TO THE ENGINEER THAT SHOWS THE SEALER MEETS THE MATERIAL REQUIREMENTS.

THE FOLLOWING PRODUCTS AND COVERAGE RATES ARE PRE-APPROVED:

1. TAMMNSCOAT FINE ODOT
   TAMMS INDUSTRIES COMPANY
   61 AMERICAN STREET
   CHAGRIN FALLS, OHIO 44022

   APPLICATION DRY FILM THICKNESS 20 MILS
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ FT/GAL
2. BRIDGE COTE XL-70 W/SILANE (FINE TEXTURE) BY TEX COTE OR BRIDGE COTE XL-70 BY TEX COTE
   TEXTURED COATINGS OF AMERICA
   4101 RAVENSWOOD ROAD
   SUITE 101A
   FT. LAUDERDALE, FLORIDA 33312-5371

   APPLICATION DRY FILM THICKNESS 15 MILS
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ FT/GAL
3. TEXTUREDOT BY CHEMMASTERS
   300 EDWARDS STREET
   MADISON, OHIO 44057

   APPLICATION DRY FILM THICKNESS 15 MILS (380 MICROMETERS)
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ. FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ. FT/GAL
4. MARK-173 BY POLY-CARB
   33095 BAINBRIDGE RD.
   CLEVELAND, OHIO 44139

   APPLICATION DRY FILM THICKNESS 19 MILS
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ FT/GAL

TAKE A VERIFICATION SAMPLE DURING THE COATING OPERATING BY COLLECTING A QUART SAMPLE FROM THE SPRAY GUN DURING APPLICATION. SEND THE SAMPLE TO THE OFFICE MATERIALS MANAGEMENT, 1600 W. BROAD ST., COLUMBUS, OH 43223, ATTN: CHEM SECTION FOR TESTING. INDICATE THE BRAND NAME, PRODUCER AND LOT NUMBER OF THE MATERIAL. THIS SAMPLE IS FOR VERIFICATION OF MATERIALS NOT ACCEPTANCE.

CONTRACTOR TESTING EQUIPMENT: PROVIDE, IN GOOD WORKING ORDER, THE FOLLOWING TESTING EQUIPMENT:

1. ONE SLING PSYCHROMETER INCLUDING PSYCHOMETRIC TABLES USED TO RELATIVE HUMIDITY AND DEW POINT TEMPERATURE.
2. TWO STEEL SURFACE THERMOMETERS ACCURATE WITHIN 2 DEGREES F OR ONE PORTABLE INFRARED THERMOMETER AVAILABLE FROM:
   MODEL: RAYNGER ST SERIES (-18 DEGREES C TO 400 DEGREES C)
   MANUFACTURER: RAYTEK INC.
   SANTA CRUZ, CA
   (800) 227-8074
   OR APPROVED EQUAL TO THE PORTABLE INFRARED THERMOMETER
3. SSPC VISUAL STANDARD FOR ABRASIVE BLAST CLEANED STEEL SSPC-VIS 1-89
4. ONE RECORDER THERMOMETER CAPABLE OF RECORDING THE DATE, TIME AND TEMPERATURE OVER A PERIOD OF AT LEAST 12 HOURS.

SURFACE PREPARATION: THOROUGHLY CLEAN ALL CONCRETE SURFACES. REMOVE DUST, DIRT, OIL, WAX, CURING COMPONENTS, EFFLORESCENCE, LAITANCE, COATINGS AND OTHER FOREIGN MATERIALS. PROVIDE WRITTEN ACCEPTANCE FROM THE SEALER MANUFACTURER FOR ANY CHEMICALS AND OTHER CLEANING COMPOUNDS USED TO HELP REMOVE FOREIGN MATERIALS. APPLY THE SEALER WITHIN 48 HOURS AFTER SURFACE PREPARATION.

USE CLEANING EQUIPMENT FITTED WITH SUITABLE TRAPS, FILTERS, DRIP PANS AND OTHER DEVICES TO PREVENT OIL OR OTHER FOREIGN MATERIAL BEING DEPOSITED ON THE SURFACE.

CLEAN THE SURFACE AS FOLLOWS:

FOR WATER CURED NEW CONCRETE SURFACES, WATER BLAST AT 7,000 P.S.I.MINIMUM.

FOR NEW CONCRETE SURFACES WITH CURING COMPOUNDS, WATER BLAST AT 7,000 P.S.I. MINIMUM OR SANDBLAST AND AIR BROOM OR POWER SWEEP TO REMOVE DUST AND SAND FROM THE SURFACES AND OPEN PORES.

APPLY THE SEALER AFTER NEW CONCRETE HAS AIR DRIED FOR AT LEAST THREE (3) DAYS IN ADDITION TO THE REQUIRED CURING TIME. CURE GROUT FILLED CAVITIES THE SAME AS THE NEW CONCRETE AND AIR-DRY FOR THREE DAYS.

APPLY THE SEALER TO ACCELERATED CURED PRECAST AFTER THE CONCRETE HAS REACHED ITS REQUIRED 28 DAY DESIGN STRENGTH; CAVITIES HAVE BEEN GROUT FILLED AND CURED; AND THE TOTAL COMPONENT IS AIR-DRIED FOR THREE (3) DAYS.

BLAST CLEAN ANY RUST STAINED AREAS ON THE CONCRETE TWICE.

IF EXPOSED REINFORCING STEEL CHAIR LEGS OR OTHER BARE SUPPORT STEEL IS VISIBLE, SANDBLAST CLEAN THAT LOCATION TO A SSPC-SP6 COMMERCIAL BLAST. CONTACT THE ENGINEER TO DETERMINE IF THE CONCRETE COMPONENT IS STILL ACCEPTABLE. IF THE EXPOSED STEEL IS REINFORCING, REMOVE THE CONCRETE COMPONENT AND CONSIDER IT REJECTED. IF THE ENGINEER APPROVES THE PIECE, RE-CLEAN THE AREA TO REMOVE RUST BEFORE APPLYING THE SEALER.

PROVIDE THE ENGINEER AN APPLICATION PROCEDURE THAT DESCRIBES HOW ALL CONCRETE SURFACES WILL BE COATED AND HOW DAMAGED AREAS WILL BE TOUCHED UP. PRE-COATING IN THE PRECASTER'S YARD, WHETHER PARTIAL OR TOTAL, IS ACCEPTABLE. THE ENGINEER MAY REQUIRE ADDITIONAL FIELD APPLICATION BEFORE FINAL ACCEPTANCE.

EQUIPMENT: USE APPLICATION EQUIPMENT RECOMMENDED BY THE SEALER MANUFACTURER. SPRAY EQUIPMENT TANKS, HOSES, ROLLERS, ETC., SHALL BE CLEAN AND FREE OF FOREIGN MATTER, OIL RESIDUE AND WATER PRIOR TO APPLYING THE CONCRETE SEALER.

APPLICATION TEMPERATURES:

MINIMUM AMBIENT TEMPERATURE: 40 DEGREES F
MAXIMUM AMBIENT TEMPERATURE: 100 DEGREES F

DO NOT APPLY SEALER IF THE AMBIENT TEMPERATURE IS EXPECTED TO BE BELOW OR ABOVE THE ABOVE TEMPERATURE RANGE FOR UP TO 12 HOURS AFTER APPLICATION. DO NOT APPLY THE SEALER IF RAIN IS ANTICIPATED WITHIN 4 HOURS AFTER APPLICATION.

FOLLOW THE MANUFACTURER'S RECOMMENDED TEMPERATURES IF MORE RESTRICTIVE THAN SPECIFIED ABOVE.

CLEARLY NOTE WHERE APPLICATION HAS STOPPED IF UNABLE TO COMPLETE THE ENTIRE APPLICATION CONTINUOUSLY. RE-INSPECT AND REBLAST AT THE NEW START POINT TO MEET SPECIFICATIONS.

MIXING: MIX SEALER ACCORDING TO THE MANUFACTURER'S RECOMMENDED WRITTEN PROCEDURES. MIX TO A UNIFORM CONSISTENCY AND MAINTAIN THAT DURING THE APPLICATION.

TEST APPLICATION: APPLY THE SEALER TO A MEASURED TEST COVERAGE AREA OF DIFFERENT NOISE WALL COMPONENTS TO DEMONSTRATE THE DESIRED PHYSICAL AND VISUAL EFFECT OF THE SEALER AND TO SHOW THE ENGINEER COVERAGE IS ACHIEVED.

APPEARANCE: APPLY THE SEALER TO ACHIEVE A UNIFORM APPEARANCE. FOR WALLS WITH BRICK APPEARANCE, SEAL THE ENTIRE WALL WITH A GRAY SEALER AND APPLY THE BRICK COLOR IN A SECOND COAT USING ROLLERS.

STORAGE: STORE SEALER COMPONENTS IN TIGHTLY SEALED CONTAINERS IN A DRY LOCATION AND AS RECOMMENDED BY THE MANUFACTURER. PROVIDE THE ENGINEER WITH THE MANUFACTURER'S WRITTEN DOCUMENTATION ON STORAGE AND REQUIRED TEMPERATURE.

PROTECTION OF ADJOINING SURFACES AND THE PUBLIC: WHEN APPLYING A SEALER, PROTECT ADJOINING SURFACES THAT SHOULDN'T BE COATED BY MASKING OFF, OR BY OTHER MEANS. PROTECT THE PUBLIC WHEN APPLYING SEALER IN AN AREA USED BY THE PUBLIC.

PROTECT ASPHALT AND MASTIC TYPE SURFACES FROM SPILLAGE AND HEAVY OVERSPRAY. DO NOT APPLY THE SEALER ON JOINT SEALANTS WHICH HAVE NOT CURED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. JOINT SEALANTS, MAY BE APPLIED TO COATED SURFACES AFTER THE SEALER HAS BEEN APPLIED AND IS DRY TO THE TOUCH.

ENVIRONMENTAL REQUIREMENTS: PROTECT PLANTS AND VEGETATION FROM OVERSPRAY BY COVERING WITH DROP CLOTHS. COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL RESTRICTIONS.

PRECAUTIONS: FOLLOW PRECAUTIONS ON THE MANUFACTURER'S MSDS.

BASIS OF PAYMENT: THE DEPARTMENT WILL CONSIDER THE COST FOR MATERIALS, LABOR AND APPLICATION OF SEALER AS INCIDENTAL TO THE SQUARE FOOT COST OF THE NOISE WALL.

DESIGN AGENCY
OFFICE OF
STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED
BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
01-16-09 DATE
ADMINISTRATOR

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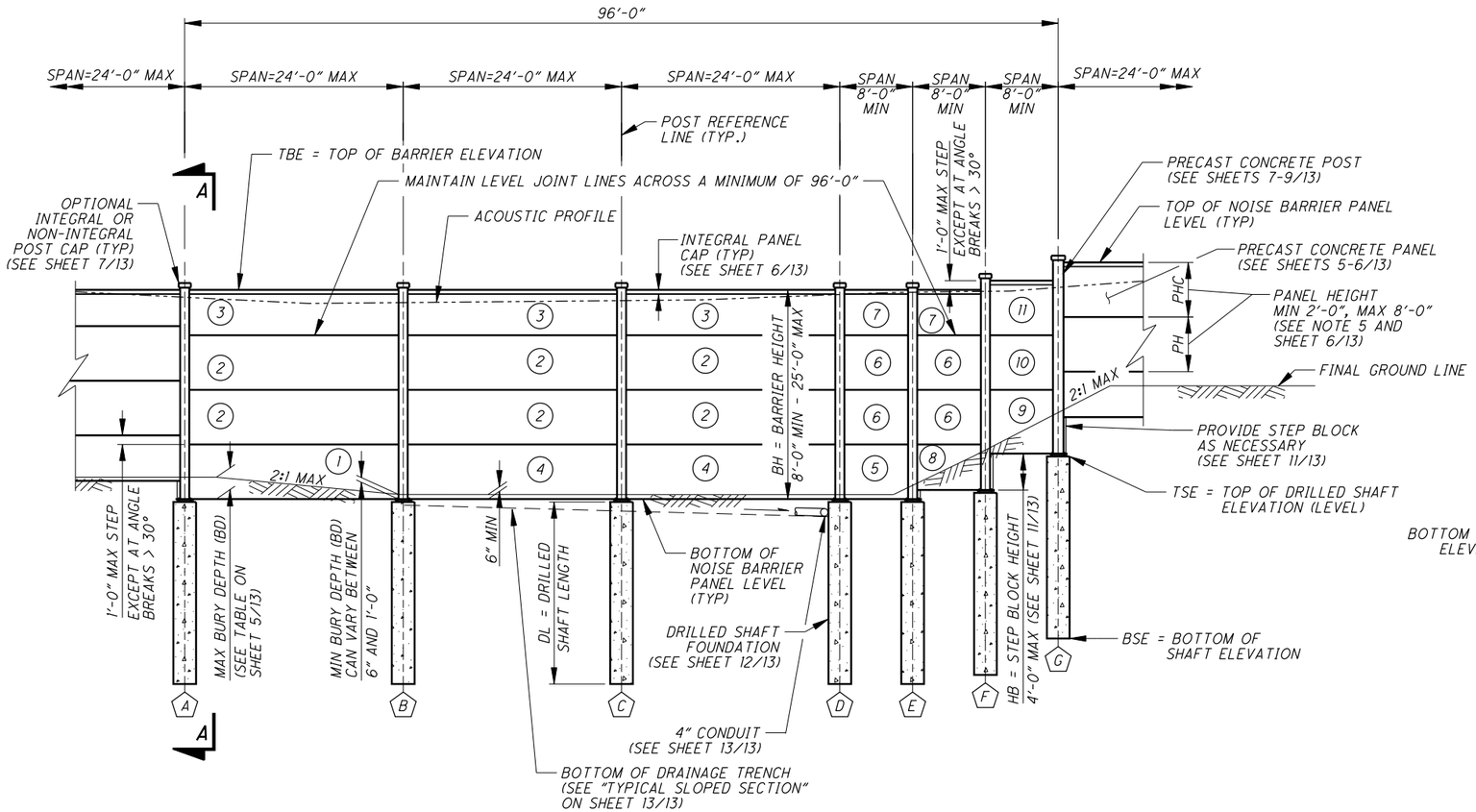
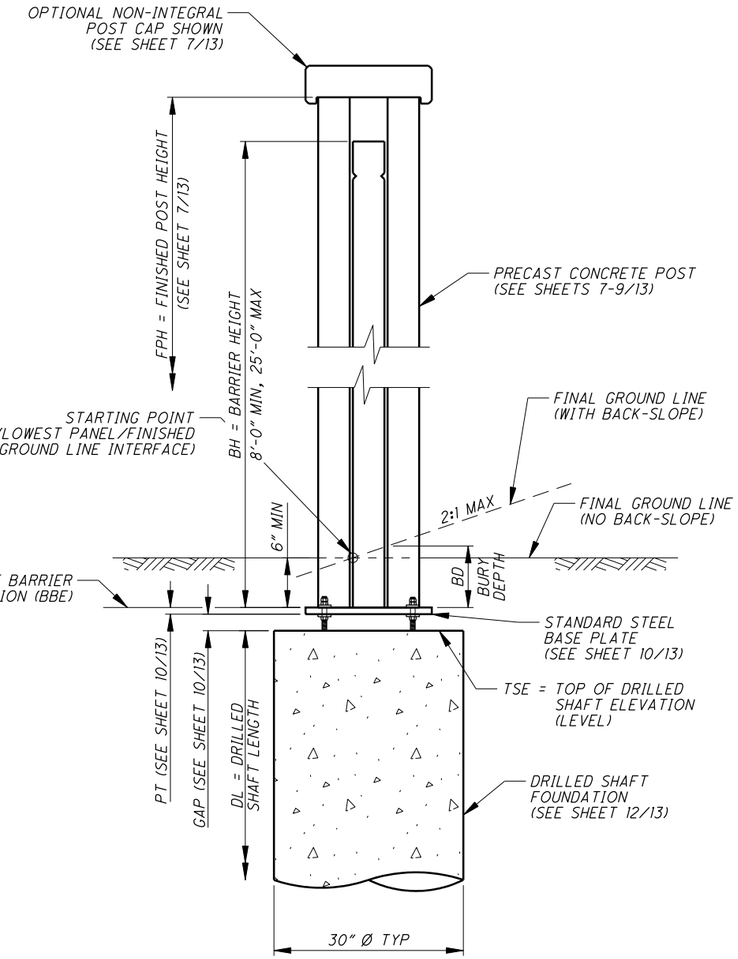
STANDARD
NOISE BARRIER SPECIFICATIONS
FOR GROUND APPLICATIONS

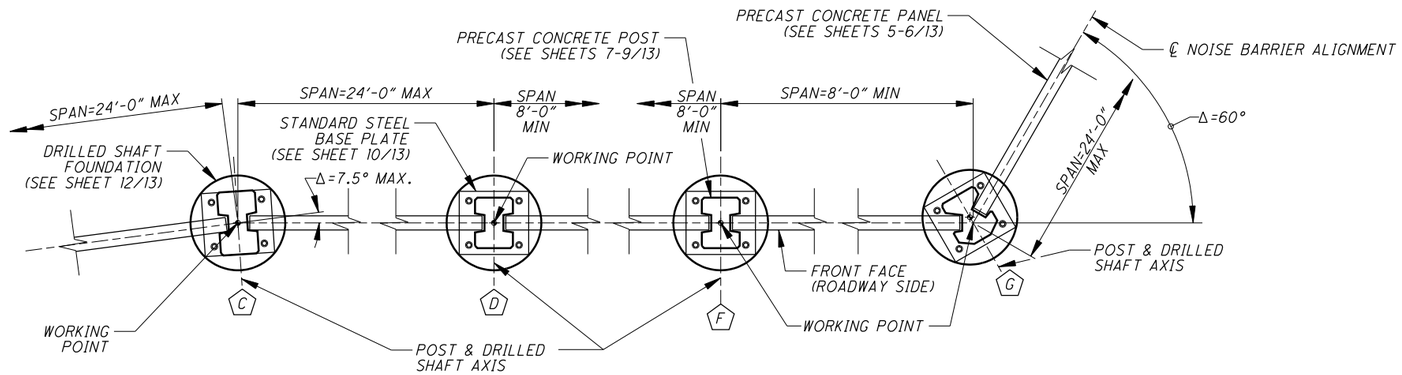


EXAMPLE ELEVATION ALONG FRONT FACE (ROADWAY SIDE)

(FOR INFORMATIONAL PURPOSES ONLY)



SECTION A-A



EXAMPLE PLAN VIEW

(FOR INFORMATIONAL PURPOSES ONLY)

LEGEND:

(?) - POST DESIGN AND LOCATION NUMBER OR DESIGNATION

(?) - PANEL DESIGN NUMBER OR DESIGNATION

= CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. ALL CONCRETE NOISE BARRIERS SHALL HAVE A CAP ON TOP OF THE BARRIER AND POSTS FOR AESTHETIC PURPOSES.
3. REFER TO THE PROJECT PLANS FOR POST, PANEL, AND FOUNDATION DESIGN DATA.
4. WORKING POINT IS DEFINED AS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT TANGENTS. IF THE DEFLECTION ANGLE (Δ) EQUALS ZERO, THE WORKING POINT IS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT AND THE POST AXIS.
5. POST REFERENCE LINE IS DEFINED AS A VERTICAL LINE THRU THE WORKING POINT.
6. MINIMUM HEIGHT OF BOTTOM PANEL SHALL BE 4'-0".

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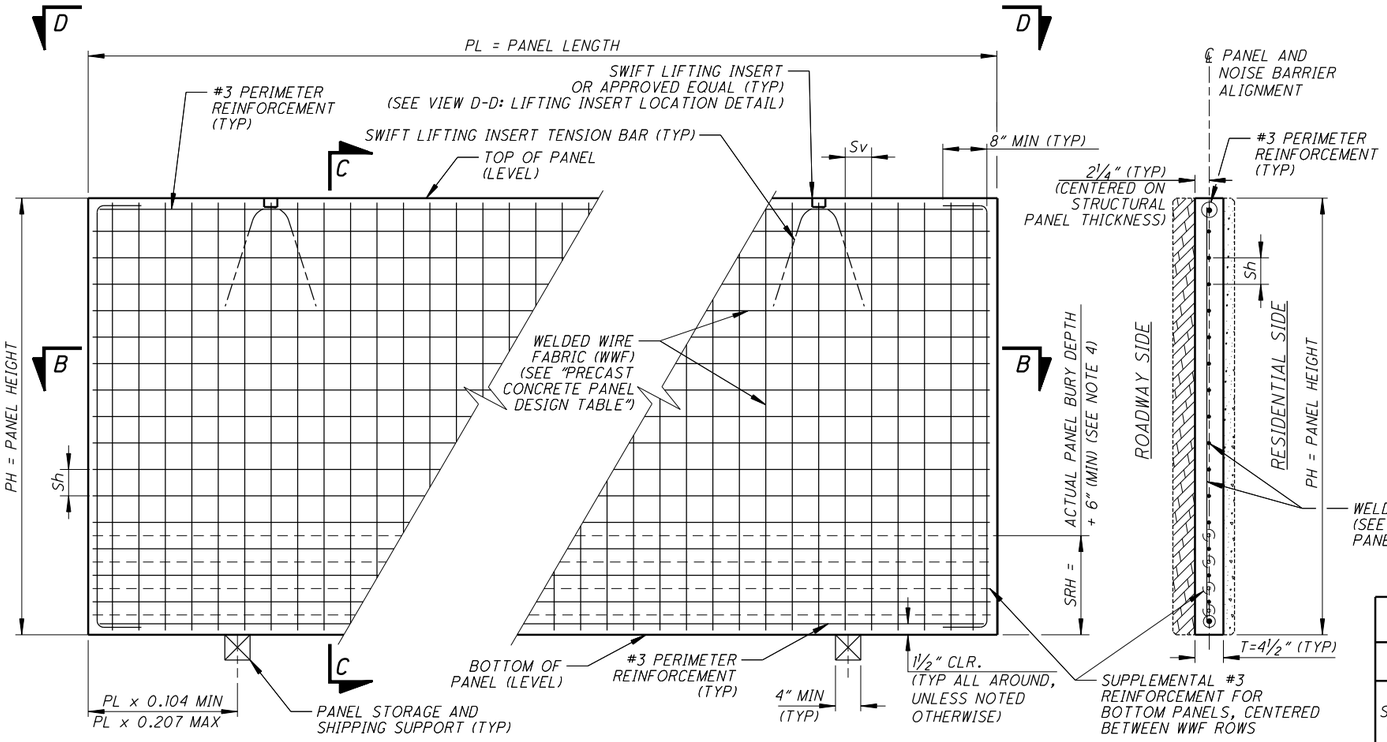
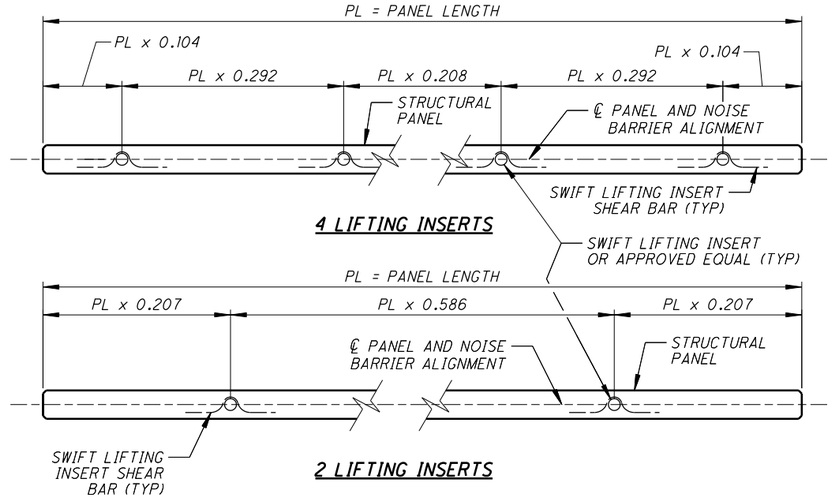
STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS

4 / 13

196 / 209



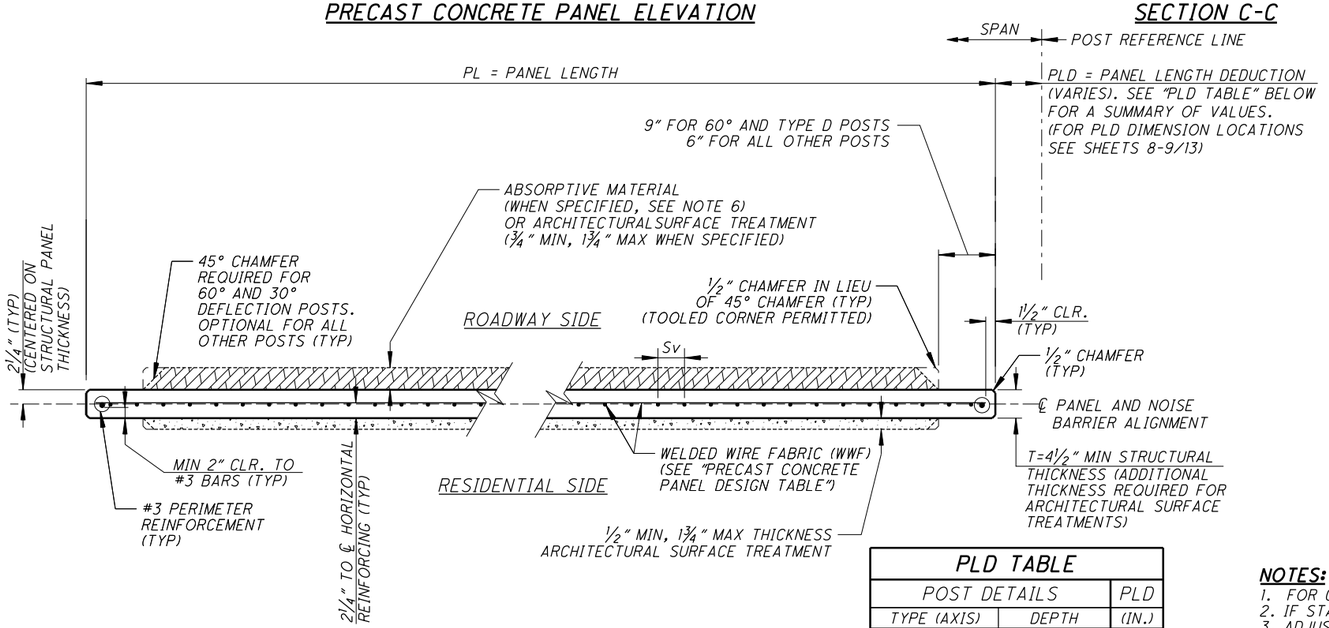
PRECAST CONCRETE PANEL ELEVATION



VIEW D-D: LIFTING INSERT LOCATION DETAIL

(SURFACE TREATMENTS NOT SHOWN FOR CLARITY)

SECTION C-C



SECTION B-B

PLD TABLE

POST DETAILS		PLD
TYPE (AXIS)	DEPTH	(IN.)
A & B	16" & 20"	3¾"
D	16" & 20"	3¼"
E	16" & 20"	4¼"
C (DEEP)	17½"	8"
C (DEEP)	20"	9½"
C (SHALLOW)	17½" & 20"	4¼"

PRECAST CONCRETE PANEL DESIGN TABLE

DESIGN WIND PRESSURE = 25 PSF, SOIL UNIT WEIGHT = 120 PCF

POST SPACING (SPAN) (FT.)	PANEL HEIGHT (PH) (FT.)	WELDED WIRE FABRIC ** WWF AxB-WCxWD				MIN REINFORCING STEEL AREA (in²/ft)		*LIFTING INSERTS		MAX ALLOWABLE PANEL BURY DEPTH
		A	B	C	D	HORIZONTAL	VERTICAL	MIN NO.	MIN CAPACITY	
PS=8	2.0	6	6	2	2	0.040	0.040	2	0.7	N/A
	3.0	6	6	2	2	0.040	0.040	2	1.0	N/A
	4.0	6	6	2.9	2.5	0.056	0.048	2	1.3	3'-6"
	5.0	6	6	3.5	4	0.068	0.080	2	1.6	4'-6"
	6.0	6	6	4	5.5	0.080	0.110	2	1.9	5'-0"
	7.0	6	6	5	8	0.098	0.158	2	2.3	5'-0"
	8.0	6	6	5.5	10.5	0.110	0.210	2	2.6	5'-0"
8<PS≤16	2.0	6	6	7.5	6	0.148	0.118	2	1.4	N/A
	3.0	6	6	8.5	3.5	0.170	0.068	2	2.0	N/A
	4.0	6	6	12	5	0.240	0.098	2	2.7	3'-6"
	5.0	6	6	7.5	4	0.148	0.080	4	3.3	4'-6"
	6.0	6	6	7.5	5.5	0.148	0.110	4	3.9	5'-0"
	7.0	6	6	7.5	8	0.148	0.158	4	4.6	5'-0"
	8.0	6	6	7.5	10.5	0.148	0.210	4	5.2	5'-0"
16<PS≤24	2.0	4	4	12	5	0.360	0.147	2	2.1	N/A
	3.0	4	4	12	5	0.360	0.147	2	3.0	N/A
	4.0	4	4	16	6.5	0.477	0.195	2	4.0	3'-8"
	5.0	4	4	12	5	0.360	0.147	4	4.9	3'-8"
	6.0	4	4	12	5	0.360	0.147	4	5.9	3'-8"
	7.0	4	4	12	5.5	0.360	0.165	4	6.9	3'-8"
	8.0	4	4	12	7	0.360	0.210	4	7.8	3'-8"

* MIN. INSERT CAPACITY IS SPECIFIED IN TONS. THE MIN. NUMBER OF LIFTING INSERTS SHALL BE USED WHEN ROTATING THE PANEL ABOUT ITS EDGE FROM A HORIZONTAL TO VERTICAL POSITION. IT IS PERMISSIBLE TO USE ONLY THE OUTER-MOST INSERTS FOR HANDLING IF THE PANEL REMAINS IN A VERTICAL POSITION (± 14°).

** WWF AxB-WCxWD (U.S. CUSTOMARY)
WHERE A = SPACING OF HORIZONTAL BARS (Sh) - INCHES
B = SPACING OF VERTICAL BARS (Sv) - INCHES
C = HORIZONTAL WIRE SIZE
D = VERTICAL WIRE SIZE
WWF = WELDED WIRE FABRIC

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. IF STACKED PANELS ARE REQUIRED REFER TO DETAILS ON SHEET 6/13.
3. ADJUST PANEL LENGTH TO ACCOMMODATE POST DETAILS AT EACH END AS SHOWN IN SECTION B-B AND PLD TABLE.
4. PROVIDE SUPPLEMENTAL #3 REBARS, CENTERED BETWEEN WWF ROWS, FOR A DEPTH EQUAL TO "SRH" IN THE BOTTOM OF BOTTOM PANELS.
5. THE PROJECT PLANS WILL PROVIDE THE WELDED WIRE FABRIC REQUIREMENTS INCLUDING THE AREA OF STEEL, THE REQUIRED SUPPLEMENTAL REINFORCING, AND THE MINIMUM NUMBER OF LIFTING INSERTS REQUIRED FOR ALL PANELS.
6. THICKNESS OF ABSORPTIVE MATERIAL VARIES ACCORDING TO THE MATERIAL PROPERTIES USED BY THE MANUFACTURER. MAXIMUM ALLOWABLE UNIT WEIGHT OF THE MATERIAL IS 29.15 PSF.
7. POST REFERENCE LINE IS A VERTICAL LINE THRU THE WORKING POINT.

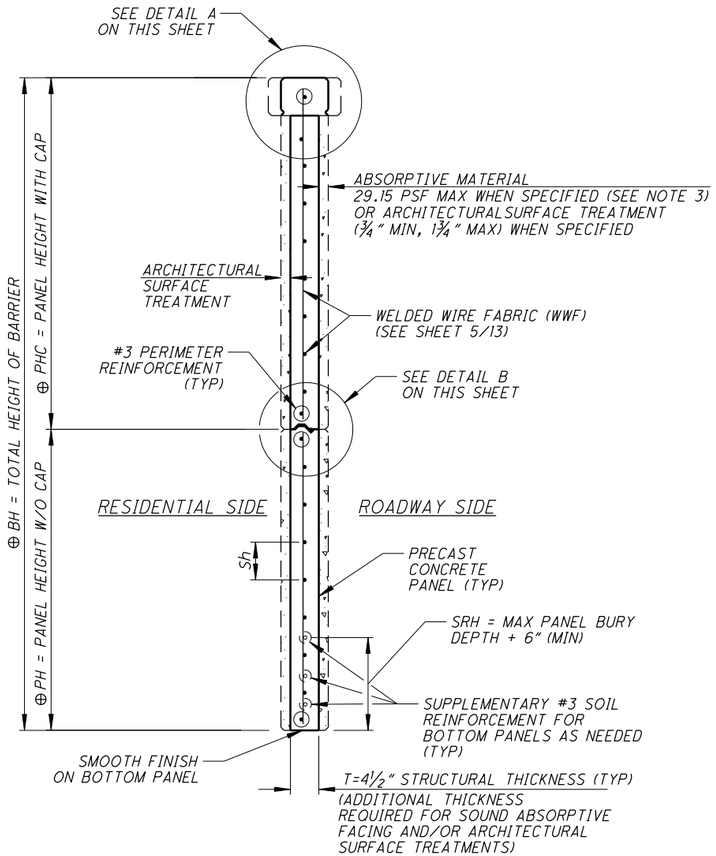
DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
01-16-09 DATE
ADMINISTRATOR

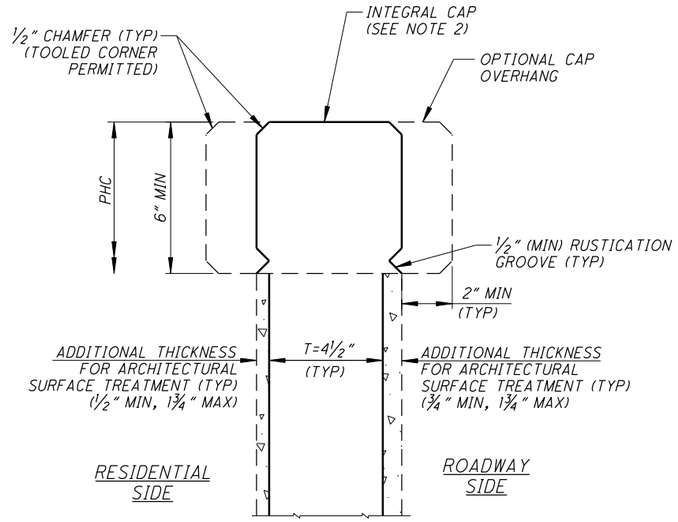
REVISIONS
07-17-09

NBS-1-09

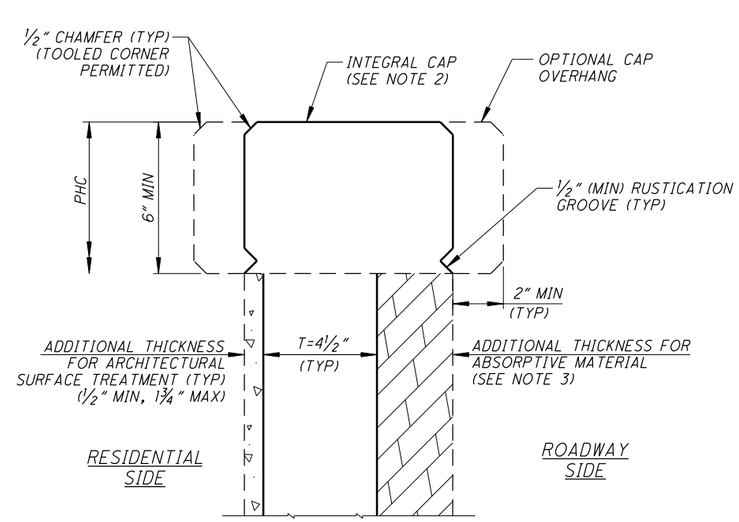
STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS



STACKED PANEL DETAIL



DETAIL A - REFLECTIVE PANEL WITH INTEGRAL CAP



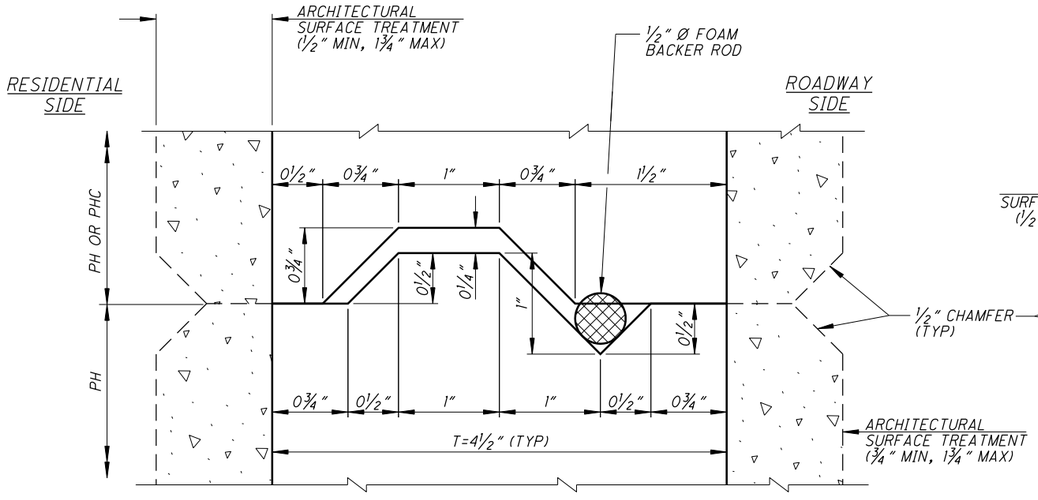
DETAIL A - ABSORPTIVE PANEL WITH INTEGRAL CAP

NOTES:

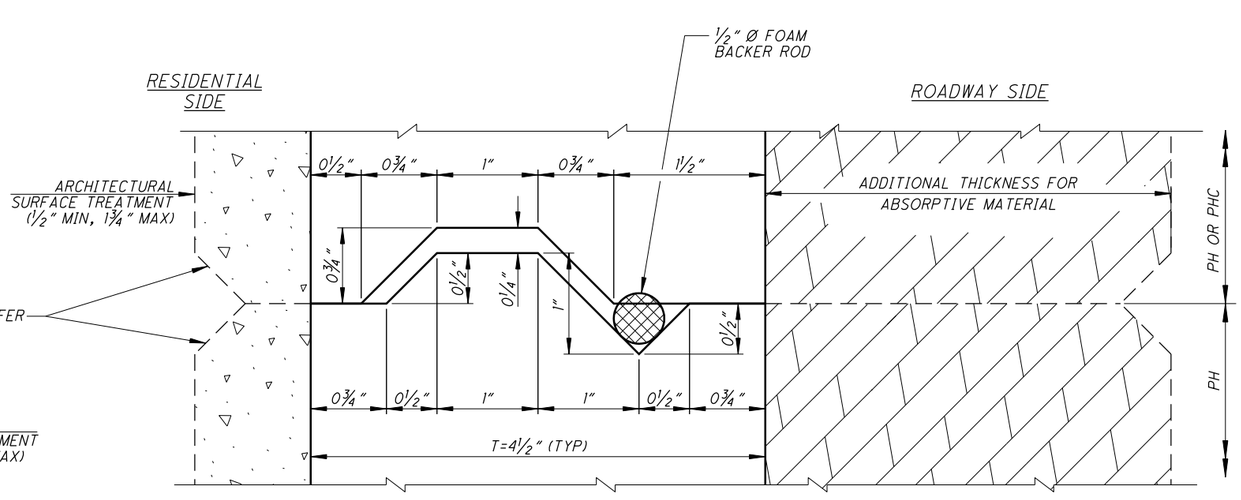
1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. INTEGRAL CAP DETAILS MAY VARY. REFER TO PROJECT PLANS FOR SPECIFIC DETAILS. BOTTOM OF CAP MUST HAVE RUSTICATION GROOVES OR OVERHANGS; PAINTED LINES ARE NOT ALLOWED.
3. THICKNESS OF ABSORPTIVE MATERIAL VARIES ACCORDING TO THE MATERIAL PROPERTIES USED BY THE MANUFACTURER.

LEGEND:

⊕ AS REQUIRED BY DESIGN AND SHOWN ON PROJECT PLANS



DETAIL B - REFLECTIVE PANEL KEYWAY DETAIL



DETAIL B - ABSORPTIVE PANEL KEYWAY DETAIL

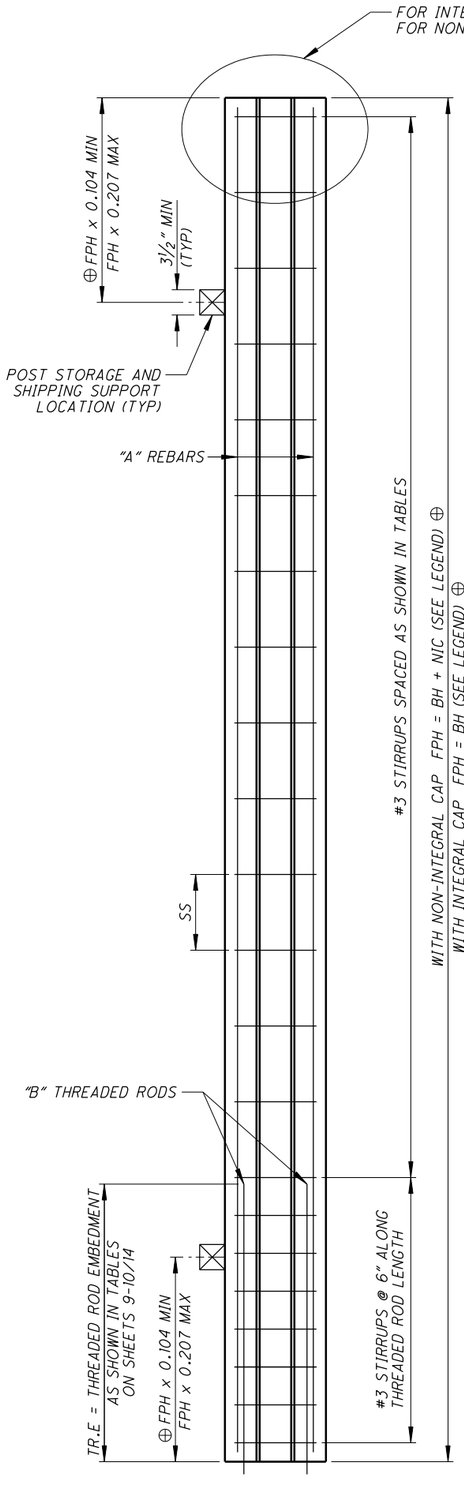
DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Jerry Wray
ADMINISTRATOR
01-16-09
DATE

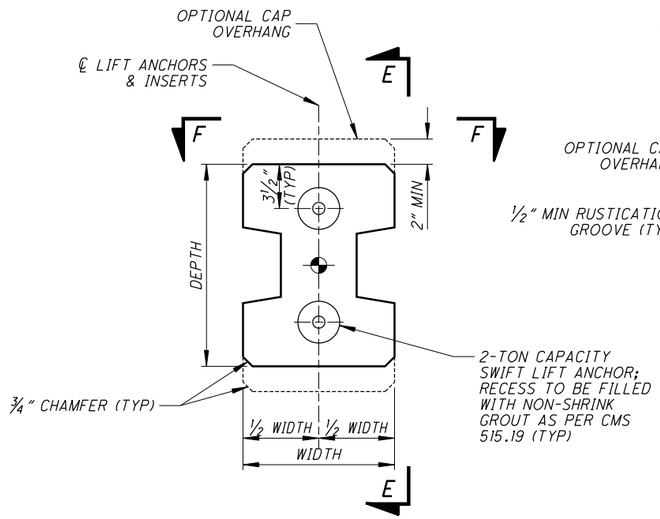
REVISIONS
07-17-09

NBS-1-09

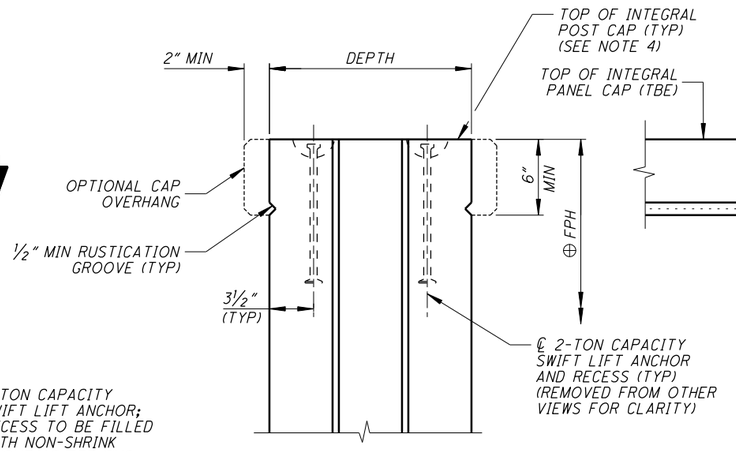
STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS



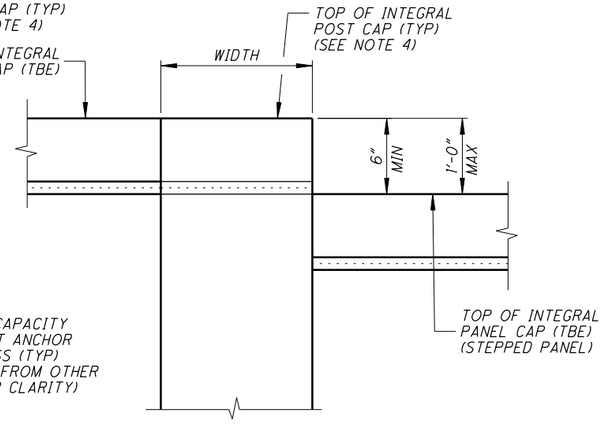
TYPICAL POST ELEVATION, REINFORCING, AND STORAGE PLAN



TOP VIEW



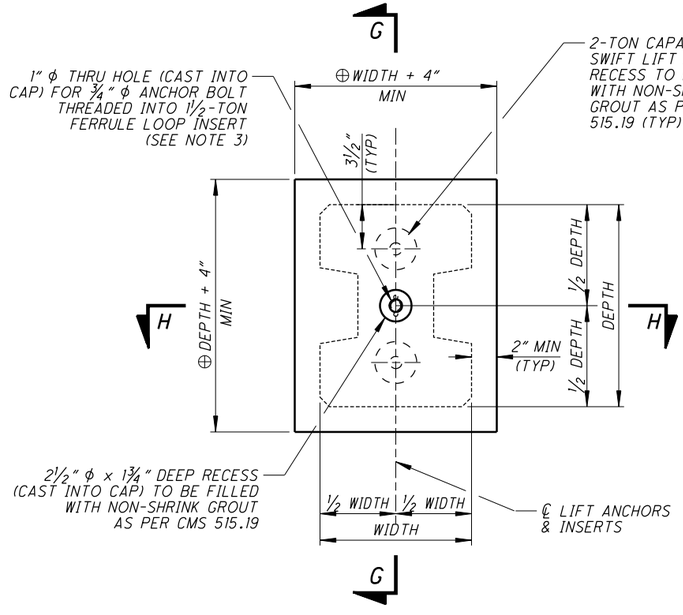
VIEW E-E



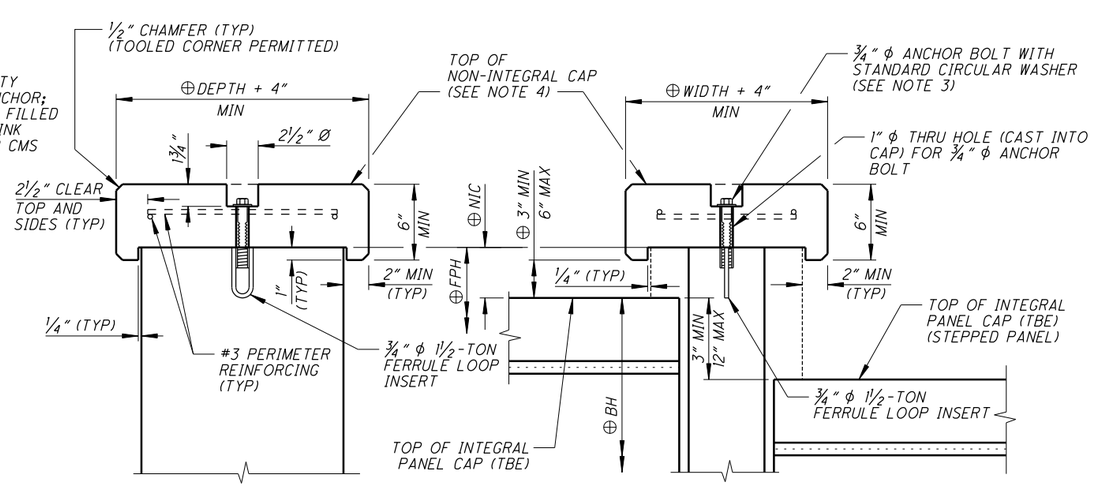
VIEW F-F

DETAIL C - INTEGRAL POST CAP DETAIL

(16" TYPE A POST SHOWN, OTHERS SIMILAR)



TOP VIEW



SECTION G-G

SECTION H-H

DETAIL D - NON-INTEGRAL POST CAP DETAIL

(16" TYPE A POST SHOWN, OTHERS SIMILAR)

LEGEND:

⊕ = DIMENSION VARIES WITH CAP DETAIL
BH = BARRIER HEIGHT
TBE = TOP OF BARRIER ELEVATION
FPH = FINISHED POST HEIGHT
NIC = NON-INTEGRAL CAP ADDITION

⊕ = CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. FASTEN THE NON-INTEGRAL CAP ATOP THE POST BY THREADING A ¾" Ø ANCHOR BOLT INTO THE FERRULE LOOP INSERT.
3. NON-INTEGRAL CAP ANCHOR BOLT SHALL BE GALVANIZED ASTM A325; STANDARD CIRCULAR WASHER SHALL BE GALVANIZED ASTM F436.
4. BOTTOM OF INTEGRAL CAP MUST HAVE RUSTICATION GROOVES OR OVERHANGS; PAINTED LINES ARE NOT ALLOWED.

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
01-16-09 DATE
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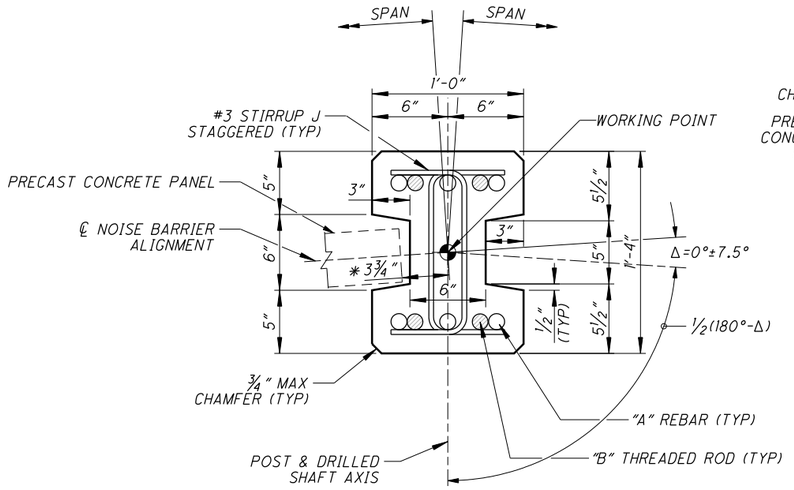
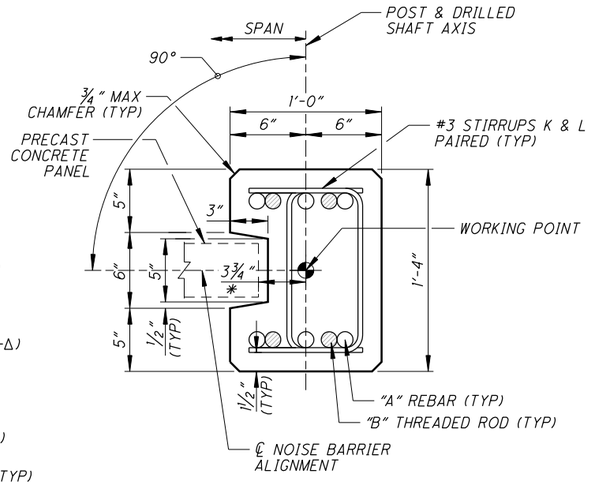
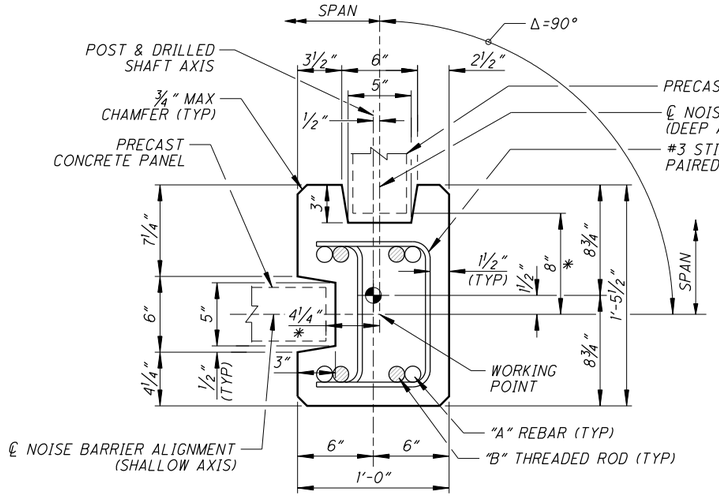
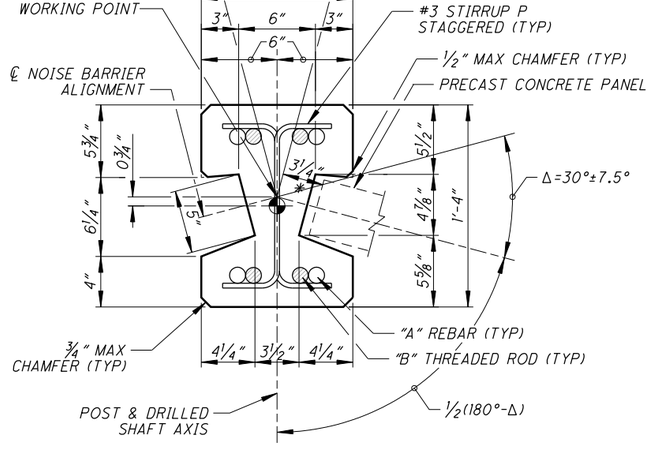
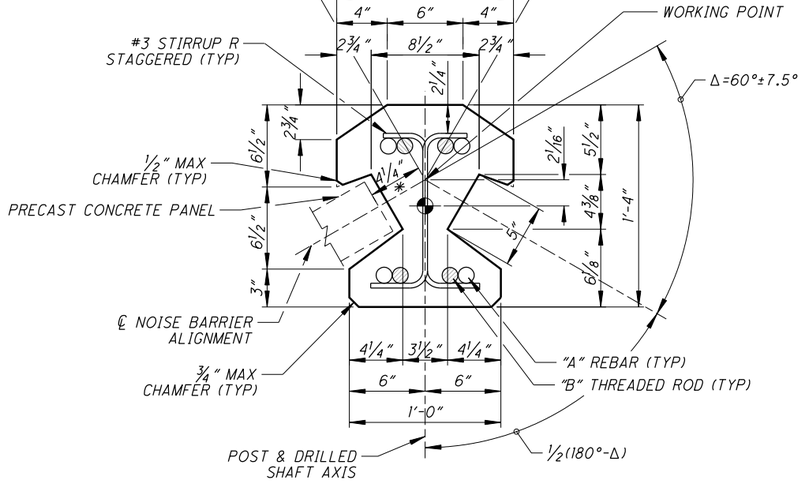
STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS

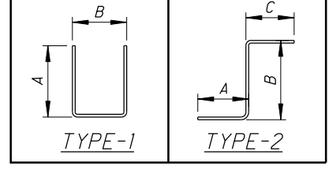












TYPE A POST

TYPE B POST

TYPE C POST

#3 STIRRUP SCHEDULE

MARK	TYPE	LENGTH	DIMENSIONS		
			A	B	C
J	1	1'-11"	6"	1'-1"	
K	1	2'-5"	9"	1'-1"	
L	1	1'-11 "	6"	1'-1"	
M	1	1'-4½"	3½"	11½"	
N	1	2'-3½"	9"	11½"	
P	2	1'-8"	4½"	1'-1"	4½"
R	2	1'-6¼" "	4½"	1'-0¼"	3½"

BENDING DIAGRAMS

TYPE-1

TYPE-2

TYPE D POST

TYPE E POST

LEGEND:

∗ = PANEL LENGTH DEDUCTION (PLD) DIMENSION AS SHOWN IN "PLD TABLE" ON SHEET 5/13.
TR.E = THREADED ROD EMBEDMENT, SEE SHEET 7/13.
SS = STIRRUP SPACING, SEE SHEET 7/13.
⊕ = CENTER OF DRILLED SHAFT

16" PRECAST CONCRETE POST DATA

GEOMETRY		TYPE A POST				TYPE B POST				TYPE D POST				TYPE E POST				TYPE C POST			
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)
		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT	
			(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)
8'≤BH≤16'	16'-0"	#6	¾	30	10	#5	⅝	25	10	#7	¾	34	10	#7	¾	34	9	#6	⅝	29	7
	24'-0"	#7	⅞	34	10	#6	⅝	29	10	#9	⅞	53	9	#8	⅞	42	9	#8	⅞	42	6
16'<BH≤25'	16'-0"	#10	1¼	67	9	#7	⅞	34	10	#11	1¼	81	9	#11	1¼	81	9	#10	1⅛	67	6
	24'-0"	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

◇ - USE 20" PRECAST CONCRETE POST; SEE SHEET 9/13.

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. "B" THREADED RODS ARE USED FOR THE STEEL BASE PLATE CONNECTIONS. IN LIEU OF PROVIDING SEPARATE THREADED RODS, THE "A" REBARS MAY BE EXTENDED AND SUPPLIED WITH THREADED ENDS TO CONNECT THE STEEL BASE PLATE TO THE BOTTOM OF THE POST. REFER TO THE STEEL BASE PLATE DETAILS ON SHEET 10/13. EXTENDED "A" REBARS SHALL BE GALVANIZED FULL LENGTH.
3. INSTALL REINFORCING STEEL WITH A MINIMUM CLEARANCE OF 1½" FROM ALL CONCRETE SURFACES UNLESS NOTED OTHERWISE.
4. FOR ADDITIONAL POST DETAILS REFER TO SHEET 7/13.
5. WORKING POINT IS DEFINED AS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT TANGENTS. IF THE DEFLECTION ANGLE (Δ) EQUALS ZERO, THE WORKING POINT IS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT AND THE POST AXIS.

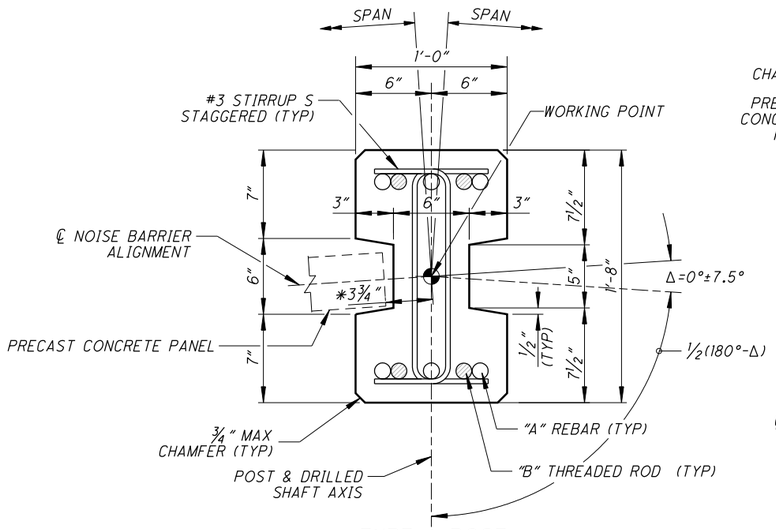
DESIGN AGENCY
OFFICE OF
STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED
BY: GANNETT FLEMING, INC.

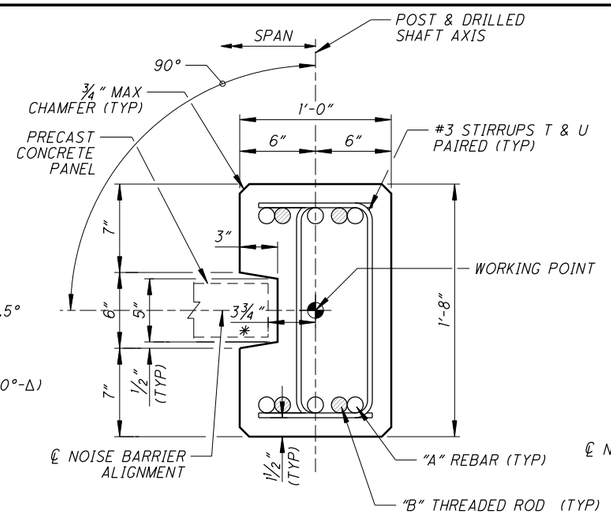
STATE OF OHIO DEPARTMENT OF TRANSPORTATION
ADMINISTRATOR
01-16-09
DATE

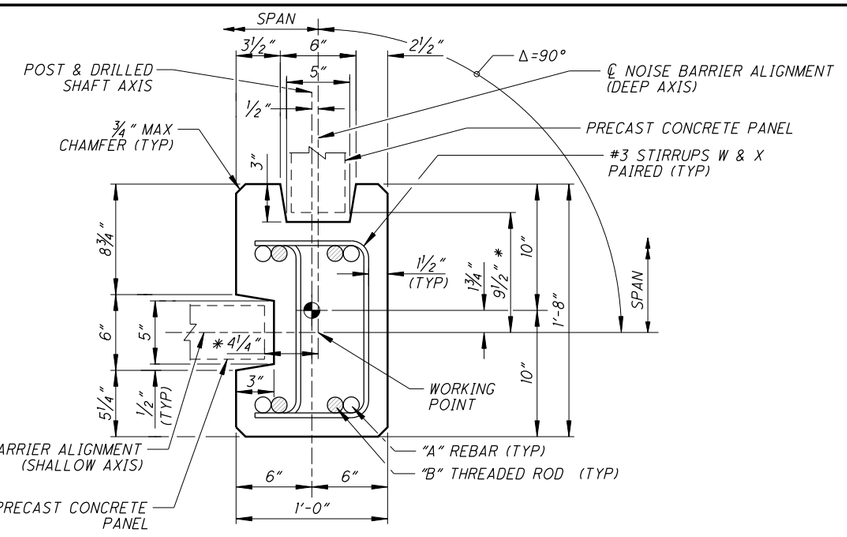
REVISIONS
07-17-09

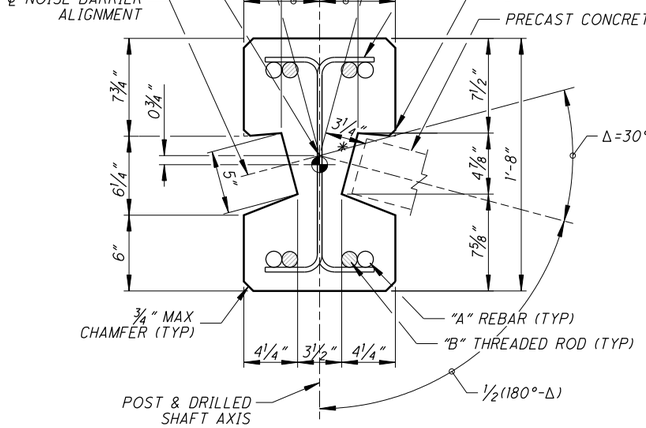
NBS-1-09

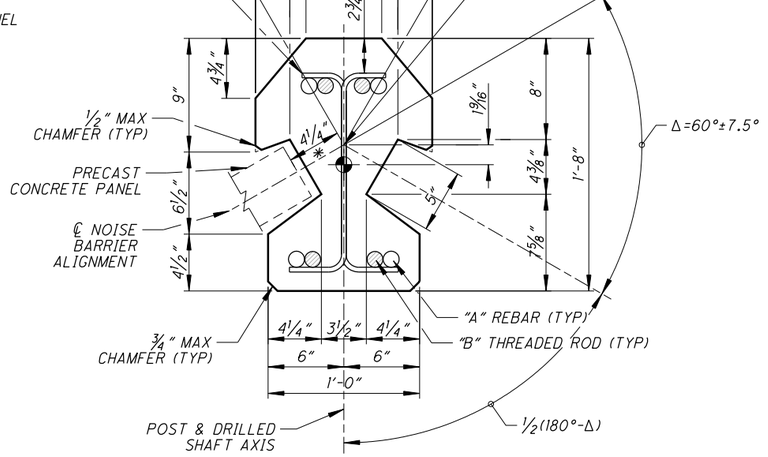
STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS

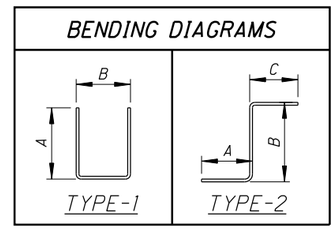












TYPE A POST

TYPE B POST

TYPE C POST

#3 STIRRUP SCHEDULE

MARK	TYPE	LENGTH	DIMENSIONS A	B	C
S	1	2'-3"	6"	1'-5"	
T	1	2'-9"	9"	1'-5"	
U	1	2'-3"	6"	1'-5"	
W	1	1'-7"	3½"	1'-2"	
X	1	2'-6"	9"	1'-2"	
Y	2	2'-0"	4½"	1'-5"	4½"
Z	2	1'-9¾"	4½"	1'-3¾"	3½"

BENDING DIAGRAMS

TYPE-1 TYPE-2

TYPE D POST

TYPE E POST

LEGEND:

* = PANEL LENGTH DEDUCTION (PLD) DIMENSION AS SHOWN IN "PLD TABLE" ON SHEET 5/13.
TR.E = THREADED ROD EMBEDMENT, SEE SHEET 7/13.
SS = STIRRUP SPACING, SEE SHEET 7/13.

⊕ = CENTER OF DRILLED SHAFT

20" PRECAST CONCRETE POST DATA

GEOMETRY		TYPE A POST				TYPE B POST				TYPE D POST				TYPE E POST				TYPE C POST			
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD		STIRRUP SPACING (SS)
		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT		SIZE	Ø	EMBEDMENT	
			(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)		(IN.)	(TR.E, IN.)	(IN.)
BH≤23'	24'-0"	#10	1¼	67	12	#7	⅞	34	13	#11	1¼	81	10	#11	1¼	81	11	#11	1⅜	82	6
BH≤24'	23'-0"	#10	1¼	67	12	#7	⅞	34	13	#11	1¼	81	10	#11	1¼	81	10	#11	1⅜	82	6
BH≤25'	21'-0"	#10	1¼	67	12	#7	⅞	34	13	#11	1¼	81	10	#11	1¼	81	11	#11	1⅜	82	6
BH≤25'	16'-0"	#8	1	42	12	#6	¾	30	13	#10	1	67	12	#10	1	67	11	#10	1⅛	67	6

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. "B" THREADED RODS ARE USED FOR THE STEEL BASE PLATE CONNECTIONS. IN LIEU OF PROVIDING SEPARATE THREADED RODS, THE "A" REBARS MAY BE EXTENDED AND SUPPLIED WITH THREADED ENDS TO CONNECT THE STEEL BASE PLATE TO THE BOTTOM OF THE POST. REFER TO STEEL BASE PLATE DETAILS ON SHEET 10/13. EXTENDED "A" REBARS SHALL BE GALVANIZED FULL LENGTH.
3. INSTALL REINFORCING STEEL WITH A MINIMUM CLEARANCE OF 1½" FROM ALL CONCRETE SURFACES UNLESS NOTED OTHERWISE.
4. FOR ADDITIONAL POST DETAILS REFER TO SHEET 7/13.
5. WORKING POINT IS DEFINED AS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT TANGENTS. IF THE DEFLECTION ANGLE (Δ) EQUALS ZERO, THE WORKING POINT IS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT AND THE POST AXIS.

DESIGN AGENCY
OFFICE OF
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ORIGINAL DESIGN PREPARED
BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
01-16-09
DATE
ADMINISTRATOR

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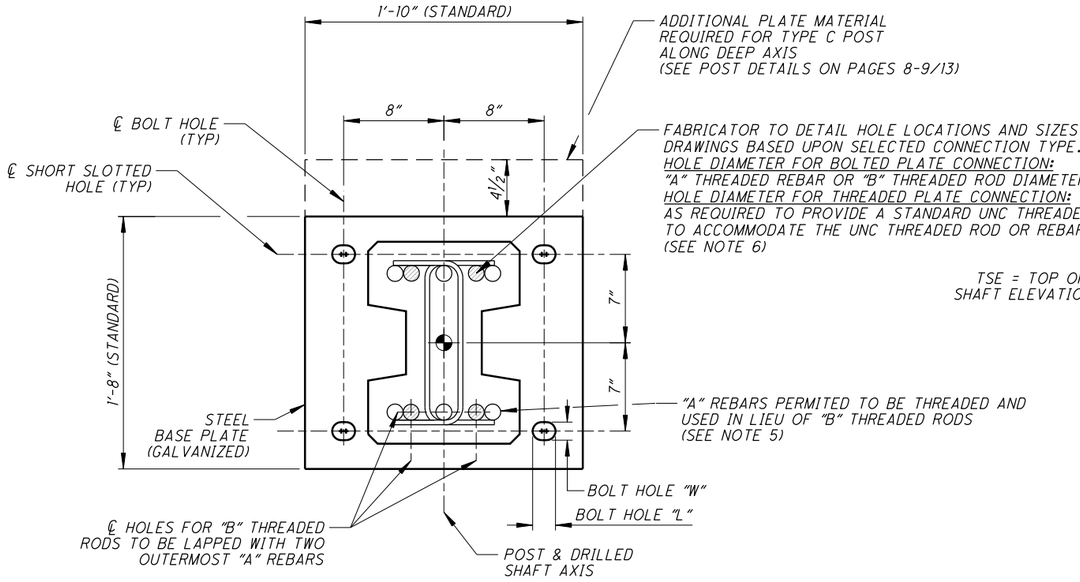
07-17-09

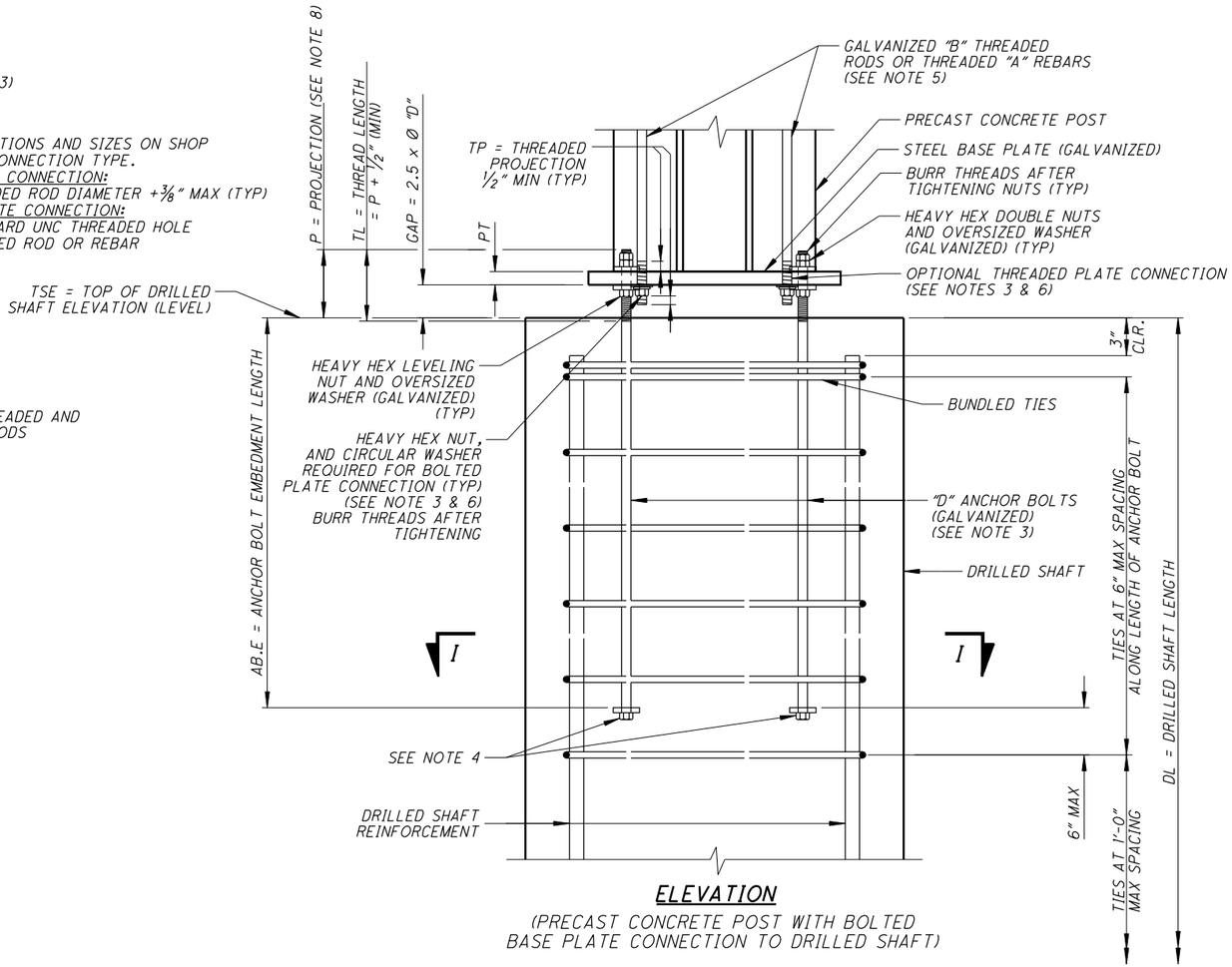
NBS-1-09

STANDARD
NOISE BARRIER SPECIFICATIONS
FOR GROUND MOUNTED APPLICATIONS



STEEL BASE PLATE PLAN

(16" TYPE A POST SHOWN, OTHERS SIMILAR)



ELEVATION

(PRECAST CONCRETE POST WITH BOLTED BASE PLATE CONNECTION TO DRILLED SHAFT)

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. FOR SECTION I-I, SEE SHEET 12/13.
3. INSTALL ALL THREADED CONNECTIONS ACCORDING TO THE ANCHOR BOLT NUT REQUIREMENTS OF CMS 630.06.
4. PROVIDE HEADED ANCHOR BOLTS WITH STANDARD CIRCULAR WASHERS; HOOKED ENDS ARE NOT ALLOWED.
5. IN LIEU OF PROVIDING SEPARATE THREADED RODS, THE "A" REBARS MAY BE FABRICATED WITH THREADED ENDS AND EXTENDED TO CONNECT THE BASE PLATE TO THE BOTTOM OF THE POST. EXTENDED "A" REBARS SHALL BE GALVANIZED FULL LENGTH. (FABRICATOR TO DETAIL HOLE LOCATIONS AND SIZES ON SHOP DRAWINGS)
6. THREADED PLATE CONNECTION:
   IN LIEU OF A BOLTED PLATE CONNECTION, THE BASE PLATE HOLES MAY BE TAPPED TO ACCOMMODATE THE THREADED "A" REBARS OR "B" THREADED RODS. THREADED "A" REBARS OR "B" THREADED RODS SHALL BE THREADED INTO THE BASEPLATE (TP = ½" MIN) AND TACK WELDED IN PLACE. THE ASSEMBLY SHALL BE CAST INTO THE POST.
7. FABRICATOR SHALL DETAIL ANCHOR BOLT PROJECTION (P) ON SHOP DRAWINGS. WHEN INSTALLED, THE END OF THE BOLT SHALL PROJECT AT LEAST TWO THREAD LENGTHS OUTSIDE THE FACE OF THE NUT.

BASE PLATE DATA FOR 16" PRECAST CONCRETE POSTS

GEOMETRY		TYPE A POST				TYPE B POST				TYPE D POST				TYPE E POST				TYPE C POST			
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE
			Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W
		(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)
8'≤BH≤16'	16'-0"	1⅛	⅞	25	1³⁄₁₆ X 1	⅞	¾	21	1¹⁄₁₆ X ⅞	1¼	⅞	25	1³⁄₁₆ X 1	1⅛	⅞	25	1³⁄₁₆ X 1	1⅛	¾	21	1¹⁄₁₆ X ⅞
	24'-0"	1½	⅞	25	1³⁄₁₆ X 1	1	¾	21	1¹⁄₁₆ X ⅞	1½	⅞	25	1³⁄₁₆ X 1	1½	⅞	25	1³⁄₁₆ X 1	1½	¾	21	1¹⁄₁₆ X ⅞
16'<BH≤25'	16'-0"	2¼	1⅛	32	1⁹⁄₁₆ X 1¼	1½	⅞	25	1³⁄₁₆ X 1	2¼	1⅛	32	1⁹⁄₁₆ X 1¼	2¼	1	28	1⅜ X 1⅛	2	⅞	25	1³⁄₁₆ X 1
	24'-0"	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

BASE PLATE DATA FOR 20" PRECAST CONCRETE POSTS

GEOMETRY		TYPE A POST				TYPE B POST				TYPE D POST				TYPE E POST				TYPE C POST			
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE	PLATE THICKNESS (PT)	"D" ANCHOR BOLT		BOLT HOLE
			Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W		Ø	EMBEDMENT	L X W
		(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)	(IN.)	(IN.)	(AB.E, IN.)	(IN. X IN.)
BH≤23'	24'-0"	2	1⅜	39	1¹³⁄₁₆ X 1½	1½	⅞	25	1³⁄₁₆ X 1	2	1¼	35	1¹¹⁄₁₆ X 1⅜	2	1⅛	32	1⁹⁄₁₆ X 1¼	2	⅞	25	1³⁄₁₆ X 1
BH≤24'	23'-0"	2	1⅜	39	1¹³⁄₁₆ X 1½	1½	⅞	25	1³⁄₁₆ X 1	2	1⅜	39	1¹³⁄₁₆ X 1½	2¼	1⅛	32	1⁹⁄₁₆ X 1¼	2¼	⅞	25	1³⁄₁₆ X 1
BH≤25'	21'-0"	2	1⅜	39	1¹³⁄₁₆ X 1½	1½	⅞	25	1³⁄₁₆ X 1	2	1⅜	39	1¹³⁄₁₆ X 1½	2¼	1¼	35	1¹¹⁄₁₆ X 1⅜	2¼	⅞	25	1³⁄₁₆ X 1
BH≤25'	16'-0"	1¾	1⅛	32	1⁹⁄₁₆ X 1¼	1¼	⅞	25	1³⁄₁₆ X 1	1¾	1⅛	32	1⁹⁄₁₆ X 1¼	2	1	28	1⅜ X 1⅛	2	⅞	25	1³⁄₁₆ X 1

◇ - USE 20" PRECAST CONCRETE POST.

LEGEND:

UNC = UNIFIED NATIONAL COARSE AS PER ANSI B18.2.1 AND B18.2.6
AB.E = "D" ANCHOR BOLT EMBEDMENT LENGTH
PT = STEEL BASE PLATE THICKNESS
⊕ = CENTER OF DRILLED SHAFT

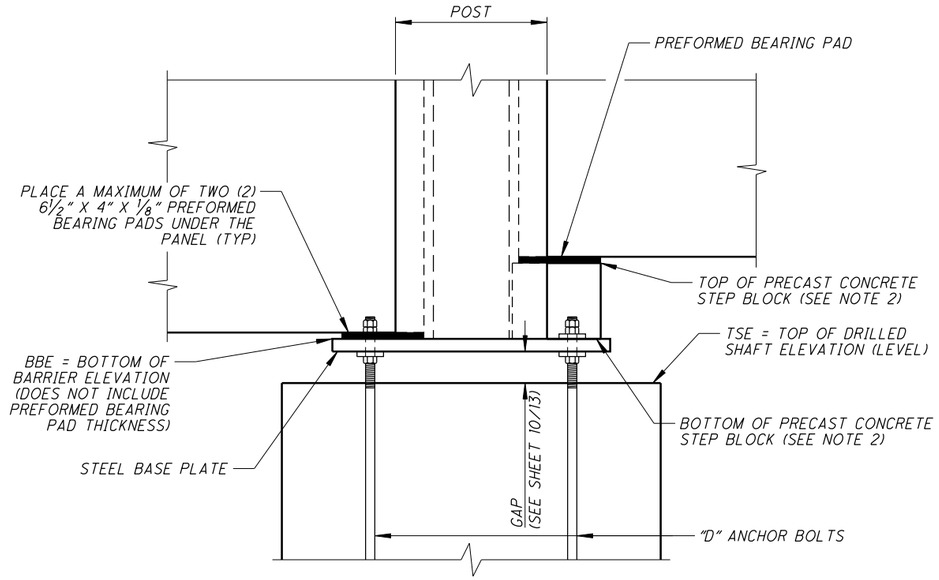
DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING
ORIGINAL DESIGN PREPARED BY: GANNETT FLEMING, INC.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
01-16-09
DATE
ADMINISTRATOR

REVISIONS
07-17-09

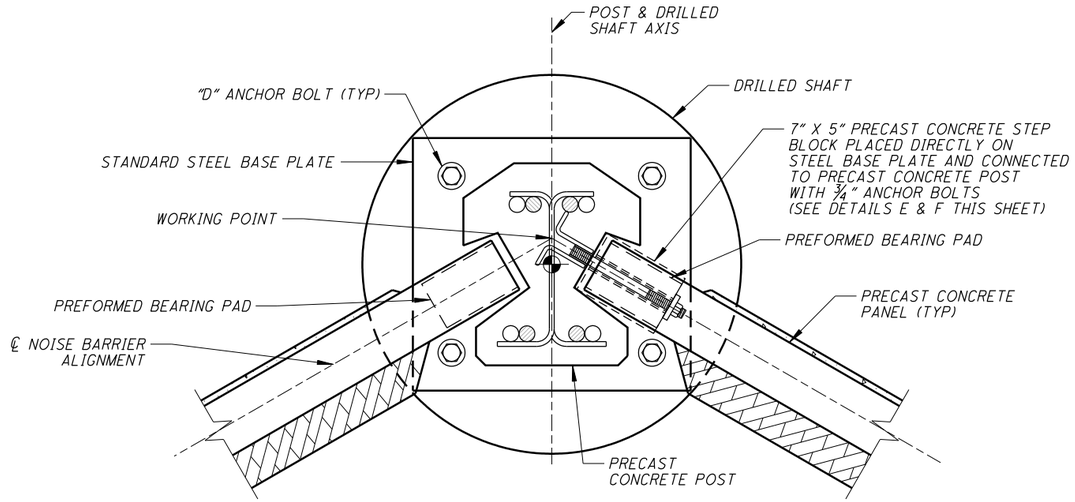
NBS-1-09

STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS



PANEL SEAT ELEVATION

(THREADED RODS NOT SHOWN FOR CLARITY)

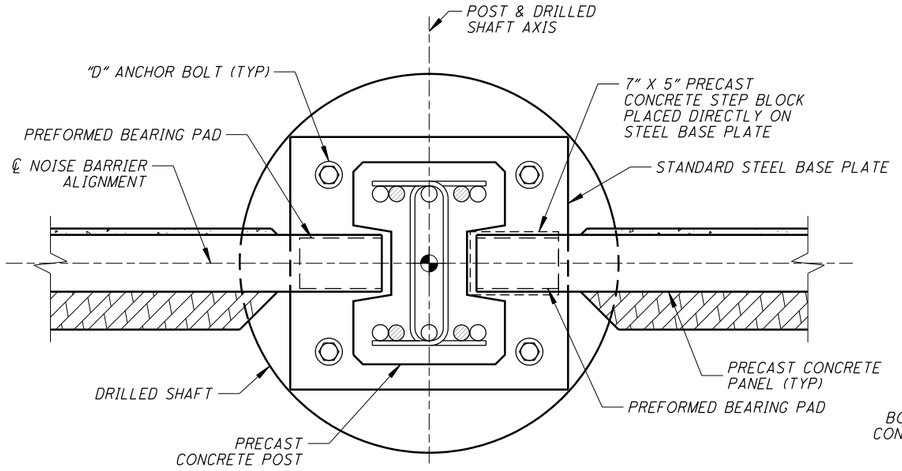


PANEL SEAT PLAN WITH INTEGRAL STEP BLOCK

(16", TYPE E POST SHOWN; OTHER POSTS SIMILAR)

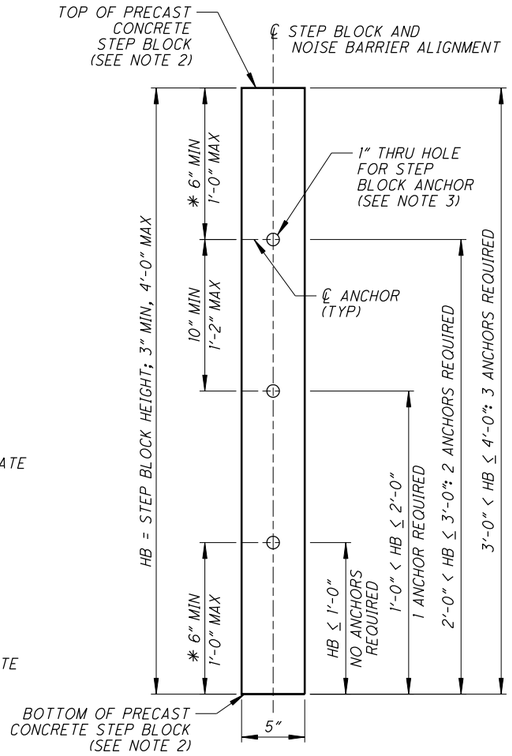
LEGEND:

⌖ = CENTER OF DRILLED SHAFT



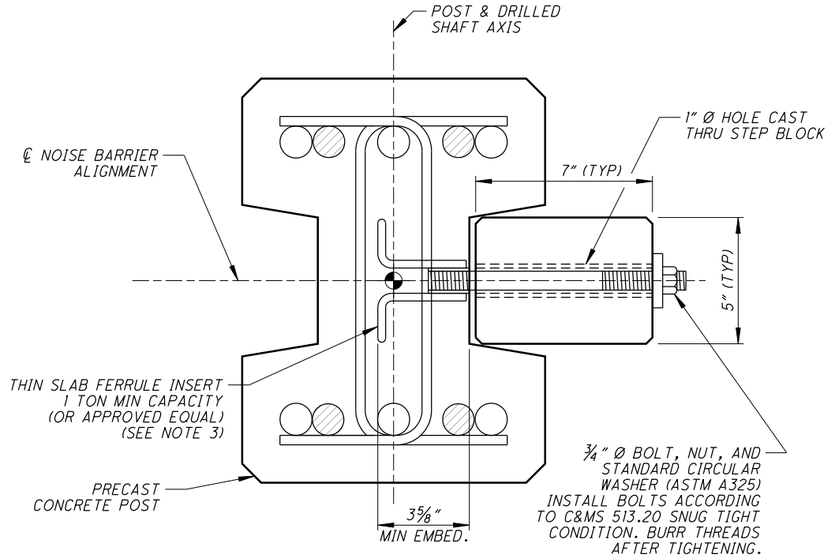
PANEL SEAT PLAN WITH NON-INTEGRAL STEP BLOCK

(16" TYPE A POST SHOWN; OTHER POSTS SIMILAR)



* DIMENSIONS TO BE EQUAL FROM EACH END OF STEP BLOCK. MAY BE UNEQUAL WHEN NECESSARY TO AVOID POST SHEAR REINFORCING.

DETAIL F - STEP BLOCK ANCHOR LAYOUT



DETAIL E - INTEGRAL STEP BLOCK

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. NON-INTEGRAL PRECAST CONCRETE STEP BLOCKS SHALL BE USED FROM A MINIMUM HEIGHT OF 3" TO A MAXIMUM HEIGHT OF 1'-0".

   INTEGRAL PRECAST CONCRETE STEP BLOCKS SHALL BE USED FOR FOR HEIGHTS OVER 1'-0" UP TO AND INCLUDING 4'-0", AS DETAILED ON THIS SHEET.

   PLACE THE STEP BLOCK DIRECTLY ON THE STEEL BASE PLATE AND THEN PLACE THE PREFORMED BEARING PAD(S) ON TOP OF THE STEP BLOCK. ENSURE THAT THE STEP BLOCK IS FULLY SEATED ON THE STEEL BASE PLATE.
3. ENSURE THAT STEP BLOCK ANCHOR LOCATIONS DO NOT INTERFERE WITH PRECAST CONCRETE POST SHEAR REINFORCING. REFER TO "DETAIL F" ON THIS SHEET FOR ANCHOR LOCATION REQUIREMENTS.

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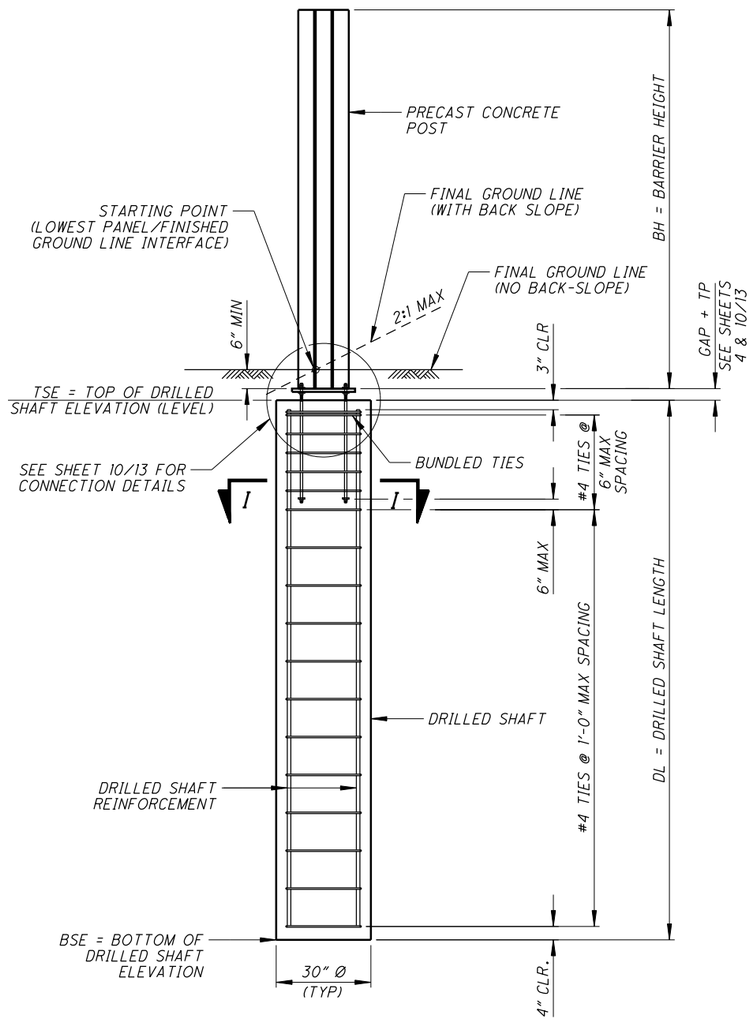
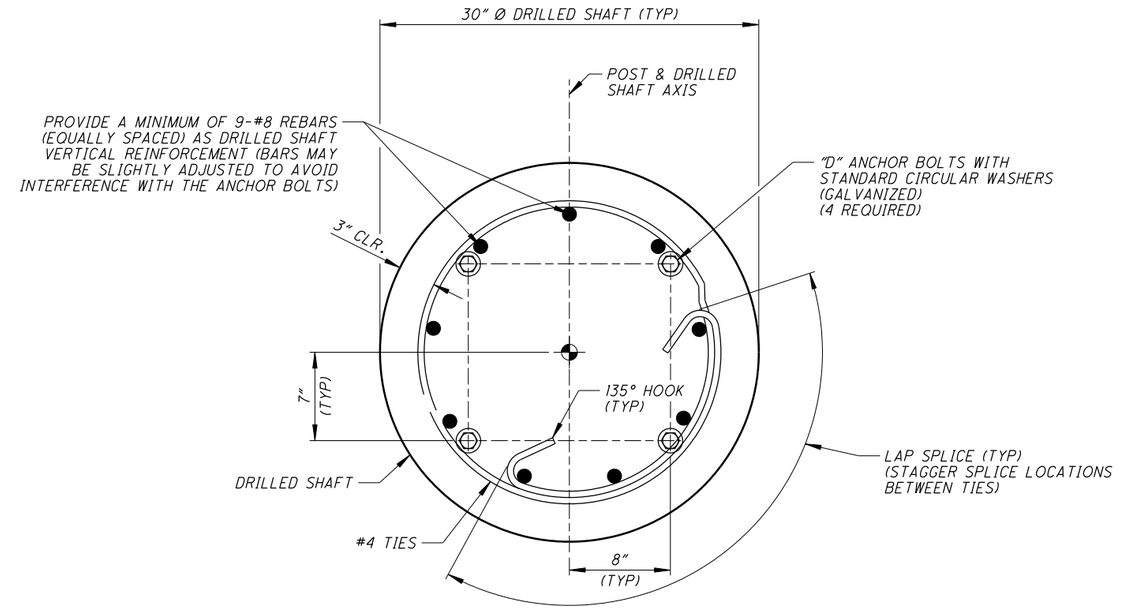
STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS



TYPICAL DRILLED SHAFT ELEVATION



SECTION I-I: TYPICAL DRILLED SHAFT

LEGEND:

⊕ = CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. REFER TO THE REINFORCING STEEL LIST IN THE PROJECT PLANS FOR THE REINFORCING STEEL DETAILS FOR EACH DRILLED SHAFT DESIGN.

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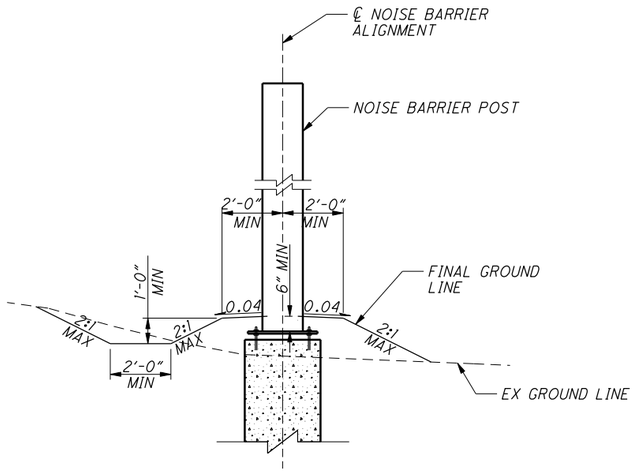
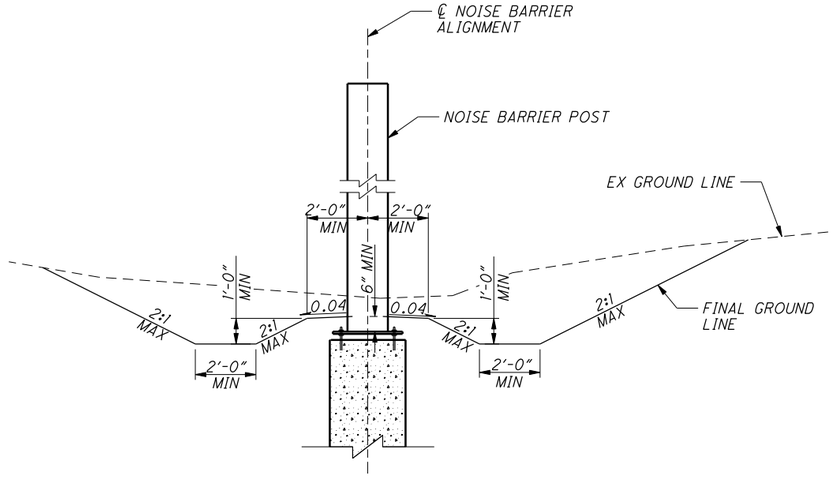
STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS

12 / 13

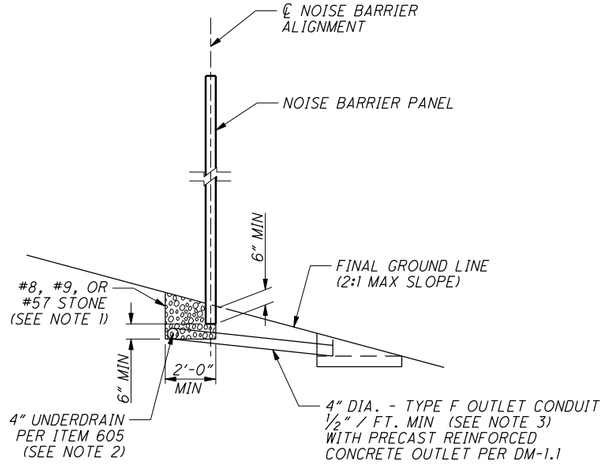
204
209



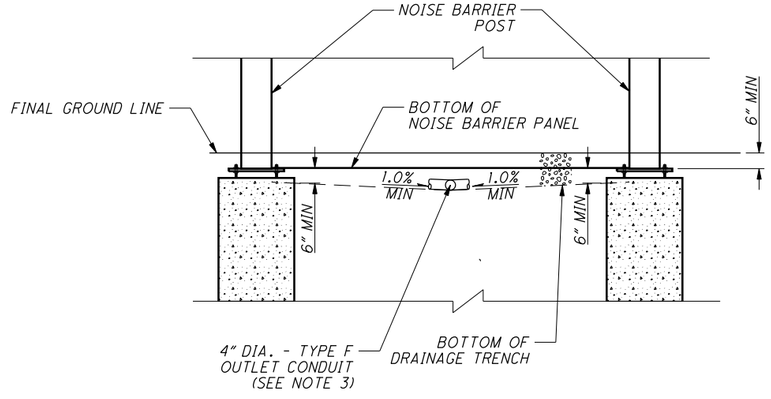
TYPICAL FILL SECTION



TYPICAL CUT SECTION



TYPICAL SLOPED SECTION



TYPICAL ELEVATION OF SLOPED SECTION - DRAINAGE

SLOPED SECTION DRAINAGE NOTES:

1. CONSTRUCT A TRENCH WITH A MINIMUM LONGITUDINAL SLOPE OF 1.0% UNDER THE NOISE BARRIER PANELS AS SHOWN IN THE TYPICAL ELEVATION.
2. PROVIDE UNDERDRAIN SLOPE OF 1% MINIMUM OR AS SPECIFIED IN PROJECT PLANS. INSTALL IN ACCORDANCE WITH ITEM 605.
3. OUTLET CONDUIT TO BE SPACED AT 500' MAX.; INSTALL IN ACCORDANCE WITH ITEM 605.

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STANDARD
NOISE BARRIER SPECIFICATIONS FOR GROUND MOUNTED APPLICATIONS

FENCE
EPA = END POST ASSEMBLY
LBPA = LINE BRACE POST ASSEMBLY
CPA = CORNER POST ASSEMBLY
IP = INTERMEDIATE POST
GC = GAP CLOSURE (STREAM CROSSING)
ITEM 607, FENCE TYPE 47 =
QUANTITIES CARRIED TO SHEET_____
ALL FENCE IS 2' INSIDE LIMITED
ACCESS R/W LINE, UNLESS NOTED.

℄ AIRPORT BEACON ACCESS ROAD (NIP)
SWAUGER VALLEY- MINFORD ROAD
Ex U
Ex U
SH 21 22 23
LA-R/W
GC
CPA
Ex R/W
N 309318.5532
E 1863898.9963
GC
254.85'
F-1
ABUTMENT CONNECTION
N 309562.2181
E 1863467.6776
LA-R/W
CPA
327.00' (NIP)
N 309668.4691
E 1863158.4223
CPA
LA-R/W
278.31' (NIP)
N 309785.7503
E 1862906.0334
LA-R/W
GC
F-3
163.54'
ABUTMENT CONNECTION
SR823 SB
MATCH LINE STA. 439+50 SR 823
MATCH LINE STA. 452+00 SR 823
440 441 442 443 444 445 446 447 448 449 450 451
℄ CONSTRUCTION SR 823
SR823 NB
GC
ABUTMENT CONNECTION
231.81'
F-2
CPA
LA-R/W
N 309894.2611
E 1864002.0938
F-4
235.22'
ABUTMENT CONNECTION
GC
CPA
494.33' (NIP)
LA-R/W
N 310111.4201
E 1863071.0778
GC
CPA
N 310049.1670
E 1863561.4678

USER: ldearnel PLOT DATE: 9/15/2011 4:26:23 PM REVISION DATE: 9/15/2011
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HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CTM CHECKED JMB

FENCE PLAN - SR823
STA. 439+50.00 TO STA. 452+00.00

SCI-823-6.81

206
209

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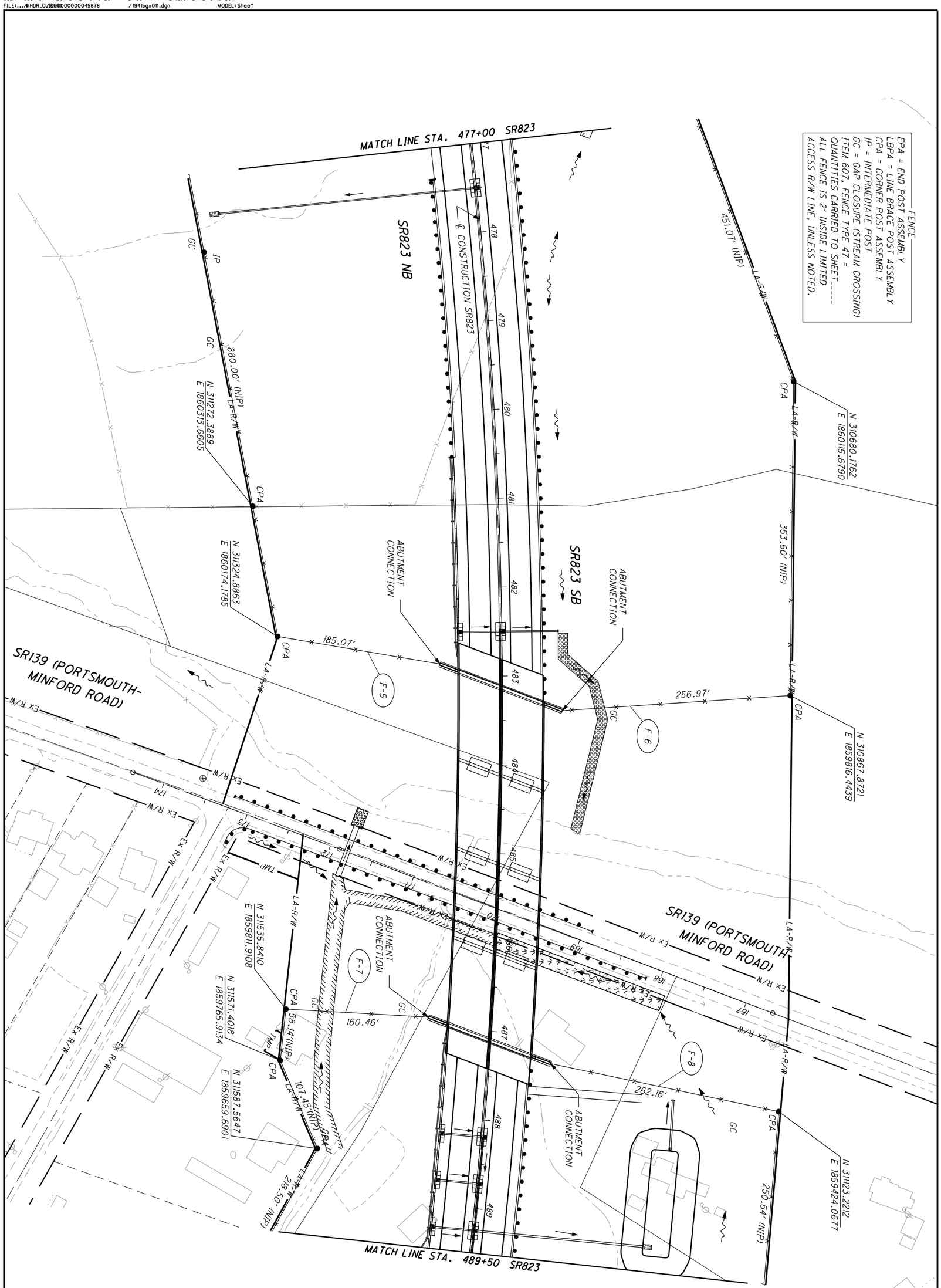

207 / 209	SCI-823-6.81	FENCE PLAN - SR823 STA. 477+00.00 TO STA. 489+50.00	CALCULATED CTM CHECKED JMB	0 50 25 100 HORIZONTAL SCALE IN FEET

USER: ldearnel PLOT DATE: 9/15/2011 4:28:30 PM REVISION DATE: 9/15/2011
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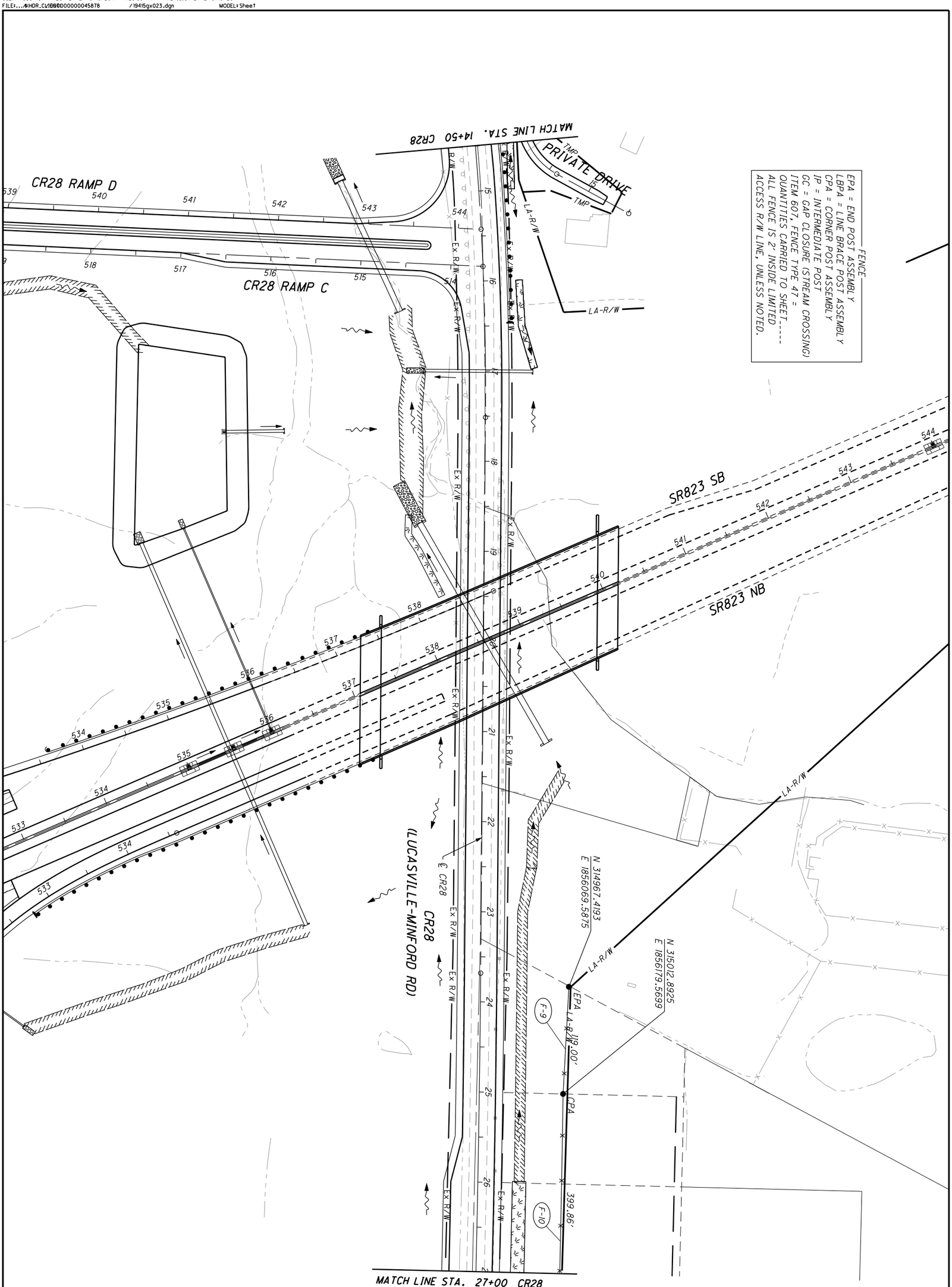

SCI-823-6.81

FENCE PLAN - CR28
STA. 14+50.00 TO STA. 27+00.00

CALCULATED CTM
CHECKED JMB

0 25 50 100
HORIZONTAL SCALE IN FEET

USER: ldearnel PLOT DATE: 9/15/2011 4:29:44 PM REVISION DATE: 9/15/2011
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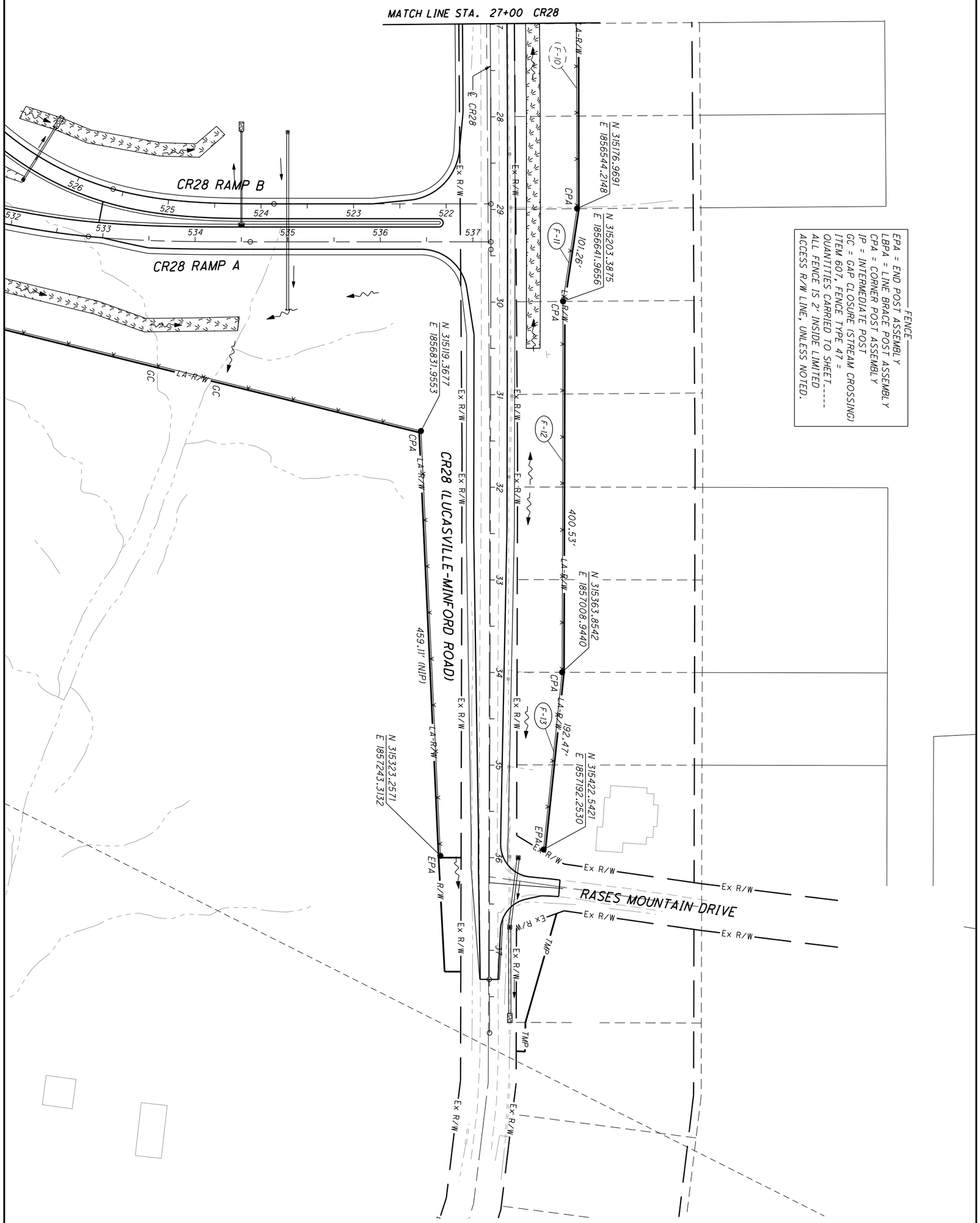

SCI-823-6.81

FENCE PLAN - CR28
STA. 27+00.00 TO STA. 37+31.45

CALCULATED CTM
CHECKED JMB

0 25 50 100
HORIZONTAL SCALE IN FEET